

Oracle  
**Primavera Cloud**  
**Schedule Management User Guide**

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## About This Guide

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This guide explains how to use the Schedule app in Oracle Primavera Cloud to develop and manage a project schedule.

The **Schedule Overview** (on page 13) section of this guide contains information on configuring and using the Schedule app. Consult the **Resources Overview** (on page 257) section of the guide if you will be using resource and role assignments to plan your activity units and costs.

Project managers, project schedulers, and resource managers should read this guide.

## Schedule Overview

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Oracle Primavera Cloud combines established schedule management principles with a robust set of tools to provide a comprehensive solution to organize and manage a schedule of activities required to complete a project. Using the Schedule app, you can define a list of activities, specify relationships and constraints, assign required resources, and quantify work using units and costs. You can then use the data to logically sequence the activities into a project schedule using the Critical Path Method. Activity statusing capabilities enable project team members to communicate the status of project activities to the project team. Using programs, you can simultaneously manage the activities from a group of related projects.

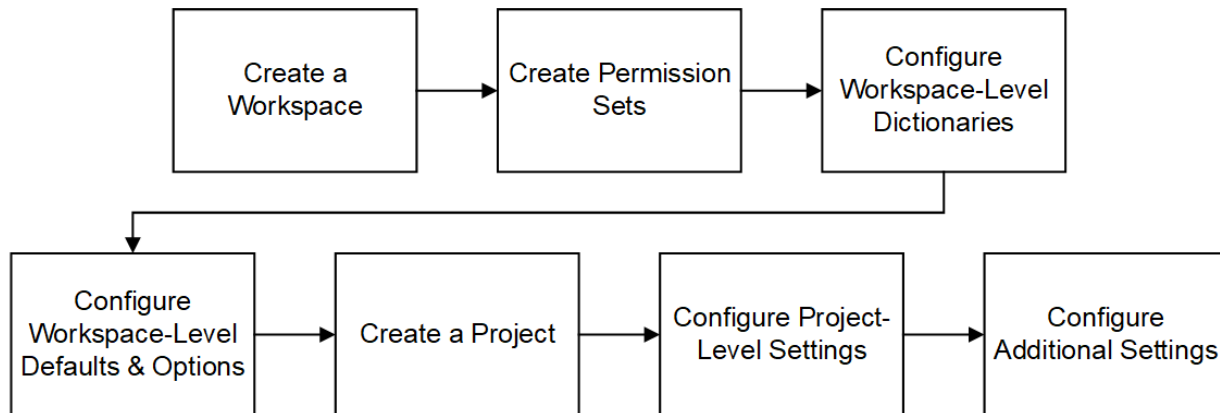
### Key Features

- ▶ Create a list of activities that must be performed to complete your project objectives.
- ▶ Set relationships and constraints for enhanced activity scheduling.
- ▶ Assign resources and roles to perform the work on your activities. Measure the work by entering units and costs on activities or assignments.
- ▶ Schedule projects or programs using the Critical Path Method to establish activity dates and identify the activities critical to the success of each project.
- ▶ Establish baselines to measure project performance.
- ▶ Create what-if schedule scenarios to anticipate and evaluate alternative scheduling solutions.
- ▶ Use histograms and usage spreadsheets to track availability and overallocation values for the resource and role assignments in your project.
- ▶ Level projects by role or resource to eliminate overallocations.
- ▶ Monitor and evaluate the quality of your schedule using the Schedule Health Score tool.
- ▶ Compare two versions of your schedule to ensure accurate progress is being recorded.

### Get Started with Schedule

This section details the basic configuration of settings you will need before using the Schedule app. Depending on how you plan to use Schedule, some of the settings below may be optional, and most settings can be configured in any order. For a comprehensive list of the actions you can perform in Oracle Primavera Cloud, consult the *Oracle Primavera Cloud Help*.

Complete the following steps to get started with Schedule:



### Create a Workspace

Workspaces function as the hierarchical structure of your organization's projects, portfolios, programs, and ideas. Settings configured at the workspace level are inherited by the objects created within the workspace.

Before you can use the Schedule app, you should create a workspace to contain your organization's projects.

### Create Permission Sets

Permission sets are collections of permissions that can be assigned to individual users or user groups, granting them access to objects and functionality across Primavera Cloud. Created at the workspace level, permission sets determine the level of access within the workspace, including the workspace itself. Configure permission sets to grant users the ability to add, edit, delete, view, or enable objects and functionality. See **Security Permissions for Schedule** (on page 18) for more information on the permissions specific to the Schedule app.

### Configure Workspace-Level Dictionaries

Dictionaries are repositories of items that can be used across the application, without having to create the same items for each object. Stored at the workspace level, dictionary items can be used by the objects within the workspace.

The following dictionaries are relevant to objects used in the Schedule app:

- ▶ **Calendars:** Define available workdays, work hours, nonwork days, holidays, and exception time. Separate calendars can be applied to projects, resources, and roles. Days on which an activity can be scheduled are determined by an activity's type and assigned calendar. See **Calendars Overview** (on page 46) for more information.
- ▶ **Codes:** Develop hierarchical structures for grouping objects in the Schedule app, including activities, resources, roles, and WBSs. Use the Codes dictionary to enable a code and its values for objects. See **Codes Overview** (on page 52) for more information.
- ▶ **Currencies:** Create or assign currencies at the workspace level to make them available to the projects in the workspace and projects of child workspaces. Activity and assignment cost values can be shown in the base currency set in the root workspace or the project currency set for the project. See **Currencies Overview** (on page 56) for more information.

- ▶ **Curve Profiles:** Control how a resource or role's hours are spread over the duration of an assigned activity. See **Curve Profiles Overview** (on page 59) for more information.
- ▶ **Locations:** Add locations to categorize your resources by geographical location. Locations can be used for reporting, grouping, and filtering objects. Locations are assigned to individual resources in the workspace and project resource lists. See **Locations Overview** (on page 61) for more information.
- ▶ **Reporting Cycles:** Create a reporting cycle to designate the periods of time that store period performance data is captured in. See **Store Period Performance Reporting Cycles Overview** (on page 64) for more information.
- ▶ **Units of Measure:** Define units of measure to quantify your material resources. You can assign a unit of measure to a material resource in the workspace and project resource lists. See **Units of Measure Overview** (on page 66) for more information.

### Configure Workspace-Level Defaults & Options

The default configuration of settings for each object is set at the workspace level. Each new instance of a particular object in the workspace will inherit the attributes set in Defaults & Options.

Select an object in the Defaults & Options section of the application to view its configuration options. Available options vary by object. The following options are relevant to objects used in the Schedule app:

- ▶ **Defaults:** Set object defaults, including activity type and calculation settings, auto numbering defaults, and project calendars.
- ▶ **Field Labels:** View definitions for the fields relevant to each object, updating the names of the fields to suit your organization's standards.
- ▶ **Configured Fields:** Create configured fields to capture user-defined data.
- ▶ **Codes:** Add codes to an object for additional classification. Assign codes from a parent workspace or codes that belong to other objects.

The objects below should be configured before using the Schedule app.

### Defaults & Options Settings

Objects	Configuration Options	Link
Activity	Default, Field Labels, Configured Fields, Codes	See <b>Activity</b> (on page 72) for more information.
Activity Relationship	Field Labels	See <b>Activity Relationship</b> (on page 77) for more information.
Project	Default, Field Labels, Configured Fields, Codes	See <b>Project</b> (on page 77) for more information.
Resource/Role	Field Labels, Codes	See <b>Resource/Role</b> (on page 81) for more information.

Resource Assignment	Field Labels, Configured Fields	See <b>Resource Assignment</b> (on page 82) for more information.
Stored Periods	Field Labels	See <b>Stored Periods</b> (on page 83) for more information.
WBS	Field Labels, Configured Fields, Codes	See <b>WBS</b> (on page 83) for more information.

Some help topics, such as Field Labels and Configured Fields, can be performed on a wide range of objects and are separate from each object section. Topics specific to a particular object are found within the object's section.

### Create a Project

A project is a formalized plan undertaken to create a service, product, or result. You must create a project before you can use the Schedule app.

### Configure Project-Level Settings

Project-level settings include details, default configuration settings inherited from the workspace, and project-specific dictionary items. New projects inherit the default settings configured at the workspace level, but these can be updated at the project level. Settings updated at the project level only apply to that project.

Before using the Schedule app, you should perform the following actions:

#### Details

- ▶ **Assign a manager** (see "**Assign a Manager to a Project**" on page 85) to designate the person responsible for managing the project.
- ▶ **Assign a calendar** (see "**Assign a Project Calendar**" on page 86) that defines the workdays, nonwork days, holidays, and exception time for your project. New activities inherit the assigned project calendar.
- ▶ **Set the Data Date** (see "**Set the Data Date for a Project**" on page 87) to establish the progress point of the project.
- ▶ **Configure the start and finish dates** (see "**Configure Schedule Settings for a Project**" on page 88) of your project.
- ▶ **Modify the project's currency** (see "**Modify a Project Currency**" on page 89) if it is different from your organization's base currency. On pages that support costs, you can view activity and assignment costs in the base currency or project currency.
- ▶ **Set the reporting cycle** (see "**Set the Reporting Cycle for a Project**" on page 88) to be used in your project.

#### Settings

- ▶ **Configure the default behavior** (see "**Configure Activity Defaults for a Project**" on page 90) of new activities and resource assignments.



- ▶ **Configure the calculation settings** (see "**Configure Calculation Settings for a Project**" on page 92) of your project's activities and resource assignments, including unit and cost calculations.
- ▶ **Configure the earned value baseline** (on page 93) used in earned value field calculations.
- ▶ **Configure the My Activities settings** (see "**Configure My Activities Settings for a Project**" on page 94), which control how users update the progress of their activity assignments on the My Activities page.
- ▶ **Set auto numbering defaults** (see "**Configure the Auto Numbering Defaults for a Project**" on page 95) for the activities in your project if the numbering system your activities use should differ from the settings inherited from the workspace.
- ▶ **Configure the settings** (see "**Configure Schedule Health Score Settings**" on page 96) for the Schedule Health Check tool.

### Project Dictionaries

- ▶ **Add project-specific calendars** (see "**Calendars (Project-level)**" on page 97) if they only need to be available to a specific project. Project-level calendars support assignment to the project or to activities, resources, and roles within the project, but you can also assign workspace-level calendars to the same objects.
- ▶ **Add project-level activity codes** (see "**Codes (Project-level)**" on page 103) if certain codes should only be available to activities in your project. Codes that should be made available to other objects and projects in your workspace should still be added at the workspace level. After project-level activity codes are added, add code values to each code.

### Configure Additional Settings

Some settings may need to be configured in other areas of the application, such as user preferences, which enable you to customize your personal details and display formats. The preferences you set are only visible to you.

- ▶ **Configure time units** (on page 104) in the user preferences to control the format of unit and duration values, and whether rates should be displayed as units/duration or as a percentage.
- ▶ **Configure assignment settings** (see "**Configure the Assignment Settings Dialog Preference**" on page 105) in the user preferences to set the default options when you are staffing a resource or replacing a resource on an assignment and you must choose to use the values of the new assignment or the existing assignment.
- ▶ **Enable feature previews** (on page 107) in the user preferences to turn on upcoming features, such as enhanced printing functionality.

After configuring the settings discussed in this topic, you can begin using the Schedule app. If you need to add or change settings, consult the topics contained in this section.

## Permissions

Permission sets determine the level of access to objects and functionality. Configure permission sets to grant users or user groups access to view or complete actions on a variety of objects.

## Security Permissions for Schedule

The following security permissions enable access to the objects and functionality within the Schedule app. **Create workspace permission sets** (see "**Create a Workspace Permission Set**" on page 21) to enable access to relevant workspace-level data, including dictionaries, object defaults, resources, and roles. **Create project permission sets** (see "**Create a Project Permission Set**" on page 28) to enable access to page-level functionality and creation and modification privileges for the relevant project objects. Depending on the permission, actions may include add, edit, delete, view, or enable. Depending on how you plan to use Schedule, some of the permissions below may be optional.

To use the Schedule app, users should have the following permissions:

### Workspace Permissions

Category	Permissions
Configuration	Calendars, Codes, Configured Fields, Curve Profiles, Field Labels, Resource Costs/Financials, Report Cycles, Resources, Role Costs/Financials, Roles

### Project Permissions

Category	Permissions
Cost	Recalculate Project Costs
Project	Add WBS from other project/templates, Baselines, Baselines - Set Project Baselines, Calendars, Codes, Currencies, Global Change, Global Change - Run, Project, Project Costs/Financials, WBS
Resources	Resource Costs/Financials, Resources, Role Costs/Financials, Roles
Schedule (Current)	Activities, Level, Relationships, Schedule, Set Baseline as Current Schedule, Set Scenario as Current Schedule, Store Period Performance
Schedule (Baselines)	Activities, Level, Relationships, Schedule
Schedule (Scenarios)	Activities, Level, Relationships, Schedule, Scenarios

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## Understanding View Privileges

View privileges determine a user's ability to view certain pages or objects.

The View Only (System) permission set is a permission set provided by the application. When assigned to a user, this permission set provides view-only access to all pages and objects in a context except for certain pages and objects with their own View privilege. The pages and objects with their own View privilege have been determined to need an extra layer of security - for example, cost and financial information.

The following pages and objects have their own View privilege for an object permission set, so users need the following privileges to access the page or object. Users with only the View Only (System) permission set will not be able to view the below pages and objects:

### Workspace Permission Sets

#### Configuration

- ▶ Forms
- ▶ Resource Costs/Financials
- ▶ Role Costs/Financials
- ▶ Workflow Configuration
- ▶ Workflow Design

#### General

- ▶ Funding
- ▶ Funding Costs/Financials
- ▶ Strategies
- ▶ Workspace Aggregate Cost Data

### Project Permission Sets

#### Contract

- ▶ Change Order Costs/Financials
- ▶ Change Orders
- ▶ Changes
- ▶ Changes Costs/Financials
- ▶ Commitment Costs/Financials
- ▶ Commitments
- ▶ Contract Costs/Financials
- ▶ Contracts
- ▶ Payment Application Costs/Financials
- ▶ Payment Application
- ▶ Potential Change Orders
- ▶ Potential Change Orders Costs/Financials

#### Cost

- ▶ Actuals

- ▶ Actuals Costs/Financials
- ▶ Project Budget

**Funds**

- ▶ Funding
- ▶ Funding Costs/Financials

**Project**

- ▶ Project Costs/Financials

**Resources**

- ▶ Resource Costs/Financials
- ▶ Role Costs/Financials

**Risk**

- ▶ Risk

**Schedule**

- ▶ Scenarios

**Portfolio Permission Sets**

**Funds**

- ▶ Funding
- ▶ Funding Costs/Financials

**Portfolio**

- ▶ Portfolio Costs

**Idea Permission Sets**

**Idea**

- ▶ Evaluation

**Program Permission Sets**

**Program**

- ▶ Program Costs/Financials

**Cost**

- ▶ Program Aggregate Cost Data
- ▶ Program Budget

**Risk**

- ▶ Risk

**Funds**

- ▶ Funding

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▶ Funding Costs/Financials

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### Create a Workspace Permission Set

Create workspace permission sets to determine a user's level of access to a workspace. Users can only access workspaces that they have been assigned.

To create a workspace permission set:

- 1) In the object selector, select a workspace.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Permissions**, and then select **Workspace**.
- 4) On the **Workspace** permission sets page, select **+ Add**.
- 5) In the **Name** field, enter a unique name.
- 6) In the **Description** field, enter a description of the permission set.
- 7) In the **Privileges** section, expand each category to assign privileges.
- 8) Select **Save**.
- 9) In the **Summary & Settings** panel, select **× Close**.

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#### Notes:

- To assign users to a workspace permission set, use the **Security** page in the Workspace Summary & Settings panel.
  - To assign a default workspace permission set to a user group, use the **Default Permissions** tab of the **User Groups** page.
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#### Tips

- ▶ Provide clear permission set names and descriptions to help you manage permissions.
- ▶ You can duplicate existing permission sets by selecting the **+ Add ▼** menu and selecting **Duplicate**. The Administrator (System) permission set cannot be duplicated.
- ▶ You can delete a permission set by selecting the profile and selecting **× Delete**. You can only delete permission sets that are not currently in use. The View Only (System) and Administrator (System) global permission sets cannot be deleted.

#### Workspace Security Privileges Definitions

When creating a permission set, use the following definitions to determine the functionality each privilege controls and other privileges that may also be required. Selecting one privilege may automatically select other privileges if they are required for the original privilege to function properly. These other privilege selections cannot be changed without affecting the selection of the original privilege. Any privilege requirements are noted in the definition.

#### Configuration

##### Analysis Views

Enables users to add, edit, and delete Analysis Views.

If you select the add, edit, or delete privileges, all privileges are automatically selected.

## **Calendars**

Enables users to add, edit, and delete workspace-level calendars. To add or edit a holiday list, both Add and Edit must be enabled.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Workspace-level Calendars dictionary

## **CBS**

Enables users to add, edit, and delete a workspace CBS.

## **Charts**

Enables users to add, edit, and delete charts.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

## **Codes**

Enables users to add, edit, and delete codes and code values data. To edit color associations from the workspace Codes dictionary, the edit privilege must be enabled.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

## **Configured Fields**

Enables users to add, edit, and delete configured fields.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

## **Cost Categories**

Enables users to add, edit, or delete cost categories.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

## **Custom Log Types**

Enables users to add, edit, or delete custom log types in the workspace Summary & Settings. Users with the Add privilege can also assign a custom log type from a parent workspace or duplicate a custom log type. Users with the Delete privilege can also remove custom log assignments. Users with the Edit privilege can also apply a custom log type to programs and projects and assign and remove configured fields and codes.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

## **Currencies**

Enables users to add, edit, and delete currencies.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

**Curve Profiles**

Enables users to add, edit, and delete a curve profile.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

**Evaluation Categories**

Enables users to add, edit, or delete evaluation categories.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

**Field Labels**

Enables users to edit field labels.

**Folder Templates**

Enables users to add, edit, and delete folder templates.

If you select the add, edit, or delete privileges, all privileges are automatically selected.

**Forms**

Enables users to add, edit, delete, or view forms.

If you select the add privilege, edit, delete, and view are automatically selected. If you select the edit privilege, the view privilege is automatically selected. If you select the delete privilege, add, edit, and view are automatically selected.

**Locations**

Enables users to add, edit, and delete locations data.

You must assign all privileges.

**Measures**

Enables users to add, edit, and delete measures.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

**Reasons**

Enables users to add, edit, and delete reasons.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

**Report Cycles**

Enables users to add, edit, and delete reporting cycles.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

**Resource Costs/Financials**

Enables users to edit and view workspace-level rates on a resource owned by the current workspace or the parent workspace.

If Edit is selected, the View Resource Costs/Financials and Edit Resources privileges are also selected and cannot be changed.

Applies to: Resources

### **Resources**

Enables users to add, edit, and delete workspace-level resources. The Add privilege also enables users to assign a resource from the parent workspace to the current workspace. To promote a resource to the parent workspace, the Add Resource privilege for the parent workspace must be enabled. To assign roles to a resource, the Edit Roles privilege must also be selected. To view and edit workspace rates on a resource owned by the current workspace or the parent workspace, the View and Edit privileges for Resource Costs/Financials must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, the Add Resources, Edit Resources, Edit Resource Costs/Financials and View Resource Costs/Financials privileges are also selected and cannot be changed.

Applies to: Resources

### **Risk Matrix Templates**

Enables users to add, edit, and delete risk matrixes.

You must assign all security privileges.

### **Risk Threshold Templates**

Enables users to add, edit, and delete risk thresholds.

You must assign all security privileges.

### **Role Cost/Financials**

Enables users to edit and view workspace-level rates on a role owned by the current workspace or the parent workspace.

If Edit is selected, the View Role Costs/Financials and Edit Roles privileges are also selected and cannot be changed.

Applies to: Resources

### **Roles**

Enables users to add, edit, and delete workspace-level roles. The Add privilege also enables users to assign a role from the parent workspace to the current workspace. To promote a role to the parent workspace, the Add Role privilege for the parent workspace must be enabled. To assign resources to a role, the Edit Resources privilege must also be selected. To view and edit workspace rates on a role owned by the current workspace or the parent workspace, the View and Edit privileges for Role Costs/Financials must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, the Add Roles, Edit Roles, Edit Role Costs/Financials and View Role Costs/Financials privileges are also selected and cannot be changed.

Applies to: Resources

### **Rules of Credit**



Enables users to add, edit, and delete rules of credit.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

### **Set Tasks Color Settings**

Enables users to set the Color Tasks by attribute in Workspace Settings.

### **Start Workflows**

Enables users to start workflow instances manually from the **Start Workflow** page.

If the Start Workflows privilege is enabled, the Workflows and Forms view privilege is automatically selected and cannot be removed.

### **Strategy Types**

Enables users to add, edit, or delete strategy types.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

### **Units of Measure**

Enables users to add, edit, and delete units of measure.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

### **Views**

Enables users to add, edit, and delete workspace views and filters.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

### **Workflow Configuration**

Enables users to add, edit, delete, or view workflow configurations.

If you select the add privilege, edit, delete, and view are automatically selected. If you select the edit privilege, the view privilege is automatically selected. If you select the delete privilege, add, edit, and view are automatically selected.

### **Workflow Design**

Enables users to add, edit, delete, or view workflow designs.

If you select the add privilege, edit, delete, and view are automatically selected. If you select the edit privilege, the view privilege is automatically selected. If you select the delete privilege, add, edit, and view are automatically selected.

### **Workspaces**

Enables users to add, edit, and delete workspace hierarchy nodes, and edit the workspace ID and name. Workspace nodes at the highest level (root) must be added by an application administrator.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

### **Workspace Dashboards**

Enables users to add, edit, and delete dashboards at the workspace level.

You must assign all security privileges.

## **General**

### **Allow Project Creation to Copy from Existing**

Enables users to allow project creation to copy from an existing project.

### **Funding**

Enables users to add, edit, delete, and view funds.

If you select the add privilege, edit and view are automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed. If you select the add, edit, or delete privilege, the edit and view privilege for Funding Costs/Financials are automatically selected.

### **Funding Costs/Financials**

Enables users to edit and view funds and financial data.

If you select the edit privilege, view is automatically selected and cannot be changed. If you select the edit or view privilege, the view privilege for Funding is automatically selected and cannot be changed.

### **Ideas**

Enables users to add and submit ideas in the workspace.

### **Import Project**

Enables users to import XML files from P6 EPPM and Microsoft Project.

### **Import Project Excel**

Enables users to import Microsoft Excel (.xls or .xlsx) files for creating projects.

### **Move Project**

Enables users to move a project from one workspace to another workspace. When you select Enable, the Project's Add privilege is automatically selected and cannot be changed. You must have this privilege in both the origin and destination workspace to have complete access to shared data during the move process.

### **Portfolios**

Enables users to add portfolios.

### **Print Layouts**

Enables users to add print layouts.

### **Programs**

Enables users to add programs to the workspace.

**Project Proposals**

Enables users to add project proposals from the Project inventory panel or as part of an idea approval workflow. Only users with the Portfolio license can add project proposals.

Applies to: Accept Idea workflow action, Project Inventory

**Project Template**

Enables users to add project templates.

**Projects**

Enables users to add projects.

**Promote Report to Workspace**

Enables users to promote a user or project report to a workspace report.

**Recalculate Workspace Costs**

Enables users to recalculate workspace costs when editing cost information.

**Strategies**

Enables users to add, edit, or delete strategies.

If you select the add privilege, edit and view are automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed.

**Workspace Aggregate Cost Data**

Enables users to view aggregate cost data for all projects and child workspaces within the workspace. If users also have the Project Costs/Financials privilege, they can access CBS costs in the project from the workspace Cost Sheet page.

**Workspace Cost Sheet**

Enables users to add and edit the workspace cost sheet.

If you select the edit privilege, the edit privilege for CBS is automatically selected and cannot be changed.

**Users and Security****Permission Sets**

Enables users to add, edit, and delete global, workspace, project, portfolio, file, and report permission sets.

You must assign all security privileges.

**User Groups**


Enables users to add, edit, and delete user groups for the workspace. Users with this privilege can edit the user groups from the Workspace Summary & Settings or from the User Groups page in Global Admin.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit, are automatically selected and cannot be changed.

## Create a Project Permission Set

Create project permission sets to determine a user's level of access to each project. Users can only access projects that they have been assigned.

To create a project permission set:

- 1) In the object selector, select a workspace.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Permissions**, and then select **Project**.
- 4) On the **Project** permission sets page, select **+ Add**.
- 5) In the **Name** field, enter a unique name.
- 6) In the **Description** field, enter a description of the permission set.
- 7) In the **Privileges** section, expand each category to assign privileges.
- 8) Select **Save**.
- 9) In the **Summary & Settings** panel, select **× Close**.

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### Notes:

- To assign users to a project permission set, use the **Security** page in the **Project Team** app.
  - To assign a default project permission set to a user group, use the **Default Permissions** tab of the **User Groups** page.
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### Tips

- ▶ Provide clear permission set names and descriptions to help you manage permissions.
- ▶ You can duplicate existing permission sets by selecting the **+ Add ▼** menu and selecting **Duplicate**. The Administrator (System) permission set cannot be duplicated.
- ▶ You can delete a permission set by selecting the profile and selecting **× Delete**. You can only delete permission sets that are not currently in use. The View Only (System) and Administrator (System) global permission sets cannot be deleted.

### Project Security Privileges Definitions

When creating a permission set, use the following definitions to determine the functionality each privilege controls and other privileges that may also be required. Selecting one privilege may automatically select other privileges if they are required for the original privilege to function properly. These other privilege selections cannot be changed without affecting the selection of the original privilege. Any privilege requirements are noted in the definition.

### Contract

#### Contracts

Enables users to add, edit, delete, or view contracts.

The add and delete privileges for contracts also apply to contract line items.

If you select the add privilege, edit and view are automatically selected and cannot be changed.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

If you select the delete privilege, all privileges for Contract Costs/Financials are also automatically selected and cannot be changed.

### **Contract Costs/Financials**

Enables users to edit or view contract costs and financial information associated with contracts.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed. The edit and view privileges for Contracts are also selected and cannot be changed.

### **Contracts Approval**

Enables users to approve and withdraw contracts.

If you enable this option, the privileges to edit and view Contract Costs/Financials are selected and cannot be changed.

### **Commitments**

Enables users to add, edit, delete, or view commitments.

The add and delete privileges for commitments also apply to commitment line items.

If you select the add privilege, edit and view are automatically selected and cannot be changed.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

If you select the delete privilege, all privileges for Commitment Costs/Financials are also automatically selected and cannot be changed.

### **Commitment Costs/Financials**

Enables users to edit or view commitment costs and financial information associated with commitments.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

### **Commitments Approval**

Enables users to approve and withdraw commitments.

If you enable this option, the privileges to edit and view Commitment Costs/Financials are selected and cannot be changed.

### **Changes**

Enables users to add, edit, delete, and view changes.

If you select the add privilege, edit and view are automatically selected and cannot be changed.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

### **Changes Costs/Financials**

Enables users edit and view changes.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

These privileges also apply to changes.

### **Close/Reopen/Void Changes**

Enables users to close, reopen, or void changes.

### **Change Orders**

Enables users to add, edit, delete, and view change orders.

The add and delete privileges for change orders also apply to change order line items.

If you select the add privilege, edit and view are automatically selected and cannot be changed.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

If you select the delete privilege, all privileges for Change Order Costs/Financials are also automatically selected and cannot be changed.

In order to add change orders, you also need at least the view privilege for contracts or commitments.

### **Change Order Costs/Financials**

Enables users to edit or view change order costs and financial information associated with change orders.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed. The edit and view privileges for change orders are also selected and cannot be changed.

### **Change Orders Approval**

Enables users to approve and withdraw change orders.

If you enable this option, the privileges to edit and view Change Orders are selected and cannot be changed.

### **Potential Change Orders**

Enables users to add, edit, delete, and view potential change orders.

If you select the add privilege, edit and view are automatically selected and cannot be changed.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

If you select the delete privilege, all privileges for Potential Change Orders Costs/Financials are also automatically selected and cannot be changed.

### **Potential Change Orders Costs/Financials**

Enables users to edit and view Potential Change Orders Costs/Financials.

These privileges also apply to potential change orders.

**Potential Change Order Proposals**

Enables users to add, edit, and delete potential change order proposals.

**Approve a Proposal and Close the Potential Change Order**

Enables users to approve proposals and close potential change orders.

**Withdraw a Potential Change Order**

Enables users to withdraw potential change orders.

**Payment Applications**

Enables users to add, edit, delete, and view payment applications.

If you select the add privilege, edit and view are automatically selected and cannot be changed.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

If you select the delete privilege, all privileges for Payment Application Costs/Financials are also automatically selected and cannot be changed.

In order to add payment applications, you also need at least the view privilege for contracts or commitments.

**Payment Application Costs/Financials**

Enables users to edit or view payment application costs and financial information associated with payment applications.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed. The edit and view privileges for payment applications are also selected and cannot be changed.

**Payment Applications Approval**

Enables users to approve and withdraw payment applications.

If you enable this option, the privileges to edit and view Payment Applications are selected and cannot be changed.

**Cost****Accept Proposed Budget and Request Changes**

Enables users to accept a proposed budget for a project or request change.

Applies to: Costs and Funds

**Actuals**

Enables users to add, edit, delete, or view actual project spending. This privilege does not grant users access to the cost and financial information associated with actuals records. For that, the user must have the Actuals Costs/Financials privilege.

If you select the add privilege, edit and view are automatically selected and cannot be changed.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed.

If you select the delete privilege, all privileges for Actuals and Actuals Costs/Financials are also automatically selected and cannot be changed.

Applies to: Costs and Funds

### **Actuals Costs/Financials**

Enables users to edit or view costs and financials associated with actuals records.

If you select the edit privilege, the view privilege is automatically selected and cannot be changed. The edit and view privilege for Actuals is also automatically selected and cannot be changed.

If you select the view privilege, the view privilege for Actuals is automatically selected and cannot be changed.

Applies to: Costs and Funds

### **Cash Flow Snapshots**

Enables users to add, edit, or delete cash flow snapshots.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

Applies to: Costs and Funds

### **Project Budget**

Enables users to add, edit, delete, or view budgets.

If you select the add privilege, the edit and view privileges are automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed. If you select the edit privilege, view is automatically selected and cannot be changed.

If you select the add, edit, delete, or view privileges, the view privilege for Project Costs/Financials is also selected.

If the Project Costs/Financials view privilege is disabled, the Budget page is restricted.

Applies to: Costs and Funds

### **Project Budget Approval**

Enables users to approve project budgets.

If you select the enable privilege, the Project Budget edit and view privileges are selected and cannot be changed, and the Project Costs/Financials view privilege is selected and cannot be changed.

Applies to: Costs and Funds

### **Project Cost Sheet**

Enables users to add, edit, or delete project CBS codes. It also enables users to select and edit budget sources.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

Applies to: Costs and Funds

### **Recalculate Project Costs**



Enables users to recalculate project, activity, and resource assignment costs when editing cost information. When run from the Costs and Funds app, only the project objects that are selected at run time will be recalculated. This does not include activity and resource assignments costs. Activities and resource assignments are the only objects whose costs are recalculated from the Activities page in the Schedule app.

If you select the enable privilege, the Edit Project privilege, the Edit Project Costs/Financials privilege, and the view Project Costs/Financials privilege are also selected and cannot be changed.

Applies to: Costs and Funds, Schedule

## Documents

### Custom Log Types

Enables users to add, edit, or delete custom logs in the project Summary & Settings. Users with the Add privilege can also assign a custom log from the workspace or duplicate a custom log. Users with the Delete privilege can also remove custom log assignment. Users with the Edit privilege can also assign and remove configured fields and codes at the project level.

To be able to assign user or user group access to a custom log, or to remove that assignment, a user needs the following permissions: the Edit privilege for Custom Log Type (either in a custom Project Permission Set or by assigning the user the built-in Administrator permission set for the project) AND the built-in Administrator permission set for Custom Logs when the user is assigned to the project or workspace. This also applies to giving users the ability to edit the permissions of custom logs assigned from the workspace.

If you select the add privilege, edit is automatically selected and cannot be changed. If you select the delete privilege, add and edit are automatically selected and cannot be changed.

### Manage Submittal Approvals

Enables users to manage submittal approvals.

If you enable this privilege, the Upload Submittals for My Company privilege is also enabled.

### Spec Sections

Enables users to add, edit, or delete spec sections.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

### Submittals

Enables users to add, edit, or delete submittals.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

### Upload Submittals for All Companies

Enables users to upload submittals for all companies.

### Upload Submittals for My Company

Enables users to upload submittals for their associated companies.

## Funds

### Funding

Enables users to add, edit, delete, and view funds.

If you select the add privilege, edit and view are automatically selected and cannot be changed. If you select the delete privilege, add, edit, and view are automatically selected and cannot be changed. If you select the add, edit, or delete privilege, the edit and view privilege for Funding Costs/Financials are automatically selected and cannot be changed.

Applies to: Costs and Funds

### Funding Costs/Financials

Enables users to edit and view funds and financial data.

If you select the edit privilege, view is automatically selected and cannot be changed. If you select the edit or view privilege, the view privilege for Funding is automatically selected and cannot be changed.

Applies to: Costs and Funds

## Tasks

### Complete Constraints for All Companies

Enables users to enter a delivered date on task constraints regardless of assigned company.

If Enable is selected, the Enable privilege for Complete Constraints for My Company and the Edit privilege for Constraints are also selected and cannot be changed.

Applies to: Tasks

### Complete Constraints for My Company

Enables users to enter a delivered date on task constraints that belong to the company to which they are assigned.

If Enable is selected, the Edit privilege for Constraints is also selected and cannot be changed.

Applies to: Tasks

### Configure Task Notifications for Others

Enables users to configure task notification preferences on behalf of other users and configure default task notification preferences for all users assigned to at least one task in the project.

Applies to: Tasks

### Constraints

Enables users to add, edit, and delete task constraints regardless of the user's assigned company. To assign tasks to constraints, or to remove an assignment, the Edit privileges for Tasks for All Companies or Tasks for My Company must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Tasks

### Manage Commitments and Complete All Company's Tasks

Enables users to commit, recommit, and add reasons to any public task, delete commitments and recommitments on any public task, complete any public task, and complete private tasks that belong to them.

If Enable is selected, the Enable privilege for Manage Commitments and Complete My Tasks and the Edit privilege for Tasks for All Companies are also selected and cannot be changed.

Applies to: Tasks

### **Manage Commitments and Complete My Company's Tasks**

Enables users to commit, recommit, and add reasons to public tasks to the company to which they are assigned, delete commitments and recommitments on public tasks to the company to which they are assigned, complete public and private tasks to the company to which they are assigned, and complete task milestones that belong to the company to which they are assigned.

If Enable is selected, the Manage Commitments and Complete My Tasks privilege is also enabled.

Applies to: Tasks

### **Manage Commitments and Complete My Tasks**

Enables users to commit, recommit, and add reasons to public tasks to which they are assigned, delete commitments and recommitments on public tasks to which they are assigned, complete public and private tasks to which they are assigned, and complete task milestones that belong to the company to which they are assigned.

If Enable is selected, the Edit privilege for Tasks for My Company is also selected and cannot be changed.

Applies to: Tasks

### **Tasks for All Companies**

Enables users to add, edit, and delete any public task regardless of assigned company and any private tasks that belong to them.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed. Any privilege selected also selects the corresponding privilege for Tasks for My Company.

Applies to: Tasks, Schedule

### **Tasks for My Company**

Enables users to add, edit, and delete public tasks that belong to the company to which they are assigned and private tasks that belong to them.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are automatically selected and cannot be changed.

Applies to: Tasks, Schedule

## **Project**

### **Add WBS from other projects/templates**

Enables users to copy WBS nodes and objects within the nodes from a project template or another project. To use this feature, the Add Activities privilege must also be selected.

Applies to: Schedule, Scope

### **Alerts**

Enables users to add, edit, and delete system alerts that appear when thresholds are met on project-level data. Users do not require privileges to subscribe or unsubscribe themselves to an alert.

If you select the add, edit, or delete privilege, all Alerts privileges are also selected and cannot be changed.

Applies to: Costs and Funds, Schedule, Scope

### **Baselines**

Enables users to add, edit, and delete project baselines. To choose or change a baseline type, the Enable Baselines - Set Project Baselines privilege must also be selected. To modify data within a baseline, privileges in the Schedule (Baselines) section must also be selected.

The Add and Edit privileges must be selected together. If Delete is selected, the Add Baselines, Edit Baselines, and Enable Baselines - Set Project Baselines privileges are also selected and cannot be changed.

Applies to: Schedule, Scope

#### **Baselines - Set Project Baselines**

Enables users to select a baseline type when adding a baseline or change the type of an existing baseline.

If Enable is selected, the Add Baselines and Edit Baselines privileges are also selected and cannot be changed.

Applies to: Schedule, Scope

### **Calendars**

Enables users to add, edit, and delete project-level calendars. To edit a holiday list or promote a calendar to the parent workspace, the Add and Edit Calendars privileges for the parent workspace must be enabled.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Project-level Calendars dictionary

### **Close Reporting Periods**

Enables users to close the current reporting period to further edits. Closed periods allow for accurate project analysis and reporting.

Applies to: Scope

### **Codes**

Enables users to add, edit, and delete project-level activity codes and code values. To promote a code to the parent workspace, Add, Edit, and the Add Codes privilege for the parent workspace must be enabled.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Project-level Codes dictionary, Schedule

**Companies**

Enables users to assign or remove companies from a project and change the color associated with each company.

Applies to: Project Team

**Currencies**

Enables users to change the project currency and its associated exchange rate.

If Edit is selected, the Edit Project privilege is also selected and cannot be changed.

Applies to: Project Settings

**Global Change**

Enables users to add, edit, or delete public global changes or private global changes that belong to them. Users must have the Add and Edit privileges to copy global changes from another project.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Schedule

**Global Change - Run**

Enables users to run public global changes or global changes that belong to them. Users must have the Edit Activities privilege selected in the Current, Baselines, or Scenarios section of the Schedule privileges to make changes to activities in the current schedule, baseline, or scenario.

If Enable is selected, the Add Global Change and Edit Global Change privileges are also selected and cannot be changed.

Applies to: Schedule

**Project**

Enables users to edit and delete projects and project templates.

The Edit privilege enables users to edit project and project template data such as project details, codes, and settings. Some data such as alerts, currencies, and dictionaries have their own privileges. The Edit privilege is required to be able to configure the attribute a task is colored by for the project and enables the Color By setting in Project Settings. The Edit privilege is required to be able to move a project to a new destination workspace.

If Delete is selected, Edit is also selected and cannot be changed.

Applies to: Project Inventory, Project Settings

**Project Costs/Financials**

Enables users to view and edit project cost fields across the application, including at the portfolio and program levels, for pages to which the user has access. Without the Edit privilege, cost fields will be read-only. Without the View privilege, depending on the page, cost fields may be hidden, show a lock icon instead of a value, or the page may be restricted entirely.

Configured fields with a Data Type of Cost for objects in other contexts, objects with their own Cost/Financials privileges (Changes, Change Estimates, Change Order, Contract, Commitments, Fund, Payment Applications, Potential Change Orders, Project Actuals), and the File object are not controlled by the Project Costs/Financials privileges.

When the View privilege is selected, the following functionality is enabled:

- ▶ Cost-related field values on the Cost Sheet page are displayed.
- ▶ All fields on the project Cash Flow page are displayed.
- ▶ Cost-related field values on the project Budget page are displayed and editable as long as the project Edit Project Budget and View Project Budget privileges are also enabled.
- ▶ Cost-related project-level field values on the program Summary Cost Sheet page are displayed.
- ▶ Cost-related project-level field values on the portfolio Budget Planning, Published Views, and Scenario Comparison pages are displayed.
- ▶ Cost-related project-level risk field values on the project Risk Register page are displayed.
- ▶ Cost-related project-level risk field values on the program Risk Register page are displayed as long as the program View Risk and project View Risk privileges are also enabled.
- ▶ Cost-related activity and resource assignment field values are displayed.
- ▶ Cost-related scope field values are displayed.
- ▶ The Construction Value field in the project details is displayed.
- ▶ Configured fields with a Data Type of Cost are editable for the following objects as long as the Edit privilege for the corresponding object (Project Budget or Project Cost Sheet) is also enabled: Budget, Budget Changes, Budget Transfers, Project Cost Sheet. These objects do not require the Edit privilege for Project Costs/Financials to be enabled in order to be edited. Cost type configured fields for the Budget Details object can be edited without enabling the Edit privileges for Project Costs/Financials or Project Budget. Cost type configured fields for the Budget Details object are displayed as long as the View Project Costs/Financials and View Project Budget privileges are also enabled.

When the Edit privilege is selected, the following functionality is enabled:

- ▶ All fields on the project Cash Flow page are editable.
- ▶ Cost-related project-level risk fields on the project Risk Register page are editable as long as the project Edit Risk and View Risk privileges are also enabled.
- ▶ Cost-related project-level risk fields on the program Risk Register page are editable as long as the program View Risk, project Edit Risk, and project View Risk privileges are also enabled.
- ▶ Cost-related activity and resource assignment fields are editable as long as the Edit Activities privilege is also enabled.
- ▶ Cost-related scope fields are editable as long as the Edit privilege for an individual scope object is also enabled.
- ▶ Configured fields with a Data Type of Cost are editable for the following objects as long as the Edit privilege for the corresponding object is also enabled: Activity, Custom Log, Project, Resource Assignment, Risk, Scope Assignment, Scope Item, Submittal, Task, WBS, Work Packages.

- ▶ Set up store period performance for a project as long as the Edit Project, Enable Store Period Performance, Add Baseline, Enable Baseline - Set Project Baseline, and Enable Recalculate Project Costs privileges are also enabled.
- ▶ Store period performance for a project as long as the Enable Store Period Performance privilege is also enabled.
- ▶ Recalculate project costs as long as the Enable Recalculate Project Costs privilege is also enabled.

If the Edit privilege is selected, the View Project Costs/Financials and Edit Project privileges are also selected and cannot be changed.

Applies to: Costs and Funds, Project Details, Risk, Schedule, Scope

### **Project Dashboards**

Enables users to add, edit, and delete dashboards at the project level.

If you select the add, edit, or delete privilege, all Project Dashboards privileges are also selected and cannot be changed.

Applies to: Dashboards

### **Project Integration**

Enables users to run project synchronizations between Primavera Cloud and P6 EPPM or Primavera Gateway. To view project synchronizations, the Edit Project privilege must also be selected.

Applies to: Integration

### **Promote Report to Project**

Enables users to promote user type reports to the project type, making them available to other users of the project.

Applies to: Reports

### **User Groups**

Enables users to add, edit, and delete project-level user groups. Users with the Edit privilege can also edit the permission sets of enabled inherited user groups, assign users to an inherited user group, and remove users from an inherited user group if the user was assigned at the project level. Users with these privileges can configure user groups from the Project Team app or from the User Groups page in Global Admin.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Global Admin, Project Team

### **Views**

Enables users to add, edit, and delete project-level views and filters. Users do not require privileges to add, edit, or delete personal views or filters.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Project-level pages that support named views

### **WBS**

Enables users to add, edit, and delete WBS nodes.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Schedule, Scope

## Project Proposals

### Project Proposals

Enables users to delete project proposals and edit project proposal data such as project details, codes, and settings. Some data such as alerts, currencies, and dictionaries have their own privileges. Project configured fields with a Data Type of Cost are editable in project proposals as long as the Edit Project Proposals and Edit Project Costs/Financials privileges are enabled. Objects within a project proposal that are not listed here are controlled by the same privileges that control those objects in the project context.

You need this privilege to launch a project proposal workflow. This privilege allows users to add project proposals and launch a workflow even if they do not have the Start Workflows privilege.

Applies to: Project Inventory, Project Settings

### Project Proposals and WBS Costs/Financials

Enables users to edit and view cost fields for pages within a project proposal to which the user has access. When the Edit privilege is selected, all functionality for the View Project Costs/Financials privilege is enabled, and all fields on the project proposal Cash Flow page are editable. All other cost fields are controlled by the Project Costs/Financials privileges.

If the Edit privilege is selected, the View Project Costs/Financials and Edit Project Proposals privileges are also selected and cannot be changed.

Applies to: Costs and Funds, Project Details

## Resources

### Resource Costs/Financials

Enables users to edit and view project-level rates on a project resource or a workspace resource assigned to the project.

If Edit is selected, the View Resource Costs/Financials and Edit Resource privileges are also selected and cannot be changed.

Applies to: Resources

### Resource Demand

Enables users to add, edit, and delete resource demands. The Edit privilege also enables users to create demand units from the project schedule and recalculate role costs.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

### Resources



Enables users to add, edit, and delete project-level resources. The Add privilege also enables users to assign a workspace resource to the project level. To promote a resource to the parent workspace, the Add Resource privilege for the parent workspace must be enabled. To assign roles to a resource, the Edit Roles privilege must also be selected. To view and edit project-level rates on a project resource or a workspace resource assigned to the project, the View and Edit privileges for Resource Costs/Financials must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, the Add Resources, Edit Resources, Edit Resource Costs/Financials and View Resource Costs/Financials privileges are also selected and cannot be changed.

Applies to: Resources

### **Role Costs/Financials**

Enables users to edit and view project-level rates on a project role or a workspace role assigned to the project.

If Edit is selected, the View Role Costs/Financials and Edit Roles privileges are also selected and cannot be changed.

Applies to: Resources

### **Roles**

Enables users to add, edit, and delete project-level roles. The Add privilege also enables users to assign a workspace role to the project level. To promote a role to the parent workspace, the Add Role privilege for the parent workspace must be enabled. To assign resources to a role, the Edit Resources privilege must also be selected. To view and edit project-level rates on a project role or a workspace role assigned to the project, the View and Edit privileges for Role Costs/Financials must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, the Add Roles, Edit Roles, Edit Role Costs/Financials and View Role Costs/Financials privileges are also selected and cannot be changed.

Applies to: Resources

## **Risk**

### **Risk**

Enables users to add, edit, delete, or view risks.

If you select the add privilege, edit and view are automatically selected. If you select the delete privilege, add, edit, and view are automatically selected.

### **Risk Analysis**

Enables users to run risk analysis.

### **Risk Matrix**

Enables users to add, edit, delete, or risk matrixes.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

## Schedule (Current)

### Activities

Enables users to add, edit, and delete activities in the current schedule. To view or edit activity or assignment costs, the View Project Costs/Financials and Edit Project Costs/Financials privileges must also be selected. Some cost fields may be indirectly modified by editing fields they are connected to, even if Edit Project Costs/Financials is disabled. To manage risks or tasks associated with activities in the current schedule, the appropriate Risk and Tasks privileges must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed. When an Activities privilege in the Schedule (Current) section is selected, the same Activities privileges in the Schedule (Baselines) and Schedule (Scenarios) sections are also selected and cannot be changed.

Applies to: Schedule

### Level

Enables users to level resources and roles in the current schedule. When the leveler is run, the scheduler is also run, and activities may be modified even if Edit Activities is disabled.

If Enable is selected, the Enable Schedule privilege in the Schedule (Current) section and the same Level privileges in the Schedule (Baselines) and Schedule (Scenarios) sections are also selected and cannot be changed.

Applies to: Schedule

### Relationships

Enables users to add, edit, and delete relationships between activities in the current schedule.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed. When a Relationships privilege in the Schedule (Current) section is selected, the same Relationships privileges in the Schedule (Baselines) and Schedule (Scenarios) sections are also selected and cannot be changed.

Applies to: Schedule

### Schedule

Enables users to run the scheduler in the current schedule. When the scheduler is run, activities may be modified even if Edit Activities is disabled.

If Enable is selected, the Enable Schedule privileges in the Schedule (Baselines) and Schedule (Scenarios) sections are also selected and cannot be changed.

Applies to: Schedule

### Set Baseline as Current Schedule

Enables users to set a project baseline as the current schedule. To use this feature, the Add Baselines and Edit Baselines privileges must also be selected.

Applies to: Schedule

### Set Scenario as Current Schedule

Enables users to set a project scenario as the current schedule.

If Enable is selected, the Add Scenarios, Edit Scenarios, and View Scenarios privileges are also selected and cannot be changed.

Applies to: Schedule

### **Store Period Performance**

Enables users to run the store period performance for a schedule.

Applies to: Schedule

## **Schedule (Baselines)**

### **Activities**

Enables users to add, edit, and delete activities in a project baseline. To use this feature, the Add Baselines and Edit Baselines privileges must also be selected. Activities are added to baselines using the Get Activities feature. To view or edit baseline activity or assignment costs, the View Project Costs/Financials and Edit Project Costs/Financials privileges must also be selected. Some cost fields may be indirectly modified by editing fields they are connected to, even if Edit Project Costs/Financials is disabled. To manage risks associated with activities in the baseline, the appropriate Risk privileges must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Schedule

### **Level**

Enables users to level resources and roles in a project baseline. To use this feature, the Add Baselines and Edit Baselines privileges must also be selected. When the leveler is run, the scheduler is also run, and activities may be modified even if Edit Activities is disabled.

If Enable is selected, the Enable Schedule privilege is also selected and cannot be changed.

Applies to: Schedule

### **Relationships**

Enables users to add, edit, and delete relationships between activities in a project baseline. To use this feature, the Add Baselines and Edit Baselines privileges must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Schedule

### **Schedule**

Enables users to run the scheduler in a project baseline. To use this feature, the Add Baselines and Edit Baselines privileges must also be selected. When the scheduler is run, activities may be modified even if Edit Activities is disabled.

Applies to: Schedule

## **Schedule (Scenarios)**

### **Activities**

Enables users to add, edit, and delete activities in a project scenario. To use this feature, the View Scenarios privilege must also be selected. To view or edit scenario activity or assignment costs, the View Project Costs/Financials and Edit Project Costs/Financials privileges must also be selected. Some cost fields may be indirectly modified by editing fields they are connected to, even if Edit Project Costs/Financials is disabled. To manage risks associated with activities in the scenario, the appropriate Risk privileges must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Schedule

### **Level**

Enables users to level resources and roles in a project scenario. To use this feature, the View Scenarios privilege must also be selected. When the leveler is run, the scheduler is also run, and activities may be modified even if Edit Activities is disabled.

If Enable is selected, the Enable Schedule privilege is also selected and cannot be changed.

Applies to: Schedule

### **Relationships**

Enables users to add, edit, and delete relationships between activities in a project scenario. To use this feature, the View Scenarios privilege must also be selected.

If Add is selected, Edit is also selected and cannot be changed. If Delete is selected, Add and Edit are also selected and cannot be changed.

Applies to: Schedule

### **Scenarios**

Enables users to add, edit, and delete project scenario details and view scenarios and scenario schedules. To interact with the objects or tools within a scenario, such as activities, leveler, relationships, or scheduler, the corresponding privileges for that object or tool and the View Scenarios privilege must also be selected. If Edit is selected, users can use Get Activities to add activities to the scenario.

If Add is selected, Edit and View are also selected and cannot be changed. If Edit is selected, View is also selected and cannot be changed. If Delete is selected, Add, Edit, and View are also selected and cannot be changed.

Applies to: Schedule

### **Schedule**

Enables users to run the scheduler in a project scenario. To use this feature, the View Scenarios privilege must also be selected. When the scheduler is run, activities may be modified even if Edit Activities is disabled.

Applies to: Schedule

## **Scope**

### **Approve/Reject Scope Change Requests**

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Enables users to approve or reject scope change requests, reject individual change items, withdraw approved change requests, and reopen rejected change requests and items. When this privilege is selected, the following add and edit privileges are also selected: Work Packages, Scope Items, Scope Assignments, and Scope Change Requests. The edit and view privileges for Project Costs/Financials are also selected.

**PBS**

Enables users to add, edit, or delete PBSs.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

**Scope Assignments**

Enables users to add, edit, or delete scope item assignments. If you have the delete privilege, you can only delete work packages before the baseline is set.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

**Scope Change Requests**

Enables users to add, edit, or delete scope change requests and pending change items in the Scope Item Changes, Work Package Changes, Scope Item Change Details, and Work Package Change Details pages. This privilege also allows users to add and edit scope items on the Scope Item Change Details page if the user also has the corresponding add and edit Scope Items privileges. Also allows users to add and edit work packages and scope assignments on the Work Package Change Details page if the user also has the corresponding add and edit Work Packages and Scope Assignments privileges.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

**Scope Items**

Enables users to add, edit, or delete scope items. If you have the delete privilege, you can only delete work packages before the baseline is set.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

**Work Packages**

Enables users to add, edit, or delete work packages. If you have the delete privilege, you can only delete work packages before the baseline is set.

If you select the add privilege, edit is automatically selected. If you select the delete privilege, add and edit are automatically selected.

**Dictionaries**

Workspace-level dictionaries are repositories of items that can be used across the application, without having to create the same items for each object. Workspace-level dictionary items can be used in the projects, portfolios, programs, ideas, and child workspaces within the workspace. Dictionaries provide for efficient reuse of organizational data. For example, you can create multiple calendars or codes in a workspace and then apply them across activities in multiple projects in that workspace.

## Calendars Overview

Calendars enable you to define available workdays and work hours in a day, observe national and recognized holidays, and add exceptions to the standard work time. Assign calendars to projects, resources, roles, and activities to specify their time constraints in a uniform way. Calendar assignments are used for scheduling, leveling, risk analysis, and other processes throughout the application.

You can create an unlimited number of calendars to accommodate different work patterns. For example, if some activities require a five day workweek, while others can only be performed part-time (such as Monday, Wednesday, and Friday), you can create different calendars and assign them to the activities and resources in your projects. An activity's Type setting determines whether the activity will use the calendars from its assigned resources and roles or from the project when scheduling its dates.

Before calendars can be assigned, they must be made available to supporting objects. Each workspace-level calendar can be made available to projects, resources/roles, or both. This ensures calendars intended for projects or resources/roles are only available to those types of objects. The calendar marked as the default calendar is automatically made available to projects, resources, and roles within the workspace and is automatically assigned to new projects, resources, and roles when they are created. The calendar assigned to a project also controls the default calendar for new activities within the project. There is one default calendar per workspace. Any calendar in the workspace can be assigned as the default calendar.

You can also create calendars at the project level if they only need to be available to a single project. Project-specific calendars are available for assignment to the project and project activities, resources, and roles. When assigning a calendar to a project, activity, resource, or role, you can choose from a workspace-level or project-level calendar. If a project-level calendar should be made available to more projects, you can promote it to the parent workspace.

The default workspace calendar designation and calendar assignments on individual objects can be changed at any time. Each project, resource, role, and activity must always have a calendar assigned.

## Add a Holiday List

Add a holiday list to include any public or company holidays observed by the organization that should be reflected in project and resource schedules. An existing list can be assigned to a calendar during the calendar's creation, or you can assign a calendar's holiday list later. One holiday list can be selected per calendar.

Holiday lists are available to be used throughout the workspace hierarchy. You must have the security privileges required to add and edit calendars in the workspace to add and edit a holiday list.

To add a holiday list:


- 1) **Navigate to the Calendars dictionary page** (see page 343).

- 2) Select **Holidays**.
- 3) In the **Manage Holiday Lists** dialog box, select + **Add**, and then enter a name for the holiday list. You can also select an existing list.
- 4) Select **Edit Holiday List**.
- 5) Select + **Add** to create a new holiday for the list. Enter a name for the holiday. You can also select an existing holiday.
- 6) Choose when the holiday occurs:
  - ▶ **Once on:** Select if this holiday is a onetime occurrence.
  - ▶ **Repeat every:** Select if this holiday occurs on the same date every year.

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**Note:** You can select on a calendar when holidays are recognized as part of the standard work week.

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  - ▶ **Repeat the:** Select if this holiday occurs on a different date each year, but always occurs on the same day and week each year.
- 7) Continue to enter dates as needed.
- 8) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**

### Add a Calendar

Add calendars to a workspace so they can be available for assignment to projects, resources, and roles within the workspace.

To add a calendar:

- 1) **Navigate to the Calendars dictionary page** (see page 343).
- 2) Select + **Add**.
- 3) In the **Add Calendar** wizard, complete the following steps:
  - a. **Name:** Enter a **Name** and **ID** for the calendar. Select **Next**.

- b. **Create Work Week:** Specify the standard number of work hours per day by manually entering the number of hours or by selecting the time period on the calendar. Change the time periods on the calendar by dragging the entire block of time or by expanding or reducing the block of time. Select **Next**.
- c. **Add Holidays:** Choose a holiday list to assign to the calendar. The holidays in the selected list are displayed.
  - Select the **If a holiday falls on standard nonwork time, move** option if your calendar has holidays that fall on standard nonwork time and should be marked as holiday time during standard work time. Select where on the calendar the holiday should be reflected.

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**Notes:**

- This setting affects the placement of activities and resources/roles during scheduling and leveling. Changes to a holiday's placement on the calendar are not reflected in the Calendar tab of the Calendars dictionary page.
- This setting applies to holidays being placed on nonwork time during the standard work week. It is unaffected by unavailable time created by an exception.

- 
- Select **Finish**.

4) Save your changes:


In **Primavera Cloud**:

- a. Select **Save**.
- b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.

**Tips**

- ▶ You can assign a calendar from a higher-level workspace by selecting **Assign**. You can only modify a calendar from its owning workspace.
- ▶ To duplicate an existing calendar, select the  **Context** menu next to the calendar, and then select **Duplicate**. This is useful if you want to modify a calendar assigned from a different workspace.
- ▶ You can modify a calendar's name and ID values in the calendar list, its standard hours on the **Standard Work Week** tab, and its holiday list on the **Summary** tab.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**




 **Scope** **Tasks****Configure Calendar Time Period Settings**

A calendar's time period settings specify the default number of hours in each work period. The standard time period hours defined in the Application Settings are displayed by default, but can be changed after the calendar is created. Time period settings are separate from the calendar's standard work week values, which specify the working hours for each day of the week.

The application calculates and stores time unit values in hourly increments, but you can **configure your user preferences** (see "**Configure Time Units**" on page 104) to display time units in other increments, such as days or weeks. The values specified for Time Periods are used to convert hours to other time increments for display, and to convert all non-hourly time increments to hours for storage in the database.

To configure a workspace-level calendar's time period settings:

- 1) **Navigate to the Calendars dictionary page** (see page 343).
- 2) Select a calendar.
- 3) Select the **Summary** tab.
- 4) In the **Time Periods** section, enter the default number of hours in a day, week, month, and year.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **×** **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.


**This setting is used in the following apps:**

 **Cost and Funds** **Resources** **Risk** **Schedule** **Scope** **Tasks****Specify Calendar Availability for Assignment**

Before calendars can be assigned, they must be made available to supporting objects. Each workspace-level calendar can be made available to projects, resources/roles, or both. Both options as selected by default when a calendar is created. If a calendar is not available to one of these objects, it will not appear as an option when assigning calendars to that type of object.

The calendar set as the default calendar is automatically made available to projects, resources, and roles. This can only be changed if you set a different calendar as the default.

To specify calendar availability:

- 1) **Navigate to the Calendars dictionary page** (see page 343).
- 2) Select a calendar.
- 3) Select the **Summary** tab.
- 4) In the **Available To** section, select **Project**, **Resource/Role**, or both.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**


### Set Calendar Exception Time

Exception time is set by selecting periods of time on a calendar that are exceptions to the calendar's standard working hours. Select a period of time on a particular date to specify the new working time for that date. For example, your organization may decide to give employees a half day of vacation time the day before a scheduled holiday. In this case, the first half of the standard work day would be selected, thereby designating it as exception time. You can also set an entire day as unavailable, indicating that the day cannot be worked at all, or available, indicating that the day can be worked without the restriction of standard work hours. Remove changes by setting individual days back to standard working time.

The calendar's Day and Week views enable you to add exception time, but only the Week view supports setting an entire day as unavailable or available. The Month and Year views enable you to see the different working time types at a high level. A legend below the calendar indicates whether each time period displayed is standard, exception, unavailable, or holiday time.

To set calendar exception time:

- 1) **Navigate to the Calendars dictionary page** (see page 343).
- 2) Select a calendar.
- 3) Select the **Calendar** tab.
- 4) Navigate to a time period in the calendar when exception time should be added.

- 5) In the **Day** or **Week** view, make any of the following adjustments to the calendar:
  - ▶ To change the work hours for a day, select a period of time on a specific day. Change the exception time on the calendar by dragging the entire block of time or by expanding or reducing the block of time. The block of time indicates the new work hours for the day.
  - ▶ To set an entire day as nonworking time, select the date ▼ menu, and then select **Unavailable**.
  - ▶ To set an entire day as working time, select the date ▼ menu, and then select **Available**.
  - ▶ To revert any changes you made to a day, select the date ▼ menu, and then select **Set to Standard**. You can also remove individual blocks of exception time by select the **X** within a block.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.
- 7) Exceptions are displayed on the **Summary** tab.

### Tips

- ▶ Any day can be set as unavailable, available, or with a range of exception time within the day. This includes days set as holidays.

### This setting is used in the following apps:

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**


### Set the Default Calendar

There is one default calendar per workspace. The calendar set as the default calendar in the workspace-level Calendars dictionary is automatically assigned to new projects, resources, and roles when they are created. The calendars of existing projects, resources, or roles are not affected. Any calendar in the workspace can be assigned as the default calendar. One calendar must always be defined as the default.

The default calendar is automatically made available to projects, resources, and roles. This can only be changed if you set a different calendar as the default. The application has a built-in default calendar. The settings in this calendar cannot be changed. After another calendar has been assigned as the default, this calendar can be deleted.

You can also set the default calendar on the **Project** page in the workspace Defaults & Options. Choose from a list of calendars that are available to the Project object. This will also make the calendar available to resources and roles.

To set the default workspace calendar:

- 1) **Navigate to the Calendars dictionary page** (see page 343).
- 2) In the list of calendars, select the **Default** option for a calendar.
- 3) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

### Tips

- ▶ If the calendar you selected was only available to Project or Resource/Role, then both options are automatically selected when you select a new default calendar.

### This setting is used in the following apps:

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**

---

### Codes Overview

Codes help you categorize your data objects based on characteristics that they share. If you have many instances of an object, codes help you group and filter potentially vast amounts of information spanning different areas of the organization. You can also use codes to arrange objects hierarchically. The application supports an almost unlimited number of codes and values; therefore, you can establish as many as you need to meet the filtering, sorting, and reporting requirements of your organization.

At the workspace level, codes can be created and associated with a wide variety of objects available within the workspace. At the project level, you can create activity codes that will only be available to a single project.

Workspace-level codes can be created for the following objects:

- ▶ Activities
- ▶ Commitments
- ▶ Contracts
- ▶ Custom Logs

- ▶ Files
- ▶ Funds
- ▶ Ideas
- ▶ Portfolios
- ▶ Programs
- ▶ Projects
- ▶ RFIs
- ▶ Reports
- ▶ Resources/Roles
- ▶ Risks
- ▶ Scope Assignments
- ▶ Scope Items
- ▶ Strategies
- ▶ Submittals
- ▶ Tasks
- ▶ Task Constraints
- ▶ WBSs
- ▶ Work Packages

### Add a Code

Create codes to help categorize and track objects based on attributes they share.

You can apply workspace-level codes to one or more of the following objects: Activities, Custom Logs, Files, Funds, Ideas, Portfolios, Programs, Projects, Reports, Resources/Roles, Risks, Scope Assignments, Scope Items, Strategies, Task Constraints, Tasks, WBSs, and Work Packages.

To add a code to one or more objects:

- 1) **Navigate to the Codes dictionary page** (see page 344).
- 2) In the table, select **+ Add Code ▼**.
- 3) In the new row, in the **Name** and **ID** columns, enter a name and ID for the new code.
- 4) In the **Applies to** panel, select one or more objects to apply the code.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **× Close**.
  - In **Primavera Professional**:
    - ▶ Select **Save**.

You can also perform this task on a single object from the Summary & Settings panel in **Primavera Cloud**:

- 1) In the object selector, select a workspace.
- 2) In the sidebar, select **Summary & Settings**.

- 3) On the **Summary & Settings** menu, select **Defaults & Options**.
- 4) Select the object, and then select the **Codes** tab.

---














**Note:** To add a code to this object that exists in the current or parent workspace, select **Assign**. Codes that display for the current workspace are the codes assigned to other objects in the workspace. Codes that display from the parent workspace are only the codes that are assigned to the same object type.

---

### Tip

- ▶ Individual activity code values can be associated with a color, which can then be used to color activity bars in the Gantt chart on the **Activities** page.

### This setting is used in the following apps:


-  **Cost and Funds**
-  **Custom Logs**
-  **Dashboards**
-  **Files**
-  **Portfolio Analysis**
-  **Reports**
-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**
-  **Strategic Alignment**
-  **Tasks**
-  **Workflows and Forms**

### Add a Value to a Code


Add values to codes so that you can group, sort, and filter objects based on their code values.

To add a code value:














- 1) **Navigate to the Codes dictionary page** (see page 344).
- 2) In the table, select a code or code value.
- 3) Do either of the following:
  - ▶ In the toolbar, select the **+ Add Code ▼** menu, and then select **Add Code Value**. A new value is beneath the selection.
  - ▶ In the table, select the **⚙ Context** menu, and select **Add Code Value**.

- 4) In the **Name** and **ID** columns, enter a name and ID for the code value.
- 5) (Optional) In the **Color** column, select a color for the code value. Code value colors are used on the **Activities** and the **Task List** page to color activity bars in the Gantt chart according to each activity's or task's assigned codes and code values.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

You can also perform this task on a single object from the Summary & Settings panel in **Primavera Cloud**:

- 1) In the object selector, select a workspace.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Defaults & Options**.
- 4) Select the object, and then select the **Codes** tab.



#### This setting is used in the following apps:

-  **Cost and Funds**
-  **Custom Logs**
-  **Dashboards**
-  **Files**
-  **Portfolio Analysis**
-  **Reports**
-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**
-  **Strategic Alignment**
-  **Tasks**
-  **Workflows and Forms**













#### Update the Owning Workspace of a Code

Update the owning workspace of a code to move it to another workspace that you are assigned. If you move the code to a workspace that is higher in the workspace hierarchy, it will be available to more workspaces.

To update the owning workspace of a code:

- 1) **Navigate to an object configuration page** (see page 346).
- 2) On the object page, select the **Codes** tab.
- 3) On the **Codes** tab, select a code.
- 4) Select the  **Context** menu, and then select **Change Owning Workspace**.
- 5) In the **Select Workspace** dialog box, select the new owning workspace, and select **Select**.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **×** **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

-  **Cost and Funds**
-  **Custom Logs**
-  **Dashboards**
-  **Portfolio Analysis**
-  **Reports**
-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**
-  **Strategic Alignment**
-  **Tasks**
-  **Workflows and Forms**

---

### Currencies Overview

Configure currencies in the application to track the cost of your projects in their native currency. For example, if the base currency of your organization is Euros, but your project is located in the United States, you may want to set your project currency to United States Dollars. On pages that support project costs, you can view costs in the project currency or the base currency.

#### Base Currency

The base currency is set at the root workspace during company provisioning. The base currency you select should be the currency that the majority of the workspaces and projects will use. You cannot change the base currency if costs exist for projects.



## Workspace Currency

Create currencies at the workspace level to make them available to projects in the workspace and projects of child workspaces. Currencies should be created at the highest level workspace they apply so they are inherited. You can select from a preexisting list of currencies or create custom currencies.

## Project Currency

Set project currencies for any projects that will not use the base currency. The project currency exchange rate follows the exchange rates defined in the workspace.

## Add a Currency

Add currencies to workspaces to make them available to projects in the workspace. All currencies added to the root workspace are inherited in child workspaces. Changes to these currencies must be made in the owning workspace. Add any other currencies that projects may need by selecting them from the preexisting list.

To add a currency:

- 1) **Navigate to the Currencies dictionary page** (see page 345).
- 2) On the **Currencies** page, select **+ Add**.
- 3) In the **Select Currency** dialog box, select currencies, and select **Select**.
- 4) Modify other currency settings as needed.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **× Close**.
  - In **Primavera Professional**:
    - ▶ Select **Save**.

## Tips

- ▶ The Decimal Places setting enables you to select how many decimal places to show when viewing costs in the application. The database stores values for up to 6 decimals for cost fields, regardless of the number of decimal places set to display.

## This setting is used in the following apps:

 **Cost and Funds**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**


 **Strategic Alignment**

## Tasks

### Add a Custom Currency

You can create custom currencies if the default currencies do not meet the needs of your organization.

To add a custom currency:

- 1) **Navigate to the Currencies dictionary page** (see page 345).
- 2) On the **Currencies** page, in a new row, complete the following fields:
  - ▶ **Name:** Enter a unique name for the currency.
  - ▶ **Currency Code:** Enter a unique currency code with fewer than 3 characters.
  - ▶ **Currency Symbol:** Enter a currency symbol. The currency symbol is displayed next to monetary amounts in the application for users who chose to display currency symbols.
  - ▶ **Decimal Places:** Enter the amount of decimal places to display. The application shows up to 5 decimal places.
  - ▶ **Sharing Method:** Specify how the currency is shared between parent and child workspaces:
    - **Manual:** The currency can be pulled down by child workspaces individually, using the **Assign** button in each child workspace. This is the default option.
    - **Automatic:** The currency is pushed down to child workspaces automatically.
- 3) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **×** **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**


 **Tasks**

## Add an Exchange Rate

Add exchange rates to currencies to keep cost calculations up-to-date. Exchange rates added to workspace currencies will apply to project currencies. A workspace currency must have an exchange rate defined to appear in the list of currencies available to the project. You can add past exchange rates to retain a historical record before the currency is in use, or you can enter the current exchange rate. You cannot enter future exchange rates. All exchange rates must be added to the currency in the owning workspace.

You cannot delete or edit historical exchange rates.

To add an exchange rate to a currency:

- 1) **Navigate to the Currencies dictionary page** (see page 345).
- 2) On the **Currencies** page, in the table, select a currency.
- 3) In the **Exchange Rates** detail window, enter an **Effective Date** and **Exchange Rate**.
- 4) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**

 **Tasks**

## Curve Profiles Overview

Curve profiles enable you to specify the allocation of scope assignment costs, quantities, and hours over the duration of an activity; resource or role hours spread over the duration of an activity; and budget quantities over their durations.

Amounts are distributed evenly throughout an activity unless a nonlinear distribution is specified using a curve profile. Scope assignments can use curve profiles regardless of whether they are linked to activities.

## Interpreting Curve Profiles

After you navigate to the Curve Profiles dictionary page, you can view all of the default and custom curve profiles available to you. Select a curve profile to view a graph that represents how it works. The x-axis, labeled at the top of the graph, represents the percentage of the object's duration. The y-axis, labeled along the left side of the graph, represents the percentage of the object that has been allocated to the duration percentages. The numbers along the bottom of the graph indicate what percentage of the is allocated at each increment of the duration.

Among the simplest built-in curve profiles is the Linear profile. Select it to view its graph. By default, the Linear curve profile evenly distributes 5.00% of the total quantity to every 5% increment in the item's duration, rounding as necessary.


Here is a list of all the built-in curve profiles:

- ▶ Bell
- ▶ Double Bell
- ▶ Delayed Double Bell
- ▶ Offset Triangular
- ▶ Triangular Decrease
- ▶ Triangular Increase
- ▶ Front Loaded
- ▶ Three Step
- ▶ Linear
- ▶ Back Loaded
- ▶ Trapezoidal
- ▶ Triangular

## Define a Curve Profile

Define curve profiles to specify how scope assignment costs, quantities, and hours spread over the duration of an activity; resource or role hours spread over the duration of an activity; and budget quantities over budget durations. There are some default curve profiles defined in the application. You can add a new curve, which is based on the default linear curve, or copy and modify one of the existing curves.

To define a curve profile:

- 1) **Navigate to the Curve Profiles dictionary page** (see page 344).
- 2) To copy an existing curve, select the  **Context** menu next to the curve to copy, and select **Duplicate**.

To create a curve, select the  **Context** menu for a curve, and select **Add**.

- 3) Enter a **Curve Name**.
- 4) Modify the curve value percentages to create a curve that indicates how your costs and quantities should distribute over time. Curves are defined by 21 points (5% intervals from 0 to 100 is the default for a new curve).
- 5) Select **Prorate** to make the total of the distribution values equal to 100% while maintaining the shape you specified.
- 6) Save your changes:

In **Primavera Cloud**:

- a. Select **Save**.
- b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

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## Locations Overview

A location is a geographical reference defined by a pair of coordinates; longitude and latitude.

To create a location, you can enter its coordinates directly or enter a street address and allow the application to find the longitude and latitude for you.

Assign locations to projects, resources, or risks to produce reports based on geographical location. You can also group and filter lists of objects that support locations. Locations are created and stored in the Locations dictionary at the workspace level. They can also be created and stored at the project, resource, or risk level and optionally saved to the Locations dictionary for future use. When choosing projects for a portfolio, location data can be used as a filter condition.

---

**Note:** Oracle Primavera Cloud uses Oracle Map Cloud service for location data. (<http://elocation.oracle.com>)  
(<http://elocation.oracle.com>)

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## Add a Location


Create locations to assign to projects, resources, or risks so that you can report, search, and filter by location.

To create a location:

- 1) **Navigate to the Locations dictionary page** (see page 345).
- 2) On the **Locations** page, select + **Add**.
- 3) In the **Add Location** dialog box:
  - a. In the **Name** field, enter a name for the new location.
  - b. In the **ID** field, enter a unique identifier for the location.
  - c. (Optional) In the **Description** field, enter a description of the location
  - d. Enter either a street address or the latitude and longitude.

**Notes:**








- Input longitude and latitude in the format that is appropriate for your geolocation service. Enter longitude and latitude in decimal degrees or directional designators.
- Select a country when locating using longitude and latitude to improve results.

- e. Select **Locate**.
  - f. Select **Add**.
- 4) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.

**Tips**

- ▶ You can also import locations from a worksheet. Select **Import ▼**, and then select **Download Import Template** to generate a template to help you format the data correctly.
- ▶ Locations can be created on the **Details Summary & Settings** page for a project, on the **Resource List** page for a resource, or in the project or program **Risk Register** for a risk. By default, the locations created for a project, resource, or risk are stored with the object, but you can optionally save the location to the Locations dictionary for future use.

**This setting is used in the following apps:**

-  **Cost and Funds**
-  **Portfolio Analysis**
-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**
-  **Strategic Alignment**

**Download an Import Template for Importing Locations**

Download a Microsoft Excel template to use when importing location data.


To download an import template:

- 1) **Navigate to the Locations dictionary page** (see page 345).
- 2) On the **Locations** page, select **Import ▼**, and then select **Download Import Template**.
- 3) Save your changes:

In **Primavera Cloud**:

- a. Select **Save**.
- b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.

### Tips

- ▶ The import template is downloaded as a Microsoft Excel file with the default file name LocationImportTemplate.
- ▶ The top two rows of the worksheet are required when importing data locations from a worksheet. Do not change the data in these rows.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**

 **Tasks**

### Import Locations

You can import new locations into the application from a Microsoft Excel (.xls or .xlsx) file.

To import locations:

- 1) **Navigate to the Locations dictionary page** (see page 345).
- 2) On the **Locations** page, select **Import**.
- 3) In the **Import Locations** dialog box, select **... Browse**, select a file, and select **Import**.
- 4) Save your changes:

In **Primavera Cloud**:

- a. Select **Save**.
- b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.

### Tips

- ▶ Select **Download Import Template** to download a template file ready for you to populate with data.

- ▶ Input longitude and latitude in the format that is appropriate for your geolocation service. Enter longitude and latitude in decimal degrees or directional designators.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**

 **Tasks**

---

### Store Period Performance Reporting Cycles Overview

Reporting cycles are used in store period performance to designate the periods of time that store period performance data is captured in. At the end of each period, the scheduler will run the store period performance capabilities to closeout the period. Store period performance capabilities store actual units and costs and earned value metrics so that you can bill for work completed and analyze your activity data. The reporting cycle that you use for stored period performance should reflect your project's billing cycle or status update cycle. Reporting periods for a reporting cycle can be set to occur daily, weekly, semi-monthly, or monthly.


Each project can use only one reporting cycle. Therefore, scope period closeout and store period performance in the same project will both use the same reporting cycle. Scope period closeout takes place on the Period Closeout page of the Scope app, and store period performance closeout occurs on the Activities page of the Schedule app.

### Define a Reporting Cycle

Reporting cycles are defined to create reporting periods which are used to plan and update progress on scope assignments and to store period performance for your activities.

Reporting cycles can be set to occur daily, weekly, semi-monthly, or monthly, depending on the reporting requirements for a project.

To define a reporting cycle:

- 1) In the object selector, select a workspace.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Reporting Cycles**.
- 4) In the **Name** field, enter a name for the reporting cycle.
- 5) Complete the following fields in the **Period Pattern** section:
  - ▶ **Period Frequency:** Choose whether the reporting periods should be Daily, Weekly, Semi-Monthly, or Monthly.



A daily cycle begins at 12 a.m. and ends at 11:59 p.m. A semi-monthly cycle includes days 1 through 15 in one period and days 16 through the end of the month in a subsequent period, except for February which ends on day 14 in the first period.

- ▶ **Period End:** Select the last day in the reporting period for the cycle when the Period Frequency is set to Weekly or Monthly.

A monthly cycle ending with a **Middle of the month** setting will end on the 15th, except for February which ends on the 14th.

- ▶ **Base Date:** Select the date used as the starting point for generating the period start and end dates in the **Period Preview** section on this page.
- ▶ **Prefix:** Enter a prefix for the period naming convention label, which is used to distinguish individual time periods when viewing reporting cycles in a time phased view.
- ▶ **Suffix:** Enter a numerical suffix for the period naming convention label, which is used to distinguish individual time periods when viewing reporting cycles in a time phased view.
- ▶ **Increment:** Select a number to increment the suffix by in each period naming convention label, which is used to distinguish individual time periods when viewing reporting cycles in a time phased view.

6) Select **Save**.

7) In the **Summary & Settings** panel, select × **Close**.

### Tips

- ▶ A reporting cycle cannot be deleted if it is used by a project or inherited by a child workspace.

### This setting is used in the following apps:


 **Schedule**

 **Scope**

### Assign a Default Reporting Period

If several projects within a workspace will use the same reporting cycle, you can set a default reporting cycle for all new projects within the workspace to inherit. This can be changed at the project level.

To assign a default reporting period:

- 1) In the object selector, select a workspace.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Reporting Cycles**.
- 4) Select **Default** for the reporting cycle that you want to be the default.
- 5) Select **Save**.
- 6) In the **Summary & Settings** panel, select × **Close**.

### This setting is used in the following apps:

 **Schedule**

## Scope

### Units of Measure Overview


A unit of measure is a standardized way to define how materials or products are measured.

Assigning the unit of measure provides a means to identify how the quantity is evaluated. Units of measure can be defined for material resources, scope items, and actuals line items.

### Add a Unit of Measure

Add units of measure labels to assign to material resources, scope items, and actuals line items.

To add a unit of measure:

- 1) **Navigate to the Units of Measure dictionary page** (see page 344).
- 2) In the **Abbreviation** field, enter a short name or code for the unit of measure.
- 3) In the **Name** field, enter the name for the unit of measure.
- 4) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **×** **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

### Defaults & Options

The Defaults & Options section specifies the default configuration of settings for each object in a workspace. Each new instance of a particular object in the workspace will inherit the attributes set in Defaults & Options. Settings for each object may include autonumbering defaults, standard and configured fields, object codes, measures, custom workflows, custom forms, and any other default settings applicable to the object. The available configuration options vary by object.

## Field Labels Overview

Standard fields are the default fields found in Oracle Primavera Cloud. Fields can be used to store data, provide details, and accept user input. On many pages, fields can be added as columns in a table, used to sort or group data, or used as filters to reduce the number of items displayed on a page. They can also be found in dialog boxes, detail windows, and settings pages. Fields may be associated with a specific object. For example, the activity object is associated with various activity-related fields, such as *Start*, *Finish*, and *Duration*. These fields can be used on pages that support activities.

The Field Labels tab in the Defaults & Options section of the workspace Summary & Settings provides the default column name, column label, data type, and description of each field associated with an object. Labels are the field names displayed throughout the application. Default field labels may not reflect the terminology of your organization or industry. You can customize labels to meet the needs of your organization in any of the twelve supported languages.

Oracle Primavera Cloud and Primavera Professional documentation uses default field labels. If you change a field label in the application, it will no longer match the label used in documentation. Modified field labels can be reset back to their defaults.

### Access a Standard Field Description

You can view the default column name, column label, data type, and description of any standard field in the application. The column label of each field can be modified to match the terminology used by your organization. Fields are associated with objects and can be used in pages that support that object.

To view the details of a standard field:

- 1) **Navigate to an object configuration page** (see page 346).
- 2) On the object page, select the **Field Labels** tab, and view the **Column Name**, **Column Label**, **Data Type**, and **Description** columns.

### This setting is used in the following apps:

 **Cost and Funds**

 **Custom Logs**

 **Files**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**

 **Tasks**

## Change a Standard Field Label


You can update standard field labels in your native language or update labels in the Localization detail window to customize the field label in other languages. In the table of standard fields, the Column Name field specifies the original field name. The Column Label field specifies the custom label, entered by the user. By default it matches the original field name.

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**Note:** Oracle Primavera Cloud documentation uses default field labels. If you follow these steps to change a field label in the application, it will no longer match the label used in documentation.

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




To change a standard field label:

- 1) **Navigate to an object configuration page** (see page 346).
- 2) On the object page, select the **Field Labels** tab.
- 3) In the table, select a field.
- 4) In the **Column Label** field, enter a new label.
- 5) In the **Localization** detail window, select the **Column Label** field of the language, and enter a new label.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

## Tips

- ▶ You can restore the default label of a standard field by selecting the  **Context** menu and then selecting **Reset Label**.
- ▶ New child workspaces inherit the field labels set in the parent workspace. To apply field labels to all existing child workspaces, select one or more fields, select the  **Context** menu, and then select **Apply Label to Child Workspace**.

**This setting is used in the following apps:**

-  **Cost and Funds**
-  **Custom Logs**
-  **Portfolio Analysis**
-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**
-  **Strategic Alignment**

## ☰ Tasks

### Configured Fields Overview

Configured fields are user-created fields that allow you to define and maintain data specific to your organization. For example, you can track information such as Strategic Importance or Main Stakeholder.

Configured fields are created in the context of an object and can be used in views on pages that support that object. For example, you can create an Activity configured field and use it on the Activities page as a column, grouping band, sorting option, or filter criterion. Configured fields are global, so they can be used across all workspaces, projects, portfolios, programs, and ideas.


Oracle Primavera Cloud fields are categorized by data type, including: Boolean, cost, date, integer, list, number, or text. For some types of data, you can define a formula or statement to calculate values for a field. For more information on creating or using custom formulas, consult the *Oracle Primavera Cloud Expression Language Guide* on Oracle Help Center.

Documentation on adding a configured field to a specific object can be found under that object.


### Change a Configured Field Label


You can update configured field labels in your native language or update labels in the Localization detail window to customize the field label in other languages. In the table of configured fields, the View Column Name field specifies the original field name. The Column Label field specifies the custom label, entered by the user. By default it matches the original field name.

To change a configured field label:

- 1) **Navigate to an object configuration page** (see page 346).
- 2) On the object page, select the **Configured Fields** tab.
- 3) In the table, select a field.
- 4) In the **Column Label** field, enter a new label.
- 5) In the **Localization** section, select the **Column Label** field of the language, and enter a new label.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

### Tips

- ▶ You can restore the default label of a configured field by selecting the  **Context** menu and then selecting **Reset Label**.

- ▶ New child workspaces inherit the field labels set in the parent workspace. To apply field labels to all existing child workspaces, select one or more fields, select the  **Context** menu, and then select **Apply Label to Child Workspace**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Custom Logs**

 **Files**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**

**Add a Formula-Based Configured Field: Example**

This example demonstrates how to create a configured field to calculate and store the Estimated Final Cost of a project.

---

**Note:** For information on creating advanced formulas for measures, refer to the *Oracle Primavera Cloud Expression Language Guide on Oracle Help Center*.

---


Let us assume that you will define the Estimated Final Cost of a project as Approved Budget plus Proposed Budget.

**Creating a Configured Field**


- 1) **Navigate to the Project configuration page** (see page 347).
- 2) On the **Project** page, select **Configured Fields**.
- 3) In the table, complete the following fields:
  - a. In the **Column Label** column, enter *Estimated Final Cost*.
  - b. In the **View Column Name** column, enter *EST\_FINAL\_COST*.
  - c. In the **Data Type** column, select **Cost**.
  - d. In the **Type** column, select **Formula**.
  - e. In the **Summary Calculation** column, select **Sum**.

**Defining a Formula**

- 1) In the **Formula** detail window, in the **Field** list, select **Approved Budget**, and select **Insert Field**.
- 2) Select **+**.
- 3) In the **Field** list, select **Proposed Budget**, and select **Insert Field**.

- 4) Select **Validate Formula**.
- 5) In the **Formula validation passed** dialog box, select **OK**.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.



### Tips

- ▶ To delete a configured field, select the field, select  **Context**, and then select **Delete**. You cannot delete a configured field if it is used in a form, workflow, or field mapping.

### Update the Owing Workspace of a Configured Field

Update the owning workspace of a configured field to move it to another workspace that you are assigned. If you move the field to a workspace that is higher in the workspace hierarchy, it will be available to more workspaces.

To update the owning workspace of a configured field:

- 1) **Navigate to an object configuration page** (see page 346).
- 2) On the object page, select the **Configured Fields** tab.
- 3) On the **Configured Fields** tab, select **Manage Shared Data**.
- 4) Select the  **Context** menu, and then select **Change Owing Workspace**.
- 5) In the **Select Workspace** dialog box, select the new owning workspace, and select **Select**.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

### This setting is used in the following apps:

 **Cost and Funds**

 **Custom Logs**

 **Files**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**

 **Tasks**

---

## Activity

Create and customize field labels, set activity defaults, and create codes to assign to activities and other objects.

### Defaults

***Configure Default Activity Settings for a Workspace*** (on page 72)

***Configure Auto Numbering Defaults for an Activity*** (on page 74)

***Configure Default Activity Calculation Settings for a Workspace*** (on page 75)

### Field Labels

***Access a Standard Field Description*** (on page 67)

***Change a Standard Field Label*** (on page 68)

### Configured Fields

***Add an Activity Field*** (on page 76)

***Add a Formula-Based Configured Field: Example*** (on page 70)

***Update the Owning Workspace of a Configured Field*** (on page 71)

***Change a Configured Field Label*** (on page 69)

### Codes

***Add a Code*** (on page 53)

***Add a Value to a Code*** (on page 54)

***Update the Owning Workspace of a Code*** (on page 55)

## Configure Default Activity Settings for a Workspace


You can configure default system behavior for activities in a workspace.

To configure default activity settings for a workspace:





- 1) ***Navigate to the Activity configuration page*** (see page 346).
- 2) Select the **Defaults** tab.
- 3) In the **New Activities** section, configure default behavior for new activities:
  - ▶ **Duration Type:** Determines how remaining duration, units, and units/time are calculated when you update an activity that has resources assigned.
    - **Fixed Units/Time:** The resource units per time are constant when the activity duration or units are changed. Use this duration type when an activity has fixed resources with fixed productivity output per time period.
    - **Fixed Units:** The activity units are constant when the duration or resource units per time are changed. Use this duration type when the total amount of work is fixed, and increasing the resources can decrease the activity duration.



- 
- **Fixed Duration & Units:** The duration and units remain constant as the units/time is changed. Use this duration type when the activity must be completed within a fixed time period and the total amount of work is fixed.
  - **Fixed Duration & Units/Time:** The activity duration is constant as the units or resource units per time are changed. Use this duration type when the activity must be completed within a fixed time period regardless of the resources assigned.
  - ▶ **Percent Complete Type:** Determines the way in which the application calculates the percent complete for the activity. The type can be Physical, Duration, Units, or Scope.
    - **Physical:** The user will enter the percent complete for the activity.
    - **Duration:** The percent complete is calculated from the actual and remaining duration.
    - **Units:** The percent complete is calculated from the actual and remaining units.
    - **Scope:** The percent complete for the activity is derived from the scope percent complete of the linked scope assignment.
  - ▶ **Activity Type:** Determines how duration and schedule dates are calculated for the activity.
    - **Activity Dependent:** This type of activity indicates that assigned resources should be scheduled based on the activity's calendar, rather than the calendars of the resources.
    - **Resource Dependent:** This type of activity indicates that resources should be scheduled based on their assigned calendars. Use this type when the activity duration may be affected by resource availability.
    - **Level of Effort:** This type of activity indicates that it is ongoing with a duration determined by its dependent activities. The duration is calculated based on the schedule dates of its predecessors and successors. Administrative activities are typically designated as Level of Effort.
    - **Start Milestone:** This type of activity indicates the beginning of an important project phase. Activities of this type have a duration of zero (0) with no resource assignments.
  - ▶ **Default duration for new activities:** Enter the default time duration, in hours, for new activities.
  - ▶ **Increment Activity ID based on selected activity:** When disabled, new activity IDs follow the activity auto numbering rules set in the project settings. When enabled, new activity IDs are numbered based on the ID of the activities selected when the new activities are added. See **Add an Activity** (on page 126) for more information.
- 4) In the **New Assignments** section, configure default behavior for new activity assignments:
- ▶ **Drive activity dates by default:** Determines whether new resource or role assignments drive activity dates by default.
  - ▶ **Resource can be assigned to same activity more than once:** Determines whether activities can be assigned to the same resource multiple times.
  - ▶ **When adding or removing multiple resource assignments on activities:** Select an option to determine application behavior when activity resource assignments are adjusted:
-

- **Preserve the Units, Duration and Units/Time for existing assignments:** Select this option for units, durations, and units/time to remain constant when additional resources are assigned to any activity.
  - **Recalculate the Units, Duration and Units/Time for existing assignments based on the activity Duration Type:** Select this option to calculate a resource assignment's remaining values based on the activity's duration type.
- 5) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.

**This setting is used in the following apps:**

-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**

### Configure Auto Numbering Defaults for an Activity

Unique IDs are required for objects in the application. The IDs are automatically generated based on the default values set for prefix, starting number, and increment. You can use the defaults set in the application or enter values that represent your numbering system. Setting these at the workspace level will apply the defaults to all projects or programs within the workspace. Defaults can be updated at the project or program level.


To set the auto numbering defaults:

- 1) **Navigate to the Activity configuration page** (see page 346).
- 2) Select the **Defaults** tab.
- 3) In the **Auto Numbering** section, define the auto numbering default values.
- 4) Save your changes:




In **Primavera Cloud**:

  - a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

  - ▶ Select  **Save**.

**This setting is used in the following apps:**

-  **Resources**
-  **Risk**
-  **Schedule**


## Scope

### Configure Default Activity Calculation Settings for a Workspace





You can configure default activity calculation settings for workspaces to specify how the application computes values for activities within that workspace.

To configure default activity calculation settings for workspaces:

- 1) **Navigate to the Activity configuration page** (see page 346).
- 2) Select the **Defaults** tab, and then review the sections under **Calculations**.
- 3) In the **Activities** section, configure calculation settings for project activities:
  - ▶ **When changing an activity to not started:** Determines how units and duration are handled if activity progress is removed.
    - **Reset planned duration and units to remaining:** Select this option to reset planned unit spreads to match the remaining units.
    - **Reset remaining duration and units to planned:** Select this option to reset remaining unit spreads to match the planned units.
  - ▶ **Link planned and remaining/at completion for not started activities:** When enabled, ensures that the planned and at completion values remain in sync when changes are made to activities that have not started. When disabled, each field's values are calculated independently.
  - ▶ **Define critical activities as:** Select a method to identify critical activities:
    - **Total Float less than or equal to:** Select this option to identify critical activities based on the lack of flexibility in their scheduled dates. Enter a minimum float duration. When the project is scheduled, activities with total float values less than or equal to this value are marked critical.
    - **Longest Path:** Select this option to define critical activities based on the sequence of driving activities that determine the project end date.
- 4) In the **Units and Costs** section, configure calculation settings for units and costs:
  - ▶ **When updating actual units or cost:** Determines how the application handles changes to the actual units or actual costs on an activity or activity assignment.
    - **Add actual to remaining:** Select this option to calculate a new at completion value when the remaining units or actual units change.
    - **Subtract actual from at completion:** Select this option to calculate a new remaining units value when the at completion or actual units change.
  - ▶ **Recalculate actual units and costs when Duration Percent Complete changes:** Select this option to recalculate actual units and costs when the duration percent complete is updated.
- 5) In the **Scope Items** section, select a default method for calculating scope completion percentages. Scope completion percentage can be calculated using cost, quantity, hours, or manually entered values.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.

- b. In the **Summary & Settings** panel, select × **Close**.  
In **Primavera Professional**:
  - ▶ Select  **Save**.

**This setting is used in the following apps:**

-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**

**Add an Activity Field**

Add custom activity fields to enable users to enter or view information which is important to your organization.

---

**Note:** On pages that support auto-save, configured field formulas will be automatically recalculated when a change is made that impacts the value of a configured field formula. However, there may be times where the recalculation is not updated in the user interface. When this occurs, refresh the page to see the recalculated value.

**Note:** New and updated configured field formulas are only recalculated in the current schedule or the open scenario. Run the scheduler in baselines or other scenarios to recalculate configured fields.

---

To add an activity field:


- 1) **Navigate to the Activity configuration page** (see page 346).
- 2) Select the **Configured Fields** tab.
- 3) In the table, select + **Add**.
  - a. In the **Column Label** column, enter a name for the new field.
  - b. In the **View Column Name** column, enter a name for the field as it will be seen in the database when creating reports.
  - c. In the **Data Type** column, select the type for the new field. The choices are: Boolean, Cost, Date, Integer, List, Number, or Text.
  - d. In the **Type** column, select **Manual** if this field will hold data entered by a user or **Formula** if the data it holds will be calculated on the basis of a formula.
  - e. (Optional) In the **Summary Calculation** field, specify how the app calculates summary rollup values for the field.

In most tables where you can view a list of similar objects, you can also view the totals for the various values of these objects. For example, on the Activities table for a project, you can view rollup totals for numerical values like Planned Duration and Planned Labor Units at the top of the table.


The **Summary Calculation** field enables you to specify how totals are determined for configured fields.

If you selected **Cost**, **Date**, **Integer**, or **Number** as the **Data Type**, in the **Summary Calculation** column, select a simple calculation like Sum or Average, if applicable.

Alternatively, if you set the **Type** field to **Formula**, you can set the **Summary Calculation** field to **Use Formula**. With this option selected, the app will use the formula defined in the **Formula** field to determine how the total rollup value is calculated for the field.

- f. (Optional) If you selected **Text** as the **Data Type**, in the **Field Length** column, enter the maximum number of characters that can be used in the field.
  - g. If you selected **Formula**, configure the **Formula** section. **Note:** When adding a null check to a formula, you must specify the null check at the beginning of the if condition statement.
- 4) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.

### Tips

- ▶ To delete a configured field, select the field, select  **Context**, and then select **Delete**. You cannot delete a configured field if it is used in a form, workflow, or field mapping.

### This setting is used in the following apps:

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

---

### Activity Relationship

Create new configured fields and relabel standard fields to meet the needs of your organization. Localize names and column labels for supported languages.

### Field Labels

***Access a Standard Field Description*** (on page 67)

***Change a Standard Field Label*** (on page 68)

---

### Project

Create and customize field labels, create new codes, and set project defaults including calendars, update progress, and auto numbering.

### Defaults

**Set the Default Calendar** (on page 51)

**Set the Default My Activities Settings** (on page 79)

## Field Labels

**Access a Standard Field Description** (on page 67)

**Change a Standard Field Label** (on page 68)

## Configured Fields

**Add a Project Field** (on page 80)

**Add a Formula-Based Configured Field: Example** (on page 70)

**Update the Owing Workspace of a Configured Field** (on page 71)

**Change a Configured Field Label** (on page 69)

## Codes

**Add a Code** (on page 53)

**Add a Value to a Code** (on page 54)

**Update the Owing Workspace of a Code** (on page 55)


## Set the Default Calendar

There is one default calendar per workspace. The calendar set as the default calendar in the workspace-level Calendars dictionary is automatically assigned to new projects, resources, and roles when they are created. The calendars of existing projects, resources, or roles are not affected. Any calendar in the workspace can be assigned as the default calendar. One calendar must always be defined as the default.

The default calendar is automatically made available to projects, resources, and roles. This can only be changed if you set a different calendar as the default. The application has a built-in default calendar. The settings in this calendar cannot be changed. After another calendar has been assigned as the default, this calendar can be deleted.

You can also set the default calendar on the **Project** page in the workspace Defaults & Options. Choose from a list of calendars that are available to the Project object. This will also make the calendar available to resources and roles.

To set the default workspace calendar:

- 1) **Navigate to the Calendars dictionary page** (see page 343).
- 2) In the list of calendars, select the **Default** option for a calendar.
- 3) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

## Tips

- ▶ If the calendar you selected was only available to Project or Resource/Role, then both options are automatically selected when you select a new default calendar.

This setting is used in the following apps:

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**


 **Tasks**

### Set the Default My Activities Settings

You can configure default My Activities settings for a workspace to determine how web and mobile users update their project activities for any project in that workspace by default.

To configure default My Activities settings for a workspace:

- 1) **Navigate to the Project configuration page** (see page 347).
- 2) Select the **Defaults** tab.
- 3) In the **Team members are assigned to activities as** section, select a method for how team members are assigned to activities.
  - ▶ **Resource Assignments:** Each user who is assigned a resource assignment can view that assignment and update its progress.
  - ▶ **Activity Owners:** Each user who is assigned to an activity as its Owner can view the activity and update its progress.
  - ▶ **Both:** Resource assignments can view and update their assignments, and activity owners can view and update their activities. Users who have activities and resource assignments will see entries for both.
- 4) In the **Select the fields team members can update** section, add the fields you want team members to view and use to update their progress.
  - ▶ **Assignment Fields:** Add the fields you want team members assigned as resource assignments to use to status their activities.
  - ▶ **Activity Fields:** Add the fields you want team members assigned as activity owners to use to status their activities. If a team member who owns an activity also has a resource assignment for that activity, then the team member will be able to view and update both the assignment and the activity.
  - ▶ **Codes and Configured Fields:** Add codes and configured fields that you want activity owners or resource assignment performers to view or use to update their activities. To make any code or configured field read-only, select **Read Only** by the field. In order for a user to update Cost-type codes or configured fields, the user needs the Project Costs/Financials privilege on the project.
  - ▶ (Optional) Select **Team member can update progress of other resource assignments on activity** if you want activity owners to be able to update the progress of all resource assignments for their activities.
- 5) Save your changes:
  - In **Primavera Cloud:**
    - a. Select **Save**.

- b. In the **Summary & Settings** panel, select × **Close**.  
In **Primavera Professional**:
  - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**

### Add a Project Field

Add custom project fields to enable users to enter or view information which is important to your organization.

---

**Note:** On pages that support auto-save, configured field formulas will be automatically recalculated when a change is made that impacts the value of a configured field formula. However, there may be times where the recalculation is not updated in the user interface. When this occurs, refresh the page to see the recalculated value.

---

To add a project field:

- 1) **Navigate to the Project configuration page** (see page 347).
- 2) Select the **Configured Fields** tab.
- 3) In the table, select + **Add**.
  - a. In the **Column Label** column, enter a name for the new field.
  - b. In the **View Column Name** column, enter a name for the field as it will be seen in the database when creating reports.
  - c. In the **Data Type** column, select the type for the new field. The choices are: Boolean, Cost, Date, Integer, List, Number, or Text.
  - d. In the **Type** column, select **Manual** if this field will hold data entered by a user or **Formula** if the data it holds will be calculated on the basis of a formula.
  - e. (Optional) In the **Summary Calculation** field, specify how the app calculates summary rollup values for the field.


In most tables where you can view a list of similar objects, you can also view the totals for the various values of these objects. For example, on the Activities table for a project, you can view rollup totals for numerical values like Planned Duration and Planned Labor Units at the top of the table.

The **Summary Calculation** field enables you to specify how totals are determined for configured fields.




If you selected **Cost**, **Date**, **Integer**, or **Number** as the **Data Type**, in the **Summary Calculation** column, select a simple calculation like Sum or Average, if applicable.

Alternatively, if you set the **Type** field to **Formula**, you can set the **Summary Calculation** field to **Use Formula**. With this option selected, the app will use the formula defined in the **Formula** field to determine how the total rollup value is calculated for the field.

- f. (Optional) If you selected **Text** as the **Data Type**, in the **Field Length** column, enter the maximum number of characters that can be used in the field.
  - g. If you selected **Formula**, configure the **Formula** section. **Note:** When adding a null check to a formula, you must specify the null check at the beginning of the if condition statement.
- 4) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.

## Tips

- ▶ To delete a configured field, select the field, select  **Context**, and then select **Delete**. You cannot delete a configured field if it is used in a form, workflow, or field mapping.

## This setting is used in the following apps:

 **Cost and Funds**

 **Files**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**

 **Tasks**

## Resource/Role

Relabel standard fields to meet the needs of your organization, localize names and column labels for supported languages, and create new codes.

## Field Labels

***Access a Standard Field Description*** (on page 67)

***Change a Standard Field Label*** (on page 68)

## Codes

**Add a Code** (on page 53)

**Add a Value to a Code** (on page 54)

**Update the Owing Workspace of a Code** (on page 55)

---

## Resource Assignment

Create new configured fields and relabel standard fields to meet the needs of your organization. Localize names and column labels for supported languages.

### Field Labels

**Access a Standard Field Description** (on page 67)

**Change a Standard Field Label** (on page 68)

### Configured Fields

**Add a Resource Assignment Field** (on page 82)

**Add a Formula-Based Configured Field: Example** (on page 70)

**Update the Owing Workspace of a Configured Field** (on page 71)

**Change a Configured Field Label** (on page 69)

### Add a Resource Assignment Field

Add custom resource assignment fields to enable users to enter or view information which is important to your organization.

---

**Note:** On pages that support auto-save, configured field formulas will be automatically recalculated when a change is made that impacts the value of a configured field formula. However, there may be times where the recalculation is not updated in the user interface. When this occurs, refresh the page to see the recalculated value.

---

To add a resource assignment field:


- 1) **Navigate to the Resource Assignment configuration page** (see page 348).
- 2) Select the **Configured Fields** tab.
- 3) In the table, select **+ Add**.
  - a. In the **Column Label** column, enter a name for the new field.
  - b. In the **View Column Name** column, enter a name for the field as it will be seen in the database when creating reports.
  - c. In the **Data Type** column, select the type for the new field. The choices are: Boolean, Cost, Date, Integer, List, Number, or Text.
  - d. In the **Type** column, select **Manual** if this field will hold data entered by a user or **Formula** if the data it holds will be calculated on the basis of a formula.
  - e. (Optional) In the **Summary Calculation** field, specify how the app calculates summary rollup values for the field.

In most tables where you can view a list of similar objects, you can also view the totals for the various values of these objects. For example, on the Activities table for a project, you can view rollup totals for numerical values like Planned Duration and Planned Labor Units at the top of the table.


The **Summary Calculation** field enables you to specify how totals are determined for configured fields.

If you selected **Cost**, **Date**, **Integer**, or **Number** as the **Data Type**, in the **Summary Calculation** column, select a simple calculation like Sum or Average, if applicable.




Alternatively, if you set the **Type** field to **Formula**, you can set the **Summary Calculation** field to **Use Formula**. With this option selected, the app will use the formula defined in the **Formula** field to determine how the total rollup value is calculated for the field.

- f. (Optional) If you selected **Text** as the **Data Type**, in the **Field Length** column, enter the maximum number of characters that can be used in the field.
  - g. If you selected **Formula**, configure the **Formula** section. **Note:** When adding a null check to a formula, you must specify the null check at the beginning of the if condition statement.
- 4) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select **×** **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.

## Tips

- ▶ To delete a configured field, select the field, select  **Context**, and then select **Delete**. You cannot delete a configured field if it is used in a form, workflow, or field mapping.

## This setting is used in the following apps:

-  **Resources**
-  **Risk**
-  **Schedule**

## Stored Periods

Customize field labels for your project's store period performance capabilities.

**Access a Standard Field Description** (on page 67)

**Change a Standard Field Label** (on page 68)

## WBS

Create new configured fields and relabel standard fields to meet the needs of your organization, localize names and column labels for supported languages, and create new codes.

## Field Labels

**Access a Standard Field Description** (on page 67)

**Change a Standard Field Label** (on page 68)

## Configured Fields

**Add a WBS Field** (on page 84)

**Add a Formula-Based Configured Field: Example** (on page 70)

**Update the Owing Workspace of a Configured Field** (on page 71)

**Change a Configured Field Label** (on page 69)

## Codes

**Add a Code** (on page 53)

**Add a Value to a Code** (on page 54)

**Update the Owing Workspace of a Code** (on page 55)

## Add a WBS Field

Add custom WBS fields to enable users to enter or view information which is important to your organization.

---

**Note:** On pages that support auto-save, configured field formulas will be automatically recalculated when a change is made that impacts the value of a configured field formula. However, there may be times where the recalculation is not updated in the user interface. When this occurs, refresh the page to see the recalculated value.

---

To add a WBS field:


- 1) **Navigate to the WBS configuration page** (see page 348).
- 2) Select the **Configured Fields** tab.
- 3) In the table, select **+ Add**.
  - a. In the **Column Label** column, enter a name for the new field.
  - b. In the **View Column Name** column, enter a name for the field as it will be seen in the database when creating reports.
  - c. In the **Data Type** column, select the type for the new field. The choices are: Boolean, Cost, Date, Integer, List, Number, or Text.
  - d. In the **Type** column, select **Manual** if this field will hold data entered by a user or **Formula** if the data it holds will be calculated on the basis of a formula.
  - e. (Optional) In the **Summary Calculation** field, specify how the app calculates summary rollup values for the field.

In most tables where you can view a list of similar objects, you can also view the totals for the various values of these objects. For example, on the Activities table for a project, you can view rollup totals for numerical values like Planned Duration and Planned Labor Units at the top of the table.


The **Summary Calculation** field enables you to specify how totals are determined for configured fields.

If you selected **Cost**, **Date**, **Integer**, or **Number** as the **Data Type**, in the **Summary Calculation** column, select a simple calculation like Sum or Average, if applicable.





Alternatively, if you set the **Type** field to **Formula**, you can set the **Summary Calculation** field to **Use Formula**. With this option selected, the app will use the formula defined in the **Formula** field to determine how the total rollup value is calculated for the field.

- f. (Optional) If you selected **Text** as the **Data Type**, in the **Field Length** column, enter the maximum number of characters that can be used in the field.
  - g. If you selected **Formula**, configure the **Formula** section. **Note:** When adding a null check to a formula, you must specify the null check at the beginning of the if condition statement.
- 4) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.

## Tips

- ▶ To delete a configured field, select the field, select  **Context**, and then select **Delete**. You cannot delete a configured field if it is used in a form, workflow, or field mapping.

## This setting is used in the following apps:

-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**

## Project Settings

At the project level, add project-specific details, configure settings, and create dictionary items.

### Details

Add or update project details.


### Assign a Manager to a Project

Assign managers to projects to identify the project manager or person responsible for managing the project.


The user who created the project is automatically assigned as the manager.

To assign a manager to a project:








- 1) **Navigate to the project Details page** (see page 342).

- 2) In the **Details** section, in the **Manager** field, select a manager.
- 3) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

You can also do this in the Projects inventory panel.

- 1) In **Primavera Cloud**:
  - ▶ In the object selector, select  **Projects**, and then select **View All Projects**.
- In **Primavera Professional**:
  - a. On the **File** menu, select **Open**.
  - b. In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
  - c. On the **Workspace** menu, select **Projects**.
- 2) In the table, select a project, and then add a manger in the **Manager** field.

**This setting is used in the following apps:**

-  **Cost and Funds**
-  **Resources**
-  **Risk**
-  **Schedule**
-  **Scope**
-  **Strategic Alignment**
-  **Tasks**


**Assign a Project Calendar**

Each project must have a calendar assigned. The project calendar determines valid work and nonwork times during the project. The project calendar is automatically assigned to all new activities within the project. Existing activity calendar assignments are not affected. An activity's calendar can be updated at any time.

The default calendar in the parent workspace is automatically assigned as the project calendar when the project is created, but this can be changed to suit the needs of the project. When assigning a project calendar, you can select workspace-level or project-level calendars that have been made available to the project object.

To assign a project calendar:

- 1) **Navigate to the project Details page** (see page 342).
- 2) In the **Details** section, in the **Calendar** field, select a calendar.

- 3) In the **Select Calendar** dialog box, in the **Filter By** list, select **Project** to view calendars available at the project level, or **Workspace** to view calendars available at the workspace level.
- 4) Select a calendar, and then select **Select**.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

### Set the Data Date for a Project

The data date is the progress point, or "as-of date," for activities in the project. Project status is up-to-date as of the data date.


The data date is also used for updating the dates of scope assignments and work packages when they are not linked to activities.

---

**Note:** Dates will not change after the Data Date is updated for activities or scope assignments unless you run the Scheduler or Modify Dates feature, respectively.

---

To set the project data date:

- 1) **Navigate to the project Details page** (see page 342).
- 2) In the **Details** section, in the **Data Date** field, select the date.
- 3) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Dashboards**

 **Reports**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

## Tasks

### Set the Reporting Cycle for a Project


Set the reporting cycle to be used in your project. Reporting cycles are used to enable users to plan, status, and report project status on scope assignments or to store period performance of activities.

---

**Note:** If a default reporting cycle is set for the workspace, all new projects will inherit this reporting cycle. You can change or remove the default reporting cycle.

---

To set a reporting cycle:

- 1) **Navigate to the project Details page** (see page 342).
- 2) In the **Details** section, in the **Reporting Cycle** field, select the reporting cycle.
- 3) In the **Frequency for Resetting Period Names** list, choose when period names are reset. The options available are based on the selection for Reporting Cycle. The standard calendar start and end dates are used as boundaries for resetting periods.
- 4) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **×** **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Schedule**

 **Scope**

### Configure Schedule Settings for a Project

Configure project schedule settings to set planned project start and finish dates, as well as a date by which the project must finish. These dates are also used to drive the project scheduler during the scheduling process.

To configure schedule settings for your project:

- 1) **Navigate to the project Details page** (see page 342).
- 2) In the **Schedule** section, in the **Project Planned Start** field, select the start date.
- 3) In the **Project Planned Finish** field, select a planned finish date.
- 4) In the **Schedule Must Finish By Date** field, select the date the project must finish by.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **×** **Close**.



In **Primavera Professional**:

- ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**

### Modify a Project Currency

Projects inherit the base currency by default, but you can set a custom project currency. A project can be viewed in the project currency or the base currency. A workspace currency must have an exchange rate defined to appear in the list of currencies available to the project.

The currency exchange rate will be set for the life of the project at the project creation date. For example, if the project is created on Jan 5, 2022, the project exchange rate will be set to the exchange rate for that date and will not reflect changes to the workspace exchange rate. The exchange rate can be modified on the project (under project details), but only if no cost data has been entered.

The project currency cannot be changed if costs exist for a project.

To modify a project currency:

- 1) **Navigate to the project Details page** (see page 342).
- 2) In the **Currency** section, in the **Project Currency** field, select the project currency.
- 3) Save your changes:

In **Primavera Cloud**:

- a. Select **Save**.
- b. In the **Summary & Settings** panel, select  **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.

The **Exchange Rate** field is automatically populated with the exchange rate defined at the workspace level. You can change it if costs are not already defined for the project.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Portfolio Analysis**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Strategic Alignment**

 **Tasks**

---

## Settings

Configure project settings depending on your needs, such as object defaults, calculation settings, and auto numbering.

### Configure Activity Defaults for a Project

You can configure default system behavior for new activities and resource assignments for your project.


---

**Note:** Although you can configure default values for activity type, duration type, and percent complete type, you can also manually adjust these values for individual activities.

---

To configure default settings for new activities and resource assignments:

- 1) **Navigate to the project settings page** (see page 342).
- 2) Select the **Activity Defaults** tab.
- 3) In the **New Activities** section, configure default behavior for new activities:
  - ▶ **Duration Type:** Determines how remaining duration, units, and units/time are calculated when you update an activity that has resources assigned.
    - **Fixed Units/Time:** The resource units per time are constant when the activity duration or units are changed. Use this duration type when an activity has fixed resources with fixed productivity output per time period.
    - **Fixed Units:** The activity units are constant when the duration or resource units per time are changed. Use this duration type when the total amount of work is fixed, and increasing the resources can decrease the activity duration.
    - **Fixed Duration & Units:** The duration and units remain constant as the units/time is changed. Use this duration type when the activity must be completed within a fixed time period and the total amount of work is fixed.
    - **Fixed Duration & Units/Time:** The activity duration is constant as the units or resource units per time are changed. Use this duration type when the activity must be completed within a fixed time period regardless of the resources assigned.
  - ▶ **Percent Complete Type:** Determines the way in which the application calculates the percent complete for the activity. The type can be Physical, Duration, Units, or Scope.
    - **Physical:** The user will enter the percent complete for the activity.
    - **Duration:** The percent complete is calculated from the actual and remaining duration.
    - **Units:** The percent complete is calculated from the actual and remaining units.
    - **Scope:** The percent complete for the activity is derived from the scope percent complete of the linked scope assignment.

- 
- ▶ **Activity Type:** Determines how duration and schedule dates are calculated for the activity.
    - **Activity Dependent:** This type of activity indicates that assigned resources should be scheduled based on the activity's calendar, rather than the calendars of the resources.
    - **Resource Dependent:** This type of activity indicates that resources should be scheduled based on their assigned calendars. Use this type when the activity duration may be affected by resource availability.
    - **Level of Effort:** This type of activity indicates that it is ongoing with a duration determined by its dependent activities. The duration is calculated based on the schedule dates of its predecessors and successors. Administrative activities are typically designated as Level of Effort.
    - **Start Milestone:** This type of activity indicates the beginning of an important project phase. Activities of this type have a duration of zero (0) with no resource assignments.
  - ▶ **Default duration for new activities:** Enter the default time duration, in hours, for new activities.
  - ▶ **Increment Activity ID based on selected activity:** When disabled, new activity IDs follow the activity auto numbering rules set in the project settings. When enabled, new activity IDs are numbered based on the ID of the activities selected when the new activities are added. See **Add an Activity** (on page 126) for more information.
- 4) In the **New Assignments** section, configure default behavior for new activity assignments:
- ▶ **Drive activity dates by default:** Determines whether new resource or role assignments drive activity dates by default.
  - ▶ **Resource can be assigned to same activity more than once:** Determines whether activities can be assigned to the same resource multiple times.
  - ▶ **When adding or removing multiple resource assignments on activities:** Select an option to determine application behavior when activity resource assignments are adjusted:
    - **Preserve the Units, Duration and Units/Time for existing assignments:** Select this option for units, durations, and units/time to remain constant when additional resources are assigned to any activity.
    - **Recalculate the Units, Duration and Units/Time for existing assignments based on the activity Duration Type:** Select this option to calculate a resource assignment's remaining values based on the activity's duration type.
- 5) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.
-

**This setting is used in the following apps:**

 **Schedule**

### Configure Calculation Settings for a Project

Configure project calculation settings to define how the application computes values concerning activities and units at the project level.

To configure project calculation settings:

- 1) **Navigate to the project settings page** (see page 342).
- 2) Select the **Calculations** tab.
- 3) In the **Activities** section, configure calculation settings for project activities:
  - ▶ **When changing an activity to not started:** Determines how units and duration are handled if activity progress is removed.
    - **Reset planned duration and units to remaining:** Select this option to reset planned unit spreads to match the remaining units.
    - **Reset remaining duration and units to planned:** Select this option to reset remaining unit spreads to match the planned units.
  - ▶ **Link planned and remaining/at completion for not started activities:** When enabled, ensures that the planned and at completion values remain in sync when changes are made to activities that have not started. When disabled, each field's values are calculated independently.
  - ▶ **Define critical activities as:** Select a method to identify critical activities:
    - **Total Float less than or equal to:** Select this option to identify critical activities based on the lack of flexibility in their scheduled dates. Enter a minimum float duration. When the project is scheduled, activities with total float values less than or equal to this value are marked critical.
    - **Longest Path:** Select this option to define critical activities based on the sequence of driving activities that determine the project end date.
- 4) In the **Units and Costs** section, configure calculation settings for units and costs:
  - ▶ **When updating actual units or cost:** Determines how the application handles changes to the actual units or actual costs on an activity or activity assignment.
    - **Add actual to remaining:** Select this option to calculate a new at completion value when the remaining units or actual units change.
    - **Subtract actual from at completion:** Select this option to calculate a new remaining units value when the at completion or actual units change.
  - ▶ **Recalculate actual units and costs when Duration Percent Complete changes:** Select this option to recalculate actual units and costs when the duration percent complete is updated.
  - ▶ **Link actual to date and actual this period units and costs:** When enabled, actual and actual this period unit and cost field values for an activity or resource assignment are recalculated when one of these values is updated.

- ▶ **Calculate costs from units:** When enabled, modifying a resource or role assignment's units automatically updates its costs, and cost fields for the assignment are read-only. When disabled, assignment cost fields are directly editable. All new assignments inherit this setting, but its status can be modified per assignment.
- ▶ **Default Price/Unit for activities without resource or role Price/Unit:** Enter a price/unit value to be used in cost calculations on activities without resource or role assignments or when a new assignment does not have any availability periods defined.

---

**Notes:**

- A **Default Price/Unit** value greater than 0 must be set if you will be entering labor or nonlabor costs on activities that have no resource or role assignments.
  - A change in this value only applies to new activity and resource assignment values. You must **recalculate costs** (see "**Recalculate Activity Costs**" on page 189) on the Activities page to update current activity and resource assignment values.
- 
- ▶ **Specify the default Rate Type for new resource and role assignments:** Choose the default rate type to be used when a resource or role is assigned to an activity. This can be modified per assignment.
  - ▶ **Calculate project usage spreads when running Recalculate Costs:** When enabled, Project Usage spreads are calculated when running the Recalculate Costs for the current schedule. This setting does not apply to scenarios or baselines.

5) Save your changes:

In **Primavera Cloud**:

- a. Select **Save**.
- b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Risk**

 **Schedule**

### Configure the Earned Value Baseline

The earned value baseline is used to calculate the numerous fields used for earned value management. Before you can view earned value data, you must designate an existing original, current, or supplementary baseline as the earned value baseline. Designating a particular baseline as the baseline used in earned value calculations enables you to measure project progress against other baselines without affecting your existing earned value data.

The original baseline is selected as the default earned value baseline, but this can be changed at any time. If the selected baseline does not exist in the project, all earned value fields will be set to 0. It is recommended that you reschedule your project and recalculate project costs on the Activities page any time you designate a new earned value baseline, update the current earned value baseline, or create a new baseline with the same type as the current earned value baseline. This ensures all earned value fields are up-to-date. If you delete the earned value baseline, all earned value calculations will be reset when you recalculate costs.

To configure the earned value baseline:


- 1) **Navigate to the project settings page** (see page 342).
- 2) Select the **Earned Value** tab.
- 3) In the **Analyze Earned Value Using** list, select **Original Baseline**, **Current Baseline**, or **Supplementary Baseline**.
- 4) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **×** **Close**.
  - In **Primavera Professional**:
    - ▶ Select **Save**.

### Configure My Activities Settings for a Project

Configure My Activities settings for your project to enable users to view and edit the fields required for updating activities using the My Activities page or the Primavera Cloud apps.

To configure My Activities settings:

- 1) **Navigate to the project settings page** (see page 342).
- 2) Select the **My Activities** tab.
- 3) In the **Team members are assigned to activities as** section, select a method for how team members are assigned to activities.
  - ▶ **Resource Assignments**: Each user who is assigned a resource assignment can view that assignment and update its progress.
  - ▶ **Activity Owners**: Each user who is assigned to an activity as its Owner can view the activity and update its progress.
  - ▶ **Both**: Resource assignments can view and update their assignments, and activity owners can view and update their activities. Users who have activities and resource assignments will see entries for both.
- 4) In the **Select the fields team members can update** section, add the fields you want team members to view and use to update their progress.
  - ▶ **Assignment Fields**: Add the fields you want team members assigned as resource assignments to use to status their activities.
  - ▶ **Activity Fields**: Add the fields you want team members assigned as activity owners to use to status their activities. If a team member who owns an activity also has a resource assignment for that activity, then the team member will be able to view and update both the assignment and the activity.

- ▶ **Codes and Configured Fields:** Add codes and configured fields that you want activity owners or resource assignment performers to view or use to update their activities. To make any code or configured field read-only, select **Read Only** by the field. In order for a user to update Cost-type codes or configured fields, the user needs the Project Costs/Financials privilege on the project.
  - ▶ (Optional) Select **Team member can update progress of other resource assignments on activity** if you want activity owners to be able to update the progress of all resource assignments for their activities.
- 5) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Schedule**

### Configure the Auto Numbering Defaults for a Project

Unique IDs are required for a number of objects in the application. For example, in the Scope app, auto numbering defaults can be set for scope items, work packages, scope assignments, change requests, and change items. The IDs are automatically generated for each new object based on the default values set at the workspace level for prefix, suffix, and increment. You can use the defaults or enter values that represent the numbering system used for your project.

To set the auto numbering defaults:

- 1) **Navigate to the project settings page** (see page 342).
- 2) Select the **Auto Numbering** tab.
- 3) Define the auto numbering defaults for the objects used in the following areas.
  - ▶ Cost: **Actuals, Budget Change, and Budget Transfer**
  - ▶ Files: **Custom Logs**
  - ▶ Ideas: **Idea**
  - ▶ Tasks: **Tasks, Task Constraint**
  - ▶ Resources: **Resource/Role**
  - ▶ Risk: **Risk**
  - ▶ Schedule: **Activity, Schedule Scenario, WBS**
  - ▶ Scope: **Scope Item, Work Package, Scope Assignment, Change Request, Change Item, and WBS**
- 4) Save your changes:
 

In **Primavera Cloud**:

  - a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.



### Tips

- ▶ Users can manually overwrite the default values when adding these objects in the application.
- ▶ When importing scope items or scope assignments, if the ID column in the import template is left blank, the Scope Item ID or Scope Assignment ID columns are populated with the auto numbering defaults.

### Configure Schedule Health Score Settings

Schedule Health Score metrics have default descriptions, target threshold values, and weight calculation values that can be modified in the project settings. You can also modify additional check criteria where applicable. Individual checks can be enabled or disabled according to your organization's needs.

To configure settings for the Schedule Health Score tool:

- 1) **Navigate to the project settings page** (see page 342).
- 2) Select the **Schedule Health Check** tab.
- 3) Select **Ignore Completed Activities** if you want to exclude completed activities from the analysis.
- 4) In the table, select a check, and then configure the following settings:
  - ▶ **Description**: Modify the description of the check depending on your organization's needs.
  - ▶ **Active**: Include the selected check in the Schedule Health Score panel. Only active checks are used in the schedule health score calculation.
  - ▶ **Target**: Set the target threshold percentage value for the check. Typically, a check that exceeds the threshold value is marked red in the Schedule Health Score panel.
  - ▶ **Weighting**: Set the numerical weighting of the check. This value is used when determining the overall schedule health score.
- 5) In the **General** detail window, you can view or modify the same check details as in the table. Some checks have additional metrics that you can modify in the **Criteria** section of the detail window.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select  **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Schedule**



---

## Dictionaries (Project)

Project-level dictionaries contain items that are only available to a single project.

### Calendars (Project-level)

Calendars in the project Calendars dictionary are available to be assigned as the default project calendar or to individual activities, resources, and roles in the project. Project-specific calendars are useful when there are calendars that only need to be available to a single project. When assigning a calendar to the project, activity, resource, or role, you can choose from project-level or workspace-level calendars. If a project-level calendar should be made available to more projects, you can promote it to the parent workspace.

For more information about calendars, see **Calendars Overview** (on page 46).


### Add a Holiday List to a Project-level Calendar

Add a holiday list to include any public or company holidays observed by the organization that should be reflected in the project schedule. An existing list can be assigned to a calendar during the calendar's creation, or you can assign a calendar's holiday list later. One holiday list can be selected per calendar.

Holiday lists are available to be used throughout the workspace hierarchy. You must have the security privileges required to add and edit calendars in the parent workspace to add and edit a holiday list.

To add a holiday list to a project-level calendar:

- 1) **Navigate to the project Calendars dictionary page** (see page 345).
  - 2) Select **Holidays**.
  - 3) In the **Manage Holiday Lists** dialog box, select **+ Add**, and then enter a name for the holiday list. You can also select an existing list.
  - 4) Select **Edit Holiday List**.
  - 5) Select **+ Add** to create a new holiday for the list. Enter a name for the holiday. You can also select an existing holiday.
  - 6) Choose when the holiday occurs:
    - ▶ **Once on:** Select if this holiday is a onetime occurrence.
    - ▶ **Repeat every:** Select if this holiday occurs on the same date every year.
- 
- Note:** You can select on a calendar when holidays are recognized as part of the standard work week.
- 
- ▶ **Repeat the:** Select if this holiday occurs on a different date each year, but always occurs on the same day and week each year.
  - 7) Continue to enter dates as needed.
  - 8) Save your changes:
    - In **Primavera Cloud:**
      - a. Select **Save**.

- b. In the **Summary & Settings** panel, select × **Close**.  
In **Primavera Professional**:
  - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**

**Add a Project-level Calendar**

Add a project-level calendar if it only needs to be available to a particular project. Calendars at the project level can be assigned as the default project calendar or to activities in the project. They cannot be assigned to resources or roles in the project. You can promote project-level calendars to the parent workspace if they should be made available to other projects in the workspace or to resources/roles.

To add a project-level calendar:

- 1) **Navigate to the project Calendars dictionary page** (see page 345).
- 2) Select + **Add**.
- 3) In the **Add Calendar** wizard, complete the following steps:
  - a. **Name**: Enter a **Name** and **ID** for the calendar. Select **Next**.
  - b. **Create Work Week**: Specify the standard number of work hours per day by manually entering the number of hours or by selecting the time period on the calendar. Change the time periods on the calendar by dragging the entire block of time or by expanding or reducing the block of time. Select **Next**.
  - c. **Add Holidays**: Choose a holiday list to assign to the calendar. The holidays in the selected list are displayed.
    - Select the **If a holiday falls on standard nonwork time, move** option if your calendar has holidays that fall on standard nonwork time and should be marked as holiday time during standard work time. Select where on the calendar the holiday should be reflected.

**Notes:**

- This setting affects the placement of activities during scheduling and leveling. Changes to a holiday's placement on the calendar are not reflected on the Calendar tab of the Calendars dictionary page.
- This setting applies to holidays being placed on nonwork time during the standard work week. It is unaffected by unavailable time created by an exception.

- Select **Finish**.

## 4) Save your changes:

In **Primavera Cloud**:



a. Select **Save**.

b. In the **Summary & Settings** panel, select × **Close**.

In **Primavera Professional**:

- ▶ Select  **Save**.

**Tips**

- ▶ To promote a calendar to the parent workspace **Calendars** dictionary, select a calendar, select the  **Context** menu, and then select **Promote to Workspace**.
- ▶ You can also create a calendar by duplicating an existing calendar. Select the  **Context** menu next to the calendar, and then select **Duplicate**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**


 **Tasks**

**Configure Project-level Calendar Time Period Settings**

A calendar's time period settings specify the default number of hours in each work period. The standard time period hours defined in the Application Settings are displayed by default, but can be changed after the calendar is created. Time period settings are separate from the calendar's standard work week values, which specify the working hours for each day of the week.

The application calculates and stores time unit values in hourly increments, but you can **configure your user preferences** (see "**Configure Time Units**" on page 104) to display time units in other increments, such as days or weeks. The values specified for Time Periods are used to convert hours to other time increments for display, and to convert all non-hourly time increments to hours for storage in the database.

To configure a project-level calendar's time period settings:

- 1) **Navigate to the project Calendars dictionary page** (see page 345).
- 2) Select a calendar.
- 3) Select the **Summary** tab.
- 4) In the **Time Periods** section, enter the default number of hours in a day, week, month, and year.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**


 **Tasks**

### **Specify Project-level Calendar Availability for Assignment**

Before calendars can be assigned, they must be made available to supporting objects. Each project-level calendar can be made available for assignment to the project or to project resources and roles.

Making project-level calendars available to the project enables you to set it as the default project calendar or to individual activities in the project. The option is selected by default when a calendar is created.

To specify project-level calendar availability:

- 1) **Navigate to the project Calendars dictionary page** (see page 345).
- 2) Select a calendar.
- 3) Select the **Summary** tab.
- 4) In the **Available To** section, select **Project**, **Resource/Role**, or **both**.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

## Tips

- ▶ If you assign a project-level calendar to a project-level resource or role, then the resource or role can't be promoted to the workspace unless you remove the calendar assignment or promote the project calendar to the workspace.

## This setting is used in the following apps:

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**

 **Tasks**


## Set Project-level Calendar Exception Time

Exception time is set by selecting periods of time on a calendar that are exceptions to the calendar's standard working hours. Select a period of time on a particular date to specify the new working time for that date. For example, your organization may decide to give employees a half day of vacation time the day before a scheduled holiday. In this case, the first half of the standard work day would be selected, thereby designating it as exception time. You can also set an entire day as unavailable, indicating that the day cannot be worked at all, or available, indicating that the day can be worked without the restriction of standard work hours. Remove changes by setting individual days back to standard working time.

The calendar's Day and Week views enable you to add exception time, but only the Week view supports setting an entire day as unavailable or available. The Month and Year views enable you to see the different working time types at a high level. A legend below the calendar indicates whether each time period displayed is standard, exception, unavailable, or holiday time.

To set project-level calendar exception time:

- 1) **Navigate to the project Calendars dictionary page** (see page 345).
- 2) Select a calendar.
- 3) Select the **Calendar** tab.
- 4) Navigate to a time period in the calendar when exception time should be added.
- 5) In the **Day** or **Week** view, make any of the following adjustments to the calendar:
  - ▶ To change the work hours for a day, select a period of time on a specific day. Change the exception time on the calendar by dragging the entire block of time or by expanding or reducing the block of time. The block of time indicates the new work hours for the day.
  - ▶ To set an entire day as nonworking time, select the date ▼ menu, and then select **Unavailable**.
  - ▶ To set a holiday as a work day, select the date ▼ menu, and select **Available**. Adjust the exception time for the new work day by dragging, expanding, and reducing the block of time.

- ▶ To revert any changes you made to a day, select the date ▼ menu, and then select **Set to Standard**. You can also remove individual blocks of exception time by select the **X** within a block.
- 6) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Summary & Settings** panel, select × **Close**.
- In **Primavera Professional**:
- ▶ Select  **Save**.
- 7) Exceptions are displayed on the **Summary** tab.

### Tips

- ▶ Any day can be set as unavailable, available, or with a range of exception time within the day. This includes days set as holidays.

### This setting is used in the following apps:

 **Cost and Funds**

 **Resources**

 **Risk**

 **Schedule**

 **Scope**


 **Tasks**

### Promote a Project-level Calendar to the Parent Workspace

If a project-level calendar should be made available to other projects in the workspace, you can promote it to the parent workspace. If the promoted calendar's ID is not unique throughout the parent workspace's hierarchy, the promotion will fail. If this occurs, modify the ID and try again. After the calendar is promoted, it is removed from the project-level Calendars dictionary.

You must have the required security privileges to add a calendar in the parent workspace.

To promote a project-level calendar to the workspace:

- 1) **Navigate to the project Calendars dictionary page** (see page 345).
- 2) In the calendar list, select a calendar, select the  **Context** menu, and then select **Promote to Workspace**.
- 3) All changes made to this page are saved automatically.

### This setting is used in the following apps:

 **Cost and Funds**

 **Resources**

 **Risk**

---

 **Schedule**

 **Scope**

 **Tasks**

## Codes (Project-level)


In the project Codes dictionary, codes are available to be assigned to activities within the project. Project-specific codes are useful when there are codes that only need to be available to a single project. You can use codes to help you categorize your data based on shared characteristics. Codes can be added as columns, grouping bands, sorting options, filters, and more. If a project-level code should be made available to more areas of your application, you can promote it to the parent workspace.

### Add a Project-level Code


Codes enable you to categorize and track objects based on attributes they share. Add codes to the project Codes dictionary if they should only be available to a specific project. You can promote project-level codes if they should be made available to other objects in the project's parent workspace.

You can apply project-level codes to the activities within the project.

To add a project-level code:

- 1) **Navigate to the project Codes dictionary page** (see page 345).
- 2) In the table, select **+ Add Code ▼**.
- 3) In the new row, in the **Name** and **ID** columns, enter a name and ID for the new code.
- 4) In the **Applies to** panel, **Activities** is selected by default, making it available for assignment to activities in the project. Clear the **Activities** option if you do not want the code to be available for assignment.
- 5) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **× Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

### Tips

- ▶ Individual activity code values can be associated with a color, which can then be used to color activity bars in the Gantt chart on the **Activities** page.
- ▶ To promote a code and its values to the parent workspace Codes dictionary, select a code in the table, select the  **Context** menu, and then select **Promote to Workspace**. Select **Save**.

## Add a Value to a Project-level Code

Add values to codes so that you can group, sort, and filter objects based on their code values. At the project level, you can add values to project-specific activity codes. Individual activity code values can be associated with a color, which can then be used to color activity bars in the Gantt chart on the **Activities** page.

To add a code value to a project-level code:

- 1) **Navigate to the project Codes dictionary page** (see page 345).
- 2) In the table, select a code or code value.
- 3) Do either of the following:
  - ▶ In the toolbar, select the **+ Add Code ▼** menu, and then select **Add Code Value**. A new value is added beneath the selection.
  - ▶ In the table, select the **⚙ Context** menu, and then select **Add Code Value**.
- 4) In the **Name** and **ID** columns, enter a name and ID for the code value.
- 5) In the **Color** column, select a color for the code value.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select **× Close**.
  - In **Primavera Professional**:
    - ▶ Select **📄 Save**.

## Tips

- ▶ Code values can be configured hierarchically to further enhance your object organization. Select the **⚙ Context** menu next to a code value, and then choose to move the value up, down, left, or right.

## Additional Settings

Some settings may need to be configured in other areas of the application.


## Configure Time Units

You can configure how you see time units in the application.

To configure time units:

- 1) **Navigate to the Preferences page** (see page 348).
- 2) On the **Preferences** page, select the **Settings** tab.
- 3) In the **Time Units** section:
  - ▶ Select a format to **Display Units in**.
    - Select show **Sub units** if you want to show sub units.
    - Select show **Units label** if you want to show the unit labels.



- Select **Decimal places** if you want to see decimal digits for your units. If selected, use the **Show decimal places** list to choose whether to show 1 or 2 decimal places.
    - ▶ Select a format to **Display Durations in**.
      - Select show **Sub units** if you want to show sub units.
      - Select show **Duration label** if you want to show the unit labels.
      - Select **Decimal places** if you want to see decimal digits for your durations. If selected, use the **Show decimal places** list to choose whether to show 1 or 2 decimal places.
    - ▶ Select a **Units/Time Format**. Units/Time values can be entered as a ratio or percentage and will be automatically converted to the chosen format.
- 4) Save your changes:
- In **Primavera Cloud**:
- a. Select **Save**.
  - b. In the **Preferences** panel, select × **Close**.
- In **Primavera Professional**:
- a. Select  **Save**.
  - b. On the **Preferences** page, select × **Close**.

### Configure the Assignment Settings Dialog Preference


Resources and roles both support Units/Time values to indicate work availability and Price/Unit values to indicate pay rate. On any activity, whenever a role assignment is staffed with a resource or an existing resource assignment is replaced with a different resource, you must choose whether to use the current assignment's Units/Time and Price/Unit values or use the values of the new resource. Options for each value can be chosen from the Assignment Settings dialog box on the Activities page, but you can configure default selections on the Preferences page.

The option for choosing a specific assignment's Units/Time value occurs when you select a resource to staff a role assignment or you replace a current resource assignment with a different resource. The current resource may be assigned with or without an associated role. Depending on your preference, the assignment will use the new resource's Units/Time value or the current assignment's Units/Time value, or you will be prompted to choose.

An assignment's Price/Unit value is determined by the assignment Rate Source and the Rate Type associated with the Rate Source. The option for using a specific assignment's Rate Source and Price/Unit value occurs when you select a resource to staff a role assignment or replace the current resource on an assignment that is already staffed. Depending on your preference, the assignment will use the new resource's Price/Unit value and set the Rate Source value to Resource, use the current assignment's Rate Source value and set the Price/Unit value according to the rate source, or you will be prompted to choose. You will only be prompted to choose if the assignment's current Rate Source value is Role or Override. If the assignment's Rate Source value is set to Resource, and your preference is to be prompted, then the Price/Unit value will be set to the new resource's value, but you will not be prompted to choose.

If either option is set to prompt you for a selection, you can choose to not be asked again and make the current choice your new default option. If both options are set to prompt you for a selection, a single dialog box will contain both prompts. Your preference settings can be changed again at any time from the Preferences page. Changes to your preferences will only affect assignments updated after the changes were made.

To configure the Assignment Settings dialog preferences:

- 1) **Navigate to the Preferences page** (see page 348).
- 2) On the **Preferences** page, select the **Settings** tab.
- 3) In the **Resources** section, configure the following options:
  - ▶ **When assigning a resource to existing activity assignment:**
    - **Use new resource's Units/Time:** The new resource's Units/Time value will be applied to the assignment.
    - **Use current assignment's Units/Time:** The current assignment's Units/Time value will stay the same.
    - **Ask:** You will be prompted to either apply the new resource's Units/Time value or keep the current assignment's Units/Time value.
  - ▶ **When a resource and role share an activity assignment:**
    - **Use new resource's Rate Source and Price/Unit:** The new resource's Price/Unit value will be applied to the assignment and the Rate Source will be changed to Resource.
    - **Use current assignment's Rate Source and Price/Unit:** If the Rate Source is Role or Override, the current assignment's Price/Unit value will stay the same. If the Rate Source is Resource, the Rate Source will remain Resource, but the Price/Unit value will change to the new resource's value.
    - **Ask:** You will be prompted to either apply the new resource's Rate Source and Price/Unit values or keep the current assignment's Rate Source and Price/Unit values. If the Rate Source is set to Resource, you will not be prompted.
- 4) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Preferences** panel, select × **Close**.
  - In **Primavera Professional**:
    - a. Select  **Save**.
    - b. On the **Preferences** page, select × **Close**.

---

## Configure Activity Date Indicators

You can configure the use of activity date indicators for the Start and Finish dates of activities that have actual dates or assigned constraints. Activity Date Indicators are enabled by default.

To configure indicators:


- 1) **Navigate to the Preferences page** (see page 348).
- 2) On the **Preferences** page, select the **Settings** tab.

- 3) In the **Activity Date Indicators** section, select one or all of the following:
  - ▶ **Show Actuals:** The Actuals indicator specifies if an activity's Start or Finish date is an Actual Start or Actual Finish.
  - ▶ **Show Constraints:** The Constraints indicator specifies if an activity's Start or Finish date is impacted by an assigned constraint.

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**Note:** When enabled, hover over the indicator to reveal the type of constraint assigned and its effective date. Activities with two assigned constraints will either have an indicator on Start and Finish, or both constraints will impact the same field. Indicators may be shown on activities in the current schedule, in baselines, and in scenarios.

---



- 4) Save your changes:
  - In **Primavera Cloud:**
    - a. Select **Save**.
    - b. In the **Preferences** panel, select × **Close**.
  - In **Primavera Professional:**
    - a. Select  **Save**.
    - b. On the **Preferences** page, select × **Close**.

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## Enable Feature Previews

Oracle Primavera Cloud enables you to turn on upcoming features via User Preferences. Functionality listed in the Preview Features section is fully functional, but is not yet turned on permanently in the application. These features are turned off by default.

To enable feature previews:

- 1) **Navigate to the Preferences page** (see page 348).
- 2) On the **Preferences** page, select the **Settings** tab.
- 3) In the **Preview Features** section, select any of the following:
  - ▶ **Enhanced Printing:** Enables improved printing functionality on all pages in the application with a  **Print** icon in the page toolbar. When this option is disabled, standard browser printing functionality is used. On pages with Gantt charts, Gantt printing functionality is used.
- 4) Save your changes:
  - In **Primavera Cloud:**
    - a. Select **Save**.
    - b. In the **Preferences** panel, select × **Close**.
  - In **Primavera Professional:**
    - a. Select  **Save**.

- b. On the **Preferences** page, select × **Close**.

---

### Configure Save Views

The **Save Views** setting allows you to choose if named view changes are saved manually or automatically for pages where data changes are saved automatically. These pages include all types of views, such as workspace, project, and personal. You have the option to Save, Save As, and Reset changes made to a view by using the **View** menu.


To configure the views preferences:

- 1) **Navigate to the Preferences page** (see page 348)
- 2) On the **Preferences** page, select the **Settings** tab.
- 3) In the **Save Views** section, select either **Save views automatically** or **Save views manually**.

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**Note:** Changing this setting to **Save views manually** will require you to manually save your view changes. This is recommended for organizations that use Project or Workspace views.

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- 4) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Preferences** panel, select × **Close**.
  - In **Primavera Professional**:
    - a. Select  **Save**.
    - b. On the **Preferences** page, select × **Close**.

## WBS Overview

A WBS, or work breakdown structure, is a hierarchical arrangement of work activities that divides a project into discrete levels, phases, or layers. The WBS is structured in levels of work detail, beginning with the deliverable and separated into identifiable work elements.

### Create a WBS

Create a work breakdown structure (WBS) to define a hierarchical arrangement of work.

To create a WBS:

- 1) Add a WBS
  - ▶ **Add a WBS** (on page 109)
  - ▶ **Add a WBS from a Template or Other Project** (on page 109)
  - ▶ **Create a WBS by Import** (on page 110)
  - ▶ **WBS Fields** (on page 111)
- 2) **Assign a Manager to a WBS** (on page 113)

- 3) **Add a File in a Files Detail Window** (on page 113)
- 4) **Copy and Paste a WBS Node** (on page 114)



## Add a WBS

Add a work breakdown structure (WBS) to represent a hierarchical arrangement of work. You can create sibling WBSs to represent WBSs that are hierarchically equal, or child WBSs to represent WBSs that are subordinate to other WBSs.

The WBS structure is pre-populated with one root node that is the name of the project. It cannot be deleted. The root WBS can only have child nodes.

Each level in the WBS hierarchy is separated by a period. When entering a new WBS node, the parent hierarchy is automatically prefixed, and the current node is incremented with the next number in the sequence. For example, a new sibling of *WBS 1.1* will be automatically named *WBS 1.2*, and a child will automatically be named *WBS 1.1.1*. These values can be changed at any time. When updating a WBS Code or Name field, only the current level needs to be entered.



To add a WBS:

- 1) **Navigate to the WBS page** (see page 337).
- 2) On the WBS page, select a WBS row.
- 3) To add a sibling WBS node, select **+** **Add** or select the  **Context** menu, and then select **Add Sibling WBS**. To add a child WBS node, select the  **Context** menu, and then select **Add Child WBS**.

The new WBS node will automatically be assigned a name based on its sequence in the WBS, but it can be changed at any time.

- 4) All changes made to this page are saved automatically.

### Tips


- ▶ To add a WBS from a project template or project, select a WBS row, select the  **Context** menu, and then select **Add WBS from project**. Use the **Add WBS from Projects** dialog box to select a WBS node and the specific activity data that you want to copy. The new WBSs are added as children of the selected row.
- ▶ To make an existing WBS node a child of the node above it, select the  **Context** menu, and then select **Move Right**. Select **Move Left** to change a child node to a sibling node. The name of the node is automatically updated based on its new sequence in the WBS.
- ▶ Primavera Cloud supports WBS hierarchies up to 50 levels.

## Add a WBS from a Template or Other Project

If your organization uses templates or a standardized structure across projects, you can save time when adding WBSs by copying them from a project template or another project in your workspace or parent workspaces. You can choose objects within the WBS that you would like to copy into your project, including activities, relationships, project-level codes, workspace-level codes, configured fields, and assignments. The chosen WBS and any child WBSs are copied as children of the WBS you selected on the page.

You can perform this task from the project **Activities** page or **WBS** page. To do so, the page must be grouped by WBS. You must have the required security privileges to add a WBS from a template or other project.

To add a WBS from a template or other project:

- 1) **Navigate to the WBS page** (see page 337).
- 2) In the table, select a WBS row, select the  **Context** menu, and then select **Add WBS from Project**.
- 3) In the **Add WBS from Projects** dialog box, in the **Filter By** field, filter the display of WBSs by templates or projects.
- 4) Expand the hierarchy of project templates or projects, and then select a WBS.
- 5) Select **Show Activity Details** to view a list of activities associated with the selected WBS.
- 6) Select **Add WBS** to add the selected WBS immediately, or select **Next** to choose the items you would like to copy, and then select **Add WBS**.
- 7) All changes made to this page are saved automatically.

### Create a WBS by Import

Creating a WBS using Microsoft Excel enables you to use data from an outside system which can save you time from manual entry.

To create a WBS:

- 1) **Download an Import Template for Importing a WBS** (on page 110)
- 2) **Import a WBS from Microsoft Excel** (on page 111)

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### Download an Import Template for Importing a WBS

Download a Microsoft Excel template to use when importing a WBS and related data, such as WBS codes and configured fields.

To download an import template:

- 1) **Navigate to the WBS page** (see page 337).
- 2) Select **Actions ▼**, select **Download Import Template**, and then select one of the following:
  - ▶ **Empty Template**: Use this template to create data.
  - ▶ **Template with Data**: Use this template to update the data that exists in the table.

### Tips

- ▶ The top two rows of the worksheet are required when importing a WBS from a spreadsheet. You can delete unused columns, but do not change the data in these rows.
- ▶ Review the Instructions worksheet for helpful tips on populating the import template.

## Import a WBS from Microsoft Excel

You can import a WBS and WBS data into the application from a Microsoft Excel (.xls or .xlsx) file. After downloading the import template, follow the instructions to create or update a WBS in the spreadsheet. The import will fail if there are any invalid values in the spreadsheet. You can download the spreadsheet file to view and fix the errors indicated in the error column at the end of each worksheet, and then import the file again.

You must have sufficient privileges to perform this task.

To import a WBS from Microsoft Excel:

- 1) **Navigate to the WBS page** (see page 337).
- 2) On the **WBS** page, select the **Actions** ▼ menu, and then select **Import**.
- 3) In the **Import WBS** dialog box, select **... Browse**, select a file, and select **Import**.

## WBS Fields

Depending on your settings, the following fields might appear on the page as table columns, spreadsheet rows, or in detail windows. Fields that are generic across the application, such as Name, may not be included here.

## General

### Added By

The username of the user that added the item.

### Completed Activities

Total number of Completed activities for the WBS element in the current schedule. The number includes all activities which are part of any child WBS.

### Current BL Completed Activities

Total number of activities associated with the WBS in the current baseline. The number includes all activities which are part of any child WBS.

### Current BL In Progress Activities

Total number of in progress activities associated with the current baseline. The number includes all activities which are part of any child WBS.

### Current BL Not Started Activities

Total number of not started activities associated with the WBS in the current baseline. The number includes all activities which are part of any child WBS.

### Current BL Total Activities

The total number of activities associated with the WBS in the current baseline. The number includes all activities which are part of any child WBS.

### Date Added

The date the activity was added.

**Date Last Modified**

The date when the activity was last modified.

**Description**

A brief description of the activity.

**In Progress Activities**

The total number of in progress activities associated with the WBS in the current schedule. The number includes all activities which are part of any child WBS.

**Last Modified By**

The last user who modified the activity.

**Manager**

The user name of the user set as the manager or contact for the WBS. The user who created the WBS is set as the owner by default.

**Not Started Activities**

The total number of not started activities associated with the WBS in the current schedule. The number includes all activities which are part of any child WBS.

**Original BL Completed Activities**

The total number of completed activities under the WBS in the original baseline. The number includes all activities which are part of any child WBS.

**Original BL In Progress Activities**

The total number of in progress activities under the WBS in the original baseline. The number includes all activities which are part of any child WBS.

**Original BL Not Started Activities**

The total number of not started activities under the WBS in the original baseline. The number includes all activities which are part of any child WBS.

**Original BL Total Activities**

The total number of activities under the WBS in the original baseline. The number includes all activities which are part of any child WBS.

**Supplementary BL Completed Activities**

The total number of completed activities under the WBS in the supplementary baseline. The number includes all activities which are part of any child WBS.

**Supplementary BL In Progress Activities**

The total number of in progress activities under the WBS in the supplementary baseline. The number includes all activities which are part of any child WBS.

**Supplementary BL Not Started Activities**

The total number of not started activities under the WBS in the supplementary baseline. The number includes all activities which are part of any child WBS.



### Supplementary BL Total Activities

The total number of activities under the WBS in the supplementary baseline. The number includes all activities which are part of any child WBS.

### Total Activities

The total number of activities under the WBS in the current schedule. The total number includes all activities which are part of any child WBS.

## Assign a Manager to a WBS

Assign managers to WBS elements to identify the project manager or person responsible for managing the WBS.

The person who created the project is automatically assigned as the manager. The person who is assigned to a parent WBS node is automatically assigned as the manager to child WBS nodes.

To assign a manager to a WBS:

- 1) **Navigate to the WBS page** (see page 337).
- 2) In the table, select a WBS, and then select the **General** detail window.
- 3) In the **Manager** field, select a manager.
- 4) All changes made to this page are saved automatically.

## Add a File in a Files Detail Window

Use the Files detail window to add relevant files that support your data. For example, you might add architectural drawings, pictures, or product specifications to activities on the Activities page.

The following objects support the Files detail window:

- ▶ Activities
- ▶ CBS
- ▶ Funds
- ▶ Fund Sources
- ▶ Logs
- ▶ PBSs
- ▶ Portfolio Funds
- ▶ Projects
- ▶ Project Funds
- ▶ Risks
- ▶ Scope Assignments
- ▶ Scope Items
- ▶ Strategies
- ▶ Submittals
- ▶ Task Constraints
- ▶ WBSs

### ▶ Work Packages

To add a file in a Files detail window:

- 1) Navigate to a page whose object supports files.
- 2) In the table, select an object row, and then select the **Files** detail window.

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**Note:** A screen reader will read the Files detail window as **File Attachments**.

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- 3) In the **Files** detail window, select + **Add**.
- 4) In the **Add File** dialog box, in the **Select Folder** section, select a folder in the project library.
- 5) In the **File** field, select ... **Browse**, and then select one or more files.
- 6) Select **Upload**.

### Tips



- ▶ Use the projects inventory panel to add files at the project level. This enables you to link a file to one or more objects in the project, such as activities, WBSs, or risks.
- ▶ Files that you add in the **Files** detail window can also be accessed from the project **File List** page.
- ▶ Built-in virus scanning functionality automatically scans your files during upload and check in. If an issue is detected with a file, you are notified and the contents of the file are deleted from the database. You can upload another version of the file that is not corrupted. You can't preview a file until virus scanning is completed and you refresh the page.

## Copy and Paste a WBS Node

You can save time when building the work breakdown structure by copying existing WBS nodes. Copy one or more nodes to duplicate their hierarchical structure. You can also copy all of the activities assigned to the selected WBS and their associated activity data. This is useful if your project repeats the same type of work, such as constructing each floor of a building.

If you include activities in the copied WBS nodes, you can configure the renumbering options for the activity IDs that are copied. If the pattern you choose results in duplicate activity IDs, you will be prompted to enter a new activity ID for each conflicting activity.

To copy and paste WBS nodes:

- 1) **Navigate to the WBS page** (see page 337).
- 2) In the table, select one or more WBS nodes, select the  **Context** menu, and then select **Copy**.
- 3) Select the row in the table where you want to paste the node, select the  **Context** menu, and then select **Paste**.
- 4) In the **Paste WBS Options** dialog box, select **Include Activities** if you want to also copy the activities in the selected nodes. Choose what activity data you want to copy.
- 5) (If **Include Activities** is selected) In the **Renumbering Options** section, in the **Renumber Activity IDs** list, select one of the following options, and then configure the option's settings:

- ▶ **Increment Activity ID based on selected activities:** Enter a value that each pasted activity will be incremented by.

Each pasted activity ID is incremented with an ID that begins after the largest existing ID with a matching prefix. For example, in a project with activity IDs A10, A30, and B50, copying all three activities and pasting them with an increment value of *10* will result in new activities with IDs A40, A50, and B60 because A30 and B50 were the largest existing IDs with matching prefixes.

- ▶ **Auto-number:** Enter a prefix value, starting number, and increment value. The pasted activities will be numbered in the order that the copied activities appeared in the table. Each pasted activity ID is incremented with an ID that begins after the largest existing ID with a matching prefix. For example, in a project with activity IDs A10, A30, and B50, copying all three activities and pasting them with a prefix value of *A*, starting number of *1*, and increment value of *1* will result in new activities with IDs A31, A32, and A33 because A30 was the largest existing ID with a matching prefix.
- ▶ **Replace beginning characters:** Enter the number of characters to replace starting from the beginning of the ID, and then enter the value that will replace the characters.
- ▶ For example, in a project with activity IDs A10, A30, and B50, copying all three activities and pasting them with the first character replaced by the letter *C* will result in new activities with IDs C10, C30, and C50.

6) Select **Paste**.

7) All changes made to this page are saved automatically.

### Tips

- ▶ Your security privileges control which activity data objects you can copy over to new activities.
- ▶ This feature only applies to the data in the current schedule.

## Activities Overview

During the project planning process, you define the activities that must be completed to accomplish your project's objectives. Activities typically have durations, resource or role requirements, and logical relationships with other project activities. Unit and cost values may be defined at the activity level or on individual resource and role assignments. Milestone activities have no duration or assignments, but they do support activity-level cost values.

Use the Activities page to manage all project activities and their associated details. This includes all general information, activity status, resource assignments, risks, and other details. At the program level, manage the activities for the projects within the program.

## Working With the Activities Page

The Activities page enables you to manage your project schedule using a variety of tools. In addition to the **standard view settings** (see "**Configure View Settings**" on page 316) available across Oracle Primavera Cloud, the Activities page offers several enhanced interface options.

The screenshot displays the Primavera Cloud interface for managing project activities. It is divided into three main sections:

- Activities Table:** A table listing project activities with columns for Name, ID, Start, Finish, Follow Up Needed, and Planned Durations. A context menu is open over the table, showing options like Sort, Align Column, Group By Column, Hide Column, Adjust to fit content, Find and Replace, Pin Column, and Rename Column. Numbered callouts 1 and 2 highlight the ID and Finish columns.
- Gantt Chart:** A visual representation of the project schedule from 2019 to 2020. A context menu is open over the chart, showing options like Gantt, Activity Network View, Activity Details, and Project Usage. Callout 3 points to a task bar.
- Resource Usage Chart:** A stacked bar chart showing resource usage over time. The Y-axis represents units (0.00h to 400.00h). The X-axis shows quarters from Q2 2019 to Q2 2020. A cumulative curve is overlaid on the bars. A legend identifies resources: Pete Patrick, Thermal Protection Subcontractor, Guy Marshall, Crane, Landell Jackson, Pool Installation Subcontractor, and Total cumulative curve. Callout 4 points to the chart area.

### Table of Screen Highlights

Item	Description
1	<b>Activities Table:</b> Create activities to define the work to be done on your project. Add dates, durations, units, costs, and relationships, then run the scheduler to sequence the activities along a timeline.
2	<b>Column Options:</b> You can <b>modify column options</b> (see " <b>Configure the Activities Page Table</b> " on page 117) directly from the Activities table without opening the view settings. From the menu, sort, align, group by, hide, pin, adjust to fit the content in the column, and rename a column.  You can also rename string field values in the table using <b>find and replace</b> (see " <b>Use Find and Replace on the Activities Page</b> " on page 119). Search for a string in a column and replace a single instance or all instances with a new string. Find and replace enables you to rename many values at the same time, such as activity names, code values, or configured field values.

Item	Description
3	<p><b>Layout Menu:</b> Toggle between three layout options depending on your project management needs:</p> <ul style="list-style-type: none"> <li>▶ <b>Grid:</b> The Activities table extends the full width of the page, enabling you to display a large number of columns of activity data.</li> <li>▶ <b>Gantt:</b> The Gantt chart is synchronized with the Activities table to show your activities as horizontal bars along a timescale. With the Gantt view enabled, use the <b>Progress Spotlight</b> to highlight activities that fall within a specific update period.</li> <li>▶ <b>Activity Network:</b> Activity tiles are grouped by their WBS nodes, providing a high-level look at your activities, their most important details, and the relationships between them.</li> </ul> <p>You can also use the Layout menu to toggle between <b>activity details</b> and project usage tools in the form of <b>resource and role histograms</b>.</p>
4	<p><b>Detail Windows:</b> Modify details for the selected activity, including dates, durations, units, costs, resource assignments, associated files, risks, tasks, and codes. View the activity usage histogram for a time-phased view of your activity usage. View resource and role usage across your project's timeline using histograms and data spreadsheets.</p>
5	<p><b>Save:</b> Changes made on the Activities page are saved automatically.</p> <p><b>Undo and Redo:</b> Revert certain actions or fields to a previous value.</p> <p><b>Schedule Health Score:</b> Evaluate the quality of your project schedule using predefined metrics. For more information on this and other tools, see <b>Activities Page Tools</b> (on page 162).</p> <p>Other tools, such as <b>Run Report</b>, <b>Share this page</b>, and <b>Toggle Full Screen</b>, are available on pages throughout the application.</p> <p>In the page toolbar, select the <b>Refresh</b> button to reload the data on the page without reloading the entire page, which may take longer. This button is also useful when multiple users are modifying the same project and you want to see the most current data.</p>

**Configure View Settings** (on page 316)

### Configure the Activities Page Table

You can add, sort, align, group by, hide, pin, adjust to fit the content in columns, and rename a column directly from the Activities table without opening the view settings. Each column in the table supports a menu with several options that vary depending on the column. Pinned columns are located in a section at the beginning of the Activities table. They do not move when the rest of the table is scrolled horizontally. This makes it easier to see the most important activity fields, such as Name or ID, when a large number of columns are displayed.

Columns that support grouping can be grouped from the menu. Additional grouping options, such as grouping interval and sort order, must be modified from the Manage Views panel. All of the column header options configured, except for the adjust to fit and alignment options, will be saved to the Named View currently set for the page.

The column menu also supports find and replace functionality, which is described in *Use Find and Replace on the Activities Page* (on page 119).

To configure the Activities page table:

- 1) **Navigate to the Activities page** (see page 337).
- 2) To add columns to the table:
  - a. Select the **+ Open Column Selector** icon.
  - b. In the column dropdown, next to a column name, select **Show** or **Hide** to add or remove the column from the table.
- 3) To configure an existing column, right-click a column title or select **Open Column Menu**, and then select any of the following:
  - ▶ **Sort**: Hover over the **Sort** option and then select to sort the column by **Ascending** or **Descending**. Use Ctrl + click to add the column to an existing sort sequence.
  - ▶ **Align Column**: Hover over **Align Column** and then select from **Align Left**, **Align Center**, and **Align Right** to determine the alignment of the content in your columns.
  - ▶ **Group By Column**: Group activities by the selected column. You can also group by multiple columns or turn off a column grouping. This option is only available for fields that support grouping.
  - ▶ **Hide Column**: Remove the column from the table.
  - ▶ **Adjust to fit content**: Expand or shrink the width of the column to fit its contents. You can also double-click a column's right edge to adjust it.
  - ▶ **Find and Replace**: Displays the Find and Replace popover. If the column is read-only, then only **Find** is displayed. This option is only available for string fields.
  - ▶ **Pin Column**: Adds the column to the pinned section of the Activities table. You can also click and drag columns between the pinned and unpinned sections.
  - ▶ **Rename Column**: Displays the **Rename a Column** popover. If a new column name is not entered in the **Rename Column** popover and **Rename** is selected, the column name field will be blank. After a column is renamed, the custom name can be reset to the original name by selecting **Reset** in the **Rename Column** popover. Any changes to the column name are saved to your current view.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ Select **Settings** to manage all Activities page view settings. See *Configure View Settings* (on page 316) for more information.
- ▶ The Name and ID fields can be unpinned, but they cannot be hidden.
- ▶ Click and drag a column title to change the column order.

---

## Use Find and Replace on the Activities Page

The Find and Replace tool enables you to search for a string in a column in the Activities table and optionally replace the highlighted result with a new string. You can also replace all instances of the found string at the same time. This tool is useful if you want to search for a term in a column, replace a value in a single cell, or replace many values at the same time, such as activity names, code values, or configured field values.

The Find and Replace popover is available for fields that support string values. If a supported field is read-only, you can use the Find popover to search for a string, but you cannot replace the results.

To use Find and Replace on the Activities page:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, right-click a column title or select **Open Column Menu** for a field that supports string values.
- 3) In the column menu, select the **Find and Replace**. If the column is read-only, the **Find** icon is displayed.
- 4) In the popover, do the following:
  - a. **Find:**
    1. In the **Find what?** field, enter your search term.
    2. (Optional) In the **Options** section, select search options:
      - **Match whole word:** When enabled, only returns whole words that match the search term. If the search term is part of a larger string, it will not be included in the results.
      - **Match case:** When enabled, results must match the exact case of the search term.
    3. Select **Find** or press **Enter** to search for the entered string.

---

**Note:** The Find button is only displayed in the Find popover.

---
  - b. **Replace:**
    1. In the **Replace with** field, enter the string that will replace the search term.
    2. Select **Replace** to replace the currently selected result, or select **Replace All** to replace all results.
- 5) All changes made to this page are saved automatically.

### Tips

- ▶ You can also access Find and Replace using the following keyboard shortcuts:
  - ▶ In the table, select a string field, and then press **Ctrl + F** to open the Find popover. Press **Ctrl + H** or **Ctrl + R** to open the Find and Replace popover.
  - ▶ Enter a string in the **Find what?** field. Press **Enter** or the **Up** and **Down Arrows** to highlight the next result.
  - ▶ Enter a string in the **Replace** field. Press **Alt + R** to replace the currently selected result. Press **Ctrl + Alt + Enter** to replace all results.

- ▶ Press **Esc** to close the popover.

---

### Auto Reorganize Activities

Use the Auto Reorganize feature on the Activities page to automatically organize new and modified activities according to the page's current grouping and sorting settings.

By default, new and modified activities remain in the table on the row they were added until you refresh the page, schedule the project, or modify the view settings. When enabled, Auto Reorganize groups and sorts the activity as soon as the value in the grouped or sorted field is entered. This applies to the main table as well as tables in the detail windows.

You can enable or disable Auto Reorganize from the Actions menu. The setting is saved per user and is disabled by default.

To enable or disable Auto Reorganize functionality:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select the **Actions ▼** menu, and then select **Auto Reorganize**.

---

**Note:** A ✓ check mark icon next to the menu item indicates that Auto Reorganize is enabled. If there is no icon, the feature is disabled.

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### Tips


- ▶ You can also toggle Auto Reorganize on and off by pressing **Shift + F12**.

---

### View the Activities Grid

The Grid view on the Activities page provides the largest possible view of the Activities table. Use the Grid view to display a large number of columns of activities data. Save multiple views of column, grouping, and filtering configurations depending on your needs. For example, you might want separate views to focus on activity scheduling, resource assignments, configured fields, or associated tasks.

To view the Activities grid:

- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Layout ▼** menu, select the  **Grid** icon.

### Tips

- ▶ The view option you select on the **Layout ▼** menu can be saved as part of a view.
- ▶ When activity date indicators are enabled, the Activities Grid displays indicators for the Start and Finish dates of activities that have actual dates or assigned constraints. When the As Late As Possible constraint is selected, the constraint indicator is not displayed. See **Configure Activity Date Indicators** (on page 106) to enable indicators.



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## View the Activities Gantt Chart

The Gantt chart on the Activities page provides a graphical representation of the duration and sequence of activities across a timeline. When you view the Gantt chart, the Activities page is divided into two regions, one displaying the Gantt chart data in a table, and the other displaying the Gantt chart data graphically with a resizable divider between the two regions. The table and chart regions share the same data and selection model, supporting and synchronizing scrolling, and expanding and collapsing of rows between the two regions.

In a project, the Gantt chart shows a line for the data date chosen during scheduling. In a program, the earliest project data date is shown. It is recommended that you schedule all projects in a program using the same data date so they are aligned along the Gantt chart timeline.

Hover your cursor over activity bars to view tooltip information about each activity. Hover your cursor over relationship lines to view tooltip information about predecessor and successor activities.

To view the Gantt chart:

- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Layout** ▼ menu, select the  **Gantt** icon.
- 3) In the Gantt chart, select  **Gantt Settings** to toggle a variety of Gantt chart settings without opening the **Manage Views** panel.

### Tips

- ▶ You can edit a variety of activity details directly from the Gantt chart. See **Modify Activity Details in the Gantt Chart** (on page 158) for more information.
- ▶ When activity date indicators are enabled, the activities Gantt chart displays indicators for the Start and Finish dates of activities that have actual dates or assigned constraints. When the As Late As Possible constraint is selected, the constraint indicator is not displayed. See **Configure Activity Date Indicators** (on page 106) to enable indicators.
- ▶ Double-click an activity row in the Gantt chart to move the timescale display to the beginning of that activity.
- ▶ The Gantt chart is printed when you print the Activities page. To display colors and ensure that your Gantt charts print correctly, enable the background graphics and colors options in your browser's print settings. See **Print a Page to PDF** for more details on printing.
- ▶ The view option you select on the **Layout** ▼ menu can be saved as part of a view.



---

## View the Progress Spotlight

The Progress Spotlight tool is useful when you are progressing your activities and need to know which activities fall within your update period. When enabled, the spotlight highlights a time period in the Gantt chart. Any activity whose start or finish date falls within the period is also highlighted in the table.

The default spotlight interval is determined by the current timescale interval. For example, if the timescale is set to weekly intervals, the default spotlight interval highlights one week from the data date. If a monthly timescale is selected, then the spotlight highlights one month from the data date. You can drag the edge of the spotlight to highlight any period of time after the data date. Disable and then enable the spotlight to view the default interval.

To view the Progress Spotlight:

- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Layout ▼** menu, select the  **Gantt** icon, and then select  **Gantt Settings**.
- 3) On the menu, select **Progress Spotlight**.
- 4) Click and drag the edge of the spotlight to highlight a custom time period.

### Tips







- ▶ You can also enable the spotlight by selecting the data date and dragging it to a future date. Turn off the spotlight by dragging it back to the data date.
- ▶ If the spotlight is enabled while scheduling your project, the spotlight start date will change to reflect the new data date and the spotlight end date will remain the same. If the new data date is later than the spotlight end date, the spotlight is turned off.
- ▶ Your Progress Spotlight configuration can be saved as part of a view.

---




### View the Activity Network

The Activity Network on the Activities page is a view that displays a full diagram of the activities and relationships in your project, organized by their WBS nodes. Use the Activity Network to view activity and relationship information, track the sequence of activities in your project, and focus on driving relationships and critical activities. Select individual WBS nodes to break down the Activity Network into smaller segments.

To view the Activity Network:

- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Layout ▼** menu, select the  **Activity Network View** icon.
- 3) In the **Activity Network**, select an activity or relationship line to view its details. Select the project name or an individual WBS node in the table to view its associated activities in the view.
- 4) Use the following tools to configure the Activity Network display:
  - ▶  **Zoom In**: Zoom in on the displayed sequence of activities.
  - ▶  **Zoom Out**: Zoom out of the displayed sequence of activities.
  - ▶  **Zoom to Fit**: Reset the display to the default magnification.
  - ▶  **Show Driving Relationships**: Toggle the display of non-driving relationship lines.
  - ▶  **Show Critical Activities**: Dim non-critical activities and relationship lines so critical activities are displayed more prominently.

## Tips

- ▶ Select  **Settings** to configure the Activity Network settings.
- ▶ The following indicators are used in the Activity Network view:
  - ▶ Critical activities and relationships are represented using red tiles, red borders, and red lines. Activity tiles on the critical path display an exclamation point icon.
  - ▶ Non-critical activity tiles are white, and non-critical relationship lines are black.
  - ▶ Solid lines indicate a driving relationship, while dotted lines indicate a non-driving relationship.
  - ▶ Completed activities display a completed icon in their tiles. Start or finish milestones display a diamond in their tiles.
- ▶ Select  **Download** beneath the diagram to download the displayed sequence as a .png file.
- ▶ The view option you select on the **Layout**  menu can be saved as part of a view.



## Undo Changes in Primavera Cloud

Primavera Cloud supports Undo and Redo functionality on several pages throughout the application. Undo is a powerful tool that enables you to revert certain actions and field values to a pre-modified state. For example, if you entered a new duration value for an activity, you can use Undo to revert to the previous value. To reinstate an action or value that was undone, you can use Redo. Up to 50 items are stored in the Undo history. The Undo history is unique to each page that supports Undo.

The following pages support Undo functionality in Primavera Cloud:

- ▶ Activities
- ▶ Project and Program Resources Assignment List
- ▶ Project and Program Schedule Assignment List
- ▶ WBS
- ▶ Workspace and Project Resource List
- ▶ Workspace and Project Role List

To use Undo or Redo:

- 1) After modifying a value for an object on a page, you can do either of the following:
  - ▶ Select  **Undo** or  **Redo**.
  - ▶ Use the keyboard shortcuts **Ctrl + Z** to undo an action and **Ctrl + Y** to redo an action.

---

**Note:** If an action is not supported by Undo or Redo, the icons on the toolbar will be disabled. A confirmation message appears if a proposed action cannot be undone.

---

- 2) All changes made to this page are saved automatically.

Certain actions will clear the Undo history in Primavera Cloud, including:

- ▶ Refreshing the page
- ▶ Adding or navigating to a scenario

- ▶ Applying view settings on a page
- ▶ Assigning or promoting a resource or role
- ▶ Importing templates
- ▶ Scheduling or leveling the project
- ▶ Setting a scenario as the current schedule
- ▶ Unlinking a file

Certain actions are not stored in the Undo history, including:

- ▶ Deleting an activity
- ▶ Deleting an activity assignment
- ▶ Deleting a resource or role
- ▶ Deleting a resource or role availability row
- ▶ Dissolving an activity relationship

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### Using Touch-Screen Gestures in Primavera Cloud

You can use touch-screen devices to navigate pages, open menus, select items, and enter data in the Primavera Cloud web application. The gestures required to perform actions in the application are described below.

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**Note:** Touch-screen functionality is not officially supported for Primavera Cloud and has not been fully tested. Some gestures may not work with all devices or specific device browsers.

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The following actions can be performed using touch-screen gestures:

#### Common Page Actions


- ▶ **Select:** Tap a table cell, row, icon, button, list, menu, or link to select it.
- ▶ **Edit cell in a table:** Tap the cell to select it. Tap and hold your finger on the cell for a full second, and then release your finger. You can now edit the value.
- ▶ **Select multiple rows in a table:** This action is not supported in Primavera Cloud using a touch-screen device.
- ▶ **Focus on a Gantt bar:** Open a Gantt chart view on a page. Double tap a row in the chart to shift the timescale to display the beginning of the bar.
- ▶ **Zoom:** Pinch inward with two fingers to zoom in. Pinch outward with two fingers to zoom out.

#### Page-Specific Actions

##### Activities Page

- ▶ **Create an activity relationship between Gantt bars:** In the Gantt chart, tap an activity bar. On either edge of the bar, tap the circle, which represents the start of the relationship. Drag your finger to the edge of another activity bar. A popover shows the proposed relationship. Release your finger to create the relationship.
- ▶ **Modify an activity bar's start and finish dates:** In the Gantt chart, tap an activity bar to select it. Tap and hold your finger on the selection for a full second, and then drag your finger to another day in the chart. The new start and finish dates are shown next to the bar as you drag it.

## Hand-offs Page

- ▶ **Select a task card:** Tap the task card to select it and open the task card or Task Details dialog box.
- ▶ **Select multiple task cards:** Do either of the following:
  - ▶ Tap each task card that you want to select. Tap a selected card to deselect it. Tap another part of the screen to deselect all selected cards.
  - ▶ Select the  **Select** tool in the diagram toolbar, and then tap and drag to highlight multiple tasks.
- ▶ **Right-click a selection:** Tap one or more cards to select them. Tap and hold your finger on the selection for a full second, and then release your finger. The right-click menu is displayed.
- ▶ **Add a hand-off:** Tap a single task card. On either edge of the card, tap the circle, which represents the start of a hand-off. Tap a different task card, and then tap a circle on the edge of the card to complete the hand-off line.

## Task List Page

- ▶ **Add a hand-off between Gantt bars:** In the Gantt chart, tap a task bar. Tap the circle that appears, and drag your finger to the edge of a different task bar. A popover shows the proposed hand-off relationship. Release your finger to create the relationship. You can also do this for task milestones.
- ▶ **Modify a task bar's start and finish dates:** In the Gantt chart, tap a task bar to select it. Tap and hold your finger on the selection for a full second, and then drag your finger to another day in the chart. The new start and finish dates are shown next to the bar as you drag it.

## Work Plan Page

- ▶ **Open the task details:** With configurable task cards disabled, tap a task card to open the Task Details dialog box.
- ▶ **View a configurable task card:** With configurable task cards enabled, tap a task card to view the configurable task card. Tap the Task Details icon in the header of the configurable task card to open the Task Details dialog box.
- ▶ **Edit a configurable task card:** When viewing a configurable task card, tap a field to edit its value. Editable fields will show an edit icon in the corner of the field. Read-only fields will not show this icon.
- ▶ **Select multiple task cards:** This action is not supported on the Work Plan page using a touch-screen device.
- ▶ **Right-click a task card:** Tap and hold your finger on the task card for a full second, and then release your finger. The right-click menu is displayed.
- ▶ **Move a task card:** Tap and hold your finger on a task card for a full second, and then drag your finger to another day, activity band, or planning bucket.
- ▶ **Modify task duration:** Tap and hold your finger for a full second on the left edge or right edge of a task card, and then drag it to another day on the planning board. As you drag your selection, the new duration is highlighted.

- ▶ **Modify the planning board timescale:** Tap and drag a column header on the planning board to change the size of all columns. This enables you to zoom in or out of the timescale. If the column size is decreased enough, smaller cards are used to represent tasks. This enables the application to display more tasks on the planning board. You can still move a card to change its due date, drag its edge to change its duration, and view status icons displayed on the card. Increase the column widths to return the task cards to their normal appearance.

## Create an Activity

Create activities to define the work to be accomplished for a project.

To create an activity, do any of the following:

- ▶ **Add an Activity** (on page 126)
- ▶ **Create an Activity by Import** (on page 127)
- ▶ **Cut or Copy and Paste an Activity** (on page 128)

---

## Add an Activity

Use the Activities page to add activities to a project. New activities are added with the default values configured in the project settings.

To add an activity to a project:

- 1) **Navigate to the Activities page** (see page 337).
- 2) You can add an activity using any of the following methods:
  - ▶ On the toolbar, select **+** **Add**. A new activity is added with the **Name** field in edit mode. If the **Name** column is not displayed, the first column will be in edit mode.
  - ▶ Press **Insert**. A new activity is added with the previously selected field selected in the new row. This makes it easy to quickly modify a specific field for each new activity.
  - ▶ In the table, right-click a selection of one or more activities or select the **⚙ Context** menu next to an activity in your selection, and then select **Add Above** or **Add Below**. This is useful if you want to add activities to a specific group.

---

### Notes:

- If one or more activities are selected, an equal number of new activities are added. If no activities are selected, one new activity is added.
  - At the program level, the **Add** button is only available when the page is grouped by *Project* or *WBS*.
- 
- ▶ Copy and paste existing activities. See **Cut or Copy and Paste an Activity** (on page 128) for more information.
  - 3) For each new activity, enter **Name** and **ID** values.
  - 4) All changes made to this page are saved automatically.

## Tips

- ▶ An **option** (see "**Configure Activity Defaults for a Project**" on page 90) in the project settings controls the numbering of new activity IDs. When this setting is disabled, new activity IDs follow the activity auto numbering rules set in the project settings. When this setting is enabled, new activity IDs are numbered based on the following:
    - ▶ New IDs are given the same prefix as the activities selected when the new activities are added.
    - ▶ The starting number for new IDs begins after the largest existing ID with a matching prefix.
    - ▶ The increment value of new IDs is the value set for activities in the project auto numbering settings.
- For example, in a project with activity IDs A10, A30, and B50, and an auto numbering increment value of 10, a new activity added under A10 will result in an activity ID of A40 because A30 was the largest existing ID with a matching prefix. If no activity is selected, the new ID will follow the auto numbering rules. The setting is disabled by default.
- ▶ You cannot add an activity in an open baseline.

---

## Create an Activity by Import

Creating activities using Microsoft Excel enables you to use data from an outside system which can save you time from manual entry.

To create or update an activity:

- 1) **Download an Import Template for Importing Activities** (on page 127)
- 2) **Import Activities from Microsoft Excel** (on page 128)

### Download an Import Template for Importing Activities

Download a Microsoft Excel template to use when importing activities and related data, such as activity relationships and resource assignments.

To download an import template:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) Select **Actions** ▼, select **Download Import Template**, and then select one of the following:
  - ▶ **Empty Template**: Use this template to create data.
  - ▶ **Template with Data**: Use this template to update the data that exists in the table.

## Tips

- ▶ Import functionality is only available for the current schedule.
- ▶ The top two rows of the worksheet are required when importing activities from a spreadsheet. You can delete unused columns, but do not change the data in these rows.
- ▶ Review the Instructions worksheet for helpful tips on populating the import template.

## Import Activities from Microsoft Excel

You can import activities and activity data into the application from a Microsoft Excel (.xls or .xlsx) file. After downloading the import template, follow the instructions to create or update activities in the spreadsheet. The import will fail if there are any invalid values in the spreadsheet. You can download the spreadsheet file to view and fix the errors indicated in the error column at the end of each worksheet, and then import the file again.

You must have sufficient privileges to perform this task.

To import activities from Microsoft Excel:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, select the **Actions** ▼ menu, and then select **Import**.
- 3) In the **Import Activities** dialog box, select **... Browse**, select a file, and select **Import**.

### Tips

- ▶ Import functionality is only available for the current schedule.

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## Cut or Copy and Paste an Activity

To save time entering activity data, the Activities table supports cut, copy, and paste operations. The cut operation enables you to easily move activities around in the table. This is useful for moving activities from one group to another, such as WBS or Code, or across projects in a program. Use the copy operation to duplicate activities in the table. You can cut or copy one or more activities at a time.

When you copy and paste activities, you can select the types of data to copy over to the new activities. You can also choose to renumber IDs of the pasted activities based on a configurable pattern. If the pattern you choose results in duplicate activity IDs, you will be prompted to enter a new activity ID for each conflicting activity. In a program, if you are cut or copy and pasting activities across projects, shared data that does not exist in the target project or its workspace will not be copied with the activity.

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**Note:** Activity and assignment costs may be included with your copied activities. It is recommended that you **recalculate activity costs** (on page 189) after copying activities to ensure all costs are up to date.

---

To cut or copy and paste activities:


- 1) **Navigate to the Activities page** (see page 337).
- 2) (Programs only) **Group the Activities table** (see "**Configure Grouping Options**" on page 324) by **WBS** or **Project**.
- 3) In the table, select one or more activity rows, select the ⚙️ **Context** menu, and then select **Cut** or **Copy**.
- 4) Select the row in the table where you want to paste the activity, select the ⚙️ **Context** menu, and then select **Paste**.

If you cut activities, they will be pasted immediately. If you copied activities, the **Paste Activity Options** dialog box will open.



- 5) In the **Paste Activity Options** dialog box, select the activity data to be pasted.
- 6) In the **Renumbering Options** section, in the **Renumber Activity IDs** list, select one of the following options, and then configure the option's settings:
  - ▶ **Increment Activity ID based on selected activities:** Enter a value that each pasted activity will be incremented by.  
Each pasted activity ID is incremented with an ID that begins after the largest existing ID with a matching prefix. For example, in a project with activity IDs A10, A30, and B50, copying all three activities and pasting them with an increment value of *10* will result in new activities with IDs A40, A50, and B60 because A30 and B50 were the largest existing IDs with matching prefixes.
  - ▶ **Auto-number:** Enter a prefix value, starting number, and increment value. The pasted activities will be numbered in the order that the copied activities appeared in the table.  
Each pasted activity ID is incremented with an ID that begins after the largest existing ID with a matching prefix. For example, in a project with activity IDs A10, A30, and B50, copying all three activities and pasting them with a prefix value of *A*, starting number of *1*, and increment value of *1* will result in new activities with IDs A31, A32, and A33 because A30 was the largest existing ID with a matching prefix.
  - ▶ **Replace beginning characters:** Enter the number of characters to replace starting from the beginning of the ID, and then enter the value that will replace the characters.  
For example, in a project with activity IDs A10, A30, and B50, copying all three activities and pasting them with the first character replaced by the letter *C* will result in new activities with IDs C10, C30, and C50.
- 7) Select **Paste**.
- 8) All changes made to this page are saved automatically.

### Tips

- ▶ Copy functionality is disabled while in a baseline.
- ▶ When pasting activities across group bands in a view, the new activity will assume the attribute of the group band into which it is pasted. For example, if an activity is copied or cut from a WBS1 grouping and pasted in a WBS2 grouping, the WBS attribute of the new activity will be changed to WBS2.
- ▶ To enter the same value in more than one field, select multiple fields in the same column, select the  **Context** menu, and then select **Fill Down**. Every field is filled with the first selected field value.
- ▶ Your security privileges control which attributes you can copy over to new activities.
- ▶ You can copy and paste up to 500 activities at the same time.
- ▶ When you copy and paste an activity with an assignment to a different project with different rates defined for the same resource or role, you must recalculate costs to update the rates for the assignment.

## Modify Activity Details

Activities represent the work to be performed in a project's schedule, but they also can be associated with many of the other objects that belong to the project, including files, resources, risks, roles, scope assignments, tasks, and work packages. In addition to the standard details that characterize an activity, you can modify details for the objects connected to the activity.

Activity details can be modified in a variety of areas on the Activities page, including the Activity table, detail windows, the Actions menu, the Gantt chart, and the context menu.

The following is a comprehensive list, grouped by subject area, of editable activity details. Many of the topics below are optional depending on your needs. Some of the topics can also be found in the **Resource-Loaded Scheduling Overview** (on page 196) procedure, which contains all of the necessary topics for using resource units and costs on the activities in your schedule.

### General

- ▶ **Assign an Owner to an Activity** (on page 131)
- ▶ **Assign an Activity to a WBS** (on page 132)
- ▶ **Assign a Calendar to an Activity** (on page 132)
- ▶ **Assign an Activity Type to an Activity** (on page 133)
- ▶ **Assign a Duration Type to an Activity** (on page 133)
- ▶ **Assign a Percent Complete Type to Activity** (on page 134)

### Status

- ▶ **Enter Activity Status Information** (on page 134)
- ▶ **Enter Activity Duration Information** (on page 135)
- ▶ **Enter Activity Units** (on page 136)
- ▶ **Enter Activity Costs** (on page 137)
- ▶ **Add a Constraint to an Activity** (on page 138)

### Resource Assignments

- ▶ **Assign a Role to an Activity** (on page 139)
- ▶ **Staff a Role Assignment** (on page 141)
- ▶ **Assign a Resource to an Activity** (on page 142)
- ▶ **Replace a Resource Assigned to an Activity** (on page 144)
- ▶ **Configure Assignment Calculation Options** (on page 145)
- ▶ **Assign a Curve to a Resource or a Role Assignment** (on page 146)

### Files

- ▶ **Add a File in a Files Detail Window** (on page 113)
- ▶ **Link a File to an Object** (on page 148)

### Relationships

- ▶ **Add a Relationship to an Activity** (on page 150)
- ▶ **View Relationships Using Trace Logic** (on page 152)

### Risks

- ▶ **Assign a Risk to an Activity** (on page 153)
- ▶ **Apply Activity Uncertainty** (on page 153)

#### Tasks

- ▶ **Add a Task to an Activity** (on page 155)

#### Scope

- ▶ **Associating Activities with Scope Assignments and Work Packages for Scope Management Overview** (on page 156)
- ▶ **Link a Work Package to an Activity** (on page 156)
- ▶ **Link a Scope Assignment to an Activity** (on page 157)

#### Codes

- ▶ **Assign a Code to an Activity** (on page 158)

#### Gantt Chart

- ▶ **Modify Activity Details in the Gantt Chart** (on page 158)

#### Renumber Activity IDs

- ▶ **Renumber Activity IDs** (on page 159)

#### Activity Deletion

- ▶ **Dissolve an Activity** (on page 160)
- ▶ **Delete an Activity** (on page 161)


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### Assign an Owner to an Activity

You can assign an owner to an activity to designate the user responsible for the activity.

The user who created the activity is automatically assigned as the owner.

To assign an owner to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **General** detail window.
- 4) In the **Owner** field, select a user to designate as the activity owner.
- 5) All changes made to this page are saved automatically.


#### Tips

- ▶ If your project is configured to enable status updates by activity owners, users who are assigned as owners to in-progress activities can use the **My Activities** page to update the status of activities.

### Assign an Activity to a WBS

All activities must be assigned to a WBS. Assign activities to a WBS to group work by level, phase, or layer. In scope management, you cannot assign activities to work packages or scope assignments unless the activity is assigned to the WBS that contains the component. If a specific WBS node is not selected when an activity is created, the activity is assigned to the project-level WBS node by default.

To assign an activity to a WBS:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **General** detail window.
- 4) In the **WBS Name** field, select a WBS.
- 5) All changes made to this page are saved automatically.

#### Tips


- ▶ From the **Activities** page or **WBS** page, you can copy WBS nodes from a project template or another project to your current project. See **Add a WBS from a Template or Other Project** (on page 109) for more information.
- ▶ On the Program **Activities** page, you can assign an activity to a WBS in a different project. This action will move the activity and its data to the destination project.
- ▶ An alternative method of assigning activities to a WBS is by applying a view to the page that groups activities by WBS and entering activity data under the appropriate grouping. All activities entered under a WBS grouping are automatically assigned to the WBS.

### Assign a Calendar to an Activity

The activity calendar controls the available workdays and daily work hours for an individual activity. New activities are assigned the default project calendar, but an activity's calendar can be changed to suit the needs of the activity.

If an activity's type is Resource Dependent, the activity's dates are calculated using the calendars associated with each resource or role assignment. Role assignments staffed with a resource use the resource's calendar. If the activity is any other activity type, or if there are no resource or role assignments on the activity, its dates are calculated using its assigned calendar.

To assign a calendar to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **General** detail window.
- 4) In the **Calendar** field, select a calendar to designate as the activity calendar.
- 5) In the **Select Calendar** dialog box, in the **Filter By** list, select **Project** to view calendars available at the project level, or **Workspace** to view calendars available at the workspace level.
- 6) Select a calendar, and then select **Select**.
- 7) All changes made to this page are saved automatically.

## Tips


- ▶ In the **Select Calendar** dialog box, select **Manage Calendars** to open the workspace or project **Calendars** dictionary page, depending on the value selected in the **Filter By** list.

## Assign an Activity Type to an Activity

An activity's type determines which assigned calendar will be used to calculate its start and finish dates during the scheduling process. Calendars specify valid working periods and nonworking periods such as weekends, holidays, and exception time.

If an activity's type is Resource Dependent, the activity's dates are calculated using the calendars associated with each resource or role assignment. Role assignments staffed with a resource use the resource's calendar. If the activity is any other activity type, or if there are no resource or role assignments on the activity, its dates are calculated using its assigned calendar.

To assign an activity type to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select an activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **General** detail window.
- 4) In the **Type** list, select an activity type:
  - ▶ **Activity Dependent:** Indicates the activity will be scheduled based on its calendar, rather than the calendars of any assigned resources or roles.
  - ▶ **Resource Dependent:** Indicates the activity will be scheduled based on the calendars of its resource and role assignments. Use this type when the activity duration may be affected by resource availability.
  - ▶ **Level of Effort:** Indicates the activity is ongoing with a duration determined by its dependent activities. The duration is calculated based on the schedule dates of its predecessors and successors. Administrative and support activities are typically designated as Level of Effort.
  - ▶ **Start Milestone:** Indicates the beginning of an important project phase. Activities of this type have a duration of zero and no resource assignments.
  - ▶ **Finish Milestone:** Indicates the end of an important project phase. Activities of this type have a duration of zero and no resource assignments.

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**Note:** With a milestone type selected, select **Program Milestone** to display the milestone in the **Program Milestones** (see "**Program Milestones Overview**" on page 186) view.

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- 5) All changes made to this page are saved automatically.

## Assign a Duration Type to an Activity

Activity duration types determine how remaining duration, units, and units/time are calculated when an activity with resource assignments is updated.

To assign a duration type to an activity:

- 1) **Navigate to the Activities page** (see page 337).

- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **General** detail window.
- 4) In the **Duration Type** list, select an option:
  - ▶ **Fixed Units/Time**: The resource units per time are constant when the activity duration or units are changed. Use this duration type when an activity has fixed resources with fixed productivity output per time period.
  - ▶ **Fixed Units**: The activity units are constant when the duration or resource units per time are changed. Use this duration type when the total amount of work is fixed, and increasing the resources can decrease the activity duration.
  - ▶ **Fixed Duration & Units**: The duration and units remain constant as the units/time is changed. Use this duration type when the activity must be completed within a fixed time period and the total amount of work is fixed.
  - ▶ **Fixed Duration & Units/Time**: The activity duration is constant as the units or resource units per time are changed. Use this duration type when the activity must be completed within a fixed time period regardless of the resources assigned.
- 5) All changes made to this page are saved automatically.

### Tips


- ▶ Resource or role curves are not supported by activities with the **Fixed Units** or **Fixed Units/Time** duration type. If you choose either of these duration types on an activity with curves, the curves will be automatically removed from the activity's assignments.

---

### Assign a Percent Complete Type to Activity

The percent complete type determines the way in which the application calculates the percent complete for an activity. Use the General detail window to assign percent complete types to activities.

To assign a percent complete type to an activity:


- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **General** detail window.
- 4) In the **Percent Complete Type** list, select an option:
  - ▶ **Physical**: Percent complete is manually entered by a user based on the amount of physical work completed on the activity.
  - ▶ **Duration**: Percent complete is calculated from the actual and remaining duration.
  - ▶ **Units**: Percent complete is calculated from the actual and remaining units.
  - ▶ **Scope**: The percent complete for the activity is derived from the scope percent complete of the linked scope assignments.
- 5) All changes made to this page are saved automatically.

---

### Enter Activity Status Information

Use the Status detail window to designate activities as in progress or completed, update start and finish dates, and update an activity's expected finish date.

To configure activity status information:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Status** detail window.
- 4) In the **Activity Status** section, complete the following fields:
  - ▶ **Start:** To enter or update the activity's start date, enter a date. To designate the activity as in progress, select the check box. The start date is now considered the actual start date, and the activity status is **In Progress**.
  - ▶ **Finish:** To enter the activity's finish date, enter a date. To designate the activity as completed, select the check box. The finish date is now considered the actual finish date, and the activity status is **Completed**. If an activity is marked complete, you cannot update the activity percent complete or expected finish fields.
  - ▶ **Activity Percent Complete:** Enter the percentage of work performed on the activity. If the activity's percent complete type is Duration, Units, or Scope, updating this field will also modify the corresponding duration, unit, or scope values. If the type is Physical, the percent complete can only be modified using this field.
  - ▶ **Expected Finish:** Set the date on which you anticipate work on the activity will finish.
- 5) All changes made to this page are saved automatically.

### Tip


- ▶ When activity date indicators are enabled, the Gantt chart and the Activities Table displays indicators for the Start and Finish dates of activities that have an actual start date, actual finish date, or assigned constraints. See **Configure Activity Date Indicators** (on page 106) to enable indicators.

---

### Enter Activity Duration Information

Activity durations are automatically calculated using the activity start and end dates and the project calendar. You can also manually enter activity duration information using the Status detail window.

To configure activity duration information:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Status** detail window.
- 4) Set the activity durations by completing the following fields:
  - ▶ **Planned Duration:** The expected amount of time required to complete the activity.
  - ▶ **Remaining Duration:** The total working time from the activity remaining start date to the remaining finish date.
  - ▶ **At Completion Duration:** The total working time from the activity's current start date to the current finish date.
- 5) All changes made to this page are saved automatically.

## Tips

- ▶ The **Actual Duration** is automatically computed and cannot be manually adjusted. It is calculated as the total working time from the Start date to the current date for in-progress activities. For completed activities, it is calculated as the total working time from the activity Start date to the Finish date.
- ▶ If the activity's percent complete type is Duration and the activity is in progress, modifying the duration information will also change the **Activity Percent Complete** value.



---

## Enter Activity Units

Units entered on an activity indicate the amount of effort that will be required to complete the work on the activity. Units can be defined at the activity level if you do not plan to assign resources or roles to your schedule, or you can enter units on individual resource and role assignments for each activity. If assignments exist on the activity, units entered at the activity level are distributed among assignments with the same type (Labor or Nonlabor) as the activity field. Units entered on assignments roll up to activity fields of the same type as the assignment.

In general, the work performed on any activity has a cost. The cost of your activities is determined by multiplying work units by the rate price of each work unit. Entering units on an activity or assignment may affect corresponding costs, and entering costs on an activity may affect its units. For a detailed explanation of unit and cost fields and the rules for entering values on these fields, see **Understanding Activity Units and Costs** (on page 199).

To enter activity units:

- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Layout** menu, select  **Activity Details**, and then select an activity in the table.
- 3) To enter units at the activity level, do either of the following:
  - ▶ In the table, enter cost, unit, or duration values in the appropriate fields. To add columns to the view, select the **+ Open Column Selector** icon in the column header or the  **Settings** icon in the page toolbar.
  - ▶ Select the **Status** detail window. In the header of the Units or Costs column, select the unit or cost type that you want to edit. To edit actual values, the activity must be In Progress or Completed. To edit duration values, update the values in the Duration column of the detail window.
- 4) To enter units at the assignment level, do the following:
  - a. Select the **Resource Assignments** detail window, and then select a resource or role assignment.
  - b. Modify cost, unit, duration, or units/time values for the assignment.
- 5) All changes made to this page are saved automatically.

## Tips

- ▶ If the activity's percent complete type is Units and the activity is in progress, modifying unit information will also change the **Activity Percent Complete** value.





## Enter Activity Costs

Activity costs enable project managers and other stakeholders to track the cost of a schedule as it progresses. Cost tracking is critical for billing and budgeting purposes to ensure that individual activities and the project as a whole are accurately cost loaded and meeting all cost requirements.

Depending on your organization's preferences, you may only be entering costs directly on the activity, or you may be entering costs for individual resource and role assignments. Where assignments exist, activity field values are distributed among its assignments of the same type (Labor, Nonlabor, Material) as the activity field. All assignment values roll up to the corresponding activity fields.

The cost of your activities is determined by multiplying work units by the rate price of each work unit. The **Calculate Costs from Units** setting controls the link between corresponding unit and cost fields. When enabled, costs and units are linked. When disabled, costs and unit values can be edited independent of each other. This setting can be set for each resource and role assignment. For a detailed explanation of unit and cost fields and the rules for entering values on these fields, see **Understanding Activity Units and Costs** (on page 199).

To enter activity costs:

- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Layout** menu, select  **Activity Details**, and then select an activity in the table.
- 3) To enter costs at the activity level, do either of the following:
  - ▶ In the table, enter cost, unit, or duration values in the appropriate fields. To add columns to the view, select the **+ Open Column Selector** icon in the column header or the  **Settings** icon in the page toolbar.
  - ▶ Select the **Status** detail window. In the header of the Units or Costs column, select the unit or cost type that you want to edit. To edit actual values, the activity must be In Progress or Completed. To edit duration values, update the values in the Duration column of the detail window.

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**Note:** You must have a **Default Price/Unit** value greater than 0 configured before you can enter costs on an activity with no resource or role assignments. This value is set at the **project level** (see "**Configure Calculation Settings for a Project**" on page 92).

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- 4) To enter costs at the assignment level, do the following:
  - a. Select the **Resource Assignments** detail window, and then select a resource or role assignment.
  - b. Enable or disable the **Calculate Costs from Units** setting, and then modify cost, unit, duration, or units/time values.
  - c. If you want to modify an assignment's **Price/Unit** value, ensure **Rate Source** is set to **Override**.
- 5) All changes made to this page are saved automatically.

## Tips

- ▶ Editing unit or cost values may cause other cost values to automatically recalculate. If you change an assignment's **Rate Source** or **Rate Type**, or enable its **Calculate Cost from Units** setting, you will be prompted to recalculate all costs based on the given units. For more information on recalculating costs, see **Recalculate Costs Overview** (on page 187).

---

## Add a Constraint to an Activity

Constraints are used to impose external restrictions on project activities. They are used in the scheduling process when calculating activity start and finish dates. You can use constraints for situations where activity relationships are not adequate to provide the logic necessary to properly schedule an activity. Constraints can also be used for an activity without a natural predecessor or successor.


You can add up to two constraints to an activity — a primary constraint and a secondary constraint. After a primary constraint is set on an activity, it determines the list of available secondary constraints that you can set on the activity.

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**Note:** You cannot set a secondary constraint on an activity if the primary constraint is Start On, Finish On, Mandatory Start, or Mandatory Finish.

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To add constraints to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Status** detail window.
- 4) In the **Primary Constraint** list, select a primary constraint:
  - ▶ **Start On:** Imposes the specific start date you select. The Start On constraint can delay an activity's early start or move forward an activity's late start to satisfy the constraint date.
  - ▶ **Start On or Before:** Defines the latest date an activity can start. This constraint only affects late dates and can decrease total float. When calculating a schedule, the application imposes the start on or before constraint in the backward pass only if the calculated late start date will be later than the imposed date.
  - ▶ **Start On or After:** Defines the earliest date an activity can begin. This constraint affects only early dates. When calculating a schedule, the application imposes the start on or after constraint in the forward pass only if the calculated early start date will be earlier than the imposed date.
  - ▶ **Finish On:** Imposes the specific finish date you select. The Finish On constraint can delay an activity's early finish or move forward an activity's late finish to satisfy the constraint date.
  - ▶ **Finish On or Before:** Defines the latest time an activity can finish. The finish on or before constraint affects only late dates.
  - ▶ **Finish On or After:** Defines the earliest date an activity can finish. The finish on or after constraint reduces float to coordinate parallel activities, ensuring that the finish of an activity is not scheduled before the specified date. It is usually applied to activities with few predecessors that must finish before the next phase of a project.

- ▶ **As Late As Possible:** Imposes a restriction on an activity with positive float to enable it to start as late as possible without delaying its successors. When calculating a schedule, the application sets the activity's early dates as late as possible without affecting successor activities. This option disables the calendar icon.
  - ▶ **Mandatory Start:** Imposes the early and late start dates you select. A mandatory early start date could affect the late dates for all activities that lead to the constrained activity and all early dates for the activities that lead from the constrained activity.
  - ▶ **Mandatory Finish:** Imposes the early and late finish dates you select. This constraint affects the late dates for all activities that lead to the constrained activity and all early dates for the activities that lead from the constrained activity.
- 5) In the **Primary Constraint Date** field, enter a date for the primary constraint.
  - 6) If your primary constraint selection allows for a secondary constraint, do the following to set a secondary constraint:
    - a. In the **Secondary Constraint** list, select a secondary constraint.
    - b. In the **Secondary Constraint Date** field, enter a date for the secondary constraint.
  - 7) All changes made to this page are saved automatically.

### Tip


- ▶ When activity date indicators are enabled, the Gantt chart and the Activities table display indicators for the Start and Finish dates of activities that have actual dates or assigned constraints. When the As Late As Possible constraint is selected, the constraint indicator is not displayed. See **Configure Activity Date Indicators** (on page 106) to enable indicators.

### Assign a Role to an Activity

Assign one or more roles to an activity to designate the job titles or skills that are required to complete the activity. You can assign workspace and project roles to activities. In long-range planning, it may be advisable to first identify and assign the roles required to work on the activity and then **staff the roles** (see "**Staff a Role Assignment**" on page 141) with the appropriate project resources at a later time.

If a resource or role is assigned to an activity without existing assignments, and the activity has unit and cost values, the values in fields of the same type as the new assignment will be overwritten by the assignment's corresponding values. For example, assigning a nonlabor resource will overwrite the activity's nonlabor unit and cost values. Depending on its type, an assigned resource can overwrite labor, nonlabor, or material values. Assigned roles always overwrite labor values. If a resource staffs a role, the values that are overwritten will depend on the resource's type.

To assign a role to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Resource Assignments** detail window.

- 4) In the **Role Name** column, double-click the empty field.
- 5) In the **Assign Roles** dialog box, in the **Filter By** field, select **Workspace** to view workspace roles or select **Project** to view project roles and workspace roles that have been assigned to the project level.



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**Note:** If a workspace role has not been assigned to the project level, assigning it to an activity will make it and any associated resources available at the project level. The role's workspace availability and rate details will also be made available at the project level and used on the assignment. After a workspace role is available at the project level, new role assignments will always use the role's rate values set for the project.

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- 6) Select a role.
- 7) To view the role's current allocation for the project, select **Show Details**.
- 8) Select **Assign**.
- 9) All changes made to this page are saved automatically.

### Tips

- ▶ You can assign roles to multiple activities at the same time. Select multiple activities, select the  **Context** menu next to a selected activity, hover over **Assign**, and then select **Roles**.
- ▶ Quickly see the roles assigned to your activities by adding the **Role Names** or **Role IDs** columns to the activity table. Double-click either of the fields to display up to 15 role assignments for an activity. You can also filter, group, and sort by these fields. If you make changes to a role's name or ID, or you add or delete role assignments using P6 XML import or Excel import, changes to the Role Names and Role IDs fields may not be immediately displayed. Refresh the Activities page to see your changes.
- ▶ To delete a role, select the  **Context** menu next to a role in the **Resource Assignments** detail window, and then select **Delete**. If all labor or nonlabor assignments have been deleted from an activity, you will be prompted to retain or delete all unit and cost values of that assignment type. Select **Yes** to reset all activity labor or nonlabor unit and cost values to 0. Select **No** to retain the activity labor or nonlabor unit and cost values. After all material resources have been removed, all activity material costs will be reset to 0.
- ▶ If an activity's type is Resource Dependent, the activity's dates are calculated using the calendars associated with each resource or role assignment. Role assignments staffed with a resource use the resource's calendar. If the activity is any other activity type, or if there are no resource or role assignments on the activity, its dates are calculated using its assigned calendar.
- ▶ Roles are assigned to activities with several configured default options for calculating assignment costs. For more information on modifying these options, see **Configure Assignment Calculation Options** (on page 145).

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## Staff a Role Assignment

Unstaffed roles are roles assigned to activities without an associated resource. This is often done during the early stages of project planning when the job responsibilities for an activity are known but not the specific resource who will perform the work. When you are ready to assign specific resources to activity role assignments, you can staff the role with a resource who has been associated with that role.

When staffing a role with a resource assignment, you may be prompted to choose which **Units/Time**, **Rate Source**, and **Price/Unit** values you want to use on the assignment, or it may occur automatically depending on your preferences. To configure or change these preferences, see **Configure the Assignment Settings Dialog Preference** (on page 105).

If a resource or role is assigned to an activity without existing assignments, and the activity has unit and cost values, the values in fields of the same type as the new assignment will be overwritten by the assignment's corresponding values. For example, assigning a nonlabor resource will overwrite the activity's nonlabor unit and cost values. Depending on its type, an assigned resource can overwrite labor, nonlabor, or material values. Assigned roles always overwrite labor values. If a resource staffs a role, the values that are overwritten will depend on the resource's type.

To staff role assignments:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Resource Assignments** detail window.
- 4) In the **Resource Assignments** detail window, select the  **Context** menu for a role, and then select **Staff Role**.
- 5) In the **Staff Role** dialog box, select a resource, and select **Select**.
- 6) If you are prompted to choose which **Units/Time**, **Rate Source**, or **Price/Unit** values to use on the assignment, make your selections from the options available, and then select **Save**.


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**Note:** The selected options will use the corresponding resource or role values set at the project level.

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- 7) All changes made to this page are saved automatically.

## Tips

- ▶ You can staff a role with a labor or nonlabor resource. Material resources cannot be associated with roles.
- ▶ To delete an assignment, select the  **Context** menu in the **Resource Assignments** detail window, and then select **Delete**. If all labor or nonlabor assignments have been deleted from an activity, you will be prompted to retain or delete all unit and cost values of that assignment type. Select **Yes** to reset all activity labor or nonlabor unit and cost values to 0. Select **No** to retain the activity labor or nonlabor unit and cost values. After all material resources have been removed, all activity material costs will be reset to 0.

- ▶ If an activity's type is Resource Dependent, the activity's dates are calculated using the calendars associated with each resource or role assignment. Role assignments staffed with a resource use the resource's calendar. If the activity is any other activity type, or if there are no resource or role assignments on the activity, its dates are calculated using its assigned calendar.
- ▶ Resources are assigned to activities with several configured default options for calculating assignment costs. For more information on modifying these options, see **Configure Assignment Calculation Options** (on page 145).

---



### Assign a Resource to an Activity

Assign one or more workspace and project resources to an activity to indicate the specific resources required to complete the activity. Resource may include labor, non-labor items such as equipment, and material items such as bricks. You can assign workspace and project resources to activities. If a role that is associated with the resource you want to assign is already assigned to the activity, you can choose to **staff the role** (see "**Staff a Role Assignment**" on page 141) with that resource rather than create a new activity assignment.

If you are replacing a current resource assignment with a different resource, you may be prompted to choose which **Units/Time**, **Rate Source**, and **Price/Unit** values you want to use on the assignment, or it may occur automatically depending on your preferences. To configure or change these preferences, see **Configure the Assignment Settings Dialog Preference** (on page 105).

If a resource or role is assigned to an activity without existing assignments, and the activity has unit and cost values, the values in fields of the same type as the new assignment will be overwritten by the assignment's corresponding values. For example, assigning a nonlabor resource will overwrite the activity's nonlabor unit and cost values. Depending on its type, an assigned resource can overwrite labor, nonlabor, or material values. Assigned roles always overwrite labor values. If a resource staffs a role, the values that are overwritten will depend on the resource's type.

To assign a resource to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Resource Assignments** detail window.
- 4) Select **Assign** to assign a new resource, or select the  **Context** menu next to an existing resource, and then select **Assign Resource** to replace it.
- 5) In the **Assign Resources** dialog box, in the **View By** list, select a method to view the list of resources.
- 6) In the **Filter By** field, select **Workspace** to view workspace resources or select **Project** to view project resources and workspace resources that have been assigned to the project level.

---

**Note:** If a workspace resource has not been assigned to the project level, assigning it to an activity will make it and any associated roles available at the project level. The resource's workspace availability and

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rate details will also be made available at the project level and used on the assignment. After a workspace resource is available at the project level, new resource assignments will always use the resource's rate values set for the project.

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- 7) Select a resource.
- 8) To view the resource's current allocation for the project, select **Show Details**.
- 9) Select **Assign**.



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**Note:** If the resource has an associated role marked as the primary role, the role will also be assigned to the activity.

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- 10) If you are prompted to choose which **Units/Time**, **Rate Source**, or **Price/Unit** values to use on the assignment, make your selections from the options available, and then select **Save**.
- 11) All changes made to this page are saved automatically.


### Tips

- ▶ You can assign resources to multiple activities at the same time. Select multiple activities, select the  **Context** menu next to a selected activity, hover over **Assign**, and then select **Resources**.
- ▶ Quickly see the resources assigned to your activities by adding the **Resource Names** or **Resource IDs** columns to the activity table. Double-click either of the fields to display up to 15 resource assignments for an activity. You can also filter, group, and sort by these fields. If you make changes to a resource's name or ID, or you add or delete resource assignments using P6 XML import or Excel import, changes to the Resource Names and Resource IDs fields may not be immediately displayed. Refresh the Activities page to see your changes.
- ▶ To delete a resource, select the  **Context** menu next to a resource in the **Resource Assignments** detail window, and then select **Delete**. If all labor or nonlabor assignments have been deleted from an activity, you will be prompted to retain or delete all unit and cost values of that assignment type. Select **Yes** to reset all activity labor or nonlabor unit and cost values to 0. Select **No** to retain the activity labor or nonlabor unit and cost values. After all material resources have been removed, all activity material costs will be reset to 0.
- ▶ If your project is configured to enable status updates by resource assignments, users who are assigned as resources to in-progress activities can use the My Activities page or Timesheets page to update the status of their resource assignment.
- ▶ If an activity's type is Resource Dependent, the activity's dates are calculated using the calendars associated with each resource or role assignment. Role assignments staffed with a resource use the resource's calendar. If the activity is any other activity type, or if there are no resource or role assignments on the activity, its dates are calculated using its assigned calendar.
- ▶ Resources are assigned to activities with several configured default options for calculating assignment costs. For more information on modifying these options, see **Configure Assignment Calculation Options** (on page 145).



## Replace a Resource Assigned to an Activity

Replace a resource assignment linked to an activity directly from the Activities page. If a resource becomes unavailable and cannot complete an activity, you can use the Activities page to select a new replacement resource and assign the new resource using the Replace Resource window. When a replacement resource is selected, the resource replaces the previous resource on selected activities. Replace resource is only available at the project level, and is not available for completed activities or milestones.

To replace a resource assigned to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) Select the  **Context** menu next to the activity, and then select **Replace Resource**.
- 4) In the **Select Resource to Replace** dialog box, choose the resource you want to replace, and then click **Select**.
- 5) In the **Replace Resource** dialog box, to reduce the number of resources listed, use any of the option listed to narrow your selection:
  - ▶ **View By:** Select **All Resources**, **Active Resources**, **Primary Role**, or **Resources - Codes**.
  - ▶ **Filter By:** Select to view resources in the **Workspace** or **Project**.
  - ▶ **Search:** Enter a name of a resource and select the resource from the list of results.
- 6) To review the availability of the resource, select a resource name, and then select **Show Details**.
- 7) Select **Assign**.
- 8) In **Assignment Settings** dialog box, select **Resource** or **Current assignment** to use as the units/time for the resource assignment. This option only displays if the resources assignment setting is set to **Ask**.
- 9) In the **Confirm** dialog box, select **Yes** to replace the resource. You may need to refresh the page and recalculate your project after the resource is replaced.
- 10) All changes made on this page are saved automatically.

### Tips

- ▶ If you do not see the Replace Resource option in the  **Context** menu, you may not have the correct security privileges and should contact your Application Administrator.
- ▶ You can replace resources for multiple activities at the same time. Select multiple activities, select the  **Context** menu next to a selected activity, and then select **Replace Resource**.
- ▶ If the resource assignment contains actuals, the replace resource process will complete but the resource will not be replaced. The activity and resource information is displayed in the Replace Resources Log in the **Not Updated** section of the **Results**.
- ▶ When a resource is replaced, you can select **View Log** in the notification or go to **Manage Services** ([https://docs.oracle.com/cd/E80480\\_01/help/en/user/151899.htm](https://docs.oracle.com/cd/E80480_01/help/en/user/151899.htm)) and view the Replace Resources Log.




## Configure Assignment Calculation Options

When an activity has resource and role assignments, the activity's costs are determined by the rates and units associated with its assignments. Each activity assignment has a Price/Unit rate value that is multiplied by the number of units on the assignment to determine the assignment's cost. All assignment units and costs roll up to the activity level. Activities without assignments use the default Price/Unit value set in the project settings to calculate activity costs.

There are a variety of options that you can configure to determine how an assignment's rate value is calculated. Because a single assignment can be associated with a resource, role, or both, you must choose which source the rate should come from. Because resources and roles can have multiple rates, you must also choose which rate type to use. The rate type selected for the assignment becomes the Price/Unit value. You can also choose to override the resource or role's defined rate and manually enter your own rate.

An additional option, Calculate Costs from Units, controls whether the assignment's costs should be calculated from its unit and rate values or whether units and costs should be calculated separately.

To configure assignment calculation options:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select an activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Resource Assignments** detail window.
- 4) Select a resource or role assignment, and then configure the following fields:
  - ▶ **Rate Source:** Identifies which of the assignment's rate types can be chosen as the Price/Unit value. If a resource or role with a defined availability period is directly assigned to the activity, the rate source will be either **Resource** or **Role**. If a resource is being used to staff an existing role assignment, or if you are replacing an existing resource assignment with a different resource, you will be prompted to use the resource's rate or keep the rate from the current assignment. Default options for this prompt can be configured in the *user preferences* (see "**Configure the Assignment Settings Dialog Preference**" on page 105).

You can switch between **Resource** and **Role** at any time as long as a resource or role is associated with the assignment. You can also choose **Override** if you want to update the Price/Unit value directly.

- ▶ **Rate Type:** Identifies which rate source rate, for the rate source's current availability period, to use as the assignment's Price/Unit value. If the rate source is Resource or Role, you can choose one of the rate source's five rate types. If the rate source is Override, the rate type value will be set to **Custom Rate** and the Price/Unit value must be updated directly.
- ▶ **Price/Unit:** The rate source's current rate based on its current availability period and specified rate type. This value is used to calculate costs for the activity assignment when **Calculate Costs from Units** is enabled.

If the rate source is Resource or Role, and a rate is not specified for the rate source's current availability period and rate type, or if the rate source's earliest start date falls before their earliest availability date, this value will be 0. If the rate source has multiple availability dates that fall within the assignment dates, an asterisk next to the Price/Unit value indicates that multiple rates will be applied during the duration of the activity.

If the rate source is Override, you can modify the Price/Unit value directly. If the assignment does not have any availability periods defined, the value will default to the project's default Price/Unit value.

- ▶ **Calculate Costs from Units:** When enabled, a change in activity units, assignment units, or assignment rates will be used to calculate the assignment's cost values, which will be read-only. When disabled, modifying units or rates will not affect assignment costs, and you will be able to modify assignment cost values directly.

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**Notes:**

- Default **Rate Type**, **Price/Unit**, and **Calculate Costs from Units** values can be specified for all new assignments in the *project settings* (see "*Configure Calculation Settings for a Project*" on page 92).
- Modifying the **Rate Source** or **Rate Type** values will recalculate costs if **Calculate Costs from Units** is enabled. Enabling **Calculate Costs from Units** will also recalculate costs. See *Recalculate Costs Overview* (on page 187) for more information on recalculating costs.

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5) All changes made to this page are saved automatically.

**Tips**

- ▶ The configuration of resource and role availability periods and rate types are configured in the workspace or project where the resource or role is owned. See *Resource List Overview* (on page 258) and *Role List Overview* (on page 281) for more information.

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**Assign a Curve to a Resource or a Role Assignment**

A curve profile can be selected per activity assignment to allocate resource or role units over the duration of an activity according to a specific curve. Units spread are Planned Units, Actual Units, Remaining Units, and At Completion Units.

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**Note:** Curves may cause an assignment's costs to be recalculated if the assignment's **Calculate Costs from Units** setting is enabled.


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A curve profile can be assigned to any resource or role assignment on activities with one of the following duration types:

- ▶ Fixed Duration & Units/Time
- ▶ Fixed Duration & Units

To specify a curve profile:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.

- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Resource Assignments** detail window.
- 4) In the **Curve** column for the resource assignment, select a curve.
- 5) All changes made to this page are saved automatically.

---

### Working with Activity Files

You can link files from the project library to project activities to provide team members with access to relevant documentation to aid in the completion of activities. You can also upload new files to add to the project library and link to activities.

Members of your project team can add, delete, and edit activity files based on their assigned security privileges.

#### Add a File in a Files Detail Window

Use the Files detail window to add relevant files that support your data. For example, you might add architectural drawings, pictures, or product specifications to activities on the Activities page.

The following objects support the Files detail window:

- ▶ Activities
- ▶ CBS
- ▶ Funds
- ▶ Fund Sources
- ▶ Logs
- ▶ PBSs
- ▶ Portfolio Funds
- ▶ Projects
- ▶ Project Funds
- ▶ Risks
- ▶ Scope Assignments
- ▶ Scope Items
- ▶ Strategies
- ▶ Submittals
- ▶ Task Constraints
- ▶ WBSs
- ▶ Work Packages

To add a file in a Files detail window:

- 1) Navigate to a page whose object supports files.
- 2) In the table, select an object row, and then select the **Files** detail window.

---

**Note:** A screen reader will read the Files detail window as **File Attachments**.

---

- 3) In the **Files** detail window, select **+ Add**.

- 4) In the **Add File** dialog box, in the **Select Folder** section, select a folder in the project library.
- 5) In the **File** field, select **... Browse**, and then select one or more files.
- 6) Select **Upload**.

### Tips

- ▶ Use the projects inventory panel to add files at the project level. This enables you to link a file to one or more objects in the project, such as activities, WBSs, or risks.
- ▶ Files that you add in the **Files** detail window can also be accessed from the project **File List** page.
- ▶ Built-in virus scanning functionality automatically scans your files during upload and check in. If an issue is detected with a file, you are notified and the contents of the file are deleted from the database. You can upload another version of the file that is not corrupted. You can't preview a file until virus scanning is completed and you refresh the page.

### Link a File to an Object

You can link existing files to objects contained within a project instead of adding them to each object. Linking ensures the same version of a file is used everywhere that it is linked. The application enables you to associate files in the Files detail window of the object. The files are still available from the File List page at the project level.

The following objects support the Files detail window:

- ▶ Activities
- ▶ CBS
- ▶ Funds
- ▶ Fund Sources
- ▶ Logs
- ▶ PBSs
- ▶ Portfolio Funds
- ▶ Projects
- ▶ Project Funds
- ▶ Risks
- ▶ Scope Assignments
- ▶ Scope Items
- ▶ Strategies
- ▶ Submittals
- ▶ Task Constraints
- ▶ WBSs
- ▶ Work Packages



To link a file to an object:

- 1) Navigate to a page whose object supports files.
- 2) In the table, select an object row, and then select the **Files** detail window.


---

**Note:** A screen reader will read the Files detail window as **File Attachments**.

---

- 3) In the **Files** detail window, select  **Link**.
- 4) In the **Link File** dialog box, select a file, and select  **Add from Available**.  
You can select one or more files to link.
- 5) Select **OK**.

### Tips

- ▶ Use the projects inventory panel to add files at the project level. This enables you to link a file to one or more objects in the project, such as activities, WBSs, or risks.
- ▶ To remove a linked file, select the file, select the  **Context** menu, and select **Unlink**.

### Preview a File

Preview a file in the application before deciding if you want to check out and edit the file. You can preview a file from anywhere in the application by selecting the name of the file.

### Tips

- ▶ Oracle Primavera Cloud supports the preview of .mp4 and .ogg video file types and .mp3 and .wav audio file types. You must download other video and audio file types to preview them.
- ▶ Virus scanning is completed on all files uploaded or checked in to the application. You can't preview a file until virus scanning is completed and you refresh the page.



### Check Out a File

Because files are shared, you are required to check them out and in to make updates to them. Checking out a file enables you to download it to your local machine where you can make edits and create a new version of the file. When you are finished updating the file, you can check it in so the new version of the file is saved to the project, portfolio, program, or idea library and available to other team members. You can check out a file from the File List page or a Files detail window.

To check out a file:

- ▶ In a file row, select the  **Context** menu, and then select **Check Out**.


### Tips

- ▶ Files are downloaded or opened depending on the file opening procedures of your browser. Files that are still pending virus scan can be downloaded or checked out. The application will ask you to confirm before you download or check out an unscanned file.
- ▶ All users may view a checked out file, but only the user who has checked out the file may modify it until it is either checked in or check out is canceled.
- ▶ When files are checked out,  **Checked Out** displays next to the filename.
- ▶ The person who checked out a file or the project-level File Administrator can cancel a check out. When a check out is canceled, the file will reflect no changes. To cancel a file check out, select the  **Context** menu and select **Cancel Check Out**.

## Check In a File

After you have finished editing a checked-out file, you must check it in to save the new version of the file to the project, portfolio, program, or idea library. You can check in a file from the File List page or a Files detail window.

To check in a file:

- 1) In a file row, select the  **Context** menu, and then select **Check In**.
- 2) In the **Check In** dialog box, select **... Browse**, select the file, and then select **Upload**.

## Tips

- ▶ You can add comments about the file in the **Check In** dialog box from the **File List** page. For example, you may want to record the changes you made to the file.
- ▶ After you check in a file, you can view previous versions of it in the **Versions** detail window on the **File List** page.
- ▶ Built-in virus scanning functionality automatically scans your files during upload and check in. If an issue is detected with a file, you are notified and the contents of the file are deleted from the database. You can upload another version of the file that is not corrupted. You can't preview the most recent version of the file until virus scanning is completed and you refresh the page.


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## Add a Relationship to an Activity

An activity can have as many relationships as necessary to model the work that must be done. Activities that are dependent on one another are known as predecessors and successors, where the first activity is the predecessor and the second is the successor.

You can define cross-project relationships between activities in projects that are in the same program. These are also called external relationships. The first time you assign an external relationship between two projects, you must be on the program Activities page. After you've created an external relationship between two projects, then the assigned activity from the external project becomes available to be assigned on the project Activities page. If you remove the external relationship assignment, then the activity from the other project that was assigned will no longer be available on the project Activities page.

To add relationships to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Relationships** detail window.
- 4) To add activity predecessors, do the following:
  - a. In the **Predecessors** section, select **Assign**.
  - b. In the **Assign Relationships** panel, in the **Assign Predecessors** section, search or browse for an activity, select the activity, and then select **+ Assign Predecessors**. You can also double click activities to assign them as predecessors. Assigning an activity as a predecessor will add it to the **Predecessors** section of the **Relationships** detail window.

- c. Select **×** **Close** in the **Assign Relationships** panel.
- 5) To add activity successors, do the following:
  - a. In the **Successors** section, select **Assign**.
  - b. In the **Assign Relationships** panel, in the **Assign Successors** section, search or browse for an activity, select the activity, and then select **+** **Assign Successors**. You can also double click activities to assign them as successors. Assigning an activity as a successor will add it to the **Successors** section of the **Relationships** detail window.
  - c. Select **×** **Close** in the **Assign Relationships** panel.
- 6) In the **Relationships** detail window, in the **Relationship Type** field for a predecessor or successor activity, choose the option that best defines how the selected activity relates to the start or finish of the predecessor or successor activity.
- 7) In the **Lag** field, enter the amount of lag time needed between the two activities. Values can be positive or negative.
- 8) All changes made to this page are saved automatically.

### Tips

- ▶ You can unassign a predecessor or successor activity by selecting an activity in the **Assign Relationships** panel and selecting **— Unassign Predecessors** or **— Unassign Successors**.
- ▶ In the **Relationships** detail window, in the **Predecessors** or **Successors** section, select an activity name. This will select the activity in the table and display that activity's predecessors and successors in the detail window. If an activity is hidden by a filter, select the **?** **Help** icon next to an activity in the detail window, and then select **Clear All Filters**. If you select **Assign Predecessors** or **Assign Successors** from the detail window, then the relationship between the original activity and the selected activity will be highlighted in the **Assign Relationships** panel.
- ▶ In the Relationships detail window, in the **Predecessors** or **Successors** section, you can view important information for each activity such as **Name**, **ID**, **Relationship Type**, **Start** date, **Finish** date, and **Activity Status**. When activity date indicators are enabled, the table displays indicators for the Start and Finish dates of activities that have an actual start date, actual finish date, or assigned constraints. To enable this feature, see **Configure Activity Date Indicators** (on page 106).
- ▶ You can quickly create a sequence of activities by adding relationships to multiple activities at one time. In the table, select multiple activities, select the **⚙** **Context** menu, and then select **Link Activities**. Finish to Start relationships are created between selected activities in the order that the activities were selected. To remove all relationships between activities, select the activities, select the **⚙** **Context** menu, and then select **Unlink Activities**.
- ▶ You can assign the same predecessors or successors to multiple activities at the same time. Select multiple activities, select the **⚙** **Context** menu, hover over **Assign**, and then select **Predecessors** or **Successors**. This will open the **Assign Relationships** panel where you can select predecessor or successor activities for the chosen activities.
- ▶ You can assign the same activity as a predecessor or successor more than once by assigning it with a different Relationship Type.







- ▶ Click and drag the divider between the **Assign Predecessors** and **Assign Successors** sections of the **Assign Relationships** panel to enlarge or decrease each section.
- ▶ Select the **Trace Logic** detail window to trace the relationship paths of individual activities.

---

### View Relationships Using Trace Logic

In projects with complex sequences of activity relationships, you can use the Trace Logic detail window to trace the path of relationships and view activity predecessor, successor, and other relationship details. In the detail window, adjust the zoom and fit of the display, as well as the number of activities shown. Select different activities in the detail window to trace the path of their relationships.


To view relationships using Trace Logic:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select an activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Trace Logic** detail window.
- 4) In the **Trace Logic** detail window, configure the following settings:
  - ▶  **Pan**: Depending on your predecessor and successor settings, selecting an activity can change the trace logic display. Use Pan to move the display in any direction without selecting an activity.
  - ▶  **Zoom Out**: Zoom out of the displayed sequence of activities.
  - ▶  **Zoom In**: Zoom in on the displayed sequence of activities.
  - ▶  **Zoom to Fit**: Adjusts the view to display all activities in the sequence. Hover over an activity to view it at normal size.
  - ▶  **Print**: Displays the trace logic sequence in a browser print preview window.
  - ▶ **Predecessor Levels**: The maximum number of predecessor levels to display before the selected activity.
  - ▶ **Successor Levels**: The maximum number of successor levels to display after the selected activity.
- 5) Select activities to view their relationship sequences. Activities selected in the detail window are also selected in the table. Select a relationship line to view its details.

### Tips

- ▶ The following indicators are used in the **Trace Logic** detail window:
  - ▶ Critical activities and relationships are represented using red tiles, red borders, and red lines. Activity tiles on the critical path display an exclamation point icon.
  - ▶ Non-critical activity tiles are white, and non-critical relationship lines are black.
  - ▶ Solid lines indicate a driving relationship, while dotted lines indicate a non-driving relationship.
  - ▶ Completed activities display a completed icon in their tiles. Start or finish milestones display a diamond in their tiles.



- ▶ Select  **Download** beneath the diagram to download the displayed sequence as a .png file.


---

### Assign a Risk to an Activity


If your project team has identified risks in the project risk register, you can use the Risks detail window to assign risks to an activity. Assigning risks to an activity enables you to indicate where in the project schedule a risk can potentially impact.

This information is also used during the risk analysis process to simulate the impact of risk on project activities during the simulation runs. The risk analysis generates risk-related data for each activity that is saved in the system. Risk data that are calculated for activities during the analysis include pre-response and post-response activity dates and durations, as well as a criticality index, which measures the probability that an activity will be part of the critical path. This data can be displayed in the Activities view as fields or as bars in the Gantt chart to identify activities that require special attention.

To assign risks to an activity:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Risks** detail window.
- 4) Select **Assign**.
- 5) In the **Select Risk** dialog box, search or browse for the risk, select it, and then select **Select**.
- 6) All changes made to this page are saved automatically.

### Tips

- ▶ You can assign risks to multiple activities at the same time. Select multiple activities, select the  **Context** menu, hover over **Assign**, and then select **Risks**.

---

### Apply Activity Uncertainty

The application enables you to convey information about general uncertainty for each project activity by defining two- or three-point duration estimates. This data is used during the risk analysis process to simulate varying durations for each activity.

Uncertainty can be applied using the Apply Activity Uncertainty automated process or by manually updating individual activity values in the table. For either method, first choose a distribution shape that expresses the relative likelihood of outcomes within the range of your duration estimates. A **Uniform** shape enables you to set minimum and maximum duration estimates, while a **Triangle** duration shape enables you to set minimum, most likely, and maximum duration estimates. You can also select **None** if you do not want to apply estimates. This is the default option.

In the automated process, estimates are entered as a percentage of each activity's remaining duration. The automated process enables you to apply these percentage values to all activities, filtered activities, or selected activities. If you want to update activities individually, or if you want to overwrite specific activity values after using the automated process, use the columns in the table to choose a distribution shape for each activity, and then set duration estimate values based on the chosen shape. In the table, duration estimates are entered as duration values, not percentages. To update a selection of activities, add grouping bands to the view, and then update the appropriate uncertainty columns within each group.

Applying activity uncertainty can be performed using either method from the project **Activities** page. You can also run the automated process from the project **Risk Register** page. When you run the automated process from the Risk Register page, you can only apply the percentage values to all activities.

To apply activity uncertainty to project activities:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) To apply activity uncertainty using the automated process, select the **Actions** ▼ menu, and then select **Apply Activity Uncertainty**.
- 3) In the **Apply Activity Uncertainty** dialog box, complete the following steps:
  - a. In the **Apply to Activities** section, select one of the following:
    - **All**: Apply the activity uncertainty to all activities in the schedule.
    - **Filtered**: Apply the activity uncertainty only to the activities that are currently filtered on the Activities page.
    - **Selected**: Apply the activity uncertainty only to the activities you have selected on the Activities page.

---

**Note:** Options for the **Apply to Activities** section may vary depending on the filters and selections on the Activities page.

---

- b. Select the **Overwrite any existing values** option to overwrite all estimate values that currently exist for project activities. If this option is disabled, only activities with a distribution shape of **None** will be updated.
- c. In the **Uncertainty Distribution** list, select the shape of the distribution that best models the estimates for activity durations. The duration fields available for you to edit depends on the selected shape.
- d. In the **Percent of Remaining Duration** section, complete the following fields:
  - **Minimum Duration**: The percentage of the activity remaining duration that represents the minimum duration for the activity.
  - **Most Likely Duration**: The percentage of the activity remaining duration that represents the most likely duration for the activity.
  - **Maximum Duration**: The percentage of the activity remaining duration that represents the maximum duration for the activity.

---

**Note:** Any duration set to 100% will be equal to an activity's remaining duration.

---

- e. Select **Apply**.

- 4) To apply or overwrite activity uncertainty for individual activities, update activity values using the **Uncertainty Distribution**, **Minimum Duration**, **Most Likely Duration**, and **Maximum Duration** columns in the table. A distribution shape of **Uniform** or **Triangle** must be chosen before the duration estimate fields can be edited.

### Tips


- ▶ The risk analysis process uses activity data from the current schedule. Although you can apply activity uncertainty to activities in baselines and scenarios, this data is not used in the risk analysis. The activity uncertainty values set in a baseline or scenario would be used if you choose to set the baseline or scenario as the current schedule.
- ▶ Entering uncertainty estimates can be helpful for modeling general uncertainty for project activities. However, it only plays a small part in assessing project uncertainty, as project risks can be more impactful to the project schedule. Therefore, your project team should develop an effective risk management strategy for assessing and controlling the risks for your project.

### Add a Task to an Activity

Add tasks and task milestones to your activities to further enhance the level of detail of work required to complete your project. Add tasks to activities with a Type of Activity Dependent or Resource Dependent and assign the company responsible for completing work on the task. Optionally, assign a task duration, due date, proposed due date, completed date, and a user responsible for performing the task. When tasks are added, indicators show if task dates fall outside of activity date ranges, if tasks are completed before their assigned activity, or if an activity is completed before all of its assigned tasks.

Tasks added to your activities on the Activities page will also appear on pages in the Tasks app, where you can choose to commit to work on the task or mark the task complete. Existing tasks that have been assigned to activities in the Tasks app appear in the Tasks detail window for the selected activity. Tasks that have hand-offs with other tasks cannot be edited in the Tasks detail window.

To add a task to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Tasks** detail window.
- 4) In the **Tasks** detail window, select **+ Add**.
- 5) In the new row, complete the following required fields:
  - ▶ **Task Name**: Enter a task name.
  - ▶ **Type**: Select **Task** or **Task Milestone**.
  - ▶ **Company**: Select a company.
  - ▶ **Duration**: Enter a task duration.
- 6) All changes made to this page are saved automatically.

### Tips

- ▶ Data in the **Tasks** detail window can only be edited in the current schedule.

## Associating Activities with Scope Assignments and Work Packages for Scope Management Overview

If you use the application to manage your schedule and manage scope assignments, you can link your activities to scope assignments and work packages.

The activity and the work package must be associated with the same WBS. An activity can only be assigned to one work package, but it can be assigned to multiple scope assignments within the work package.

---

**Note:** Schedule costs and scope costs are calculated separately. Linking a work package or scope assignment with an activity won't link the costs.

---

Scope assignments and work packages inherit dates from their associated activities. When activities are linked to a work package or its associated scope assignments, the Original Start and Original Finish dates are set to reflect the activity's Planned Start and Planned Finish dates before the baseline is set. After the baseline is set, the Original Start and Original Finish dates are set to read-only and the Planned Start and Planned Finish dates for the work package and scope assignments are updated with the activity's Planned Start and Planned Finish dates. For work packages that have scope assignments with activity links, this is the earliest start and finish dates set for all scope assignments within the work package.

---

**Note:** The following dates do not inherit values from activities: Revised Start/Finish, Effective Start/Finish, and Installed Start/Finish.

---

Unlinking activities from scope assignments or work packages will do the following:

- ▶ Reset the Original Start and Planned Start dates with the Data Date before the baseline is set. Reset the Planned Start dates with the Data Date after the baseline is set.
- ▶ Reset the Original Finish and Planned Finish dates with the Data Date plus 4 days, excluding holidays, before the baseline is set. Reset the Planned Finish dates with the Data Date plus 4 days, excluding holidays, after the baseline is set.

Unlinking a scope assignment will not unlink its work package from the activity.

### Link a Work Package to an Activity


Link work packages to activities when you want to manage work package dates using activity dates.

---

**Note:** Schedule costs and scope costs are calculated separately. Linking a work package or scope assignment with an activity won't link the costs.

---

To link an activity to a work package:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **General** detail window.
- 4) In the **Work Package Name** field, select a work package.

---

**Note:** You can only link an activity to a work package that belong to the

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same WBS that is associated with the activity.



- 5) All changes made to this page are saved automatically.

### Link a Scope Assignment to an Activity

Link scope assignments to activities when you want to manage scope assignment dates using activity dates. This enables you to more accurately manage the time phased distribution of scope data for scope assignments.

**Note:** Schedule costs and scope costs are calculated separately. Linking a work package or scope assignment with an activity won't link the costs.

To link an activity to a scope assignment:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Scope Assignments** detail window.
- 4) Select  **Link**.
- 5) In the **Select Scope Assignments** dialog box, select a scope assignment and select **Link**.
- 6) In the **Scope Percent Complete Weight Method** list, select a method to use to calculate the scope percentage completion for scope assignments. The weight is calculated using cost, quantity, hours, or manually entered values.

Cost, Quantity, and Hours are represented as  $n$  in the equations that follow:

The  $n$  weight is first calculated for each scope assignment linked to the activity as **Revised  $n$**  multiplied by the scope assignment **Scope Percent Complete**.

**Scope Percent Complete** is calculated as **Installed Quantity** divided by **At Completion Quantity**.

The sum of the scope assignments **Revised  $n$**  and the sum of the scope assignments  **$n$ Weight** for all scope assignments linked to the activity are then used to compute the activity **Scope Percent Complete**. This is calculated as the  **$n$  Weight** divided by **Revised  $n$** .

Weight for the **Manual** option is calculated as **Manual Weight Factor** multiplied by **Scope Percent Complete**.

**Scope Percent Complete** at the work package level for the manual option is calculated as the sum of **Manual Weight** divided by the sum of **Manual Weight Factors** for all scope assignments in the work package.

- 7) All changes made to this page are saved automatically.


### Tips

- ▶ You can link multiple scope assignments to a single activity. However, a scope assignment can only be linked to a single activity.
- ▶ You can set a default scope percent complete method by configuring it in the project settings.


### Assign a Code to an Activity

Assign codes to activities to help track them based on attributes they share. When managing a large number of activities, you can use views to filter and group activities by code. You can assign workspace-level and project-level codes to activities.

To assign a code to an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the **Layout** menu, select  **Activity Details**, and then select the **Codes** detail window.
- 4) Select **Assign**.
- 5) In the **Select Code** dialog box, in the **Filter By** list, select **Workspace** to view activity codes available at the workspace level, or **Project** to view activity codes available at the project level.
- 6) In the **Available** section, select codes and select **Add from Available** to add them to the **Selected** section.
- 7) Select **Select**.
- 8) All changes made to this page are saved automatically.

### Tips

- ▶ You can assign codes to multiple activities at the same time. Select multiple activities, select the  **Context** menu, hover over **Assign**, and then select **Codes**.
- ▶ You can add new activity code values during code assignment. In the **Select Code** dialog box, select a code value in the **Available** section, and then enter a **New Code Value Name** and a **New Code Value ID**. Select the **+ Add ▼** button to add the new code as a sibling to the selected code value, or select the **+ Add ▼** menu to add the code as a child to the selected code value. To use this method, at least one code must already exist in the Available section.


Depending on the value selected in the **Filter By** list, code values will be added to the workspace or project Codes dictionary. Select **Manage Codes** to open the applicable dictionary page.

---

### Modify Activity Details in the Gantt Chart

You can modify a variety of activities and relationship details directly in the Activities page Gantt chart. Create activities, adjust durations and dates, and establish relationships between activities. Add lag to relationships, or modify the relationship type. Hover over an activity or relationship line to view its details.

To modify activity details in the Gantt chart:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select the  **Gantt** icon.
- 3) In the **Gantt** chart, you can make the following changes:
  - ▶ To create an activity, right-click a row, and select **Add Above** or **Add Below**. Enter an activity name.

- ▶ To modify an activity's start or finish date and its duration, select the left edge or right edge of an activity bar and drag it to a new date. The new date and duration are shown next to the bar as you drag it.
  - ▶ To modify an activity's start and finish dates without changing its duration, select the middle of the bar and drag it to a new date. The new start and finish dates are shown next to the bar as you drag it.
  - ▶ To delete an activity, right-click an activity bar, and select **Delete Activity**.
  - ▶ To create a relationship, hover over the left edge or right edge of an activity bar. Select the circle that appears and drag it to an edge of a different activity bar. A popover shows the proposed relationship and its type.
  - ▶ To edit an existing relationship, select a relationship line, and then select **Edit Relationship**. In the popover, edit the relationship type and lag, and then select **Apply**.
  - ▶ To delete an existing relationship, right-click a relationship line, and then select **Delete Relationship**.
  - ▶ Drag any activity bar past the data date line to set a **Start On or After** constraint.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ You cannot add an activity while in a baseline.
- ▶ You can select multiple activity bars and edit their durations or dates at the same time.
- ▶ Milestone start or finish dates cannot be modified in the Gantt chart.
- ▶ When activity date indicators are enabled, the Gantt chart displays indicators for the Start and Finish dates of activities that have actual dates or if the activity has assigned constraints. See **Configure Activity Date Indicators** (on page 106) to enable indicators.


### Renumber Activity IDs

You can quickly renumber a group of activity IDs based on a repeatable pattern. Choose to increment individual IDs by a specific numeric value, auto-number IDs in sequence based on a prefix and number pattern, or replace the beginning characters of all selected IDs with the same value.

If the option you choose causes duplicate activity IDs, you will be prompted to enter a new activity ID for each conflicting activity. You can also cancel the process and try again with a different pattern that does not cause duplicates.

To maintain consistent activity IDs across baselines, you can choose to renumber the selected IDs in the current schedule and all of your project's baselines. If renumbering the IDs will cause duplicates in any baselines, you can either cancel the renumbering process or update the current schedule and any baselines where duplicates will not occur.

To renumber activity IDs:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select one or more activities, select the  **Context** menu, and then select **Renumber Activity IDs**.

- 3) In the **Renumber Activity IDs** dialog box, choose one of the following options:
  - ▶ **Increment Activity ID based on selected activities:** Enter a value that each selected activity ID will be incremented by.
  - ▶ **Auto-number:** Enter a prefix value, starting number, and increment value. The selected activities will be updated in the order that they were selected.
  - ▶ **Replace beginning characters:** Enter the number of characters to replace starting from the beginning of the ID, and then enter the value that will replace the characters.
- 4) Select **Renumber selected activities in baselines** if you want to also renumber the selected IDs in any baselines where they appear. This option is only displayed if your project has at least one baseline.
- 5) Select **OK**.
- 6) All changes made to this page are saved automatically.

### Tips

- ▶ In the context of a program, you can renumber a selection of activity IDs that belong to a single project.
- ▶ You can also renumber activity IDs in a scenario.
- ▶ You can renumber up to 500 activity IDs at the same time.

---

### Dissolve an Activity


Dissolving an activity enables you to delete the activity from your project schedule while maintaining the activity's predecessor and successor relationships.

When you dissolve an activity, the following changes occur:

- ▶ The activity is deleted.
- ▶ Relationships are created from each of the activity's predecessors to each of the activity's successors.
- ▶ The resulting relationship type consists of the first part of the predecessor relationship and the second part of the successor relationship.
- ▶ Lag from the combined relationships is added together.

For example: Activity A forms a Finish to Start relationship with Activity B, with 1 day of lag. Activity B forms a Finish to Finish relationship with Activity C, with 2 days of lag. If Activity B is dissolved, then Activity A will form a Finish to Finish relationship with Activity C, with 3 days of lag.

To dissolve an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select an activity, select the  **Context** menu, and then select **Dissolve**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ To dissolve an activity, it must have at least one predecessor and one successor relationship.
- ▶ To delete an activity and its relationships, see **Delete an Activity** (on page 161).




---

## Delete an Activity

Delete an activity to remove it from your project schedule.

To delete an activity:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select an activity, select the  **Context** menu, and then select **Delete**.
- 3) All changes made to this page are saved automatically.

### Tips


- ▶ Deleting an activity also deletes any predecessor or successor activity relationships. To delete an activity while retaining its surrounding relationships, you can dissolve the activity. See **Dissolve an Activity** (on page 160) for more information.

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## Add a Discussion

Discussions provide a way for team members to communicate and exchange information on a wide variety of objects including activities, costs, resources, risks, scope assignments, tasks, and more. Comments are saved with the object and are available to all team members with the required security privileges. You can use the Discussion feature to collaborate throughout the application.

To add a discussion:

- ▶ Select  **Discuss** to open the Discussion panel.

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**Note:** If no comments have been posted to the Discussion panel, the  **Discuss** icon is empty.

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To post a new comment:

- ▶ In the **Post a comment** field, enter a comment, and select **Post**.

To reply to a comment:

- ▶ Select **Comment**.
- ▶ In the **Post a reply** field, enter a reply, and select **Reply**.

### Tips

- ▶ A user mention sends a notification to the user inviting them to join the discussion. To mention a user, enter @<FirstNameLastName> or @<username> and select the user.
- ▶ You can resize the Discussion panel by selecting the left edge of the panel and dragging to the desired size.
- ▶ You cannot edit or delete a posted comment.
- ▶ Select **Like** to show that you approve or support a comment. Select **Unlike** to remove your Like.
- ▶ You can choose to show or hide the discussion icon in a table. Select the  **Settings** icon and, in the **Standard Column Options** section, select the **Show Discussion Indicator** option.

## Activities Page Tools

The Activities page contains a collection of tools and features for monitoring, analyzing, and scheduling your project.

- ▶ **Activity Usage** (see "**Activity Usage Overview**" on page 162): View the time-phased usage of your project activities in the activity usage histogram.
- ▶ **Baselines** (see "**Baselines Overview**" on page 167): Capture your schedule at a given point in time, evaluating performance at different phases of the project lifecycle.
- ▶ **Earned Value** (see "**Earned Value Overview**" on page 173): Measure schedule and budget current progress and estimates to complete against an initial project plan.
- ▶ **Global Change** (see "**Global Change Overview**" on page 181): Create If/Then statements to identify and update matching project activity values quicker than modifying activities individually.
- ▶ **Leveler** (see "**Leveling Overview**" on page 184): Resolve resource and role assignment overallocations.
- ▶ **Program Milestones** (see "**Program Milestones Overview**" on page 186): View how the projects in your program are progressing according to their milestones.
- ▶ **Recalculate Costs** (see "**Recalculate Costs Overview**" on page 187): Update activity and assignment cost values as your project progresses and data becomes outdated.
- ▶ **Resource and Role Usage** (see "**Resource and Role Usage Overview**" on page 189): View resource and role units and costs across your project's timeline using histograms and spreadsheet data.
- ▶ **Resource-Loaded Scheduling** (see "**Resource-Loaded Scheduling Overview**" on page 196): Plan your activity units and costs based on the resources and roles assigned to perform the work on each activity. Assignment-level units and costs roll up to the activity level.
- ▶ **Schedule Health Score** (see "**Schedule Health Score Overview**" on page 207): Evaluate the quality of your project schedule using common schedule analysis metrics.
- ▶ **Schedule Scenarios** (see "**Schedule Scenarios Overview**" on page 215): Create what-if versions of your project schedule to evaluate different outcomes without making permanent changes to the actual schedule.
- ▶ **Scheduler** (see "**Scheduling Overview**" on page 222): Sequence your project's activities along a timeline based on their constraints, relationships, and dates. The scheduler uses the Critical Path Method scheduling algorithm.
- ▶ **Store Period Performance** (see "**Store Period Performance Overview**" on page 218): Capture historical records to track actual units and costs to date allowing you to bill for work completed and analyze schedule performance.

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### Activity Usage Overview

The project Activities page provides a time-phased view of activity usage in your current schedule in the form of a histogram. The histogram can be configured to show the unit or cost data across the timeline of your project. The data in the activity usage histogram is an aggregated total from all activities.

The activity usage **Not Stacked Histogram** displays activity and earned value fields. In the settings, configure whether you want your histogram to show unit (Labor or Nonlabor) or cost (Labor, Nonlabor, Material, or Total) data. You can choose to display the actual, planned value, and earned value bars and curves using period values or total values. Fields that are displayed using period values will be spread according to the reporting periods in which the values were stored during store period performance.

The Not Stacked Histogram displays cumulative usage values in an S-curve style chart. The planned usage curve plots the progression of planned units or costs over time for all activities in the project. The actual curve tracks actuals up to the latest day they exist, typically the data date, using either total actuals or period values depending on settings. The remaining early, remaining late, and estimate to complete curves begin where the actual curve ends, indicating the remaining work to be performed. If the actual curve isn't plotted, then the remaining early, remaining late, and estimate to complete curves begin at 0.

When an activity has resource assignments, then the resource assignment's dates are used for the spreads and aggregations. When it doesn't have resource assignments, then the activity dates are used. The activity usage histogram uses the same timescale that's set for your Activities table.

Before viewing your activity usage chart, to get the latest spreads, you should first recalculate costs with the option to recalculate project usage spreads.

---



**Note:** The activity usage histogram is not available in programs.

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### Configure Activity Usage Settings

Configure settings for the activity usage histogram on the Activities page.

To configure activity usage settings:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, in the **Open** menu, select **Current Schedule**.
- 3) Select the **Layout** ▼ menu, and then select  **Project Usage**.
- 4) Select the **Activity Usage** detail window.
- 5) Select  **Settings**.
- 6) In the **Settings** panel, on the **Histogram** tab, configure the following sections:
  - ▶ **Not Stacked:** This section contains settings for the Not Stacked histogram.
    - **Bars & Curves** option: Select **Show Units** or **Show Costs** to display unit or cost data in the histogram.
    - **Units Filter** list: If you select to show units, select to display **Labor** or **Nonlabor** units.
    - **Costs Filter** list: If you select to show costs, select to display **Labor**, **Nonlabor**, **Material**, or **Total** costs.
    - In the chart options table, choose graph bars and cumulative curves to display for each unit or cost field. Choose a color for each field's bar and curve.


- **Display actuals and earned values using period values:** Displays the stored actual units, costs, and earned value amounts by reporting period. When deselected, the total values are displayed.
- ▶ **Graph:** Select from the following graph options to include on the histogram.
  - **Legend:** A legend for the histogram's bars and curves.
  - **Data date line:** A line at the data date that was set for the project the last time that the project usage spreads were recalculated when recalculating costs.
  - **Horizontal sight lines:** A line for each Y-axis interval.
  - **Vertical sight lines:** A line for each X-axis interval.
  - **Values on bars:** The value of each bar is displayed on the bar.
  - **Values on curves:** The value of each curve is displayed on the curve.
  - **Calendar:** The calendar being used by the project is displayed next to the graph.

7) Select **Apply**.

### View the Activity Usage Histogram

View the activity usage histogram for a time-phased view of your activity usage. The data in the activity usage histogram is an aggregated total of all activities.

To view the activity usage histogram:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, in the **Open** menu, select **Current Schedule**.
- 3) Select the **Layout** ▼ menu, and then select  **Project Usage**.
- 4) In the detail window, select the **Activity Usage** tab.
- 5) Before viewing your activity usage data, **configure the usage settings** (see "**Configure Activity Usage Settings**" on page 163) to ensure the appropriate information is displayed, such as units or costs, bars, curves, and legend details.
- 6) In the histogram, hover over a bar or a plot point on a curve to view its details.

### Tips



- ▶ The activity usage histogram uses the same timescale that's set for your Activities table.
- ▶ You can increase the size of the usage chart by enlarging the detail window panel. Enlarging the chart does not increase the amount of data shown, just the size of the currently displayed data.

### Print Activity Usage, Role Usage, or Resource Usage Histogram


You can print the Activity Usage, Resource Usage, or Role Usage histograms for a time-phased view of your activity, resource, or role usage. The data in the histogram is an aggregated display of usage data for roles, resources, or activities.

To print the Activity Usage, Role Usage, or Resource usage histogram:


- 1) **Navigate to the project Activities page** (see page 337)
- 2) In the **Activities** page, in the **Open** menu, select **Current Schedule**.
- 3) In the detail window, in the activity details/project usage menu select **Project Usage**, and then select the **Activity Usage**, **Resource Usage**, or the **Role Usage** tab.

- 4) Before viewing your usage data, **configure the resource and usage settings** (see "**Configure Resource and Role Usage Settings**" on page 191) or **configure the activity usage settings** (see "**Configure Activity Usage Settings**" on page 163) to ensure the appropriate information is displayed, such as units or costs, bars and curves, legend details, and spreadsheet formatting.
- 5) When printing Resource Usage or Role Usage data, select one or more resources or roles from the list whose data you want to display.
- 6) In the detail window toolbar, select  **Not Stacked Histogram** or  **Stacked Histogram**.

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**Note:** The  **Stacked Histogram** option is only available when printing Resource or Role Usage histograms.


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- 7) Configure the page view according to your needs, and then select  **Print** to open the **Print Options** panel.
- 8) In the **Settings** panel, configure the following page-level options:
  - ▶ **Paper Size:** Select a standard paper size or enter custom print dimensions.
  - ▶ **Orientation:** Select a **Landscape** or **Portrait** page orientation.
  - ▶ **Margins:** select the length of the top, left, right, and bottom margins of the layout.

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**Note:** You can also click and drag the borders in the print preview to adjust each margin.

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- ▶ **Show Watermark:** Select this option, and then enter text to appear as a watermark on each page.
  - ▶ **Pages:** Print all pages or a specific range of pages.
- 9) To modify the layout of the content section, hover over the print preview, and select **Edit Content** :
    - ▶ In the **Settings** panel, select the settings that you want to appear in the chart.
    - ▶ On the **Timescale** tab, select a timescale interval, and then select a start and finish date for the timescale. When **Reporting Period** is selected as the timescale interval you can designate the use of custom labels for the reporting period by selecting **Custom label only**.

---

**Note:** The Reporting Period timescale is only available in a Project view.



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- ▶ Select **Use rolling dates** to configure rolling start and end dates. Enter a value in **Timescale units per page** to define the number of timescale units displayed on each page of the chart.

---

**Note:** The **Edit Content** option is only available when printing **Activity Usage**.

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- 10) Select **Return to Preview** to exit the edit mode.
- 11) To modify the print header or footer settings, hover over the print preview, and select **Edit Header**  or **Edit Footer** .

12) In edit mode, use the floating toolbar to configure the following header and footer options:

- ▶ Apply bold, italics, or underline formatting, and change the size and color of text.
- ▶ **Alignment:** Align each line of text to the left, center, or right side of a section.
- ▶ **Insert Link:** Add link text and a URL. Choose to open the link in a new browser tab or window, or open the link in the current browser tab.
- ▶ **Add Image:** Insert the company logo, the image for the current project, or the image for the current workspace.
- ▶ **Add Revision Box:** Add a revision box to the selected section. To edit the content in the revision box, select **Open Revision Box Editor** from the **Settings** panel. In the **Revisions** dialog box, you can enter text, rearrange and resize columns, and modify the alignment of text in the columns. Select **Add** to add more rows to the table. Deselect the **Print** checkbox for a row if you do not want that row to be printed on the PDF (the row is still saved in the Revisions dialog box). When you are finished editing the Revision Box, select **Save**.

You can only have one unique revision box per named view. If you add multiple revision boxes to the printout, they will all have the same configuration.

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**Note:** The Revision Box editor is not available for Resource Usage or Role usage printing.

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- ▶ **Add Field:** Add field variables to the selected section.

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**Note:** Field variable text that is only partially formatted may not display properly. Ensure the entire variable is formatted correctly.

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- ▶ **Toggle Dividers:** Toggle the display of section divider lines in the printout.
- ▶ **Sections:** Display up to five separate sections in the header or footer.

13) In the **Settings** panel, configure separate options to show the header and footer on all pages, only the first page, or only the last page of the print layout.


14) Select **Return to Preview** to exit the edit mode.

15) In the thumbnail selector, select individual page thumbnails to review the order, number, and appearance of the pages in the print layout. Continue to modify print settings according to your needs.

16) To reset your selection to the default settings, select **Restore Default Settings**.

17) When you are finished, select **Print** to print the layout to a PDF file. You can then view the layout or print it to a physical format.

## Tips

- ▶ Use the floating toolbar to adjust the zoom settings of the print preview. Select  **Continuous** to enable continuous scrolling of the print preview.

---

## Baselines Overview

A baseline is a copy of a project's schedule data at a given point in time. As a static representation of the project plan, it can be used as a benchmark against which to measure performance as the project progresses. Create multiple baselines to evaluate performance at different phases of the project lifecycle.

When you create a baseline, you can set the baseline date to capture project data at any point between the project creation date and the current date. This is useful if you want to add a baseline for project data as it existed on a specific date in the past. If you forgot to add a baseline on a specific date, select a past baseline date to use the data from that date.

Baselines can be opened on the Activities page to view the project data represented by the baseline. When a baseline is open, baseline values are used to populate the standard schedule fields. When the current schedule, a baseline, or a scenario is open, a baseline's values are used to populate corresponding baseline fields. Baseline fields are used for comparison with the current schedule or scenario fields. For example, if the original baseline is open, the baseline's start values populate Start date fields. If the current schedule or a scenario is open, Start date fields are populated with current schedule or current scenario values, and Original BL Start date fields are populated with original baseline values. The baseline fields used for comparison in the current schedule are empty when any baseline is open.

Baselines can also be opened so that they can be updated. While updating baseline data is not a typical project management practice, there may be situations where minor adjustments to a baseline need to be made by the project manager or scheduler. You can modify most of the data in a baseline as you would the data in the current schedule. The data stored by a baseline is unique to that baseline. For example, actions such as updating activity data, assigning resources and roles, scheduling activities, leveling resources and roles, and using the schedule health check tool do not affect the current schedule, other baselines, or schedule scenarios. You cannot manually add new activities to a baseline, but you can add existing activities from the current schedule to a baseline and update the data for existing baseline activities. If you need to replace your current schedule with the data from a baseline, you can set the baseline as the current schedule. If the changes you make to a baseline need to be undone, you can revert the baseline back to its original state, as long as that baseline was created in Oracle Primavera Cloud and not imported from P6. The baseline must be open before it can be updated or reverted. See **Open a Baseline** (on page 170) for more information.

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**Note:** Because of differences in how data is managed in P6 and Oracle Primavera Cloud, you cannot revert changes made to a baseline if that baseline was imported from a P6 XML file.

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There are four types of baselines in the application: original, current, supplementary, and unofficial:

- ▶ An original baseline is an official baseline that is typically set when the project has been approved. It may also be referred to as the Performance Measurement Baseline (PMB). Setting an original baseline captures values in all original baseline fields. Original scope values cannot be updated after the original baseline is set.
- ▶ A current baseline, also referred to as the active baseline, is an official baseline used to measure differences between current project values and the original values. You can only set a current baseline after an original baseline has been set.

- ▶ The supplementary baseline is an official baseline that can be used for any purpose. A supplementary baseline might be created before a major schedule update to capture the state of the project before the update.
- ▶ Unofficial baselines can be created to capture how the project is progressing or they can come from previous official baselines. For example, a baseline that was previously set as your official current baseline is not removed when you set a new current baseline. It instead becomes an unofficial baseline that is retained for future reference.

At any point in time, you can have one original baseline, one current baseline, one supplementary baseline, and an unlimited number of unofficial baselines. You can change the types of existing baselines or remove a baseline's type to make it an unofficial baseline. Any baseline can be opened for viewing or updating.

The distinction between official baselines and unofficial baselines is that official baselines—original, current, and supplementary—have corresponding baseline fields while unofficial baselines do not. To view the field values stored in an unofficial baseline, you can either change its type to an official baseline or set it as a user baseline preference. You can set up to three existing baselines as user baseline preferences, which typically indicate the baselines that are most important to you. The baselines set as your preferences are used to populate the values in user baseline fields. This is useful when you want to measure project performance against baselines other than the official project baselines. Set on the Activities page, user baseline preferences apply only to the user who set them. Official or unofficial baselines can be set as user baselines.

### Schedule Management

For schedule management, each baseline captures a complete set of data about the project schedule, including activity dates, durations, units, costs, float, and percentages. After the project schedule is developed, an original baseline should be set to establish points of reference to monitor your schedule as it changes over time. When the current baseline is created, all of the current baseline fields are updated to reflect the current project values.

To measure schedule performance, configure views that show baseline variance fields to identify activities that are not progressing as planned. Baseline variance fields measure the differences between your current project values and your baseline values. You can view variances for your original, current, supplementary, and user baselines. Variances are useful in identifying the activities with the greatest impact to your original project plan.

When activity date indicators are enabled, the baseline Start and Finish date fields will display visual indicators when a constraint is configured for the activity or if an actual start date or actual finish date is set. See **Configure Activity Date Indicators** (on page 106) to enable indicators.

Official and user baselines can also be configured as bars to be displayed in the Gantt chart and used to monitor activity progress visually on the project timeline.



**Earned Value** functionality is also supported for schedule management use cases. Designate one of your existing baselines as the project's earned value baseline. This enables earned value metrics to be calculated for the activities in your project. Activity earned value data is rolled up to the WBS and project levels. Earned value metrics track current schedule and budget performance against the designated baseline. There are a variety of supported fields that you can use to monitor progress, including planned value, earned value, schedule and cost variances, schedule and cost performance indexes, estimates to complete, and estimates at completion. Most earned value metrics can be viewed in terms of costs or labor units. If you already have a baseline that should be used for earned value, it is recommended that you open the baseline to schedule it to a data date appropriate for that baseline, and then recalculate its costs. These actions ensure that the baseline fields referenced in earned value calculations are accurate and up to date.

## Scope Management

For scope management, a current baseline is created to capture all approved changes since the original baseline was created. When the current baseline is created, all the baseline fields are updated to reflect the current values and are in turn used in certain calculations to measure progress. The original values are not changed.

For a work package, there are four baseline attributes that the user can refer to after a baseline has been set: Baseline Cost, Baseline Hours, Baseline Start, and Baseline Finish. For each scope assignment, there are five baseline attributes: Baseline Start, Baseline Finish, Baseline Cost, Baseline Hours, and Baseline Quantity. When the original baseline is set, these fields are populated with the original values. After the original baseline is set, all changes needed for scope items, work packages, and scope assignments must go through a review process, which is initiated by submitting change and transfer requests.

## Add a Baseline

Adding project baselines enables you to track progress throughout the project lifecycle. If no baseline exists for a project, the first baseline must be an original or unofficial baseline. Any subsequent baselines can be original, current, supplementary, or unofficial baselines. You can also change the type of existing baselines. Only one original, current, and supplementary baseline can exist at a time, but you can maintain an unlimited number of unofficial baselines.

You can add, edit, and delete project baselines from the Baselines page or Activities page.

To add a project baseline:

- 1) **Navigate to the Baselines page** (see page 337).
- 2) Select **Add Baseline**.
- 3) In the **Add Baseline** dialog box, enter the following information:
  - ▶ **Name:** The name of the baseline.
  - ▶ **Type:** The type of baseline. Select **Original**, **Current**, **Supplementary**, or leave the value blank.

**Notes:**

- Unofficial baselines do not have a Type. Select the blank row in the list to add an unofficial baseline.
  - The dialog box displays the baseline type selected as the earned value baseline. This can be changed in the *project settings* (see "*Configure the Earned Value Baseline*" on page 93).
- ▶ **Baseline Date:** The date of the project data captured by the baseline. Select a date in the past to use project data from that date. The default value is the current date and time.
  - ▶ **Description:** Additional information about the baseline.
- 4) Select **Add**.
- 5) All changes made to this page are saved automatically.

**Tips**

- ▶ To access your baselines from the **Activities** page, select the **Actions** ▼ menu, and then select **Manage Baselines**.
- ▶ The **Data Date** field shows the data date value as of the Baseline Date. This is useful when determining the progress point of your project at the time represented by the baseline.
- ▶ The **Baseline for Earned Value** field shows which baseline is being used as the project's earned value baseline.
- ▶ To delete a baseline, on the **Baselines** page or in the **Manage Baselines** dialog box, select the ⚙️ **Context** menu, and then select **Delete**. You cannot delete an original baseline if a current or supplementary baseline exists. If you delete the baseline designated as the earned value baseline, all earned value calculations will be reset when you recalculate costs.
- ▶ You cannot remove or change the original baseline if you have any scope changes, installed or actual scope quantities, or at least one closed reporting period.

**Open a Baseline**

Open a baseline if you need to view or update the activity data stored by the baseline. When a baseline is open, baseline values are used to populate the standard schedule fields, and the designated baseline fields are empty.

While updating a baseline is not a typical project management practice, there may be situations where minor adjustments to a baseline need to be made by the project manager or scheduler. You cannot manually add activities in a baseline, but you can update existing activity data. If the changes you make to a baseline need to be undone, you can revert the baseline back to its original state. The baseline must be open before it can be updated or reverted.

Use the Open menu in the page toolbar to switch between your current schedule, schedule scenarios, and schedule baselines. The list contains your official baselines, any baselines set as a user baseline preference, and the open baseline. Each official baseline in the list displays the name of the baseline and its baseline type.

When a baseline is open, a banner appears above the page toolbar to inform you that you are currently making changes to a baseline. This message is to remind you of the object in which you are currently working and that any changes made to the baseline do not directly impact your current schedule, but are reflected in the corresponding baseline fields visible in your current schedule. The banner can be dismissed for your current session and will reappear when you reload the page.

To open a baseline:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) In the **Open** menu, in the **Baselines** section, select a baseline to open.

### Tips

- ▶ The **Open** menu also contains the following items:
  - ▶ **Current Schedule**: Select to open the project's current schedule.
  - ▶ **Scenarios** section: Select **View All** to open the **Manage Scenarios** dialog box.
  - ▶ **Baselines** section: Select **View All** to open the **Manage Baselines** dialog box.
- ▶ You can open any available baseline from the **Manage Baselines** dialog box, including those not listed in the **Open** menu.
- ▶ To revert a baseline, select the **Actions ▼** menu, and then select **Revert Baseline**. This action cannot be undone.

### Add an Activity from the Current Schedule to a Baseline

As your project progresses, new activities may need to be added to the project. These new activities will not automatically appear in existing baselines. However, if a baseline requires these activities, you can add them from the current schedule to the baseline. This feature enables you to update an existing baseline with new activities without having to create a new baseline that would reflect current progress.

The Get Activities dialog box displays activities that exist in your current schedule but do not exist in the baseline. The activities that you select in the dialog box will be added to your baseline. All of an activity's data will also be added, including dates, durations, units, costs, relationships, resource, role, and scope assignments, risks, codes, and configured fields. Activities in the selection with the same ID as an activity already in the baseline will not be added. When activity date indicators are enabled, visual indicators are displayed when a constraint is configured for the activity or if an actual start date or actual finish date is set.

You can add up to 100 activities from the current schedule to a baseline at one time. You must have the required security privileges to add and edit activity data for a baseline.

To add activities from the current schedule to a baseline:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, open a baseline.
- 3) Select **Actions ▼**, and then select **Get Activities**.
- 4) In the **Get Activities** dialog box, select one or more activities to add to your baseline.
- 5) Select **Get**.

## Tips

- ▶ In the **Get Activities** dialog box, select **Display log upon completion** to view details from the Get Activities process.

## Set a Baseline as the Current Schedule

Baselines capture the progress of your project at a specific point in time. Baselines are created for a number of reasons, including at the beginning of the project or before a major schedule update. If you need to replace your current schedule with the data from a baseline, you can set the baseline as the current schedule. When a baseline is set as the new current schedule, baseline details such as dates, durations, units, costs, assignments, and relationships overwrite the details in the previous current schedule, including any progress updates made to the current schedule.

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**Note:** Setting a baseline as the current schedule overwrites all current schedule data except for stored period data for activities that are present in both the current schedule and the baseline, and that are also started in the baseline. This action cannot be undone. The process runs in the background, and you will receive a notification when the process completes. It is recommended that all users not make changes to the schedule until the process is complete.

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You must have the required security privileges to set a baseline as the current schedule.

To set a baseline as the current schedule:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, open a baseline.
- 3) Select **Actions ▼**, and then select **Set as Current Schedule**.
- 4) In the **Set as Current Schedule** dialog box, select **Set**.

## Tips

- ▶ After your schedule has been successfully replaced, you may want to run the scheduler and recalculate costs to ensure that all data is consistent with the current schedule's data date.
- ▶ When a baseline is set as the current schedule, the previous current schedule is converted to a retired schedule scenario. If needed, you can make the previous schedule visible as a scenario in the **Manage Scenarios** dialog box.
- ▶ Use the **Open** menu in the **Activities** page toolbar to switch between baselines. Select **View All** in the list to open the **Manage Baselines** dialog box.

## Set User Baseline Preferences

Set up to three baselines as user baseline preferences on the Activities page. User baseline preferences are typically the baselines that are most important to you. They can be official or unofficial baselines and can be changed at any time. User baseline fields are populated with the values stored in the corresponding baseline and can be used as part of your view settings, including columns, filtering, grouping, and Gantt bars.

Baseline preferences are specific to each user. The baseline preferences you set are only visible to you. The same baselines can be set as preferences by multiple users.

To set user baseline preferences:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) Select the **Actions** ▼ menu, and then select **Set User Baseline Preferences**.
- 3) In the **Set User Baseline Preferences** dialog box, do the following to set your user baselines:
  - a. Select **Project Baselines** to view which baselines are currently set as the current, original, and supplementary baselines.
  - b. In the **Baseline 1**, **Baseline 2**, and **Baseline 3** lists, select the baselines that you want to set as your user baselines.
  - c. Select **Save**.
- 4) Your user baseline fields are updated with your selections.

### Tips

- ▶ Deleting a baseline removes it as a baseline preference, but removing a baseline's type does not remove it as a baseline preference.

## Earned Value Overview

Primavera Cloud provides the necessary tools to practice earned value management, a project management technique to measure project performance against a project plan. As your project progresses, activities may be delayed, additional resources may be required, and labor costs may increase. Conversely, there are times when activities are completed ahead of schedule, with fewer resource hours, and for less money than initially planned. Earned value management enables you to track, at the project and activity levels, whether you are ahead of or behind schedule and under or over budget. Use earned value to identify the areas of your project that did or did not progress according to the project plan, assess the current state of your project in terms of schedule and cost, and estimate future performance based on your progress so far.

Project progress is measured by comparing values in the current schedule to corresponding baseline values. To track earned value, you must designate an existing baseline as your earned value baseline. This will enable earned value calculations to be performed. Earned value is calculated for individual resource assignments and rolls up to the activity level. Activities without assignments use activity-level units and costs to calculate earned value. Activity-level earned value data also rolls up and is displayed at the WBS and project levels.

The following fields form the basis of all other earned value fields and their calculations:

- ▶ **Planned Value:** The budgeted cost of work that is scheduled to be performed by a specified date, which is typically the project's data date. You can think of this as the approved budget, which is captured by the earned value baseline.
- ▶ **Earned Value:** The budgeted cost of work that has actually been performed by a specified date. You can think of this as the portion of the approved budget that has been completed.
- ▶ **Actual Cost:** The actual cost of work that has actually been performed by a specified date. Whereas the Earned Value field measures how much of the approved budget has been performed, Actual Cost indicates the total cost required to actually perform the work.

These fields are used in many earned value calculations and can be combined with other project data to track schedule and cost variances, performance indexes, estimates to complete the remaining work, and the estimates at completion of all work. Consult ***Understanding Earned Value Fields*** (on page 175) for a detailed breakdown of all earned value fields and calculations in Primavera Cloud. Incremental and total earned value metrics are also captured when using ***store period performance*** (see "***Store Period Performance Overview***" on page 218) capabilities for your schedule, and some can be viewed in the ***activity usage histogram*** (see "***Activity Usage Overview***" on page 162).


Before getting started with earned value, you should build out your project's schedule, run the scheduler to set the dates, recalculate your costs to update activity cost fields, and then set project baselines to establish initial values before work begins. Next, you should designate a baseline as your earned value baseline so that you can generate earned value metrics. Then, recalculate costs to set the initial Budget at Completion values for your current schedule to begin tracking earned value metrics.

### Configure the Earned Value Baseline

The earned value baseline is used to calculate the numerous fields used for earned value management. Before you can view earned value data, you must designate an existing original, current, or supplementary baseline as the earned value baseline. Designating a particular baseline as the baseline used in earned value calculations enables you to measure project progress against other baselines without affecting your existing earned value data.

The original baseline is selected as the default earned value baseline, but this can be changed at any time. If the selected baseline does not exist in the project, all earned value fields will be set to 0. It is recommended that you reschedule your project and recalculate project costs on the Activities page any time you designate a new earned value baseline, update the current earned value baseline, or create a new baseline with the same type as the current earned value baseline. This ensures all earned value fields are up-to-date. If you delete the earned value baseline, all earned value calculations will be reset when you recalculate costs.

To configure the earned value baseline:

- 1) ***Navigate to the project settings page*** (see page 342).
- 2) Select the **Earned Value** tab.
- 3) In the **Analyze Earned Value Using** list, select **Original Baseline**, **Current Baseline**, or **Supplementary Baseline**.
- 4) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

## Understanding Earned Value Fields

Earned value is a project management technique to measure project performance against a project plan. It consists of calculations that build on each other to allow you to see if you are on schedule and within budget. It also helps you predict the work left to be finished and how much your project is expected to cost. This topic will help you better understand how earned value metrics are calculated and how to use them to analyze your schedule's progress.

Earned value fields are either calculated at the activity level or at the resource assignment level and then aggregated to the activity level. Activity-level earned value data also rolls up and is displayed at the WBS and project levels if you have a cost-loaded schedule with an earned value baseline set. Earned value fields can be added to your Activities page as columns, bars, or values on the Gantt chart. You can also monitor earned value changes over time by capturing the data using **Store Period Performance** (see "**Store Period Performance Overview**" on page 218) and viewing the data over time in the **activity usage histogram** (see "**Activity Usage Overview**" on page 162).

The full definitions of the fields below can be found in **Activities Fields** (on page 227).

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**Note:** If there is no earned value baseline set, certain fields might use planned dates instead of baseline data as part of the calculations. However, it is recommended that you set an earned value baseline before starting earned value management, and the content in this topic assumes that an earned value baseline has been set. It is also recommended that you do not change your earned value baseline after you begin your earned value analysis, as this could skew your data.

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## Budget at Completion

*Budget at Completion, Budget at Completion Labor Units*

Budget at Completion (BAC) and BAC Labor Units reflect the total planned budget and planned labor units at activity completion. These values are derived from the baseline. BAC is the sum of your Planned Labor Cost, Planned Nonlabor Cost, and Planned Material Cost. BAC Labor Units equals the Baseline Planned Labor Units. This is set when you run the recalculate costs process, and the total costs and units will be pulled from the earned value baseline.

## Percent Complete Fields

*Performance Percent Complete, Schedule Percent Complete*

The next fields calculated in earned value management are the percent complete fields.

The Performance Percent Complete is the percentage of the activity that has been completed for the activity up to the data date. The Performance Percent Complete equals the Activity Percent Complete, which uses the Activity Percent Complete type for the activity to calculate the percentage.

The Schedule Percent Complete field reflects the percentage of the activity that should be completed based on the data date. It is calculated as  $(\text{Data Date} - \text{Baseline Start Date}) / (\text{Baseline Finish Date} - \text{Baseline Start Date})$ . It is calculated using the updated data date when the project is scheduled.

Compare your Schedule Percent Complete to your Performance Percent Complete to get an idea of how your activity is progressing. For example, if you schedule your project and the activity has a Performance Percent Complete of 25% but a Schedule Percent Complete of 33%, this discrepancy indicates that the percentage of work completed on the activity does not match the work that was supposed to be completed and the activity has fallen behind.

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**Note:** Although most earned value fields reflect the aggregated totals when they are rolled up to the project level, Performance Percent Complete and Schedule Percent Complete use different calculations for their summary calculations. The summary Schedule Percent Complete is calculated as summary Planned Value / summary BAC. The summary Performance Percent Complete is calculated as summary Earned Value / summary BAC.

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### Base Earned Value Fields

*Planned Value Cost, Planned Value Labor Units, Earned Value Cost, Earned Value Labor Units*

The base earned value fields use the BAC and percent complete fields for their calculations, and are used to complete a variance analysis.

Planned Value, also known as the Budgeted Cost of Work Scheduled (BCWS), is the budgeted cost of work or the portion of budgeted labor units that is scheduled to be completed by a specified date, usually the data date. The Planned Value fields are calculated by multiplying the Schedule Percent Complete with the BAC or BAC Labor Units to get the Planned Value Cost or Planned Value Labor Units, respectively.

Earned Value, also known as the Budgeted Cost of Work Performed (BCWP), is the budgeted cost of work or the portion of labor units that has actually been completed by a specified date, usually the data date. The Earned Value fields are calculated by multiplying the Performance Percent Complete with the BAC or BAC Labor Units to get the Earned Value Cost or Earned Value Labor Units, respectively.

### Variance Earned Value Fields

*Schedule Variance, Schedule Variance Labor Units, Schedule Variance Index, Schedule Variance Index Labor Units, Schedule Performance Index, Schedule Performance Index Labor Units, Cost Variance, Cost Variance Labor Units, Cost Variance Index, Cost Variance Index Labor Units, Cost Performance Index, Cost Performance Index Labor Units*

Perform a variance analysis of your project to see how activity progress is matching up to the baseline. There are two types of variance analysis you can do: schedule and cost.



A schedule variance analysis enables you to determine if your activities are on schedule by analyzing the value of the work that has been completed compared to the value of what should have been completed. The Schedule Variance field is calculated by subtracting the Planned Value amount from the Earned Value amount. An amount greater than 0 shows that you are ahead of schedule. Another field, the Schedule Variance Index, is displayed as a percentage. A negative percentage indicates the percentage of work yet to be completed to match the baseline, and a positive percentage indicates the work that has been completed over and above the schedule cost. The Schedule Variance Index is calculated as the Schedule Variance divided by the Planned Value. As part of variance analysis, you will also want to look at the Schedule Performance Index (SPI), also known as the "schedule efficiency," which reflects the relative amount the project is ahead or behind schedule. The SPI is calculated as Earned Value divided by the Planned Value. A value equal to 1 indicates that you are on schedule, a value greater than 1 indicates that you are ahead of schedule, and a value less than 1 indicates that you are behind schedule.

A schedule variance analysis can also be done with labor units. These fields (Schedule Variance Labor Units, Schedule Variance Index Labor Units, and SPI Labor Units) compare the utilized labor units with the amount that was supposed to be used based on the baseline.

A cost variance analysis allows you to assess cost performance—are you over or under budget, or right on track? The Cost Variance field (Earned Value - Actual Total Cost) calculates the difference between the amount budgeted for the work performed and the amount actually spent for the work performed. A negative value indicates that the money spent so far has exceeded the value of the work performed. The Cost Variance is divided by Earned Value to calculate the Cost Variance Index, which is also displayed as a percentage. A positive variance percentage indicates the amount that you are under budget, and a negative variance percentage indicates how over budget you are. The Cost Performance Index (CPI), which is Earned Value divided by Actual Total Cost, enables you to determine the project's cost efficiency and to forecast the cost performance for the remainder of the work. A value equal to 1 means your budget is right on track, a value less than 1 indicates that you are spending more than planned, and a value greater than 1 indicates you spent less than planned.

A cost variance analysis can also be done with labor units by comparing the utilized labor units with the amount that was supposed to be used as per the baseline. These fields include Cost Variance Labor Units, Cost Variance Index Labor Units, and CPI Labor Units.

### **Estimate Earned Value Fields**

*Estimate to Complete, Estimate to Complete Labor Units, Estimate to Complete Performance Index, Estimate at Completion, Estimate at Completion Labor Units, Variance at Completion, Variance at Completion Labor Units*

The Estimate Earned Value fields provide you with the capability to analyze the predicted costs and labor units based on your activity progress so far.

The Estimate to Complete (ETC) and ETC Labor Units tell you the cost and labor units that are needed to complete the activity. The ETC fields are used to calculate the Estimate at Completion fields. Estimate at Completion (EAC) and EAC Labor Units are the predicted total cost and labor units to complete the activity. The EAC equals the sum of the Actual Total Cost and the ETC, and the EAC Labor Units equals the sum of the Actual Labor Units and the ETC Labor Units.

You can use the ETC Performance Index, which is calculated as  $(BAC - \text{Earned Value}) / (EAC - \text{Actual Cost})$ , to monitor the efficiency needed to complete the outstanding work within the budget set by your baseline. A value greater than 1 indicates that the work is over budget and more effort will be required to reduce costs or increase earned value. A value less than 1 indicates the work is under budget and that the current effort is sufficient enough to meet the BAC.

Complete a final variance analysis using the the Variance at Completion (BAC - EAC) and Variance at Completion Labor Units (BAC Labor Units - EAC Labor Units) fields to see if the EAC amounts are on track with the baseline total cost and labor units. A value greater than 1 indicates that you may go over budget or utilize more labor units that planned. A well-planned project will have an equal EAC and BAC and an equal EAC Labor Units and BAC Labor Units.

### Calculations Cheat Sheet

Use the calculations cheat sheet to keep track of earned value calculations. All of the fields mentioned in this topic are included in the table below.

Field Name	Calculation
Budget at Completion (BAC)	Planned Labor Cost + Planned Nonlabor Cost + Planned Material Cost
Budget at Completion (BAC) Labor Units	This field equals the Baseline Planned Labor Units
Performance Percent Complete	This field equals the Activity Percent Complete
Performance Percent Complete (summary)	summary Earned Value / summary Budget at Completion
Schedule Percent Complete	$(\text{Data Date} - \text{Baseline Start Date}) / (\text{Baseline Finish Date} - \text{Baseline Start Date})$
Schedule Percent Complete (summary)	summary Planned Value / summary Budget at Completion
Planned Value Cost	Schedule Percent Complete * Budget at Completion
Planned Value Labor Units	Schedule Percent Complete * Budget at Completion Labor Units
Earned Value	Performance Percent Complete * Budget at Completion
Earned Value Labor Units	Performance Percent Complete * Budget at Completion Labor Units
Schedule Variance	Earned Value - Planned Value
Schedule Variance Labor Units	Earned Value Labor Units - Planned Value Labor Units

Schedule Variance Index	Schedule Variance / Planned Value
Schedule Variance Index Labor Units	Schedule Variance Labor Units / Planned Value Labor Units
Schedule Performance Index (SPI)	Earned Value / Planned Value
Schedule Performance Index (SPI) Labor Units	Earned Value Labor Units / Planned Value Labor Units
Cost Variance	Earned Value - Actual Total Cost
Cost Variance Labor Units	Earned Value Labor Units - Actual Labor Units
Cost Variance Index	Cost Variance / Earned Value
Cost Variance Index Labor Units	Cost Variance Labor Units / Earned Value Labor Units
Cost Performance Index (CPI)	Earned Value / Actual Total Cost
Cost Performance Index (CPI) Labor Units	Earned Value Labor Units / Actual Labor Units
Estimate to Complete (ETC)	This field equals the Remaining Total Cost
Estimate to Complete (ETC) Labor Units	This field equals the Remaining Labor Units
Estimate to Complete (ETC) Performance Index	(Budget at Completion - Earned Value) / (Estimate at Completion - Actual Cost)
Estimate at Completion (EAC)	Actual Total Cost + Estimate to Complete
Estimate at Completion (EAC) Labor Units	Actual Labor Units + Estimate to Complete Labor Units
Variance at Completion	Budget at Completion - Estimate at Completion

### View Earned Value Metrics

Earned value fields on the Activities page provide a variety of metrics for measuring current project performance against the project's earned value baseline. Add earned value fields to the table as columns so that their values can be displayed at the project, WBS, and activity levels. For a full breakdown of the fields used for earned value management, see ***Understanding Earned Value Fields*** (on page 175).

Before you can view the most up-to-date earned value metrics, you should do each of the following:

- 1) **Schedule the project** (see "**Schedule a Project**" on page 224) to ensure all dates, durations, and units are updated. Fields such as Schedule Percent Complete and Performance Percent Complete will be used in earned value calculations.
- 2) **Recalculate costs** (see "**Recalculate Activity Costs**" on page 189) to ensure all earned value fields are updated. While many earned value fields are automatically recalculated, fields such as Budget At Completion and Schedule Percent Complete must be manually recalculated using the Recalculated Costs service.
- 3) **Configure the earned value baseline** (on page 93) so that earned value fields can reference baseline values in their calculations.

To view earned value metrics:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select the + **Open Column Selector** icon in the column header or the ⚙ **Settings** icon in the page toolbar.
- 3) In the column dropdown or **Manage Views** panel, on the **Columns** tab, choose from the following fields, separated by category, used in earned value calculations:
  - ▶ **Earned Value:** All of the fields in this category are used for earned value. You may choose to include all fields in a single view or create multiple views for different purposes, such as one view for cost fields and another for labor unit fields.
  - ▶ **Financial:** Actual Total Cost
  - ▶ **Percentages:** Performance Percent Complete, Schedule Percent Complete
  - ▶ **Units:** Actual Labor Units
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ If baselines do not exist for the project, all earned value calculations will equal 0.
- ▶ All fields in the **Earned Value** category are read-only.
- ▶ **View the activity usage histogram** (on page 164) to see certain earned value metrics in a time-phased view of activity usage.
- ▶ At the program level, each project uses its designated earned value baseline to calculate earned value.
- ▶ When working in the current schedule, a baseline, or a scenario, all earned value calculations will use the data of the schedule, baseline, or scenario that is open.
- ▶ Activities in the current schedule that do not exist in the earned value baseline, such as copied activities and activities added after the baseline was set, do not have earned value data. However, copied activities may maintain **Estimate To Complete** and **Estimate At Completion** values, as these fields represent your remaining work and your at completion value in the current schedule. You can add activities to the earned value baseline if you have the necessary privileges.

## Global Change Overview

The Global Change tool enables you to make changes to a selection of activities in a project at the same time. It is similar to find and replace functionality in other software applications but with more powerful capabilities. The global change process is quicker than manually updating many individual activities with the same data, especially in larger projects. The ability to save global change configurations enables you to repeat the processes as necessary.

First, add a global change and define the specific values that you want to identify on activity fields such as codes, configured fields, dates, or durations. Depending on the field, you can choose to identify static values, rolling values, or a specific range of values. You can identify values for multiple fields. Next, specify the actions that should be taken when any or all of those field values are found. This might be changing all activities of a certain type to another type, modifying activity calendar assignments, or increasing the duration of activities whose durations fall within a specific range. Changes are only made to activities that meet your specified conditions. Multiple actions can be taken from a single global change.

Global change functionality is supported by activities in the current schedule, baselines, and what-if scenarios. One recommended best practice is to run global changes on a scenario to preview the changes before they are made to your current schedule. If you are satisfied with the potential changes, you can set that scenario as the current schedule. Use the Schedule Comparison tool to compare the scenario with global changes to your current schedule. In addition to manually creating global changes, you can also copy existing global changes from another project in the same workspace. Global changes and their parameters are saved to the project and can be run at any time. By default, individual global changes are only visible to the user who created them, but they can be made publicly accessible to all users who have access to the project.

You must have the required security privileges to configure and run global changes. You must also have the required privileges to edit the activities to which you want to make global changes. If you are making changes in a baseline, the Baselines - Edit Activity Data privilege must also be enabled. If your security privileges do not enable you to edit the activities, you will not be able to commit the changes you make.

After a global change process completes, the Activities page automatically updates with any new values. A global change log is generated, containing the change's parameters, a list of updated fields and values, and any errors that were encountered. You can access the log from the system notification you receive when the process is complete, from the Inbox, or from the Manage Services page.

## Add a Global Change

Add as many global changes as necessary to define different activity update scenarios in your project. Global changes are automatically saved to your project and can be run at any time. By default, new global changes are only visible to the user who created them, but they can be made publicly accessible to all users who have access to the project.

Global change parameters consist of If and Then statements. If statements define the field values that you want to identify on an activity. When a global change is run, each activity in the project is evaluated against the conditions in the If statement. Then statements specify the changes to be made when any or all of the field values are found for the activity. Changes are only made to activities for which the conditions of the If statement are true. Multiple If and Then conditions can be defined for a global change.


You must have the required security privileges to add, edit, or delete global changes.

After a global change is added or copied, it can be run on demand at any time. For more information, see **Run a Global Change** (on page 183).



To add a global change:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Actions ▼** menu, select **Global Change**.
- 3) In the **Global Changes** panel, select **+ Add**.

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**Note:** If an existing global change is similar to the one you want to create, you can select the  **Context** menu next to the global change, select **Duplicate**, and then edit the duplicated global change.

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- 4) For the new global change, complete the following fields:
  - ▶ **Name:** Enter a name for the new global change.
  - ▶ **Type:** Select **Private** if you want the global change to only be available to you. Select **Public** if you want the global change to be available to all project users.
- 5) In the **Parameters** panel, configure the following global change parameters:
  - a. In the **If** section:
    - Select **All of the following** or **Any of the following** to specify which If conditions must be true.
    - Select **+ Add a condition**.
    - Select the **Field** that you want to identify on an activity.
    - Select the **Operator** for the field. The values available are specific to the type of field selected.
    - Enter the **Value** that you want to identify for the selected field. Depending on the field and operator selected, you may need to enter a string value, select a predefined value, or define a range of values.
    - (Optional) Add conditions to define more If criteria. Select the  **Context** menu next to a condition to delete it.
  - b. In the **Then** section:
    - Select **+ Add a condition**.
    - Select a **Field**, **Operator**, and **Value** to define the changes to be made to each activity that satisfies the conditions of the If statement.
    - (Optional) Add conditions to define more Then criteria. Select the  **Context** menu next to a condition to delete it.

6) All changes made to this page are saved automatically.

### Tips

- ▶ In the **Global Changes** panel, select  **Settings** to configure columns, filters, and grouping options for the list of global changes.
- ▶ In the global change list, select the  **Context** menu to add, duplicate, run, or delete a global change.
- ▶ You can also copy existing global changes from other projects in your workspace. See **Copy a Global Change from Another Project** (on page 183) for more information.


### Copy a Global Change from Another Project

If you plan to use the same global change parameters across multiple projects, you can save time by copying one or more existing global changes from another project into your current project. You can choose to copy public global changes or private global changes if you are the owner or an application administrator. Global changes can only be copied from projects in the same workspace as the project you are working in. After a global change is copied, the new global change can be modified without affecting the original.

To copy a global change from another project, you must have the required security privileges to add and edit global changes.

After a global change is added or copied, it can be run on demand at any time. For more information, see **Run a Global Change** (on page 183).

To copy a global change from another project:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Actions** ▼ menu, select **Global Change**.
- 3) In the **Global Changes** panel, select **Get Global Changes**.
- 4) In the **Get Global Changes** dialog box, do the following:
  - a. Select the project whose global changes you want to copy. The list contains projects that belong to the same workspace as your current project.
  - b. Select **Next**.
  - c. Select the check box next to any global changes that you want to copy. Select the  **Preview** icon to preview the global change's parameters.
  - d. Select **Copy**.
- 5) The selected global changes are copied to your project.

### Run a Global Change

Run a global change to modify the activities identified by the change's parameters. Any activities that do not meet the conditions of the parameters will not be modified. You can run a global change against the current schedule, a baseline, or a what-if scenario.

When you run a global change, the application first confirms the validity of your parameters. If any parameters are invalid, the process will fail and provide an error message. If the parameters are valid, you will be prompted to confirm that you understand the potential impact to your current schedule, baseline, or scenario. The global change process has the ability to modify a large amount of project data at one time, and it may be difficult or impossible to undo all changes. After you confirm and run the process it will begin, and you will receive a notification when it completes. You can access the detailed log for a completed global change from the notifications panel, from the Inbox, or from the Manage Services page.

You must have the required security privileges to run a global change. You must also have the privileges required to edit the activities to which you want to make global changes. If you are making changes in a baseline, the Baselines - Edit Activity Data privilege must also be enabled. If your security privileges do not enable you to edit the activities, you will not be able to commit the changes you make.

If necessary, you can modify a global change's parameters before you run it. For steps on modifying the parameters for a global change, see **Add a Global Change** (on page 181).

To run a global change:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Actions** ▼ menu, select **Global Change**.
- 3) In the **Global Changes** panel, select a global change from the list, and then select **Run**.
- 4) If the global change parameters are valid, you will be prompted to confirm that you want to run the global change. Select the check box, and then select **Run**. The global change process will begin. You will receive a notification upon its completion.

### Tips

- ▶ You can only run one global change at a time.
- ▶ In the **Global Changes** panel, select ⚙ **Settings** configure columns, filters, and grouping options for the list of global changes.

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### Leveling Overview

When you schedule a project, the schedule is calculated based upon the activity requirements, not resource or role availability. Consequently, two activities requiring the same role or resource may be scheduled to occur simultaneously in the project schedule. To resolve this overallocation, you can level the project. Leveling ensures that roles or resources are not overallocated for projects by reducing or eliminating overloads for assignments to more than one activity within a project. During leveling, the role or resource assignments for all scheduled activities are compared to the role or resource availability at the time of leveling, and an activity is only scheduled to occur when its resource or role demands can be met. To achieve this, the system delays activities so that the overallocated roles or resources work on activities consecutively, instead of simultaneously.



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## Configure the Leveling Priority

To handle scheduling conflicts that may occur during leveling, you can configure priorities that specify the order in which activities are delayed in the schedule. Use the Leveling Priority field to assign a priority to the activities in your project. When you level your project, you can establish a sort order for the activities based upon their assigned leveling priority. The priority rankings can be sorted in ascending or descending order, and are used to guide the leveler as to which activities it should move or not move. The sort order controls which activities are moved around first in the project schedule during the leveling process.

To configure leveling priorities for project activities:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Apply a view that displays the **Leveling Priority** column, or add the column to the current view.
- 3) In the **Leveling Priority** list, select a priority value.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ You can also establish leveling priorities using various other project activity fields. When this is done, the leveling order is created based upon the values assigned to the selected field and the chosen sort order. For instance, you can sort activities by remaining duration in descending order so that those activities with the longest remaining duration are the first to be moved around in the project schedule during the leveling process.

## Level a Resource or Role

Leveling is a process that helps you ensure that sufficient roles or resources are available to perform the activities in your project according to the schedule.

To level a project:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) Select the **Actions** ▼ menu, and then select **Level**.
- 3) In the **Level** dialog box, do the following:
  - ▶ Select a leveling method: **Resources** or **Roles**.
  - ▶ Select **Preserve scheduled early and late dates** to preserve activity early and late dates as scheduled rather than adjust them during the leveling process.
  - ▶ Select **Recalculate costs upon completion** to automatically recalculate costs after the leveling process completes.
  - ▶ Select **Display leveling log upon completion** to automatically display the leveling log when the leveling process is complete.
- 4) Choose whether to level all resources or roles, or specify the ones you want to level by moving them to the Selected list.
- 5) To configure leveling priority settings, select the **Prioritization** tab, and select fields and a sort order to prioritize activities. Your priorities are used to handle scheduling conflicts that might occur during leveling, and determine which activity is leveled first.
  - ▶ **Field**: Select a field to be considered a leveling priority.
  - ▶ **Sort Order**: Specify the order how the field is prioritized.

- 6) Do one of the following:
- ▶ Select **Save** to save your leveling settings.
  - ▶ Select **Level Now** to run the leveler.

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**Note:** Multiple float paths are not recalculated when you run the leveler.

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### Tips

- ▶ The resulting dates represent the optimum positioning for the activities based on current resource and role assignments. However, if you reschedule the project without using the leveling option, the dates will return to their original position.
- ▶ When you run the leveler, the project is automatically scheduled according to the last scheduling settings.
- ▶ After you level the resources or roles for a project, you can review the log to view data and statistics about the leveling process. Because the scheduler is also run during the process, schedule information is included in the log. You can access the log from the **Level** dialog box by selecting **View Log**, from the system notification you receive when the leveling process is complete, or from the **Manage Services** page. When the leveler is run, the application checks for loops, or circular relationships, in the activity relationship logic. If a loop is detected, then the leveler fails. You can view the error report with the activities in the loop from the scheduling/leveling log. To resolve the loop, return to the Activities page and view the relationship trace logic for the activities in the loop and remove a relationship.

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### Program Milestones Overview

Program Milestones is a standard view found on the Activities page. This view enables you to see a high-level picture of how the projects within your program are progressing based on their milestones.

You can enable the view by selecting it from the View menu on the Activities page, setting it as active from the Manage Views panel, or by selecting the Milestone Summary page in the sidebar at the program level.




### View Program Milestones on the Activities Page

Use the Program Milestones view on the Activities page to track the milestone progress of your program's projects. Milestones mark significant events in a project, such as the beginning of the project, the start or end of a new phase, and the completion of the project. The status of these milestones can give a high-level look at how each of your projects is progressing. Milestone details are shown and can be edited in the grid and detail windows of the Activities page. Enable the Gantt view to show milestone markers along a timeline.

Program Milestones is a standard view type. Standard views are preconfigured views that come with Primavera Cloud. You cannot add, edit, or delete standard view options, but you can modify the view and save the changes as a new view of another type. The Program Milestones view displays only those project milestones that you have selected to display at the program level. The view contains columns that pertain to milestones and groups the page by project. A standard filter, also called Program Milestones, is automatically applied. It displays activities whose **Program Milestone** option is selected. See *Assign an Activity Type to an Activity* (on page 133) for more information.

If it is applied at the project level, the Program Milestones view will only show the milestones from a single project. At the program level, the view will show milestones from all of the projects within the program.

To view program milestones on the Activities page:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Enable the **Program Milestones** view by doing either of the following:
  - ▶ Select the **View** menu, and then select **Program Milestones** under the Standard grouping.
  - ▶ Select  **Settings**. In the **Manage Views** panel, select the **Program Milestones** view, select the  **Context** menu, and then select **Set Active**.
- 3) To display the Gantt view, select the **Layout** ▼ menu, and then select  **Gantt**. Markers are displayed for each project's milestones.

### Tips

- ▶ If you want to modify the Program Milestones view:
  - ▶ Modify the view directly on the **Activities** page. You will be prompted to save your changes as a new personal or workspace view.
  - ▶ Modify the view in the **Manage Views** panel. Apply your changes, and then save them as a new personal or workspace view.
  - ▶ Copy the view in the **Manage Views** panel, and then paste it under the **Workspace** or **Personal** grouping. You can now make changes to the new view.
- ▶ Selecting **Milestone Summary** from the program-level **Schedule** app in the sidebar will redirect you to the programs **Activities** page. The Program Milestones view will be automatically applied.

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### Recalculate Costs Overview

As your project progresses and data is modified, some activity and assignment cost values may become outdated. This may be due to regular schedule updates, changes made to related data on other pages, or other users also updating the same cost data. Some cost values are updated automatically, while other values must be updated using the Recalculate Costs service. In some situations, you may be prompted to recalculate costs before any changes are made.

Cost values might be entered directly in cost fields or by modifying other fields to which they may be connected. The application recalculates costs by checking to see if any field values that are connected to cost fields have been updated. The cost fields are then recalculated using these updated field values. Assignment costs roll up to the activity level, and activity costs are spread among the activity's assignments. Changes to a field value at the activity or assignment level may impact cost fields such as Planned, Actual, Remaining, At Completion, or Total fields.

Earned value fields rely on the current schedule and a designated earned value baseline to perform their calculations. Depending on changes made to activities or assignments in the current schedule, to the earned value baseline, or to the earned value baseline setting, you may need to run Recalculate Costs to ensure all earned value fields are up-to-date.

When you recalculate costs, you can also choose to recalculate project usage spreads as well. When this option is enabled, then running the recalculate costs calculates resource assignment and activity spreads and aggregates the spreads for the project.

### When should I run the Recalculate Costs service?

The service should be run whenever changes are made to your project that will affect cost values in your schedule. Before recalculating, it is recommended that you **schedule the project** (see "**Schedule a Project**" on page 224) to ensure the field values used in the calculations are up-to-date.

You should **recalculate costs** (see "**Recalculate Activity Costs**" on page 189) in the following situations:

- ▶ The project's Default Price/Unit value is changed. Labor and nonlabor costs on activities without assignments will be recalculated. Milestone costs and material costs on activities without assignments are entered manually and are not dependent on the Default Price/Unit value, so they will not be recalculated.
- ▶ Scheduling or leveling the project causes a change in assignment dates. Assignments can have multiple availability periods with different Price/Unit rates. A change in assignment dates may cause them to be scheduled across different price rate periods. When scheduling or leveling your project, you can set costs to recalculate automatically after the scheduler or leveler is run.
- ▶ An Effective Start Date or Price/Unit rate is added or changed for a resource or role that is assigned to an activity. A different availability period or Price/Unit rate may cause activity costs to change.
- ▶ The earned value baseline is modified, replaced, or deleted, or if the earned value baseline setting is changed. The fields used for earned value management use the values of the earned value baseline in their calculations.
- ▶ Changes are made to resource assignment or activity fields that are used in earned value calculations. Schedule Percent Complete values are updated after scheduling, while Planned Values are updated after recalculating costs. These two fields form the basis of many earned value fields.

### When are costs recalculated automatically?

Costs may be automatically recalculated at the activity or assignment level when you do any of the following:

- ▶ Edit an activity's cost, date, duration, percent complete, or unit values.
- ▶ Add or replace a resource or role assignment.
- ▶ Staff a role with a resource.
- ▶ Edit an assignment's cost, dates, duration, percent complete, units, or units/time values.
- ▶ Modify an assignment's curve value.
- ▶ Delete an assignment.

### When am I prompted to recalculate costs?

If updating certain assignment values will cause a change in the assignment's costs or the activity's costs, you may be prompted to confirm your changes. You can choose to accept the changes and or cancel the changes and retain the current costs.

You will be prompted when you do any of the following:

- ▶ Change an assignment's Rate Source or Rate Type values.
- ▶ Directly modify an assignment's Price/Unit value.
- ▶ Enable an assignment's Calculate Costs from Units setting.
- ▶ Delete all labor or all nonlabor assignments from an activity. You will be prompted to retain the labor or nonlabor unit and cost values on the activity or reset them to 0.

### Recalculate Activity Costs

Cost values on the Activities page may need to be recalculated as the project progresses and users make changes to the schedule, activities, resource and role assignments, and earned value baseline. While many cost values are recalculated automatically, some cost calculations include values from other pages and must be run manually. Recalculating costs ensure the Activities page shows the most up-to-date cost information. Before recalculating project costs, you should always **schedule the project** (see "**Schedule a Project**" on page 224) to update the field values used in the calculations.

For more information on cost values that are recalculated automatically and cost values that must be recalculated using Recalculate Costs, see **Recalculate Costs Overview** (on page 187).

To recalculate activity costs:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) Select the **Actions** ▼ menu, and then select **Recalculate Costs**.
- 3) In the **Confirm** dialog box, select **Yes** to run the recalculation process.

### Tips

- ▶ You can recalculate costs for the current schedule, a baseline, or a scenario. Costs are only recalculated for the schedule, baseline, or scenario that is currently open.
- ▶ After you recalculate activity costs, open the recalculate costs log to view some basic data and statistics about the process, including start and finish date, the project it was run on, and whether resource assignment costs and activity costs were recalculated. If you enabled calculating project usage spreads when running recalculate costs, open the project usage log to view basic data about the process, including start and finish dates, the project it was run on, and whether the process was a success. You can access the logs from the notifications panel, **Inbox**, and the **Manage Services** page.
- ▶ When **scheduling your project** (see "**Schedule a Project**" on page 224) or **leveling your resources and roles**, you can select the **Recalculate costs upon completion** option to automatically recalculate costs after they are run.

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### Resource and Role Usage Overview

The Activities page provides time-phased views of resource and role usage for the activities in your project in the form of histograms and spreadsheets. These can be configured to show resource and role unit and cost data across the timeline of the project.

Resource and role data is displayed in separate tabs in the Project Usage detail window. Each tab supports a tree to select resources or roles and three distinct views to display their data:

- ▶ **Not Stacked Histogram:** Units or costs can be broken down into planned, actual, and a variety of remaining early and remaining late field values. In the settings, enable bars and cumulative curves that aggregate each field's values for the resources or roles selected in the resource or role tree. For units, toggle the display of a max availability line to show the allocation limits for the selected resources or roles. Toggle overallocation bars to see where schedule adjustments or additional assignments may be necessary.

The Not Stacked Histogram displays cumulative usage values in an S-curve style chart. The planned usage curve plots the progression of planned units or costs over time for the selected resources or roles. The actual curve tracks actuals up to the latest date they exist, typically the data date. The remaining early and remaining late curves begin where the actual curve ends, indicating the remaining work to be performed. It is possible for the remaining curves to be plotted on the same points in time, in which case the remaining early curve will be shown on top. In a program, projects with different data dates may show the actual curve from one project plotted on the same points as a remaining curve of a different project. The two curves are shown as dashed lines to indicate overlapping values. It is recommended that all projects in a program are scheduled with the same data date.

- ▶ **Stacked Histogram:** At completion values are shown as stacked bars, with each bar representing a different resource or role scheduled during that time period. You can also stack the bars by a specific resource/role code.

Additional options, such as chart legends, sight lines, and bar values are available in the settings for both histograms. The histograms display the spreads of resources and roles according to the calendar used by each of their activity assignments. This depends on an activity's duration type, which controls whether to use the activity's calendar or the calendars of each of its assignments. Resource and role underallocation and overallocation indications are determined by their individual resource calendars.

- ▶ **Spreadsheet:** Unit and cost data in the spreadsheet is aggregated to spreadsheet row totals and distributed across a timescale. Each selected resource or role shows time-phased units and costs optionally grouped by a summary band containing unit and cost totals. In the settings, you can select incremental and cumulative fields to display as rows in the spreadsheet. You can also configure grouping bands to more easily view each resource or role grouping.

The histograms and spreadsheets display the usage of activity assignments in your current schedule. Usage data in an open baseline or schedule scenario is not reflected. At the program level, view resource and role usage for activities in each of the projects within the program.

### Understanding Role Availability

You can enter units in time-phased intervals on the timescale as job-hours or as full-time equivalent (FTE) values. FTE represents the number of full-time employees needed to complete the work in a specified time period. Planning units using FTE values makes it easy to compare work requirements across time intervals with different durations (such as months) and manage multiple roles that may all have different calendar availabilities. Depending on your user preferences, FTE can be entered as units/duration (whole numbers and decimals) or as percentages. Use the following guidelines to fill in the FTE value:

- ▶ If only one full time employee is needed to complete the work for the time period specified, enter a value of 1.0 (or 100%) for the FTE.

- ▶ If more than one full time employee is needed to complete the work, enter a value that equals the number of employees needed. For example, if four full time employees are needed to complete the work, enter a value of 4.0 (or 400%) for the FTE.
- ▶ If the work can be done by part time employees or full time employees working less than the number of hours expected for the time period, you can enter the FTE in decimals to indicate the percentage of the time period that needs to be worked. For example, if you only need a part time employee working half of the hours expected for the time period, you can enter an FTE of 0.5 (or 50%). Or, for example, if the role needs to be done by a full time employee working full time and an additional part time employee working half of the hours, then you can enter an FTE of 1.5 (or 150%).

On the Resource or Role Usage Charts, you can toggle on FTE to view the resource or role units in FTE (your organization might refer to this as "man-days"). FTE values are displayed in the timescale set for the Gantt chart for the page. The working days and hours represented in the FTE values are determined by the calendar associated to the resources or role assignments.


Here is an example to understand how to interpret the FTE values on the Resource or Role Usage histograms. In this example, you have 1 full-time resource assigned to 1 activity; the activity duration is a year. The calendar assigned to the resource sets a 5 day work week, with 8 hours per work day. When the timescale is set to Week/Day, the FTE is 1 because there is 1 work day with a full-time employee working. When the timescale is set to Month/Week, the FTE value for the week is 5 to represent the 5 working days of the resource. When the timescale is set to Quarter/Month, the FTE will be equal to the number of working days in the month (for example, 22); and so on for the rest of the timescale options. If you have two full-time resources for the activity, then the values will be doubled, to represent two full-time workers on a work day.

**Configure View Settings** (on page 316)

### Configure Resource and Role Usage Settings

Configure settings for the usage histograms and spreadsheets on the Activities page. Set separate stacked and not stacked histogram view options, as well as settings that apply to both views. Resource and role histogram settings are configured separately, but you can enable an option to synchronize them so that the same configuration of settings is used for both. For the resource and role usage spreadsheets, you can select the incremental and cumulative unit or cost fields that will be used as spreadsheet rows. You can also configure grouping bands for the spreadsheet. Resource and role histogram and spreadsheet settings are configured separately. All configuration settings are saved with the view. The resource and role histograms and spreadsheets can only be viewed from the current schedule.


To configure usage settings:


- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Activities** page, in the **Open** menu, select **Current Schedule**.
- 3) Select the **Layout** ▼ menu, and then select  **Project Usage**.

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**Note:** At the program level, this option is named **Program Usage**.

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- 4) Select the **Resource Usage** or **Role Usage** detail window.
- 5) Select  **Settings**.
- 6) In the **Settings** panel, on the **Histogram** tab, configure the following sections:

- ▶ **Not Stacked:** This section contains settings for the  **Not Stacked Histogram** view.
  - **Bars & Curves** option: Select **Show Units** or **Show Costs** to display unit or cost data in either histogram.
  - In the chart options table, choose graph bars and cumulative curves to display for each unit or cost field. Choose a color for each field's bar and curve.
  - **Display actuals using period values:** Displays the Period Actual values for the resource assignments. When unselected, the histogram displays the Actuals.
  - **(Show Units only) Overallocation:** Displays overallocated hours as a red bar.
  - **(Show Units only) Max Availability:** Displays a line representing the combined maximum availability of the selected resources or roles.

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**Note:** When **FTE** is enabled, the **Overallocation** and **Max Availability** settings are hidden.

---

- ▶ **Graph:** Toggle display options that apply to the unstacked and stacked histogram views.
    - **Legend:** A legend for the histograms' bars and curves.
    - **Data date line:** A line at the project's data date. For a program, the data date line will be on the earliest data date in the program.
    - **Horizontal sight lines:** A line for each Y-axis interval.
    - **Vertical sight lines:** A line for each X-axis interval.
    - **Values on bars:** The value of each bar is displayed on the bar.
    - **Values on curves:** The value of each curve is displayed on the curve.
    - **Calendar:** The calendar being used by the project is displayed next to the graph.
  - ▶ **Stacked:** Configure settings for the  **Stacked Histogram** view.
    - By default, stacked histogram bars are grouped by individual resources or roles. To group stacked bars according to a specific assigned resource/role code, select **Stack by resource/role code**, and then choose a code.
    - To display cumulative curves for the stacked histogram, select **Show cumulative curves**, and then choose **Individual cumulative curves** or a single **Total cumulative curve**.
    - To show the value for each section of the stacked histogram bar, select **Show individual values in bars**.
  - ▶ In the **Resource Usage** settings, select **Use Role Usage Settings** to synchronize the settings between the two histograms. In the **Role Usage** settings, this option is called **Use Resource Usage Settings**. When enabled, settings changes made in one histogram will be updated in the other. When disabled, you can configure independent settings for each histogram.
  - ▶ **(Show Units only):** Select **FTE** to show selected resource or role units as FTE values in the histograms and spreadsheets. When FTE is enabled, the **Overallocation** and **Max Availability** settings are hidden. This toggle is also shown below the usage charts. Cost values are not affected by the FTE toggle.
- 7) On the **Spreadsheet Rows** tab, select the cumulative and incremental unit and cost fields that you want to apply to the resource usage or role usage spreadsheet.




- 8) On the **Spreadsheet Grouping** tab, select the grouping style and color theme that you want to apply to the resource usage or role usage spreadsheet.
- 9) Select **Apply**.

### View the Resource and Role Histograms and Spreadsheets

The histograms and spreadsheets on the Activities page enable you to view time-phased unit and cost data for the resources and roles assigned to activities in your project. Select resources or roles from the tree in the Project Usage detail window to display their data in the histogram or spreadsheet. The Not Stacked Histogram shows aggregated planned, actual, and remaining values. You can also enable max availability and overallocation indicators in the settings. The Stacked Histogram shows at completion values. It can also be set to stack by a specific resource/role code. The Spreadsheet can be configured to display a variety of incremental and cumulative field data. The resource and role histograms and spreadsheets can only be viewed from the current schedule.




To view the resource or role histogram or spreadsheet:

- 1) **Navigate to the Activities page** (see page 337).
- 2) On the **Activities** page, in the **Open** menu, select **Current Schedule**.
- 3) Select the **Layout** ▼ menu, and then select  **Project Usage**.

---

**Note:** At the program level, this option is named **Program Usage**.

---

- 4) In the detail window, select the **Resource Usage** or **Role Usage** tab.
- 5) Before viewing your resource or role usage data, **configure the usage settings** (see "**Configure Resource and Role Usage Settings**" on page 191) to ensure the appropriate information is displayed, such as units or costs, bars and curves, legend details, and spreadsheet formatting.
- 6) Select one or more resources or roles from the tree whose data you want to display.
- 7) To limit the display of activities in the activities table, in the dropdown list in the detail window toolbar, select one of the following:
  - ▶ **Show all activities above:** Show all activities regardless of the current resource or role selections. This does not include activities hidden by filters.
  - ▶ **Show activities for selected time period:** Only show activities whose dates fall within the time period configured in the **From:** and **To:** date fields displayed in the detail window toolbar.
  - ▶ **Show activities for selected resources:** Only show activities that have assignments for any of the selected resources or roles.
- 8) In the detail window toolbar, select  **Not Stacked Histogram** or  **Stacked Histogram** to switch between histogram views. Select  **Spreadsheet** to view the spreadsheet data for your selection.
- 9) In a histogram, hover over a bar or curve to view its details.  
In the spreadsheet, unit or cost values are rolled up for each resource or role and broken down by individual activity assignments.

- 10) With units displayed, in a histogram or spreadsheet, select the **FTE** toggle to show the selected resource or role units as FTE values. When FTE is enabled, axis labels and units are updated to show FTE values, and overallocation bars and max availability lines are hidden. Disable the option to show the FTE values as time units. Cost values are not affected by the FTE toggle.

### Tips



- ▶ Resource and role values are spread according to the calendar in use by each of their activity assignments. This depends on an activity's duration type. In the histogram legend, the **Calendar** label indicates which resource calendar is being used to determine the underallocation and overallocation values of the resources or roles that are selected. If all selected resources or roles use the same calendar, it will be shown in the Calendar label. If the selected resources or roles do not all use the same calendar, the project's default calendar will be shown in the Calendar label.
- ▶ The Gantt chart, histogram, and spreadsheet timescales are synchronized, so timescale range or granularity changes in the Gantt are automatically reflected in the histogram and spreadsheet. Changes to the histogram or spreadsheet timescales do not automatically reflect in the Gantt.
- ▶ In the context of a program, ensure all projects have the same Data Date. This will align them in the usage charts along the same time periods.
- ▶ You can increase the size of the usage charts by enlarging the detail window panel and by dragging the vertical divider between the tree and the histogram or spreadsheet. Enlarging the charts does not increase the amount of data shown, just the size of the currently displayed data.
- ▶ The print layout will only display and print what is currently being shown in the usage panel based on the resources or roles selected in the tree. Data preceding or succeeding what is being shown in the panel will not be shown in the print preview and is not printable. Use the previous tips to configure the usage panel before opening the print options.
- ▶ The histograms and spreadsheets display the usage of the activity assignments in your current schedule. Usage data in an open baseline or schedule scenario is not reflected.

### Print Activity Usage, Role Usage, or Resource Usage Histogram


You can print the Activity Usage, Resource Usage, or Role Usage histograms for a time-phased view of your activity, resource, or role usage. The data in the histogram is an aggregated display of usage data for roles, resources, or activities.

To print the Activity Usage, Role Usage, or Resource usage histogram:


- 1) **Navigate to the project Activities page** (see page 337)
- 2) In the **Activities** page, in the **Open** menu, select **Current Schedule**.
- 3) In the detail window, in the activity details/project usage menu select **Project Usage**, and then select the **Activity Usage**, **Resource Usage**, or the **Role Usage** tab.
- 4) Before viewing your usage data, **configure the resource and usage settings** (see "**Configure Resource and Role Usage Settings**" on page 191) or **configure the activity usage settings** (see "**Configure Activity Usage Settings**" on page 163) to ensure the appropriate information is displayed, such as units or costs, bars and curves, legend details, and spreadsheet formatting.

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- 5) When printing Resource Usage or Role Usage data, select one or more resources or roles from the list whose data you want to display.
  - 6) In the detail window toolbar, select  **Not Stacked Histogram** or  **Stacked Histogram**.

---

**Note:** The  **Stacked Histogram** option is only available when printing Resource or Role Usage histograms.


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- 7) Configure the page view according to your needs, and then select  **Print** to open the **Print Options** panel.
- 8) In the **Settings** panel, configure the following page-level options:
  - ▶ **Paper Size:** Select a standard paper size or enter custom print dimensions.
  - ▶ **Orientation:** Select a **Landscape** or **Portrait** page orientation.
  - ▶ **Margins:** select the length of the top, left, right, and bottom margins of the layout.

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**Note:** You can also click and drag the borders in the print preview to adjust each margin.

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- ▶ **Show Watermark:** Select this option, and then enter text to appear as a watermark on each page.
  - ▶ **Pages:** Print all pages or a specific range of pages.
- 9) To modify the layout of the content section, hover over the print preview, and select **Edit Content** :
- ▶ In the **Settings** panel, select the settings that you want to appear in the chart.
  - ▶ On the **Timescale** tab, select a timescale interval, and then select a start and finish date for the timescale. When **Reporting Period** is selected as the timescale interval you can designate the use of custom labels for the reporting period by selecting **Custom label only**.

---

**Note:** The Reporting Period timescale is only available in a Project view.



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- ▶ Select **Use rolling dates** to configure rolling start and end dates. Enter a value in **Timescale units per page** to define the number of timescale units displayed on each page of the chart.

---

**Note:** The **Edit Content** option is only available when printing **Activity Usage**.

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- 10) Select **Return to Preview** to exit the edit mode.
- 11) To modify the print header or footer settings, hover over the print preview, and select **Edit Header**  or **Edit Footer** .
- 12) In edit mode, use the floating toolbar to configure the following header and footer options:
  - ▶ Apply bold, italics, or underline formatting, and change the size and color of text.
  - ▶ **Alignment:** Align each line of text to the left, center, or right side of a section.

- ▶ **Insert Link:** Add link text and a URL. Choose to open the link in a new browser tab or window, or open the link in the current browser tab.
- ▶ **Add Image:** Insert the company logo, the image for the current project, or the image for the current workspace.
- ▶ **Add Revision Box:** Add a revision box to the selected section. To edit the content in the revision box, select **Open Revision Box Editor** from the **Settings** panel. In the **Revisions** dialog box, you can enter text, rearrange and resize columns, and modify the alignment of text in the columns. Select **Add** to add more rows to the table. Deselect the **Print** checkbox for a row if you do not want that row to be printed on the PDF (the row is still saved in the Revisions dialog box). When you are finished editing the Revision Box, select **Save**.

You can only have one unique revision box per named view. If you add multiple revision boxes to the printout, they will all have the same configuration.

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**Note:** The Revision Box editor is not available for Resource Usage or Role usage printing.

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- ▶ **Add Field:** Add field variables to the selected section.


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**Note:** Field variable text that is only partially formatted may not display properly. Ensure the entire variable is formatted correctly.

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- ▶ **Toggle Dividers:** Toggle the display of section divider lines in the printout.
  - ▶ **Sections:** Display up to five separate sections in the header or footer.
- 13) In the **Settings** panel, configure separate options to show the header and footer on all pages, only the first page, or only the last page of the print layout.
  - 14) Select **Return to Preview** to exit the edit mode.
  - 15) In the thumbnail selector, select individual page thumbnails to review the order, number, and appearance of the pages in the print layout. Continue to modify print settings according to your needs.
  - 16) To reset your selection to the default settings, select **Restore Default Settings**.
  - 17) When you are finished, select **Print** to print the layout to a PDF file. You can then view the layout or print it to a physical format.

## Tips

- ▶ Use the floating toolbar to adjust the zoom settings of the print preview. Select  **Continuous** to enable continuous scrolling of the print preview.

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## Resource-Loaded Scheduling Overview

The topics in this procedure explain the process of configuring and using resource and role activity assignments in your schedule. Activity assignments enable you to plan your activity units and costs based on the resources and roles assigned to perform the work on each activity. Depending on your organization's preferences, you may be working with resource and role units, costs, or both. Your organization may also choose to not use resource assignments at all and instead update units and costs directly on each activity. If this describes your organization, you should consult the individual help topics found in **Modify Activity Details** (on page 130).

Project planning is not a linear process. You may need to change workspace and project settings, add new resources, modify the schedule, and adjust resource and role assignments many times throughout your project's lifecycle. While the recommended sequence of steps is described below, most of these steps can be performed as many times as necessary and in any order. You can plan projects individually or use a program to plan a group of related projects.

## Prerequisites

Before you begin statusing your activities using resource and role assignments, you should ensure that the following prerequisites are completed:

- ▶ **Configure workspace and project settings:** Use the *Get Started with Schedule* (on page 13) section (Primavera Cloud only) to configure user privileges, dictionaries, object default settings, and object options. Then, configure project-level settings such as activity defaults and calculations, auto numbering, project calendars, and more. Topics related to resource and role configuration are indicated in their descriptions.
- ▶ **Add resources and roles:** Use the *Resource List* (see "*Resource List Overview*" on page 258) and *Role List* (see "*Role List Overview*" on page 281) pages in the Resources app to create workspace-level and project-level resources and roles. Depending on your organization's preferences, you may be using only resources or roles in your projects, or using resource associations to staff role assignments. Both resources and roles can be added at the workspace or project levels depending on whether they will be used across multiple projects in the workspace or just one project. Project resources and roles can be promoted to the workspace level after they are created.

While these sections discuss the configuration of all resource and role details, ensure that the resources and roles you will be assigning to your activities have defined calendars, work availability, and rates. This information is used to calculate when a resource or role can work, how much work they can perform, and how much the work will cost.

- ▶ **Build your schedule:** *Define the Work Breakdown Structure* (see "*Create a WBS*" on page 108) to arrange your activities into hierarchical levels. *Create activities* (see "*Create an Activity*" on page 126) to describe the project work that must be performed. The *Modify Activity Details* (on page 130) section contains topics for all activity details that can be edited, including resource and role assignments, units, and costs. If you will not be progressing activities using resource or role assignments, you can consult the individual topics contained in that section. If you will be entering activity details at the assignment level, follow the series of topics below, which sequences the same assignment, unit, and cost topics into a recommended order.

## Build a Resource-Loaded Schedule

After your schedule takes shape, you can begin to designate resources and roles to work on your activities. Enter units and costs on each assignment to quantify the labor and cost requirements of the activity. At any stage of the project lifecycle, including planning and execution, you can use a variety of tools to monitor your resources and roles for allocation and staffing issues. When these issues are found, you can take the necessary steps to resolve them.

Follow the steps below to build a resource-loaded schedule:

- ▶ **Create activity assignments**

- ▶ **Assign a Role to an Activity** (on page 139): If you will be adding general job requirements to each activity during the early planning stages of your project, assign roles to the activities and later staff them with specific resources. If your project will not use resource assignments, you can just directly assign roles.
- ▶ **Staff a Role Assignment** (on page 141): Add a resource to an existing role assignment when you know which resource should be assigned to fulfill the role. You can see all of the resources associated with the role to help you make the best choice.
- ▶ **Assign a Resource to an Activity** (on page 142): Assign resources directly if you already know the resource that will perform the work or if your project will not use role assignments.
- ▶ **Enter activity units and costs**
  - ▶ **Configure Assignment Calculation Options** (on page 145): The cost of a resource or role assignment is determined by its units and its rate. Before you enter units and costs on an assignment, you should specify the source of the assignment's rate, the type of rate, and whether the assignment's costs should be calculated in proportion to its units or independent of them.
  - ▶ **Enter Activity Units** (on page 136): Units entered at the activity level are distributed among its resource and role assignments. Units entered on individual assignments roll up to the activity level. If cost values are defined for the project or activity assignments, updating an activity's units may also update its costs.
  - ▶ **Enter Activity Costs** (on page 137): Similar to units, an activity's costs are distributed to its assignments and assignment costs are rolled up to the activity. Depending on your assignment's calculation options, activity costs can be entered directly or calculated from units.
  - ▶ **Assign a Curve to a Resource or a Role Assignment** (on page 146): A curve determines how an assignment's units are spread across the duration of the assignment. By default, units are spread evenly using a linear curve, but other curve patterns include front-loaded, back-loaded, and bell curve. Updating an assignment's units may also update its costs.
  - ▶ **Recalculate Activity Costs** (on page 189): You should frequently recalculate the cost values on the Activities page to ensure they are up-to-date and accurate.
- ▶ **Monitor resource and role usage**
  - ▶ **Usage Histograms and Spreadsheets** (see "**Resource and Role Usage Overview**" on page 189): Monitor unit and cost usage data directly from the Activities page for the resources and roles assigned to activities in to your project. Select individual resources or roles to view their planned, actual, and remaining data as bars and curves in time-phased histograms, or customize columns and rows to view data in a spreadsheet format.
  - ▶ **Assignment List** (see "**Assignment List Overview**" on page 299): Review unit and cost allocations in a time-phased spreadsheet for the resources assigned to your project. You can analyze resource data in a variety of ways by customizing the view. View options include grouping assignments by resource to view each resource's total units and costs across the project, grouping assignments by activity to view activity unit and cost totals, or grouping resources by their associated roles to see which roles are still unstaffed. This page is available in the Resources app for workspace-level and project-level resources.

- ▶ **Analysis** (see "**Analysis Overview**" on page 311): View separate time-phased spreadsheets for the resources and roles available to your workspace, project, or program. For each resource, view max availability units, the number of currently allocated units, and the number of units by which the resource is underallocated or overallocated. For each role, view max availability units, the number of staffed remaining units, and the number of unstaffed remaining units. You can also view the selected resource or role's units displayed in a histogram.

## References

The topics below provide additional information about resource units and costs.

- ▶ **Understanding Activity Units and Costs** (on page 199): This topic introduces the various reference topics that relate to unit and cost fields.
  - ▶ **Activity Unit and Cost Fields** (on page 200): Review the unit and cost fields you can use to record progress on your activities and resource and role assignments.
  - ▶ **Entering Activity and Assignment Units and Costs** (on page 200): A variety of settings and the presence of resource assignments control when you can add unit and cost values to the activity and assignment levels.
  - ▶ **Valid Activity Unit and Cost Values** (on page 202): Depending on an activity's resource type and the number of resources or roles assigned to it, you can enter either positive or negative unit and cost values at the activity and assignment levels.
- ▶ **Recalculate Costs Overview** (on page 187): This topic explains which cost values are updated automatically, which prompt you to recalculate, and which must be manually recalculated using the Recalculate Activity Costs service.
- ▶ **Resource Assignment Detail Window Fields** (on page 204): Reference the definitions of fields used when working with activity resource and role assignments.

## Understanding Activity Units and Costs

Units and costs in Primavera Cloud are used to measure the effort required to complete your activities and the price of that effort. Unit and cost fields for each activity are broken down into types to measure the different possible aspects of activity progress, including planned, actual, remaining, and at completion.

Activity-level values roll up to the project level to provide an overall measure of project effort and cost. Depending on how you intend to manage your project, activity-level values may also be distributed down to the individual resources and roles assigned to perform the activity work. Unit and cost fields are further broken down according to the type of resource work being performed.

There are specific rules that govern when units and costs can be entered at the activity level or assignment level, as well as the types of values that can be entered. Use the topics below to learn more about activity and assignment unit and cost fields, the rules for updating them, and the types of values that can be entered.

## Activity Unit and Cost Fields

The main field types in Primavera Cloud that are used to measure the different aspects of an activity's progress are **Planned**, **Actual**, **Remaining**, and **At Completion**. Each of these types supports unit and cost values. Unit and cost fields can be entered at the activity level or assignment level based on resource type. Unit values can be added to labor and nonlabor resources. Cost values can be added to labor, nonlabor, and material resources. Values added to role assignments are counted as labor values.

Activity-level field names indicate the field type, resource type, and whether the value is a unit or cost. Some examples of activity-level fields include *Planned Labor Units*, *Planned Nonlabor Units*, *Actual Labor Units*, *Actual Nonlabor Cost*, *Remaining Material Cost*, and *At Completion Material Cost*. Activities also support separate *Total Cost* fields that aggregate all labor, nonlabor, and material costs for each of the four field types.

Assignment-level field names indicate the field type and whether the value is a unit or cost. Some examples of assignment-level fields include *Planned Units*, *Actual Units*, *Remaining Cost*, and *At Completion Cost*. Values entered at the assignment level roll up to the corresponding activity field that matches the type of the assignment. For example, *Planned Units* entered on all nonlabor resource assignments roll up to the *Planned Nonlabor Units* field at the activity level. *Remaining Cost* values entered on all material resources roll up to the *Remaining Material Cost* field at the activity level.

Unit and cost fields are supported in your current schedule, scenarios, and baselines. For comparison purposes, baselines also support read-only Planned, Actual, and Variance fields for each baseline type. Baseline variance fields measure the difference between the baseline's Planned field value and the current schedule's corresponding At Completion value. Examples of baseline variance fields include *Original BL Variance - Labor Units*, *Original BL Variance - Nonlabor Cost*, and *Current BL Variance - Material Cost*.

## Entering Activity and Assignment Units and Costs

This topic explains the rules for entering unit and cost values at the activity level and resource assignment level.

Units and costs can be defined directly at the activity level if you do not plan to assign resources or roles to your schedule. If assignments exist on the activity, units and costs are entered on individual resource and role assignments. Values entered at the activity level are distributed among assignments with the same type as the activity field. Values entered at the assignment level roll up to the corresponding activity fields.

The cost of your activities is determined by multiplying the amount of work performed, measured in units, and the price of each work unit, measured as a rate. An activity without assignments uses the **Default Price/Unit** rate set at the **project level** (see "**Configure Calculation Settings for a Project**" on page 92). An activity with assignments uses the **Price/Unit** rates of each of its assignments. Because costs and units are interdependent, it is important to be aware that modifying units will recalculate costs and modifying costs will recalculate units. The **Calculate Costs from Units** setting controls the link between corresponding unit and cost fields. When enabled, costs and units are linked. When disabled, costs and unit values can be edited independent of each other. This setting can be set for each resource and role assignment. At the activity level, the link between costs and units depends on the setting of each of its assignments. When there are no assignments, cost and unit fields are linked.



## Entering Activity Units

Units can be entered in the following ways:

### ▶ At the activity level

- ▶ You can enter units directly or enter costs to indirectly update units on activities without resource or role assignments. Cost and unit fields are always linked on activities without assignments.
- ▶ You can also enter units directly on activities with resource or role assignments. Unit values entered on fields that share the same type (Labor or Nonlabor) as an assignment will be distributed among those assignments. Unit values on fields that do not share the same type as an assignment do not get distributed to any assignments. Roles are counted as Labor type assignments.
- ▶ Depending on the activity's duration type, modifying an activity's duration values may cause one or more assignment units to change. Because assignment units roll up to the corresponding activity fields, the activity's units may also change. Updated units will roll up to the corresponding activity fields.

### ▶ At the assignment level

- ▶ You can modify all unit fields on an assignment. The updated units will roll up to the corresponding activity fields.
- ▶ Depending on the activity's duration type, modifying an assignment's duration or units/time values may cause the assignment's units to change. The updated units will roll up to the corresponding activity fields.

## Entering Activity Costs

Costs can be entered in the following ways:

### ▶ At the activity level

- ▶ You can enter costs directly or enter units to indirectly update costs on activities without resource or role assignments. Cost and unit fields are always linked on activities without assignments.
- ▶ On activities with assignments, you can directly modify activity cost fields if they do not share the same type (Labor, Nonlabor, or Material) as an assignment. Activity cost and unit fields are linked if the fields do not share the same type as an assignment. Cost fields that share a type with an assignment must be edited at the assignment level. Roles are counted as Labor type assignments.
- ▶ Modifying unit fields on activities with assignments may indirectly affect activity-level costs. Units entered on activities with assignments distribute those units to assignments of the same type as the activity field. Costs are only calculated from these updated units on assignments where **Calculate Costs from Units** is enabled. If **Calculate Costs from Units** is disabled for an assignment of the same type, then its costs are not affected. All assignment costs roll up to the corresponding activity cost fields.
- ▶ Depending on the activity's duration type, modifying an activity's duration values may cause one or more assignment units to change. If an assignment's **Calculate Costs from Units** setting is enabled, the change in its units will recalculate its costs. The updated costs will roll up to the corresponding activity fields.

### ▶ At the assignment level

- ▶ With the **Calculate Costs from Units** setting enabled, modifying a unit field will affect the corresponding cost field. If the Rate Source is set to **Override**, you can also modify the assignment's **Price/Unit** value to recalculate all of its costs. The updated cost values will roll up to the activity level.
- ▶ With the **Calculate Costs from Units** setting disabled, you can modify costs independent of units. All assignment cost values roll up to the corresponding activity fields.
- ▶ Depending on the activity's duration type, modifying an assignment's duration or units/time values may cause the assignment's units to change. If the assignment's **Calculate Costs from Units** setting is enabled, the change in its units will recalculate its costs. The updated costs will roll up to the activity level.

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**Notes:**

- You must have a **Default Price/Unit** value greater than 0 configured before you can enter costs on an activity with no resource or role assignments.
  - If an assignment's **Calculate Costs from Units** setting is disabled, modifying the **Price/Unit** value will have no effect on the assignment's unit or cost values. However, if you enable the **Calculate Costs from Units** setting, the costs will be recalculated based on the current **Price/Unit** and unit values. See **Configure Assignment Calculation Options** (on page 145) for more information on configuring an assignment's various calculation settings.
- 

**Additional Rules:**

- ▶ If a resource or role is assigned to an activity without existing assignments, and the activity has existing unit and cost values, the activity values in fields of the same type as the new assignment will be overwritten by the assignment's corresponding values, which will roll up to the activity level. All other unit and cost fields will remain the same. For example, assigning a nonlabor resource will only overwrite the activity's nonlabor unit and cost values.
- ▶ Depending on its type, an assigned resource can overwrite labor, nonlabor, or material values. Assigned roles always overwrite labor values. If a resource staffs a role, the assignment values will roll up to the activity fields with the same type as the associated resource.
- ▶ Start and Finish Milestones do not support resource or role assignments, but you can enter lump sum labor, nonlabor, and material cost values directly on the milestone activity.

**Valid Activity Unit and Cost Values**

This topic describes acceptable unit and cost values that can be entered on activities and assignments.

When updating your activities and resource or role assignments, you typically will enter values for the work being performed in terms of time units such as hours, days, weeks, months, and years. Cost values on activities and assignments will be in terms of base currency or project currency, depending on your project currency setup and view settings. In most situations, the values you enter will be positive, but there are times you may find it easier to update units or costs using negative values. This may be done by users entering negative values in order to make adjustments to other unit or cost fields.

Negative unit and cost values can be entered as long as other related data remains valid. In Primavera Cloud, negative duration values are not permitted on activities or assignments. Duration is one variable in the following equation, used to calculate an assignment's duration and unit values:

$$\text{Units} = \text{Units/Time} \times \text{Duration}$$

This equation applies to an assignment's corresponding Planned and Remaining fields. When one value in the equation is modified, the other two may be recalculated. The recalculated value is controlled by the activity's duration type, which enables you to determine if the duration, resource availability, or budget (units or costs) is the most important factor in your activity. See **Assign a Duration Type to an Activity** (on page 133) for more information. In the equation above, entering a negative value for Units or Units/Time may cause Duration to become negative, which is not permitted in the application. To allow a negative Unit or Units/Time value, the Duration must be fixed so that it cannot become negative. This is possible using a duration type with a fixed duration. Because Actual fields are not part of the duration type equation, they can be entered as negative or positive using any duration type.

As described in **Entering Activity and Assignment Units and Costs** (on page 200), unit or cost values entered at the activity level are distributed to assignments with the same resource type as the activity field. This may be Labor or Nonlabor for unit fields, and Labor, Nonlabor, or Material for cost fields. Unit and cost values entered at the assignment level roll up to corresponding fields at the activity level. The following rules describe entering positive and negative values in activity-level unit and cost fields. If a value is valid in an activity-level field, it is also valid at the corresponding assignment-level field. There are different rules depending on the activity's duration type, the resource type of the field you are editing, and the number of resources or roles assigned to the activity.

**For Fixed Units or Fixed Units/Time** duration type activities:

- ▶ If there are no assignments with the same type as the activity field you are editing, you can enter positive or negative actual units or actual costs in the field. You can also enter positive planned or remaining costs or units, but not negative.
- ▶ If there is one assignment with the same type as the activity field you are editing, you can enter positive or negative actual units in the field. You can also enter positive planned or remaining units, but not negative. Values entered at the activity level will be shown in the corresponding assignment field. Costs must be entered at the assignment level.
- ▶ If there are multiple assignments with the same type as the activity field you are editing, you can enter positive or negative actual units if the actual unit values of the corresponding assignments are all positive or all negative. You can also enter positive planned or remaining units, but not negative. Values of zero are also supported. Entered values will be distributed across the corresponding assignment fields.

**For Fixed Duration & Units or Fixed Duration & Units/Time** duration type activities:

- ▶ If there are no assignments with the same type as the activity field you are editing, you can enter positive or negative units or costs of any field type (Planned, Actual, Remaining, or At Completion).
- ▶ If there is one assignment with the same type as the activity field you are editing, you can enter positive or negative units of any field type. Values entered at the activity level will be shown in the corresponding assignment field. Costs must be entered at the assignment level.
- ▶ If there are multiple assignments with the same type as the activity field you are editing, you can enter positive or negative units of any field type if the unit values of the corresponding assignments are all positive or all negative. Values of zero are also supported. Entered values will be distributed across the corresponding assignment fields.

If you attempt to enter a negative value in one of the scenarios above where it is not permitted, an error message will appear and the value will not be entered. You may also receive an error if changing the duration type of an activity causes any values to violate one or more of the rules above.

### Resource Assignment Detail Window Fields

Depending on your settings, the following fields might appear on the page as table columns, spreadsheet rows, or in detail windows. Fields that are generic across the application, such as Name, may not be included here.

#### Dates

##### Actual Finish

The date on which the assignment was completed.

##### Actual Start

If the activity has started, the date work began on the activity.

##### Finish

The finish date for the assignment.

##### Planned Finish

The date the assignment is scheduled to be finished.

##### Planned Start

The planned start date for the assignment on the activity.

##### Remaining Early Finish

The date the assignment is scheduled to be finished.

##### Remaining Early Start

The date the assignment is scheduled to begin.

##### Remaining Late Finish

The latest possible date the assignment must be finished to not delay the project finish date.

##### Remaining Late Start

The latest possible date the assignment must begin to not delay the project finish date.

**Start**

The start date for the activity assignment.

**Timesheet Actual Start**

Actual Start Date derived from Timesheet at the time of timesheet approval

**Durations****Actual Duration**

The total working time from the assignment actual start date to the actual finish date for completed assignments, or the total working time from the actual start date to the data date for in-progress assignments.

**At Completion Duration**

The total working time from the assignment's current start date to the current finish date.

**Planned Duration**

The resource's total working time on the activity from the Planned Start date to the Planned Finish date.

**Planned Lag**

The planned time lag between the activity's planned start date and the resource's planned start date on the activity.

**Remaining Duration**

The remaining working time for the resource assignment on the activity, from the resource's remaining start date to the remaining finish date.

**Remaining Lag**

The time lag between the activity's remaining start date and the resource's remaining start date on the activity.

**Financial****Actual Cost**

The actual cost for the resource assignment on the activity.

**Actual This Period Cost**

The labor, nonlabor, and material costs incurred during the current financial period.

**At Completion Cost**

The sum of the actual costs plus remaining costs for the resource assignment on the activity.

**Planned Cost**

The expected total cost of the item, such as an assignment, expense, or response plan.

**Price/Unit**

The price per unit of time for the resource or role.

**Remaining Cost**

The remaining cost for the resource assignment on the activity.

**Staffed Remaining Cost**

The remaining cost for resource assignments that have a filled role.

**Unstaffed Remaining Cost**

The remaining cost for resource assignments that do not have a filled role.

**General**

**Calculate Costs from Units**

Indicates whether to calculate costs based on units for an assignment.

**Curve**

The resource's units and costs distributed over the duration of an activity.

**Drive Activity Dates**

Determines whether new resource or role assignments determine activity dates.

**Proficiency**

The skill level of the resource an activity is assigned to. The valid values are Master, Expert, Skilled, Proficient, and Inexperienced.

**Rate Source**

The value that indicates which Price/Unit will be used to calculate costs for the assignment. Valid options are Resource, Role, or Override.

**Rate Type**

Identifies the Resource or Role rate to be used as a default when creating activity resource assignments.

**Resource Type**

The resource type. Valid values are Labor, Nonlabor, and Material.

**Percentages**

**Units Percent Complete**

The percent complete of units for the resource assignment on the activity.

**Units**

**Actual This Period Units**

The labor, nonlabor, and material units used during the current financial period.

**Actual Units**

The sum of the actual non-overtime and the overtime units worked by the resource on the activity.

#### At Completion Units

The sum of the actual units and remaining units for the resource assignment on the activity.  
Calculated as Actual Units plus Remaining Units.

#### Planned Units

The planned units of work for the resource assignment on the activity.

#### Planned Units/Time

The planned units per time at which the resource is to perform work on the activity.

#### Remaining Units

The remaining units of work to be performed by the resource on the activity.  
Calculated as Planned Units minus Actual Units.

#### Remaining Units/Time

The units per time required for the resource assignment to complete the activity.

#### Staffed Remaining Units

The remaining units for resource assignments that have filled a role.

#### Timesheet Actual Units

Timesheet actual hours logged from timesheet for the assignment.

#### Unstaffed Remaining Units

The remaining units for resource assignments that have not filled a role.

---

### Schedule Health Score Overview

The Schedule Health Score tool enables you to evaluate the quality of your project schedule against a set of criteria. Using common schedule analysis metrics, the tool can help to ensure compliance with corporate or industry standards. Use the tool to identify problem areas in your schedule, and then consider methods to correct the issues that arise. Issues might include missing relationship logic or unrealistic date constraints that could negatively impact your project schedule.


The tool evaluates your project schedule using calculated metrics known as checks. Each time you run the scheduler on your current schedule or a schedule scenario, the tool automatically analyzes your activities and produces a score for each check. The check score indicates the level to which your activities are meeting the check's defined criteria. Typically, checks with a higher score require more immediate attention. Individual check scores contribute to an overall schedule health score. A higher schedule health score indicates a higher quality schedule.

Use the tool results to identify activities that meet each check's criteria, and then adjust those activities to generate a more favorable score. Check details, including target values, weighting values, and check descriptions, can be modified in the project settings. Individual checks can be enabled or disabled according to your organization's needs.

## Configure Schedule Health Score Settings

Schedule Health Score metrics have default descriptions, target threshold values, and weight calculation values that can be modified in the project settings. You can also modify additional check criteria where applicable. Individual checks can be enabled or disabled according to your organization's needs.

To configure settings for the Schedule Health Score tool:

- 1) **Navigate to the project settings page** (see page 342).
- 2) Select the **Schedule Health Check** tab.
- 3) Select **Ignore Completed Activities** if you want to exclude completed activities from the analysis.
- 4) In the table, select a check, and then configure the following settings:
  - ▶ **Description:** Modify the description of the check depending on your organization's needs.
  - ▶ **Active:** Include the selected check in the Schedule Health Score panel. Only active checks are used in the schedule health score calculation.
  - ▶ **Target:** Set the target threshold percentage value for the check. Typically, a check that exceeds the threshold value is marked red in the Schedule Health Score panel.
  - ▶ **Weighting:** Set the numerical weighting of the check. This value is used when determining the overall schedule health score.
- 5) In the **General** detail window, you can view or modify the same check details as in the table. Some checks have additional metrics that you can modify in the **Criteria** section of the detail window.
- 6) Save your changes:
  - In **Primavera Cloud**:
    - a. Select **Save**.
    - b. In the **Summary & Settings** panel, select × **Close**.
  - In **Primavera Professional**:
    - ▶ Select  **Save**.

**This setting is used in the following apps:**

 **Schedule**

## View the Schedule Health Score Results

Use the results of the Schedule Health Score tool to identify activities that could negatively impact the outlook of your project schedule.

Each check provides the following information:

- ▶ A count of the number of activities that do not meet its criteria
- ▶ The number of activities as a percentage of the whole project
- ▶ A red indication if the actual percentage exceeds the target defined in the settings and a green indication if it is at or below the target
- ▶ A list of activities that do not meet the check's criteria



- ▶ A description of what should be modified to improve the check score


Typically, checks with higher percentage scores require more immediate attention. Individual check scores contribute to an overall schedule health score. A higher schedule health score indicates a higher quality schedule. Schedule checks are run against the current schedule or a schedule scenario.

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**Note:** Some check scores are calculated after saving your data, while other scores are calculated after scheduling the project. Before using the Schedule Health Score tool, you should schedule the project to ensure you are viewing all the latest results.

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To view the schedule health check results:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) Select  **Schedule Health Score**.
- 3) In the panel, select a check to view the activities that do not meet the check metric's criteria. Select an activity to highlight it in the grid.
- 4) Modify the activity details that relate to the check, and then schedule your project to view updated check scores.

### Tips

- ▶ Filtered activities that do not meet a check's criteria are still included in the check score. Select a check, select  **More Info** next to any filtered activity, and then select **Clear All Filters** to clear all filters applied to the view.
- ▶ Select a check and then select **Description** to view a description of the check. Descriptions can be modified in the project settings.
- ▶ You can resize the Schedule Health Score panel by selecting the left edge of the panel and dragging to the desired size.

### Schedule Health Score Reference

The Schedule Health Score tool uses descriptions, target threshold values, and weight calculation values that can be modified in the project settings. Use this topic to refer to the default values for each check. This topic also describes the formulas used to calculate the Schedule Health Score value.

### Schedule Health Scores

The objective of most of the tool's checks is to minimize the number of activities that meet a check's criteria. Unless noted, a lower check score is more favorable to the overall Schedule Health Score value. When a check does not exceed its specified Target value, it is marked green in the Schedule Health Score panel. If it exceeds the Target value, it is marked red.

Check Name	Default Target Value	Check Description
Open Ends	0%	An activity without a predecessor or successor relationship may negatively affect the quality of your schedule and should be avoided.
No Predecessors	0%	An activity with no predecessors could be scheduled to start immediately. This can negatively impact your project schedule and should be avoided.
No Successors	0%	An activity with no successor relationships could be delayed indefinitely without affecting project completion. Ensure all activities have at least one successor.
Dangling Start	0%	An activity with a dangling start has only SF or FF predecessors and therefore could have an unrealistic start date. To avoid dangling starts, ensure each activity has at least one FS or SS relationship as its predecessor.
Dangling Finish	0%	An activity with a dangling finish has only SF or SS successors and therefore could have an unrealistic finish date. To avoid dangling finishes, ensure each activity has at least one FS or SS relationship as its successor.

Predecessor Negative Lag	0%	<p>The use of negative lags to overlap activities or adjust successor dates can affect the critical path and distort total float. It can also cause a successor to start before a predecessor. Negative lags can cause activities to be scheduled in unrealistic ways and generally should not be used.</p> <p>If an event in the predecessor activity is the "trigger" to begin the successor activity, consider breaking the predecessor into two activities. For example, two activities "Design" and "Build" would become "Draft Design", "Finalize Design", and "Build". "Draft Design" would then precede both other activities.</p>
Predecessor Lag	5% or less	<p>Lag time between activities should not be used to control float or constrain dates. Consider representing the delay between two activities by adding another activity.</p> <p>If a lag represents some effort or activity, consider replacing it with an activity. For example, two activities "Pour Concrete" and "Build Wall" could have a lag replaced with an activity "Concrete Set".</p>

FS Predecessor	90% or greater	<p>Finish-to-Start (FS) relationships are the easiest to trace and understand. The majority of your relationships should be FS.</p> <p><b>Note:</b> The FS Predecessor check is unique in that its objective is to maximize the number of activities that meet its criteria. The objective of all other checks is to minimize the number of activities that meet the check's criteria. When the FS Predecessor score exceeds its Target value, the check is marked green. The FS Predecessor check uses a different formula when calculating the overall Schedule Health Score.</p>
SS Predecessor	10% or less	Start-to-Start (SS) relationships are acceptable to use in moderation.
FF Predecessor	10% or less	Finish-to-Finish (FF) relationships are acceptable to use in moderation.
SF Predecessor	0%	Start-to-Finish (SF) relationship logic says the successor occurs before the predecessor. SF relationships are a poor practice and generally should not be used.

Hard Constraint	0%	Mandatory Start and Mandatory Finish are hard constraints that prevent activities from being scheduled according to logic and prevent delays from impacting succeeding activities. The effects of hard constraints become more noticeable as the schedule is progressed, and they generally should not be used.
Soft Constraint	5% or less	Soft constraints allow the schedule to be logic driven but can distort float and create negative float.  The following constraints are considered soft constraints: <ul style="list-style-type: none"> <li>▶ As Late As Possible</li> <li>▶ Start On</li> <li>▶ Start On Or Before</li> <li>▶ Start On Or After</li> <li>▶ Finish On</li> <li>▶ Finish On Or Before</li> <li>▶ Finish On Or After</li> </ul>
Invalid Progress Date	0%	Progress should be recorded before the Data Date, and planned work should be recorded after. Activities with invalid dates can affect the accuracy of the project schedule.  This check score is calculated after scheduling your project.
Late Activity	5% or less	Late activities indicate how well the project is performing against the original baseline.

Large Float	0%	Large float values may indicate missing activity relationships. Provide activities with reasonable logic to ensure a more stable project plan.
Negative Float	0%	Negative float usually indicates an activity constraint that cannot be met with the current schedule or progress has been made out of sequence. Corrective action should be taken to ensure activity dates are accurate and achievable.
Large Duration	5% or less	Large duration activities are harder to manage and may lack sufficient detail. Consider dividing these activities into shorter, more discrete activities, which provide better insight into cost and schedule.
No Role or Resource	0%	Roles and resources detail the cost and labor of the work to be performed. An activity without roles or resources may be insufficiently planned.

### Calculating the Schedule Health Score

The Schedule Health Score represents the overall quality of your project schedule according to the score of the individual checks that are included in the analysis. A higher schedule health score indicates a higher quality schedule. The weighting value that is set in the project settings enables you to place higher priority on specific checks during the calculations. Only checks marked as Active in the project settings are included in the Schedule Health Score.

The following formula is used to calculate the overall Schedule Health Score:

Schedule Health Score =  $100\% - (\text{Sum of all active [Check Adjusted Percentage} * \text{Check Weighting]} \text{ values} / \text{Sum of all active check weighting values})$

In most cases, the Check Adjusted Percentage value is the same as the percentage value of an individual check score. However, the Check Adjusted Percentage value of the **FS Predecessor** check, whose characteristics are the inverse of the other checks, is calculated using the following formula:

Check Adjusted Percentage = 100% - Check Percentage

The Schedule Health Score color is calculated independent of its percentage value. The Schedule Health Score color is set to red if one or more of the active checks in the calculation are red. If all active checks are green, the Schedule Health Score color is green. Weighting value does not impact the score color.

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## Schedule Scenarios Overview

Schedule scenarios allow you to analyze and adjust a what-if version of your schedule without affecting your current schedule. With schedule scenarios, you can create and manage multiple planning schedules, modifying details as you evaluate and anticipate different situations, project conditions, resource and role requirements, response plans, delays, and other project issues. You can modify most of the data in a scenario as you would the data in the current schedule. You can use schedule scenarios to see how a given outcome may affect your project without making permanent changes to the actual schedule. When creating a scenario, you can set the source of the scenario's data to be the current schedule, an existing scenario, or an existing baseline. The data from the source is copied to the new scenario. This enables you to perform what-if planning on different instances of your project schedule.

The data stored by a scenario is unique to that scenario. For example, actions such as creating or updating activity data, scheduling activities, leveling resources and roles, and using the schedule health check tool do not affect the current schedule, other scenarios, or schedule baselines. If you want changes made in the scenario to replace the data in the current schedule, you can set the scenario as the current schedule.

Active scenarios that are currently being planned have a status of *What-if*. Scenarios you choose to close have a status of *Closed*. After a current schedule is replaced with a scenario, the statuses of the previous schedule and the scenario are changed to *Retired*. You cannot delete retired scenarios.

### Add a Scenario

Add scenarios to your project to simulate alternative scheduling situations. Model different scheduling decisions and outcomes to determine the most effective solution. When creating a scenario, you can set the source of the scenario's data to be the current schedule, an existing scenario, or an existing baseline. This enables you to perform what-if planning on different instances of your project schedule. The source of a scenario cannot be modified after the scenario is added.

The default status of a new scenario is *What-if*. Open a scenario to view or update its data. Newly created scenarios are opened automatically.

To add a scenario:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, select **Actions ▼**, and then select **Add Scenario**.

- 3) In the **Add Scenario** dialog box, enter a name for the scenario.
- 4) In the **Source** list, select **Current Schedule**, **Scenario**, or **Baseline**.
  - ▶ If you chose **Scenario** as the source, use the **Scenario** list to choose an existing scenario whose data you want to copy.
  - ▶ If you chose **Baseline** as the source, use the **Baseline** list to choose an existing baseline whose data you want to copy.
- 5) (Optional) Enter a description for the new scenario.
- 6) Select **Add**.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ You can also add scenarios from the **Manage Scenarios** dialog box. Scenarios added in this manner automatically set the current schedule as the scenario source.
- ▶ Use the **Open** menu in the **Activities** page toolbar to switch between scenarios. Select **View All** in the list to open the **Manage Scenarios** dialog box.

### Open a Scenario

Open a scenario to perform project management tasks on a what-if version of your current schedule. You can modify the data in a scenario as you would the data in the current schedule. If you want to replace the data in your current schedule with the data from a scenario, you can set the scenario as the current schedule. See **Set a Scenario as the Current Schedule** (on page 218) for more information.

Use the **Open** menu in the page toolbar to switch between your current schedule, available scenarios, and available baselines. The list contains scenarios that are set to Visible in the **Manage Scenarios** dialog box.

When a scenario is open, a banner appears above the page toolbar to inform you that you are currently making changes to a scenario. This message is to remind you of the object in which you are currently working and that any changes made to the scenario are not reflected in your current schedule. The banner can be dismissed for your current session and will reappear when you reload the page.

To open a scenario:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) In the **Open** menu, in the **Scenarios** section, select a scenario to open.

### Tips

- ▶ The **Open** menu also contains the following items:
  - ▶ **Current Schedule**: Select to open the project's current schedule.
  - ▶ **Scenarios** section: Select **View All** to open the **Manage Scenarios** dialog box.
  - ▶ **Baselines** section: Select **View All** to open the **Manage Baselines** dialog box.
- ▶ Newly created scenarios are opened automatically.



## Add an Activity from the Current Schedule to a Scenario

As your project progresses, new activities may need to be added to the project. These new activities will not automatically appear in existing scenarios. However, if a scenario requires these activities, you can add them from the current schedule to the scenario. This feature enables you to update an existing scenario with new activities without having to create a new scenario that would reflect current progress.

The Get Activities dialog box displays activities that exist in your current schedule but do not exist in the scenario. The activities that you select in the dialog box will be added to your scenario. All of an activity's data will also be added, including dates, durations, units, costs, relationships, resource, role, and scope assignments, risks, stored prior actuals, codes, and configured fields. Activities in the selection with the same ID as activities already in the scenario will not be added.

You can add up to 100 activities from the current schedule to a scenario at one time. You must have the required security privileges to add an activity to a scenario.

To add activities from the current schedule to a scenario:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, open a scenario.
- 3) Select **Actions ▼**, and then select **Get Activities**.
- 4) In the **Get Activities** dialog box, select one or more activities to add to your scenario.
- 5) Select **Get**.



### Tips

- ▶ In the **Get Activities** dialog box, select **Display log upon completion** to view details from the Get Activity process.

## Manage a Scenario

Use the Manage Scenarios dialog box to add, duplicate, rename, and delete schedule scenarios. Toggle the visibility of scenarios on the Activities page, and choose a scenario status of What-if or Closed. The Source column indicates the source of a scenario, which could be the current schedule, another scenario, or a specific baseline. Retired scenarios are read-only.

To manage scenarios:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, select **Actions ▼**, and then select **Manage Scenarios**.
- 3) In the **Manage Scenarios** dialog box, you can do any the following:
  - ▶ In the **Filter By** list, select which scenario statuses you want to display in the table.
  - ▶ Select  **Settings** to format the display of columns in the table.
  - ▶ In the table, select the  **Context** menu next to a scenario, and then select **Add**, **Duplicate**, or **Delete**.
  - ▶ In the **Visible** column, select the icon to make a scenario visible or hidden in the Open menu on the Activities page.

- ▶ In the **Status** column, change the status of a scenario between What-if and Closed. Closed scenarios are automatically hidden.

4) Select **Save**.

### Set a Scenario as the Current Schedule

If you determine that a specific scenario should become the new project schedule, you can set the scenario as the current schedule. When a scenario is set as the new current schedule, scenario details such as dates, durations, units, costs, assignments, and relationships overwrite the details in the previous current schedule, including any progress updates made to the current schedule.

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**Note:** Setting a scenario as the current schedule overwrites all current schedule data except for stored period data for activities that are present in both the current schedule and the scenario, and that are also started in the scenario. This action cannot be undone. The process runs in the background, and you will receive a notification when the process completes. It is recommended that all users not make changes to the schedule until the process is complete.

---

To set a scenario as the current schedule:

- 1) **Navigate to the project Activities page** (see page 337).
- 2) On the **Activities** page, open a scenario.
- 3) Select **Actions ▼**, and then select **Set as Current Schedule**.
- 4) In the **Set as Current Schedule** dialog box, select **Set**.

### Tips

- ▶ After your schedule has been successfully replaced, you may want to run the scheduler and recalculate costs to ensure that all data is consistent with the current schedule's data date.
- ▶ When a scenario is set as the current schedule, the scenario is hidden and its status is changed to *Retired*. A copy of the previous current schedule is created as a scenario. It is also hidden and its status is changed to *Retired*. You can make these scenarios visible in the **Manage Scenarios** dialog box. Retired scenarios are read-only, and cannot be deleted.
- ▶ Use the **Open** menu in the **Activities** page toolbar to switch between scenarios. Select **View All** in the list to open the **Manage Scenarios** dialog box.

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### Store Period Performance Overview

Primavera Cloud allows you to capture historical records to track actual units and costs to date using store period performance capabilities in your current schedule. Capturing this data will allow you to bill for work completed and capture the labor, nonlabor, and material costs and earned value metrics for analysis.

Store period performance captures period values for reporting cycles. Reporting cycles should represent your billing cycles; for example, if you will be billing for work done weekly, then the reporting cycle that you set should also be weekly. The first reporting cycle for your project starts on or slightly before the earliest Start Date of an activity in the project. At the end of each reporting cycle, you will update activity actual start dates, percent complete, and costs or units. You will also schedule the project, advancing the data date to be on or after the reporting cycle finish date, and recalculate costs. Then, store the period performance to capture the period values. Earned value metrics can also be captured each period by setting an earned value baseline when setting up store period performance and updating earned value fields.

The following fields form the basis of store period performance and their calculations:

- ▶ **Actual This Period Units and Costs:** These fields represent the values for the current reporting cycle being updated and that has not yet been stored. After running store period performance, these units return to 0 until you update period performance values for the next reporting cycle.
- ▶ **Prior Actual Units and Costs:** These fields are the accumulations of all totals up to the last closeout date. This is historical data for an activity. These fields are read-only and won't be updated when you schedule the project or recalculate project costs. They also won't be updated if you set a scenario or baseline as the current schedule or if you update the price per unit for resource assignments (although the updated price per unit will be reflected in future stored periods).
- ▶ **Actual Units and Costs:** These fields are the total units or costs of all prior periods plus the current period being updated. The values entered here are spread evenly across all workdays from the Actual Start date to the Data Date.

To learn more about Earned Value metrics, see *Understanding Earned Value Fields* (on page 175).

Store period performance values will roll up to the activity. Therefore, you can enter data for the activity's resource assignments, and the sum for each field will be calculated to represent the value for the activity as a whole. Similarly, if you enter labor units or costs against an activity with multiple resource assignments, then the values will be distributed across the resource assignments of that type. If timesheets are linked to resources, then store period performance will use the timesheets data to update the hours worked for a resource. You can also add your units and cost values directly against an activity or milestone. Entering period data against the activity uses the project rate amount to determine the costs. Although there are several options for entering period data, it is recommended that you do not change the method you use after you have started storing period data.

Certain store period values can be tracked over time in the activity usage histogram. See *Activity Usage Overview* (on page 162) for more information.

You can delete an activity that has stored period values associated with it. The period values will also be deleted.

Before getting started with store period performance, you should **define the reporting cycle** (see "**Define a Reporting Cycle**" on page 64) and **configure the earned value baseline** (on page 93) that you want to use for the project.

## Set Up Store Period Performance

Set up store period performance for your schedule to start storing period values. When setting up store period performance, you will determine the reporting cycle and the earned value baseline.

The reporting cycle is the period of time that is captured in store period performance and should coincide with your project's billing cycle. You can define reporting cycles at the workspace-level Summary & Settings. Because there can only be one reporting cycle per project, if there has been a Period Closeout in the Scope app of the same schedule, then the reporting cycle used there is also the one that will be used for store period performance.

An earned value baseline should be set if you want to capture earned value metrics in your stored periods. Setting the earned value baseline will include earned value calculations, such as Budget at Completion and Percent Complete amounts, in your stored period data. If you do not set the earned value baseline, these amounts will remain at zero. If your earned value baseline does not already exist, you can create it while you set up period performance. You can also choose to use store period performance without an earned value baseline.

Because you will be working with project settings and schedule data, including costs and baselines, it is recommended that you have the following privileges in a Project permission set before you set up store period performance: Project (Edit), Store Period Performance (Enable), Baselines (Add), Baseline - Set Project Baseline (Enable), Recalculate Project Costs (Enable), and Project Cost/Financials (Edit).

You will only need to setup store period performance one time. After it has been setup and the first period has been stored, you can't make any changes to the setup.

To set up store period performance:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select the **Actions ▼** menu, and then select **Set Up Period Performance**.

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**Note:** This option will not be available if you have already setup store period performance for this schedule.

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- 3) In the **Set Up Period Performance** dialog box, in the **Select Reporting Cycle** field, select a reporting cycle to store period performances against.

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**Note:** The **Select Reporting Cycle** field will be read-only if there has been a period closeout in the Scope app of the same schedule.

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- 4) Select **Next**.
- 5) (Optional) In the **Earned Value** step, create or select an earned value baseline to include in your stored periods. You can choose to skip this step if you don't plan on including earned value metrics with your stored period data.  
To create a baseline if one does not already exist:
  - a. **Name:** Enter a name for the baseline.
  - b. **Type:** Select the type of baseline. Options are Original, Current, and Supplementary.
  - c. **Baseline Date:** Select the date that the project data will be captured as the baseline.
  - d. **Description:** Enter a description of the baseline.

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**Note:** If a baseline type already exists for the schedule, you will not be able to create a new baseline of that type. You will be able to select the existing baseline to use.

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To select an existing baseline:

- ▶ In the **Type** field, select the baseline that you would like to use. The **Name**, **Baseline Date**, and **Description** fields will be read-only for an existing baseline.

6) Select **Finish**.

### Store Period Performance

Store your period performance to capture activity data for the reporting cycle currently being updated and to closeout the period. The data captured in store period performance includes period actual units and cost, earned value and planned value amounts, schedule percent complete, performance percent complete, current CPI, SPI and TCPI values, and current estimate to complete and estimate at completion values. When you store period performance, the values captured for the reporting period become historical read-only values that you can view for billing purposes and to monitor schedule progress. The "Actual This Period" unit and cost fields are reset to 0 after the period is stored.

Before running the store period performance, you should update activity actual start dates, percent complete, and costs or units and make sure that your activities have been marked as started. Activities started after the period closeout date are not included in the period closeout unless there have been updates to the Planned Value or Earned Value amounts. You should also schedule the project and ensure that the data date is later than the reporting period finish date of the period being stored.

To store period performance, it is recommended that you have the Store Period Performance (Enable) and Project Costs/Financials (Edit) privilege for the project.

To store period performance:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select the **Actions ▼** menu, and then select Store Period Performance.

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**Note:** This option will not be available if you have not yet **set up store period performance** (on page 220) for this schedule.


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- 3) In the **Store Period Performance** dialog box, select **Store**.


### View Stored Period Performance Values

View the stored period performance values for an activity from the Stored Periods detail window. Stored data can't be edited.

To view stored period performance values:

- 1) **Navigate to the Activities page** (see page 337).
- 2) In the table, select the activity.
- 3) On the Layout menu, select  **Activity Details**, and then select the **Stored Periods** detail window.

### Tips

- ▶ **View the activity usage histogram** (on page 164) to see certain store period performance values in a time-phased view of activity usage.
- ▶ Select  **Stored Periods Grid Settings** to add columns to the **Stored Periods** detail window.

### Store Period Performance Log

The Store Period Performance log displays details of the store period performance process run from the Activities page.

In the **Item** list, select from the following to view more details:

- ▶ **Projects:** View the project that the store period performance was run from.
- ▶ **Store Period Performance Settings:** View the reporting cycle set for the schedule as well as the last period, the current period, and the data date at period closeout.
- ▶ **Store Period Performance Results:** View the period start and finish dates as well as the activities and resource assignments included in the period closeout. If any activities were not included in period closeout, they will be also listed along with the reasons why they weren't included.

You can access the Store Period Performance log from the notifications panel or from the **Manage Services** page.

**Store Period Performance Overview** (on page 218)

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### Scheduling Overview

Scheduling a project or program aligns all the activities of each project on a common timeline based on the constraints, relationships, and the date types to which each activity must adhere. When the scheduler is run, the application applies the Critical Path Method algorithm to assign activity dates, calculate total float, and determine the project critical path.

### Critical Path Method Overview

When you schedule a project or program, the Critical Path Method conducts a forward pass that calculates the earliest start and finish dates for each activity, based on the start or finish dates of predecessor activities as well as the duration of the activity itself. It then conducts a backward pass to calculate the latest start and finish dates for each activity, based on the start or finish dates of successor activities as well as the duration of the activity itself. From these dates, the total float is calculated for each activity to determine how much scheduling flexibility each activity has. Activities that have zero float must start on time to prevent the schedule from slipping. These are the activities that define the critical path. Identifying the critical path helps the project management team know where to focus their efforts by knowing which activities are critical to overall project success.

## Multiple Float Paths Overview

In projects, you can calculate multiple float paths when running the scheduler to calculate the critical path and sub-critical paths. The critical path is the path of activities that will lead to the earliest possible completion of the project. Calculating the sub-critical paths for a project allows you to keep track of activities that aren't currently on the critical path but could very easily become critical and affect your project's progress. Multiple float paths can be recalculated every time you schedule the project, meaning the values are kept up-to-date to reflect any evolutions in your project. Calculating multiple float paths does not impact the critical activities defined in the Scheduler Settings.

The Multiple Float Paths feature allows you to choose an ending activity for your calculations. This allows you to calculate multiple float paths up to important milestones in your project instead of only the ending activity.

Primavera Cloud provides the option to calculate multiple float paths using activity free float or total float. The Free Float option calculates the float path based on driving activities, which also calculates the schedule's longest path. The Total Float option calculates your critical and sub-critical paths based on the criticality of the Relationship Total Float for your activities.

### How are multiple float paths calculated using free float?

The free float calculation first identifies the activity that has an early finish equal to the latest calculated early finish for the project or the activity that you identify as the ending activity for multiple float paths when scheduling your project. From this activity, the application then traces a backwards path along relationships using the relationship free float values to identify the driving path of relationships. The activities on this path constitute the critical path.

The application removes the activities that have been assigned to a path, and runs the calculation again to calculate the sub-critical paths. This is repeated until the number of sub-critical paths that are set to be calculated is met or there are no more activities to add to paths.

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**Note:** If you use different calendars for your schedule's activities, the activities might not end up being calculated as part of the critical path even if they belong to the longest path.

---

If the application runs into an instance where there are equal values on the relationships and a tie breaker is needed, then the application goes through the following list to determine which activity to use:

- a. Activity Free Float
- b. Early Finish (latest date)
- c. Early Start (earliest date)
- d. Activity ID

### How are multiple float paths calculated using total float?

First, the application will start with the latest activity relationship that has the most critical Relationship Total Float, meaning the least amount of Total Float, and will perform a backwards pass to determine the predecessors with the most critical Relationship Total Float until an open end on the path is reached. After the open end is reached, the application will then conduct a forward pass through the successor activities to identify the most critical activities by evaluating the Total Float of the successors. The forward pass continues until it reaches an open end on the path. The activities on this path are designated the critical path.

The application removes the activities that have been assigned to a path, and runs the calculation again to calculate the sub-critical paths. This is repeated until the number of sub-critical paths that are set to be calculated is met or there are no more activities to add to paths.

If the application runs into an instance where there are multiple activities with the same Relationship Total Float, then the application chooses the activities that have an activity type that is not Level of Effort. If there is a tie among those activities, the application goes through the following list until one of these values can serve as the tie breaker to determine which activity to use:

- a. Activity Total Float
- b. Activity Free Float
- c. Early Finish (latest date)
- d. Activity ID

### How do I view multiple float path results?

The multiple float path results can be viewed on the Activities table.

The Float Path column indicates which float path an activity belongs to. Float path numbers are in order of criticality, with 1 being the critical float path, 2 being the next most critical float path, and so on. All float paths greater than 1 are considered the sub-critical float paths.

The Float Path Order column indicates the placement of an activity in the float path. This is based on the activity dates and relationships and goes in chronological order. Float paths do not include activities that have already been completed.

### Schedule a Project


Schedule your project to sequence your activities into a logical order of execution by assigning dates to all activities. Scheduling your project also determines the project's critical path and allows you to calculate sub-critical float paths to monitor activities. You can schedule a program to schedule all of the projects in the program using their own data date or a specific date.

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**Note:** When project data is imported into Oracle Primavera Cloud from P6 EPPM, reschedule the project and recalculate costs before making any project updates.

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To schedule a project:

- 1) **Navigate to the Activities page** (see page 337).
- 2) Select  **Schedule**.
- 3) In the **Schedule** dialog box, on the **Schedule Project** tab, configure your data date options:



- 
- ▶ Select one of the following:
    - **All projects use their own data date:** Select this option to use the individual data date for each open project.
    - **Apply selected data date to all open projects:** Select this option and specify a data date in the **Data Date** field.
  - ▶ Select **Display scheduling log upon completion** to automatically display the scheduling log when the scheduling process is complete.
- 4) Select the **Settings** tab and configure your scheduling options:
- ▶ **Use schedule options from:** If you are scheduling a program, select the project whose scheduling options you want to use for the scheduling process.
  - ▶ **Recognize relationships to and from other projects:** Select this option to recognize relationships to other projects while scheduling the project.
  - ▶ **Make open-ended activities critical:** Determines whether to designate open-ended activities as critical during scheduling.
  - ▶ **Use Expected Finish Dates:** Select this option to use expected finish dates while scheduling the project.
  - ▶ **When scheduling progressed activities use:** Select an option to determine how in-progress activities are scheduled.
    - Retained Logic:** The remaining duration of a progressed activity is not scheduled until all of its predecessors are finished.
    - Progress Override:** The schedule ignores activity relationships and allows the activity to progress without delay.
    - Actual Dates:** Backward and forward passes are calculated using actual dates.
  - ▶ **Calculate Start-to-Start lag from:** Determines when you want the successor to start. When a start to start relationship exists and the predecessor starts out of sequence, the scheduler delays the successor activity until the lag expires and all predecessor relationships have been satisfied. Use this option to specify whether to subtract the lag from the predecessor's early start date or its actual start date.
    - Early Start:** Calculates the expired lag as the number of work periods between the actual start and the data date and determines the successor's start date as the predecessor's remaining early start plus any remaining lag. Select this option when the successor's start depends on the amount of work that the predecessor activity accomplishes.
    - Actual Start:** Calculates the successor's start date as the data date plus any remaining lag. Select this option when you want the successor's start to depend on the time elapsed from the predecessor's actual start (regardless of the amount of work that has been accomplished in the predecessor activity).
  - ▶ **Define critical activities as:** Specify the criteria to determine whether an activity is considered critical.
  - ▶ **Calculate float based on finish date of:** Select an option to determine how float is calculated:
    - Each Project:** Float is calculated based on the finish date of each individual project.
-

**Opened Projects:** Float is calculated based on the finish date of all opened projects scheduled together.

- ▶ **Compute total float as:** Select the method to use to calculate total float for activities.
  - ▶ **Calendar for scheduling relationship lag:** Select the calendar to use for calculating relationship lag.
  - ▶ (Projects only) **Recalculate costs upon completion:** Select this option to automatically recalculate costs after the scheduler is run.
- 5) (Projects only) Select the **Multiple Float Paths** tab and configure the following options:
- ▶ **Calculate Multiple Float Paths:** Select this option to calculate multiple float paths for your schedule.

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**Note:** You must select **Calculate Multiple Float Paths** to edit the rest of the fields on this tab.

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- ▶ **Calculate Multiple Paths Using:** Choose which method will be used when calculating the critical and sub-critical float paths:
    - **Free Float:** Calculate float paths based on driving activities. This option starts with the longest path to begin the calculation.
    - **Total Float:** Calculate multiple float paths based off of activity delays using the Relationship Total Float.
  - ▶ **Select multiple float paths ending activity:** In the **Select Multiple Float Path Ending Activity** picker, select the activity that will be the last activity in your multiple float path calculations, and then select **Select**. Any activities that are successor activities to the one chosen are not included in the multiple float path calculations. If you leave this field empty, the multiple float path calculations defaults to the final activity in the project.
  - ▶ **Specify the number of paths to calculate:** Specify up to 1,000 float paths to calculate for your schedule.
- 6) Select **Schedule Now**.

## Tips

- ▶ The scheduler calculates the project schedule using activity requirements only. Consequently, activities requiring the same roles or resources can be scheduled simultaneously, creating overallocations. Use the **leveling** (see "**Leveling Overview**" on page 184) feature to resolve role or resource overallocations in your project by adjusting activity dates according to the availability of all assigned roles or resources.
- ▶ If you choose to run the leveler, the project is automatically scheduled before the leveler is run, according to the last scheduling settings.
- ▶ After you schedule the project, you can review the log to view data and statistics about the scheduling process. You can access the log from the **Schedule** dialog box by selecting **View Log**, from the system notification you receive when the scheduling process is complete, or from the **Manage Services** page. When the scheduler is run, the application checks for loops, or circular relationships, in the activity relationship logic. If a loop is detected, then the scheduler fails. You can view the error report with the activities in the loop from the scheduling log. To resolve the loop, return to the Activities page and view the relationship trace logic for the activities in the loop and remove a relationship.

## Activities Fields

Depending on your settings, the following fields might appear on the page as table columns, spreadsheet rows, or in detail windows. Fields that are generic across the application, such as Name, may not be included here.

### Date Fields

#### Actual Finish

The date when the activity was completed.

#### Actual Start

The date work on the activity began.

#### BL Actual Finish

The completion date of the activity in the baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Actual Start

The start date of the activity in the baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Early Finish

The earliest possible finish date of the activity in the baseline.

This date is calculated based on network logic, schedule constraints, and resource availability.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Early Start

The earliest possible start date of the remaining work for the activity in the baseline.

This date is calculated based on network logic, schedule constraints, and resource availability.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Finish

The current finish date for the activity in the baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Late Finish

In the baseline, the latest possible date the activity can finish without delaying the project finish date.

This date is calculated based on activity relationships, schedule constraints, and resource availability.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Late Start

In the baseline, the latest possible date the remaining work for the activity can begin without delaying the project finish date.

This date is calculated based on activity relationships, schedule constraints, and resource availability.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Start

The current start date of the activity in the baseline.

For started activities, this is the actual start date. For not started activities, this is the planned start date until the project is scheduled. When scheduled, the start date field is set to the remaining early start date.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### Early Finish

The earliest possible date the activity can finish.

This date is calculated based on network logic, schedule constraints, and resource availability.

#### Early Start

The earliest possible date the remaining work for the activity can begin.

This date is calculated based on network logic, schedule constraints, and resource availability.

#### Expected Finish

The date you expect work on the activity to finish.

#### Finish

The current finish date for the activity.

#### Late Finish

The latest possible date the activity can finish without delaying the project finish date.

This date is calculated based on activity relationships, schedule constraints, and resource availability.

#### Late Start

The latest possible date the remaining work for the activity can begin without delaying the project finish date.

This date is calculated based on activity relationships, schedule constraints, and resource availability.

### Planned Finish

The date the activity is scheduled to finish if the activity has not started.

This date is calculated by the project scheduler but can be updated manually by the project manager. This date is not changed by the project scheduler after the activity has started.

### Planned Start

The date the activity is scheduled to start.

This date the activity is scheduled to begin is calculated by the project scheduler but can be updated manually by the project manager. This date cannot be changed by the project scheduler after the activity has started.

### Pre-Response Optimistic Finish

The calculated activity finish date that corresponds to the defined optimistic percentile on the risk analysis histogram.

### Pre-Response Optimistic Start

The calculated activity start date that corresponds to the defined optimistic percentile on the risk analysis histogram.

### Pre-Response P50 Finish

The calculated activity finish date that corresponds to the median percentile on the risk analysis histogram.

### Pre-Response P50 Start

The calculated activity start date that corresponds to the median percentile on the risk analysis histogram.

### Pre-Response Pessimistic Finish

The calculated project finish date that corresponds to the defined pessimistic percentile.

### Pre-Response Pessimistic Start

The calculated activity start date that corresponds to the defined pessimistic percentile on the risk analysis histogram.

### Primary Constraint Date

The constraint date for the activity, if the activity has a constraint.

### Remaining Early Finish

The date the remaining work for the activity is scheduled to finish.

If this activity is not started, this date is the planned finish. This date can be updated manually by the user, but it is overwritten when you schedule the project.

### Remaining Early Start

The date the remaining work for the activity is scheduled to begin.

This date can be updated manually by the user. Before the activity is started, this date is the same as the planned start.

### Remaining Late Finish

The latest possible date the activity must finish without delaying the project finish date.

This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability. When the activity is complete, this field is blank.

### Remaining Late Start

The latest possible date the remaining work for the activity must begin without delaying the project finish date.

This date is calculated by the project scheduler based on activity relationship, schedule constraints, and resource availability.

### Resume Date

The date when a suspended task or activity is resumed.

### Secondary Constraint Date

The date for the activity's secondary constraint, if the activity has a secondary constraint.

### Start

The current start date of the activity.

For started activities, this is the actual start date. For not started activities, this is the planned start date until the project is scheduled. When scheduled, the start date field is set to the remaining early start date.

### Suspend Date

The date work has temporarily stopped on a given activity.

## Duration Fields

### Actual Duration

The total working time from the activity Actual Start date to the Actual Finish date for completed activities, or the total working time from the Actual Start date to the data date for in-progress activities.

The actual working time is computed using the activity's calendar.

### At Completion Duration

The total working time from the activity's current start date to the current finish date.

The current start date is the planned start date until the activity is started, and then it is the actual start date. The current finish date is the activity planned finish date while the activity is not started, the remaining finish date while the activity is in progress, and the actual finish date once the activity is completed. The total working time is calculated using the activity's calendar.

### BL Actual Duration

In the baseline, the total working time from the activity BL Actual Start date to the BL Actual Finish date for completed activities, or the total working time from the BL Actual Start date to the data date for in-progress activities.

The actual working time is computed using the activity's calendar.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Free Float

The amount of time the activity in the baseline can be delayed before delaying the start date of any successor activity.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Planned Duration

The expected amount of time required to complete the activity in the baseline.

The planned working time is calculated using the activity's calendar. The duration is measured from the activity's planned start date to its planned finish date.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Remaining Duration

In the baseline, the total working time from the activity remaining start date to the remaining finish date.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Total Float

In the baseline, the amount of time the activity can be delayed before delaying the project finish date. Calculated as BL Late Start minus BL Early Start or as BL Late Finish minus BL Early Finish.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Variance - Duration

The duration difference between the activity At Completion Duration and BL Duration.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Variance - Finish

The duration difference between the activity Finish date and BL Finish date.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Variance - Start

The duration difference between the activity Start date and BL Start date.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### Free Float

The amount of time the activity can be delayed before delaying the start date of any successor activity.

#### Maximum Duration

The estimated maximum amount of time required to complete the activity. This field is used for three-point estimation to indicate activity uncertainty.

#### Minimum Duration

The estimated least amount of time required to complete the activity. This field is used for three-point estimation to indicate activity uncertainty.

#### Most Likely Duration

The estimated most likely amount of time required to complete the activity. This field is used for three-point estimation to indicate activity uncertainty.

#### Planned Duration

The expected amount of time required to complete an activity.

The planned working time is calculated using the activity's calendar. The duration is measured from the activity's planned start date to its planned finish date.

#### Remaining Duration

The total working time from the activity remaining start date to the remaining finish date.

#### Remaining Float

The amount of time remaining in which the activity can be delayed before delaying the project finish date. Calculated as Late Finish minus Remaining Finish.

#### Total Float

The amount of time the activity can be delayed before delaying the project finish date. Calculated as Late Start minus Early Start or as Late Finish minus Early Finish.

### **Earned Value Fields**

#### Budget At Completion

The budgeted or planned total cost through activity completion.

Calculated as Planned Labor Cost plus Planned Nonlabor Cost plus Planned Material Cost.

#### Budget At Completion Labor Units

The planned total labor units through activity completion.

#### Cost Performance Index (CPI)

The ratio of the approved budget for work performed to what you actually spent for the work accomplished. The CPI reflects the relative value of work done compared to the amount paid for it, and is also referred to as the projects cost efficiency. The CPI to date can be used to project the cost performance for the remainder of the work.

A value greater than 1 indicates you are under budget. A value equal to 1 indicates you are at budget. A value less than 1 indicates you are over budget.

Calculated as Earned Value divided by Actual Cost.

#### Cost Performance Index (CPI) Labor Units

Measures the work efficiency on an activity.



A value less than 1 indicates that the actual units have exceeded the planned units.  
Calculated as Earned Value Labor Units divided by Actual Labor Units.

#### Cost Variance

A measure of activity cost performance. The difference between the budgeted cost of work performed minus the actual cost of work performed.

Indicates how much you are under or over your approved budget. A negative value indicates that the actual cost has exceeded the planned value.

Calculated as Earned Value minus Actual Total Cost.

#### Cost Variance Index

The ratio of the cost variance and the earned value of work performed on the activity.

Calculated as Cost Variance divided by Earned Value.

#### Cost Variance Index Labor Units

The ratio of the cost variance labor units and the earned value labor units for the activity.

Calculated as Cost Variance Labor Units divided by Earned Value Labor Units.

#### Cost Variance Labor Units

The difference between the earned value labor units and the actual labor units.

A negative value indicates that actual cost has exceeded the value of work performed.

Calculated as Earned Value Labor Units minus Actual Labor Units.

#### Earned Value Cost

The approved budget for work actually completed by the specified project data date.

Calculated as Budget At Completion multiplied by Performance Percent Complete. The method for computing performance percent complete depends on the Earned Value technique defined in the project settings.

#### Earned Value Labor Units

The portion of baseline labor units that are actually completed as of the project data date.

Calculated as Budget At Completion Labor Units multiplied by Performance Percent Complete. The performance percent complete will be calculated using the activity percent complete.

#### Estimate At Completion (EAC)

The forecasted cost of the project as the project progresses.

#### Estimate At Completion (EAC) Labor Units

The estimated labor units at completion.

Calculated as Actual Labor Units plus Estimate To Complete Labor Units. Estimate To Complete Labor Units is calculated based off of the Earned Value setting.

#### Estimate To Complete (ETC)

The estimated cost to complete the activity.

#### Estimate To Complete (ETC) Labor Units

The estimated quantity to complete the activity, WBS, or project.

#### Estimate To Complete Performance Index (TCPI)

The cost performance index value that must be achieved in order to complete the remaining work on budget.

This is a measure of the efficiency required on the future performance of the project. A value greater than 1 indicates that the work is over budget and more effort will be required to reduce costs or increase earned value. A value less than 1 indicates the work is under budget and that the current effort is sufficient enough to meet the budget at completion.

Calculated as  $(\text{Budget At Completion} - \text{Earned Value}) / (\text{Estimate At Completion} - \text{Actual Cost})$ .

#### Period Earned Value Labor Units

The incremental value of the portion of baseline labor units that are complete as of the project data date.

#### Period Planned Value Cost

The incremental value of the approved budget for the work scheduled to be completed by a specified date.

#### Period Planned Value Labor Units

The incremental value of the portion of baseline labor units that are scheduled to be complete as of the project data date.

#### Planned Value Cost

The approved budget for the work scheduled to be completed by a specified date.

Calculated as Budget At Completion multiplied by Schedule Percent Complete.

When an activity has assignments, the Planned Value Cost is calculated as Budget At Completion multiplied by  $(\text{Data Date of Current Project} - \text{Baseline Assignment Start Date})$  divided by  $(\text{Baseline Assignment Finish Date} - \text{Baseline Assignment Start Date})$ . Each assignment is then summed to the activity-level planned value.

#### Planned Value Labor Units

The portion of baseline labor units that are scheduled to be completed as of the project data date.

Calculated as Budget At Completion Labor Units multiplied by Schedule Percent Complete.

#### Planned Value Period Cost

The incremental value of the approved budget for the work scheduled to be completed by a specified date.

#### Planned Value Period Units

The incremental value of the planned units for the work scheduled to be completed by a specified project data date.

#### Planned Value Units

The planned units for the work scheduled to be completed by a specified project data date.

### Schedule Performance Index (SPI)

The ratio of the approved budget for the work performed to the approved budget of the work planned. The SPI reflects the relative amount the project is ahead or behind schedule, and is also referred to as the project's schedule efficiency.

A value greater than 1 indicates you are ahead of schedule. A value equal to 1 indicates you are on schedule. A value less than 1 indicates you are behind schedule.

Calculated as Earned Value divided by Planned Value.

### Schedule Performance Index (SPI) Labor Units

The ratio of the earned value of labor units to the planned value of labor units.

Calculated as Earned Value Labor Units divided by Planned Value Labor Units.

### Schedule Variance

A measure of activity schedule performance. The difference between the amount budgeted for the work you actually did and the work you planned to do.

Indicates how much you are ahead or behind schedule. A negative value indicates that less work was actually performed than was scheduled.

Calculated as Earned Value minus Planned Value.

### Schedule Variance Index

The ratio of the schedule variance and the work scheduled to be performed.

Calculated as Schedule Variance divided by Planned Value.

### Schedule Variance Index Labor Units

The ratio of schedule variance labor units and the planned value labor units.

Calculated as Schedule Variance Labor Units divided by Planned Value Labor Units.

### Schedule Variance Labor Units

The difference between the earned value of work performed and the work scheduled to be performed.

Calculated as Earned Value Labor Units minus Planned Value Labor Units.

### Variance At Completion

The difference between the baseline total cost and the current estimate of total cost. A negative value indicates an estimated cost overrun.

Calculated as Budget At Completion minus Estimate At Completion.

### Variance At Completion Labor Units

The difference between the baseline planned total labor units and the estimate at completion labor units.

Calculated as Project Baseline Planned Total Labor Units minus Estimate At Completion Labor Units.

## Financial Fields

Actual Labor Cost

The actual costs for all labor resource assignments on the activity.

**Actual Material Cost**

The actual costs for all material resource assignments on the activity.

**Actual Nonlabor Cost**

The actual costs for all nonlabor resource assignments on the activity.

**Actual This Period Cost**

The labor, nonlabor, and material costs incurred during the current financial period.

**Actual Total Cost**

The actual total cost for all resource assignments and direct activity costs (expenses) on the activity.

**At Completion Labor Cost**

The sum of the actual costs plus remaining costs for all labor resource assignments on the activity.

**At Completion Material Cost**

The sum of the actual costs plus remaining costs for all material resource assignments on the activity.

**At Completion Nonlabor Cost**

The sum of the actual costs plus remaining costs for all nonlabor resource assignments on the activity.

**At Completion Total Cost**

The sum of the actual costs plus remaining costs for all resource assignments and direct activity costs (expenses) on the activity.

**BL Actual Labor Cost**

The actual cost for all labor resources assigned to the activity as stored in the associated project baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Actual Material Cost**

The actual cost for all material resources assigned to the activity as stored in the associated project baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Actual Nonlabor Cost**

The actual cost for all nonlabor resources assigned to the activity as stored in the associated project baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Actual Total Cost**

The actual total cost for all labor, nonlabor and material resources assigned to the activity as stored in the associated project baseline.

Calculated as BL Actual Labor Cost plus BL Actual Nonlabor Cost plus BL Actual Material Cost.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Planned Labor Cost**

The planned cost for all labor resources assigned to the activity as stored in the associated project baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Planned Material Cost**

The planned cost for all material resources assigned to the activity as stored in the associated project baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Planned Nonlabor Cost**

The planned cost for all nonlabor resources assigned to the activity as stored in the associated project baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Planned Total Cost**

The planned total cost for all labor, nonlabor, and material resources assigned to the activity as stored in the associated project baseline.

Calculated as BL Planned Labor Cost plus BL Planned Nonlabor Cost plus BL Planned Material Cost.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Variance - Labor Cost**

The difference between the associated project baseline planned labor cost and the current schedule at completion labor cost.

Calculated as BL Planned Labor Cost minus At Completion Labor Cost.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Variance - Nonlabor Cost**

The difference between the associated project baseline planned nonlabor cost and the current schedule at completion nonlabor cost.

Calculated as BL Planned Nonlabor Cost minus At Completion Nonlabor Cost.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Variance - Material Cost**

The difference between the associated project baseline planned material cost and the current schedule at completion material cost.

Calculated as BL Planned Material Cost minus At Completion Material Cost.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**BL Variance - Total Cost**

The difference between the associated project baseline planned labor cost and the current schedule at completion labor cost.

Calculated as BL Planned Total Cost minus At Completion Total Cost.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**Planned Labor Cost**

The planned cost for all labor resources assigned to the activity.

**Planned Material Cost**

The planned cost for all material resources assigned to the activity.

**Planned Nonlabor Cost**

The planned cost for all nonlabor resources assigned to the activity.

**Planned Total Cost**

The expected total cost of the activity and includes all resources and direct activity costs (expenses).

**Period Actual Labor Cost**

The aggregation of all labor costs incurred during the current financial period.

**Period Actual Material Cost**

The aggregation of all material costs incurred during the current financial period.

**Period Actual Nonlabor Cost**

The aggregation of all nonlabor costs incurred during the current financial period.

**Period Actual Total Cost**

The aggregation of all labor, nonlabor, material and direct activity costs (expenses) incurred during this financial period.

**Period Earned Value Cost**

The incremental value of the approved budget for work actually completed by the specified project data date.

**Period Planned Value Cost**

The incremental value of the approved budget for the work scheduled to be completed by a specified date.

**Prior Actual Labor Cost**

The sum of the actual stored period labor costs on the activity.

**Prior Actual Material Cost**

The sum of the actual stored period material costs on the activity.

**Prior Actual Nonlabor Cost**

The sum of the actual stored period nonlabor costs on the activity.

**Remaining Labor Cost**

The remaining cost for all labor resource assignments on the activity.

**Remaining Material Cost**

The remaining cost for all material resource assignments on the activity.

**Remaining Nonlabor Cost**

The remaining cost for all nonlabor resource assignments on the activity.

**Remaining Total Cost**

The remaining cost for all resource assignments and direct activity costs (expenses) on the activity.

**General Fields****Activity Status**

Determines the status of the activity. Valid values are Not Started, In Progress, and Completed.

**BL Activity Status**

Determines the status of the activity in the baseline. Valid values are Not Started, In Progress, and Completed.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

**Calendar**

The calendar assigned to the activity.

**Critical**

Designates an activity as critical. An activity is defined as critical based upon the project settings configured for the project.

**Duration Type**

Determines how remaining duration, units, and units/time are calculated when you update an activity that has resources assigned. The valid values are Fixed Units/Time, Fixed Units, Fixed Duration & Units, and Fixed Duration & Units/Time.

**Float Path**

A number calculated by the scheduler which identifies the float path that each activity is on. The number starts from 1 (where 1 is most critical) to the max number of float paths identified by the scheduler.

### Float Path Order

Order that the activities were processed within each float path.

### Leveling Priority

Determines the priority of the activity when performing role leveling.

### Longest Path

The sequence of project activities from start to finish where the Total Duration is longer than any other path.

### Owner

The user responsible for the activity.

### Primary Constraint

The main restriction impacting the activity start or finish date.

### Relationship Free Float

For predecessors, the Relationship Free Float is the Free Float on the relationship calculated using the predecessor activity's calendar as Relationship Successor Early Start minus Relationship Early Finish. For successors, the Relationship Free Float is the Free Float of the potential successor activity if the relationship is determined to be the driving relationship using the successor activity's calendar. Calculated using the successor activity's calendar as Relationship Successor Early Start minus Relationship Early Finish.

### Relationship Total Float

For predecessors, the Relationship Total Float is the Total Float on the relationship calculated using the predecessor activity's calendar as Relationship Late Start minus Relationship Early Start. For successors, the Relationship Total Float is the Total Float of the potential successor activity if the relationship is determined to be the driving relationship using the successor activity's calendar. Calculated using the successor activity's calendar as successor activity's Relationship Late Date minus Relationship Successor Early Date.

### Resource IDs

The unique identifiers of the resources assigned to the activity.

### Resource Names

The names of the resources assigned to the activity.

### Role IDs

The unique identifiers of the roles assigned to the activity.

### Role Names

The names of the roles assigned to the activity.

### Scope Percent Complete Weight Method



The weight is calculated using cost, quantity, hours, or manually entered values. Cost, Quantity, and Hours are represented as  $n$  in the equations that follow.

The  $n$  weight is first calculated for each scope assignment in the work package as Revised  $n$  multiplied by the scope assignment Scope Percent Complete.

Scope Percent Complete is calculated as Installed Quantity divided by At Completion Quantity.

The sum of the scope assignments Revised  $n$  and the sum of the scope assignments  $n$  Weight for all scope assignments in the work package are then used to compute the work package Scope Percent Complete. This is calculated as the  $n$  Weight divided by Revised  $n$ .

Completed Weight for the Manual option is calculated as Manual Weight multiplied by Scope Percent Complete.

Scope Percent Complete at the work package level for the manual option is calculated as the sum of Manual Completed Weight divided by the sum of Manual Weight for all scope assignments in the work package.

#### Secondary Constraint

The secondary restriction impacting the activity start or finish date.

#### Task Count

The number of tasks assigned to an activity.

This is a read-only field.

#### Task Status - Completion

The current status of the task assigned to the activity. Valid values are New, Pending, Committed, and Completed.

This is a read-only field.

#### Task Status - Dates

Indicates the overall date status of the activity's assigned tasks.

Outside Activity: A task's dates are outside of the activity's Start and Finish dates.

Inside Activity: All of the tasks' dates are within the activity's Start and Finish dates.

No Tasks Assigned: No tasks are assigned to the activity.

This is a read-only field.

#### Task Status - Indicator

Indicates whether any of the activity's assigned tasks have dates or completion statuses that requires attention.

This is a read-only field.

#### Type

The type of activity. Valid values are Activity Dependent, Resource Dependent, Level of Effort, Start Milestone, and Finish Milestone.

#### Uncertainty Distribution

The probability distribution that best models the three-point estimate durations. The valid values are Triangular and Uniform.

## Percentage Fields

### Activity Percent Complete

The percentage of the activity that has been completed.

This value is based on the formula for the selected Percent Complete Type. The Percent Complete Type can be Physical, Duration, Units, or Scope.

Physical: The user records the percent complete manually.

Duration: Calculated as (Planned Duration minus Remaining Duration) divided by Planned Duration, multiplied by 100.

Units: Calculated as (Actual Labor Units plus Actual Nonlabor Units) divided by (Actual Labor Units plus Actual Nonlabor Units plus Remaining Labor Units plus Remaining Nonlabor Units), multiplied by 100.

Scope: Calculated as Installed Quantity divided by At Completion Quantity, multiplied by 100.

### BL Activity Percent Complete

In the baseline, the activity percent complete, manually entered by a user.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

### BL Duration Percent Complete

The duration percent complete for the activity in the baseline. Calculated as Planned Duration minus Remaining Duration divided by Planned Duration multiplied by 100.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

### BL Percent Complete Type

Determines the way in which the application calculates the percent complete for the activity in the baseline. Valid values are Physical, Duration, and Units.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

### BL Units Percent Complete

The percent complete of units for all labor and nonlabor resources assigned to the activity in the baseline. Calculated as Actual Units divided by At Completion Units multiplied by 100.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

### Duration Percent Complete

The duration percent complete for the activity. Calculated as Planned Duration minus Remaining Duration divided by Planned Duration multiplied by 100.

### Duration Percent of Planned

The actual duration percent of planned duration for the activity. Calculated as Actual Duration divided by Original BL Duration multiplied by 100.

### Labor Units Percent Complete

The percent complete of units for all labor resources for the activity. Calculated as Actual Labor Units divided by At Completion Labor Units multiplied by 100.

#### Nonlabor Units Percent Complete

The percent complete of units for all nonlabor resources for the activity. Calculated as Actual Nonlabor Units divided by At Completion Nonlabor Units multiplied by 100.

#### Percent Complete Type

Determines the way in which the application calculates the percent complete for the activity.

Physical: Percent complete is manually entered by a user based on the amount of physical work completed on the activity.

Duration: Percent complete is calculated from the actual and remaining duration.

Units: Percent complete is calculated from the actual and remaining units.

Scope: The percent complete for the activity is derived from the scope percent complete of the linked scope assignments.

#### Period Actual Labor Units

The number of labor units used during this financial period.

#### Period Actual Nonlabor Units

The nonlabor units used during this financial period.

#### Performance Percent Complete

The percentage of the planned work that is currently complete.

Performance Percent Complete is used to calculate earned value and is equal to the activity percent complete.

#### Physical Percent Complete

The activity percent complete, manually entered by a user.

#### Pre-Response Criticality Index

During risk analysis, tasks can join or leave the critical path. The criticality index expresses as a percentage, how often a particular task was on the critical path during the analysis.

#### Schedule Percent Complete

The activity schedule percent complete specifies how much of the activity's project baseline duration is complete so far.

With an earned value baseline selected, the schedule percent complete value is calculated based on where the current data date falls relative to the activity's project baseline start and finish dates.

Calculated as  $(\text{Data Date} - \text{Baseline Start Date}) / (\text{Baseline Finish Date} - \text{Baseline Start Date})$ .

If the data date is earlier than the baseline start, the schedule percent complete is 0. If the data date is later than the baseline finish, the schedule percent complete is 100.

Without an earned value baseline selected, the schedule percent complete value will use the activity planned dates and will be calculated based on where the current data date falls relative each activity's planned start and finish dates.

Calculated as  $(\text{Data Date} - \text{Planned Start Date}) / (\text{Planned Finish Date} - \text{Planned Start Date})$ .

If the data date is earlier than the planned start, the schedule percent complete is 0. If the data date is later than the planned finish, the schedule percent complete is 100.

#### Scope Percent Complete

The percentage completion of the scope assignments linked to the activity.

Calculated as Installed Quantity divided by At Completion Quantity.

#### Units Percent Complete

The percent complete of units for all labor and nonlabor resources assigned to the activity.

Calculated as Actual Units divided by At Completion Units multiplied by 100.

### Unit Fields

#### Actual Labor Units

The number of units expended for all labor resources assigned to the activity.

#### Actual Nonlabor Units

The number of nonlabor units that have been expended on the activity.

#### Actual This Period Units

The labor, nonlabor, and material units used during the current financial period.

#### At Completion Labor Units

The sum of the actual plus remaining units for all labor resources assigned to the activity.

It is the same as the planned labor units if the activity is not started, and the actual labor units after the activity is completed.

Calculated as Actual Labor Units plus Remaining Labor Units.

#### At Completion Nonlabor Units

The sum of the actual plus remaining units for all nonlabor resources assigned to the activity.

It is the same as the planned nonlabor units if the activity is not started, and the actual nonlabor units after the activity is completed.

Calculated as Actual Nonlabor Units plus Remaining Nonlabor Units.

#### BL Actual Labor Units

The number of units expended for all labor resources assigned to the activity in the baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Actual Nonlabor Units

The number of nonlabor units expended for all nonlabor resources assigned to the activity in the baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Planned Labor Units

The planned units for all labor resources assigned to the activity in the baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Planned Nonlabor Units

The planned units for all nonlabor resources assigned to the activity in the baseline.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Variance - Labor Units

The difference between the activity At Completion Labor Units and the BL Planned Labor Units.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### BL Variance - Nonlabor Units

The difference between the activity At Completion Nonlabor Units and the BL Planned Nonlabor Units.

The following baselines have unique names and values for this field: Current, Original, Supplementary, User 1, User 2, User 3.

#### Budget At Completion Units

The budgeted or planned units through activity completion.

#### Planned Labor Units

The planned number of units for all labor resources assigned to the activity.

#### Planned Nonlabor Units

The planned units for all nonlabor resources assigned to the activities in the project.

#### Prior Actual Labor Units

The sum of the actual stored period units for all labor resource assignments on the activity.

#### Prior Actual Nonlabor Units

The sum of the actual stored period units for all nonlabor resource assignments on the activity.

#### Remaining Labor Units

The remaining units for all labor resources assigned to the activity.

The Remaining Labor Units reflect the work remaining to be done for the activity. Before the activity is started, the remaining units are the same as the planned units. After the activity is completed, the remaining units are zero.

#### Remaining Nonlabor Units

The remaining units for all nonlabor resources assigned to the activity.

The remaining units reflect the work remaining to be done for the activity. Before the activity is started, the remaining units are the same as the planned units. After the activity is completed, there are zero remaining units.

## Schedule Comparison Overview

The Schedule Comparison page enables you to perform schedule variance analysis, a process of comparing one version of your project schedule to another and reviewing any changes between the two. As your project progresses, different stakeholders may add, delete, or edit information. Not only does this process modify the structure of the original project plan, but each update increases the potential for accidental errors or incorrect changes to be introduced into the schedule. Schedule variance analysis enables the schedule owner to ensure the validity and accuracy of all changes to the project schedule.

The two versions of the schedule being compared can be a baseline, a scenario, the current schedule, or a specific point in time since the project's creation. Typically, the first schedule chosen should be an original or earlier version of the project schedule. The second schedule should be a revised or later version. After running the comparison process, you can view variance values on items in the project that have been added, deleted, or edited. Items that may show variances include project fields, activities and activity details, relationships, resource assignments, and risks. The application uses the internal database ID when comparing two versions of an activity and its accompanying details. Even if the activity name or ID is changed on the Activities page, the application will compare the activity versions using the internal database ID. When calculating the variance between two project or two activity dates, the application uses the project calendar.

Schedule variance data is displayed in several areas of the page, each with a distinct purpose. In the table, you can compare original, revised, and variance values for the field columns you choose to display. In the detail windows, all available variances for a selected activity are broken down into categories. In the Gantt chart, activity bars for both schedules are displayed along a timeline. Finally, a Schedule Variance Analysis panel offers a comprehensive view of all items in the schedule that have been added, deleted, or changed. Some items provide editable thresholds so you can focus on more significant changes to the schedule.

Except for the configuration of view settings, all data on the Schedule Comparison page is read-only. The data that is visible depends on your user permissions. If you do not have the required permissions to view certain data, it will not be displayed.

## Working with the Schedule Comparison Page

Use the Schedule Comparison page to compare the variances between two different versions of a project schedule. Variance information is displayed in several areas of the page, each with a distinct configuration and purpose.

Name	ID	Start			Finish		
		Original	Revised	Variance	Original	Revised	Variance
Design Building Addition	EC1000	1.19.15...	1.26.15...	40h	3.17.15 ...	3.24.15 ...	4...
Review and Approve Designs	EC1030	3.17.1...	3.24.1...	40h	4.8.15 ...	4.15.15...	4...
Assemble Technical Data for Heat P...	EC1050	4.8.15 ...	4.27.15...	104h	4.16.15 ...	5.5.15 1...	10...
Review and Approve Brick Samples	EC1070	4.8.15 ...	4.27.15...	104h	5.4.15 0...	5.21.15 ...	10...
*Review and Approve Flooring	*EC1080	4.27.15...			5.21.15 ...		
Site Preparation	EC1100	4.8.15 ...	4.15.15...	40h	5.25.15 ...	5.18.15 ...	-3...
Review Technical Data on Flooring	EC1105	1.19.15...			1.23.15 ...		
Review Technical Data on Cooling Fa...	EC1110	1.19.15...			1.23.15 ...		
Review Technical Data on Heat Pumps	EC1160	4.16.15...	5.5.15 ...	104h	5.12.15 ...	5.29.15 ...	10...
Prepare and Solicit Bids for Flooring	EC1170	5.4.15 ...	5.21.15...	104h	5.28.15 ...	6.16.15 ...	10...
Prepare and Solicit Bids for Brick Ext...	EC1180	5.4.15 ...	5.21.15...	104h	5.19.15 ...	6.5.15 0...	10...

Name	Original	Revised	Variance
Physical Percent Complete		1	✓
Activity Percent Complete		1	✓
At Completion Labor Units	132h	0h	-132h
Remaining Labor Units	132h	0h	-132h
Duration Percent Complete		1	✓
Critical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Actual Duration	0h	132h	132h

### Table of Screen Highlights

Item	Description
1	<p><b>Comparison Toolbar:</b> Select two versions of the schedule to compare. The first is typically an original or earlier version of the schedule. The second is typically a revised or later version of the schedule. For either schedule, you can select the current schedule, a baseline, a scenario, or a previous point in time since the project was created.</p> <p>You can chose to export the comparison to a .xlsx file and work with the comparison data in the spreadsheet program of your choice.</p>

Item	Description
2	<p><b>Activity Table:</b> Each row in the table contains an activity from the two schedules being compared. Activities that do not exist in the original schedule but exist in the revised schedule are considered new and are displayed in green text with an asterisk. Activities that exist in the original schedule but do not exist in the revised schedule are considered deleted and are displayed with struck-through text.</p> <p>Each column you choose to add to the table is separated into three values: the original value, the revised value, and the variance between the two. When activity date indicators are enabled, an indicator for actual start dates, actual finish dates, and constraints are displayed in the Activity Table. Variances for numerical fields show numerical values. If there is no variance, the cell value is zero. Variances for non-numerical fields show a check mark. If there is no variance, the cell is blank. Variance cell values for new or deleted activities are also blank.</p>
3	<p><b>Gantt Chart:</b> The Gantt chart shows activity bars for the two schedules being compared. Each bar represents an activity's start date, finish date, and duration. Relationship lines are shown for the revised schedule's activities.</p>
4	<p><b>Schedule Variance Analysis panel:</b> Configure and display added, deleted, or changed values for all fields across the project. Categories in the panel include activities, activity-related objects, activity values, project values, and scheduler settings. The number displayed for each category in the panel represents the total number of items that meet that category's criteria. Drill down into a category to view data for individual items. Some items provide editable thresholds so you can focus on more significant changes to the schedule.</p>
5	<p><b>Detail Windows:</b> View all modified field values for the selected activity. If a value in the schedule is not new, deleted, or changed, it will not appear in a detail window. Detail windows that contain updated values are displayed with an asterisk in the tab title.</p> <p>The detail windows are separated into the following categories:</p> <ul style="list-style-type: none"> <li>▶ <b>Entered Values:</b> Values that are manually entered by the user.</li> <li>▶ <b>Calculated Values:</b> Values that are calculated based on changes made to entered values or by tools such as the scheduler or leveler.</li> <li>▶ <b>Relationships:</b> Predecessor and successor activity relationships.</li> <li>▶ <b>Resource Assignments:</b> Resources assigned to the selected activity.</li> <li>▶ <b>Risk Mappings:</b> Risks assigned to the selected activity.</li> </ul>



## Compare Two Versions of a Project Schedule

Compare an original or earlier version of your project schedule to a revised or later version. A schedule version can be a baseline, scenario, the current schedule, or a specific point in time since the project's creation.

The schedule comparison process calculates variances between the original and revised versions of your schedule and displays the variance data in several areas of the page, each with a distinct purpose. You can view variances in the table, detail windows, Gantt chart, and Schedule Variance Analysis panel.

All data on the Schedule Comparison page is read-only. The data that is visible depends on your user permissions. If you do not have the required permissions to view certain data, it will not be displayed.



To run a schedule comparison analysis:

- 1) **Navigate to the Schedule Comparison page** (see page 338).
- 2) In the **Original** list and **Revised** list, select two versions of the project schedule that you want to compare.
- 3) Select **Compare** to run the comparison analysis.

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**Note:** The selected schedules are not automatically scheduled before the comparison process is run. For the most accurate comparison of calculated values, it is recommended that you schedule both schedules before running the process.

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- 4) After the schedule comparison process completes, the results are displayed on the following areas of the page:
  - ▶ **Activity Table:** Displays activities from both schedules, including added and deleted activities. Each column in the table contains original, revised, and variance values. Column options are configured in the page settings.
  - ▶ **Gantt Chart:** Displays activity bars for the two schedules being compared. Select the  **Gantt** icon to display the chart.
  - ▶ **Schedule Variance Analysis:** Displays added, deleted, and changed values for all fields across the project. Drill down into a category to view data for individual items. Analysis options are configured in the page settings. Select the  **Schedule Variance Analysis** icon to display the panel.
  - ▶ **Detail Windows:** Displays categorized variances for the selected activity. If a value in the schedule is not new, deleted, or changed, it will not appear in a detail window.

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**Note:** For more information about each area, see *Working with the Schedule Comparison Page* (on page 247).

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### Tips

- ▶ Use quick filters to refine the number of activities displayed on the page. In the  **Quick Filters** list, select values on which to filter, and then select **Apply**. Quick filter selections apply to activities in either schedule. Apply multiple quick filters to further reduce how many activities are displayed. Clear a single filter to show more results. Select **Clear** to clear all filters.
- ▶ Grouping options, configured in the page settings, apply to the revised schedule.
- ▶ When activity date indicators are enabled, the **Schedule Comparison** table displays indicators for activities with Actual Start dates, Actual Finish dates, and activities with assigned constraints. When the As Late As Possible constraint is selected, the constraint indicator is not displayed. See *Configure Activity Date Indicators* (on page 106) to enable indicators.

### Export the Schedule Comparison Page

You can export the schedule comparison data to your preferred spreadsheet application. This allows you to report on key changes made to the project activities and further customize the data output in the spreadsheet application.

To export the schedule comparison page:

- 1) **Navigate to the Schedule Comparison page** (see page 338).
- 2) In the **Original** list and **Revised** list, select two versions of the project schedule that you want to compare.
- 3) Select **Compare** to run the comparison analysis.
- 4) Select **Export** to export all of data in the **Schedule Comparison** table and from the **Schedule Variance Analysis** panel.

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**Note:** To customize the analysis panel follow the steps in *Configure the Schedule Variance Analysis Panel* (on page 251) to determine what options are displayed.

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- 5) **Save** or **Open** the file.

### Tips

- ▶ The export is created as a .xlsx file.
- ▶ The export file contains a list of all activities in the project regardless of grouping and filtering.
- ▶ The export file does not contain content from the Schedule Comparison Gantt chart or the details panels.
- ▶ Date fields in the export file are displayed in UTC and formatted as YYYY/MM/DD.
- ▶ When you receive a system notification that the export is complete, select **Download File** in the notification or view the full message in the Inbox.

## Configure the Schedule Variance Analysis Panel

Configure comparison options to determine what is displayed on the Schedule Variance Analysis panel.

To configure the Schedule Variance Analysis panel tab options:

- 1) **Navigate to the Schedule Comparison page** (see page 338)
- 2) In the **Settings** panel, select the **Comparison Panel** tab.
- 3) To configure the comparison panel, select from the following:
  - a. In the **New** section, select the new items to display:
    - **New Activities**
    - **New Relationships**
    - **New Resources Assignments**
    - **New Risk Mappings**
  - b. In the **Deleted** section, select the deleted items to display:
    - **Deleted Activities**
    - **Deleted Relationships**
    - **Deleted Resource Assignments**
    - **Deleted Risk Mappings**
  - c. In the **Changed** section, select the changed items to display:
    - **Changed Scheduler Settings**
    - **Changed Project Values**
    - **Changed Entered Values**
    - **Changed Calculated Values**
    - **Changed Relationships**
    - **Changed Resources Assignments**
- 4) Select **Apply**.


## Alerts and Thresholds Overview

The Alerts feature enables you to create custom system and email notifications to alert users or user groups when a threshold is met. You can create alerts on the rolled up values of specific project-level fields for activities, projects, scope assignments, and work packages. The values for the threshold depend on the type of field you select. For example, if you chose Remaining Hours, the value will be in hours whereas if you chose Approved Budget, the value will be in the base currency. Threshold operators allow you to set options, such as whether the field should equal, not equal, or exceed the value.

## Add an Alert

You can create project-level alerts to send a notification or email when a specific threshold is met.

To add an alert:

- 1) In the object selector, select a project.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Alerts**.
- 4) On the **Alerts** page, select **+ Add**.
- 5) In the **Select Project Field** dialog box, select a project level field under **Activity**, **Project**, **Scope Assignment**, or **Work Package**, and then select **Select**.
- 6) Select **Save**.
- 7) In the **Summary & Settings** panel, select **× Close**.

**This setting is used in the following apps:**

 **Cost and Funds**


 **Schedule**

 **Scope**

### Add a Threshold to an Alert

Add thresholds to alerts to define when notifications should be sent.

To add a threshold to an alert:

- 1) In the object selector, select a project.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Alerts**.
- 4) On the **Alerts** page, select an alert.
- 5) In the **Threshold** and **Alerts** settings pane, under the **Threshold** section, configure the **Operator** and **Value** fields.
- 6) Select **Save**.
- 7) In the **Summary & Settings** panel, select **× Close**.

**This setting is used in the following apps:**

 **Cost and Funds**

 **Schedule**

 **Scope**


### Set an Alert Delivery Option

You can assign users and groups to alerts and specify the method of delivery of the message. You can also enter a custom message to the user or keep the default message. The message should be appropriate to all recipients. You cannot specify a different message for different recipients. You can, however, specify different methods of delivery for different users and groups.




When a threshold is met, only one alert will be sent. For example, if you set a threshold to alert users when the Proposed Budget of a project exceeds a certain amount, one alert will be sent. If the Proposed Budget value continues to increase, additional alerts will not be sent.

You do not need security privileges to subscribe or unsubscribe yourself to an alert, provided you have access to the project. A user who does not have access to the project but is assigned to a project alert will not receive a notification.

To add a threshold to an alert:

- 1) In the object selector, select a project.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Alerts**.
- 4) In the **Threshold** and **Alerts** settings pane, under the **Alerts** section, select **Assign** ▼ and then select **User** or **Group**.
- 5) In the **Select User** or **Select Group** dialog box:
  - a. Enter part or all of the username, personal name, or group name into the **Search** field.
  - b. Select the name and select **Select**.
- 6) In the name row, select what type of message should be sent from the following options:
  - ▶ **Notification**: Sends a system notification to the user's Notifications panel.
  - ▶ **Email**: Sends an email to the user's email address stored in the LDAP.
- 7) (Optional) In the **Message** field, enter a message that will be sent to the selected users and groups.
- 8) Select **Save**.
- 9) In the **Summary & Settings** panel, select × **Close**.


**This setting is used in the following apps:**

-  **Cost and Funds**
-  **Schedule**
-  **Scope**

## Creating Alerts: Example

Imagine that you want to create an alert that sends you a system notification when a project cost threshold is met. As a cost manager overseeing multiple projects, you want to be alerted when the proposed budget of a project exceeds \$800,000. You can configure an alert from the Alerts page of any project to send a custom message when the threshold is met.

### Creating an Alert

- 1) In the object selector, select a project.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Alerts**.
- 4) On the **Alerts** page, select + **Add**.

- 5) In the **Select Project Field** dialog box, select **Project**, select **Proposed Budget**, and then select **Select**.
- 6) Select **Save**.

### Defining the Threshold

- 1) In the **Threshold** and **Alerts** settings pane, in the **Threshold** section, in the **Operator** list, select **is greater than**.
- 2) In the **Value** field, enter *\$800,000*.
- 3) Select **Save**.

### Setting Alert Delivery Options

- 1) In the **Threshold** and **Alerts** settings pane, in the **Alert** section, select **Assign ▼** and then select **User**.
- 2) In the **Select User** dialog box:
  - a. Enter part or all of your username or personal name into the **Search** field.
  - b. Select your username and select **Select**.
- 3) In the username row, select the **Notification** check box.
- 4) In the **Message** field, enter *The project proposed budget has exceeded \$800,000*.
- 5) Select **Save**.

## Monitor Service Status

The Service Status tab on the Manage Services page provides a summary of the progress and completion of background services initiated by the users. It also provides the summary of recurring services configured to run automatically in the background. Background services include schedule, level, risk analysis, global change, set as current schedule, import, export, measures, recalculate cost, and integration service types. You can filter for a service type using the pre-defined filters in the filter panel or specify additional filtering criteria in the Filter By section. View a quick summary of the selected service type, context, start and end date, and the status in the grid. Use the preview panel to view additional details about the service, such as its frequency, or to terminate a running service.

To monitor the service status:

- 1) **Navigate to the Manage Services page** (see page 348).
- 2) Select the **Service Status** tab, and then select a service.


---

**Note:** You can apply filters to reduce the number of services displayed on the page. For more information, see **Manage Services Filters** (on page 256).

---

### Tips

- ▶ To terminate a service while it is still running, select a service that is in progress, select **Terminate** in the preview panel, and then select **Yes** in the confirmation dialog box. You can terminate the following services: import, export, level, risk analysis, measures, and schedule.

- ▶ Application administrators can view all background services that all users have initiated. Users who are not application administrators can only view the background services they have initiated.
- ▶ Many background services that are complete include a log you can view to see additional details about the service. To view the details of the completed service, select **View Log** or **View Details** in the preview panel .
- ▶ To quickly set up a recurring service, select **Set up recurring schedule** in the **Schedule** field in the preview panel, or select  **Edit** to edit the recurring service schedule if it was scheduled already.

## Configure Recurring Services

Select the Recurring Services tab on the Manage Services page to configure recurring services that need to run at regular intervals for schedule, level, and risk analysis. You can configure schedule recurring services and level and risk analysis services for projects. You can define the frequency of the service and view the run history and log on this page.

You can also view recurring service details for measures on the Recurring Services tab, including general service information and job history. The configuration of measure recurring services must be done in the workspace Measures dictionary.

To configure a recurring service:

- 1) **Navigate to the Manage Services page** (see page 348).
- 2) Select the **Recurring Services** tab.
- 3) Select **+ Add**.
- 4) In the **Add Recurring Service** wizard, complete the following steps:
  - ▶ In the **General** step, enter general information for the service type, such as name and frequency, including the day and time of recurrence, and then select **Next**.
  - ▶ In the **Assign Projects** step, select the projects on which the service is scheduled to run, and then select **Next**.
  - ▶ In the **Options** step:
    - For schedule service type, specify the **Schedule Settings** and **Data Date** options, and then select **Add**.
    - For level service type, specify the **Schedule Settings**, and then select **Add**.


---

**Note:** The Options step is only available for schedule and level service types.

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### Tips

- ▶ Use the preview panel to view the details for the selected recurring service. The following tabs are available:
  - ▶ **General:** Use this tab to view general information about the service, such as its schedule and recurrence settings.
  - ▶ **Projects:** Use this tab to view the project on which the service type is scheduled to run.

- ▶ **Service Details:** Use this tab to view the service details, such as the **Schedule Settings** and the **Data Date** of the scheduled service type.
- ▶ **Job History:** Use this tab to view the run history and log of the service type.
- ▶ To terminate a recurring service while it is still running, navigate to the **Job History** tab of the preview panel, select the  **Context** menu for a service that is in progress, select **Terminate**, and then select **Yes** in the confirmation dialog box. You can terminate the following services: import, export, level, risk analysis, and schedule.
- ▶ You can apply filters to reduce the number of recurring services displayed on the page. For more information, see **Manage Services Filters** (on page 256).

## Manage Services Filters

Filter for a service type on the Manage Services page using the filter panel on the Service Status or Recurring Services tabs. You can use a pre-defined filter or specify additional filtering criteria in the Filter By section.

Filtering options for **Service Status**:

a) Pre-defined filters:

- ▶ **All:** Shows all the available services. This is selected by default.
- ▶ **In Progress:** Shows the services that are currently running.
- ▶ **Completed:** Shows the services that are completed.
- ▶ **Global Change:** Shows all global change services.
- ▶ **Export:** Shows all project export services. You can also download a project export service.
- ▶ **Evaluation:** Shows all evaluation score services.

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**Note:** If you are using the Safari browser, before you download, you should first access your browser preferences and deselect the option to open safe files after downloading.

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- ▶ **Import:** Shows all import services for a project or other objects.
- ▶ **Integration:** Provides a list of running, complete, or failed integration jobs for each integration type, such as P6 EPPM or Microsoft Project. You can also download an integration job.

---

**Note:** If you are using the Safari browser, before you download, you should first access your browser preferences and deselect the option to open safe files after downloading.

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- ▶ **Level:** Shows all level services.
- ▶ **Measures:** Shows all measure services.
- ▶ **Recalculate Cost:** Shows all recalculate cost services.
- ▶ **Risk Analysis:** Shows all the risk analysis services.
- ▶ **Schedule:** Shows all schedule services.
- ▶ **Set as Current Schedule:** Shows all the set as current schedule services.



b) **Filter By** options:

- ▶ **Project:** Applies to the services in the project context and shows all projects to which the user has access.
- ▶ **Portfolio:** Applies to the services that have the context field value of a portfolio and shows all portfolios to which the user has access.
- ▶ **Subject Area:** Applies to imports. Shows all entities that support Microsoft Excel and P6 XML import.
- ▶ **Business Flow:** Applies to integration jobs. Shows all business flows available for P6 EPPM or Microsoft Project integrations.
- ▶ **Integration:** Applies to integration type services. Choose either P6 EPPM or Microsoft Project.

Filtering options for **Recurring Services**:

## a) Pre-defined filters:

- ▶ **All:** Shows all services that are configured to occur periodically. This is selected by default.
- ▶ **Enabled:** Shows all the enabled services.
- ▶ **Schedule:** Shows all schedule services.
- ▶ **Level:** Shows all level services.
- ▶ **Risk Analysis:** Shows all risk analysis services.
- ▶ **Measures:** Shows all measure services.
- ▶ **Evaluation:** Shows all evaluation score services.

b) **Filter By** options:

- ▶ **Project:** Shows all projects to which the user has access.
- ▶ **Added By:** Shows all users who added the services.

## Resources Overview

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The Resources app supports workspace- and project-level dictionaries for the resources and roles you will be using in your projects. Create resources and roles, and then provide general details, work availability periods, and variable price rates.

At the project, program, and workspace levels, you can monitor assignment and usage data and identify staffing and allocation issues. At the portfolio level, perform high-level demand planning on the projects in your portfolio.

### Key Features

- ▶ Create and manage resources and roles at the workspace and project levels.
- ▶ Enter resource and role details, work availability, and rates.
- ▶ Review projects for unstaffed resources and roles.
- ▶ Ensure resources and roles are working on the right assignments within and across projects.
- ▶ Identify resources and roles that are overallocated or underallocated.
- ▶ Specify high-level project role demands for portfolio resource planning.

## Resource List Overview

A resource is any quantifiable item in limited supply and of sufficient value to justify tracking and assigning to specific activities for a project. Resources include general or specialized labor, nonlabor items such as equipment, and material items such as bricks. Labor and nonlabor resources are always time-based. Material resources, such as consumable items, are based on a specified unit of measure. Resources can be organized hierarchically for easier management and organization.

Resources perform roles, if defined. Resources can be indirectly assigned to activities by first planning the role required, or resources can be directly assigned to activities. These options are entirely at each organization's discretion. The staffing of role assignments with resources is a useful technique during the high-level or early planning of a project. Roles are assigned to activities when the general labor requirements are known, such as foreman, plumber, or painter. Later, when specific resources are known, they are used to staff the roles. You can plan an entire project using direct resource or role assignments, or by assigning roles and staffing them with resources.

Resources can be added to a resource list at the workspace level or the project level. Add resources at the workspace level when more than one project in the workspace will use the same resources. Add resources at the project level when the resources are only needed for a single project. A resource added at the project level can later be promoted to the project's parent workspace to make it available to other projects in the workspace. When associating roles with resources, they must be owned by the same workspace or project.

All resources can have multiple availability periods defined to reflect the varying amounts of work a resource is able to perform. Each availability period supports up to five pay rates, which represent the cost of the resource in a given work period. Resource rates are used to calculate the cost of each activity to which the resource is assigned.

## Workspace Resource List

Create labor, nonlabor, and material resources at the workspace level so that they can be available for assignment to the projects in your workspace.

In Primavera Cloud, this page is called **Resource List**. In Primavera Professional, this page is called **Resources**.

To learn more about resources, see ***Resource List Overview*** (on page 258).

## Create a Workspace Resource

Create resources at the workspace level if they will be assigned to multiple projects in your workspace. Resources can be added directly to the workspace, assigned from a parent workspace, imported from a Microsoft Excel file, or imported from P6 EPPM. Build resource hierarchies for easier organization of similar resources.

Resources can also be promoted to a higher level, removed from the workspace, or deleted permanently from the application.

To create a workspace resource, do any of the following:

- ▶ **Add a Workspace Resource** (on page 259)
- ▶ **Assign a Parent Workspace Resource to a Workspace** (on page 259)
- ▶ **Create a Resource by Import** (on page 260)
- ▶ **Import Resources from P6 EPPM** (on page 261) (Primavera Cloud only)

To manage a workspace resource, do any of the following:

- ▶ **Configure a Resource Hierarchy in a Workspace** (on page 261)
- ▶ **Promote a Workspace Resource to the Parent Workspace** (on page 262)
- ▶ **Remove a Resource from a Workspace** (on page 262)
- ▶ **Delete a Workspace Resource** (on page 263)

### Add a Workspace Resource


Add resources to the workspace resource list if they will be assigned to multiple projects in your workspace. Workspace resources are generally reused between activities and projects.

Resources can be distinguished as either labor, material, or nonlabor. Labor and nonlabor resources are always time-based. Material resources, such as consumable items, are assigned a unit of measure to quantify their amounts.

To add a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) Select **+ Add**.
- 3) In the new row, complete the following fields:
  - ▶ **Name**: Enter a name for the resource.
  - ▶ **ID**: Enter an ID for the resource.
  - ▶ **Type**: Select the type of resource. The default is **Labor**.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ By default, the status of the resource is set to **Active**. If you do not want the resource to be available immediately upon creation, in the **Status** list, select **Inactive**.
- ▶ You can build a hierarchy of resources by adding them as siblings or children to other resources. Select the  **Context** menu, and then select **Add Sibling** or **Add Child**. Oracle Primavera Cloud supports resource hierarchies up to 30 levels.
- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Parent Workspace Resource to a Workspace

Resources that are created in parent workspaces are available to be assigned to immediate child workspaces. You can assign resources from a parent workspace to a lower-level workspace to make them available to the child workspaces and projects within that workspace. This is useful when you need to pull down resources from a higher level before you **assign them to a project** (see "**Assign a Workspace Resource to a Project**" on page 270).

In every workspace and project where a resource is assigned, you can configure separate availability and rate information. This data can be analyzed at each level to monitor the resource's allocation. All other resource information can only be edited in the workspace or project where it is owned.

To assign a parent workspace resource to a workspace:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) Select **Assign**.
- 3) In the **Assign Resources** dialog box, select one or more resources to use in the current workspace.

---

**Note:** If resources are configured hierarchically, when a resource with subordinate resources is selected, all resources below are selected. Expand the resource name to view the additional resources and make appropriate selections.

---

- 4) Select **Assign**.
- 5) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Create a Resource by Import

Creating and updating resources using Microsoft Excel enables you to use data from an outside system which can save you time from manual entry.

### Download an Import Template for Importing Resources

Download a Microsoft Excel template to use when importing resources.

To download an import template:

- 1) **Navigate to the workspace or project resources page** (see page 339).
- 2) Select **Actions ▼**, and then select **Download Import Template**.

### Tips

- ▶ The import template is downloaded as a Microsoft Excel file with the default file name ResourcesImportTemplate.
- ▶ The top two rows of each worksheet are required when importing resources from a spreadsheet. You can delete unused optional columns, but do not change the data in these rows.
- ▶ Review the Instructions worksheet for helpful tips on populating the import template.

---

## Import Resource Data from Microsoft Excel

You can import resources into the application from a Microsoft Excel (.xls or .xlsx) file. After downloading the import template, follow the instructions to create or update resources in the spreadsheet. The import will fail if there are any invalid values in the spreadsheet. You can download the spreadsheet file to view and fix the errors indicated in the error column at the end of each worksheet, and then import the file again.

You must have sufficient privileges to perform this task.

To import resources from Microsoft Excel:


- 1) **Navigate to the workspace or project resources page** (see page 339).
- 2) Select the **Actions ▼** menu, and then select **Import**.
- 3) In the **Import Resources** dialog box, select **... Browse**, select a file, and select **Import**.

## Import Resources from P6 EPPM

If Oracle Primavera Cloud is configured for integration with P6 EPPM using Primavera Gateway, you can import resources stored in P6 EPPM into Oracle Primavera Cloud. The import occurs at the root workspace level, enabling all child workspaces to access the resource list.

If resources are configured hierarchically, the hierarchy will be maintained through the import. All resource details, except for resource and application user associations, will be imported.

To import resources from P6 EPPM:


- 1) In the object selector, select the root workspace.
- 2) In the sidebar, hover over  **Resources**, and select **Resource List**.
- 3) Select **Actions ▼**, and then select the name of the import synchronization.

## Configure a Resource Hierarchy in a Workspace

Resource hierarchies enable you to group similar resources together for easier organization and management. Examples of resource hierarchies might be company, organizational structure, or type of work.

Configure hierarchies by adding a child resource or indenting an existing resource beneath another resource. A workspace resource can only be made a child in its owning workspace. When resources in a hierarchy are assigned to child workspaces or projects within the workspace, the hierarchy is retained and the assigned resources cannot be changed. However, you can add resources from the current workspace to the assigned hierarchy. Oracle Primavera Cloud supports resource hierarchies up to 30 levels.

To configure a resource hierarchy in a workspace:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select a resource, select the  **Context** menu, and then do either of the following:
  - ▶ To add a new resource, select **Add Sibling** or **Add Child**.
  - ▶ To modify an existing resource, select **Move Left** or **Move Right**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Promote a Workspace Resource to the Parent Workspace

When a resource is added to a workspace and it is later determined that the resource should be made available at its parent workspace level, the resource can be promoted to the parent workspace. Promoted resources are available to be assigned to all of the child workspaces in the owning workspace. Codes and roles that are assigned to the resource are also promoted, and the relationships stay intact. You can only promote resources that are owned by the current workspace.

After a resource is promoted, only its availability and rate data can be edited in the current workspace. All other resource information must be edited in the owning workspace. At the parent workspace level, you can modify the resource's availability and rate data without affecting the current workspace-level values.

To promote a workspace resource to a parent workspace:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) Select **Promote**.
- 3) In the **Promote Resources** dialog box, select the resources to promote to the parent workspace, and then select **Promote**.
- 4) All changes made to this page are saved automatically.


### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Remove a Resource from a Workspace

Remove a resource from a workspace when it is determined the resource is not needed for assignment in the workspace. A resource can only be removed if it was assigned from a parent workspace. Removing a resource removes the resource from the current workspace, but it does not delete the resource from the owning workspace. If a resource is assigned to an activity, it cannot be removed.

To remove a resource from a workspace:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the  **Context** menu next to a resource, and then select **Remove**.
- 3) Select **Yes**.
- 4) All changes made to this page are saved automatically.

### Tips


- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

---

## Delete a Workspace Resource

Delete a resource from the workspace when it is determined the resource is not needed. A workspace resource can only be deleted from its owning workspace. A resource cannot be deleted if it is associated with a role, assigned to a child workspace or project, or assigned to an activity. You must remove all of these associations before deleting the resource.

To delete a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the  **Context** menu next to a resource, and then select **Delete**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ If a resource is no longer needed and cannot be deleted, change the **Status** to **Inactive**.
- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

## Synchronize Resource Availability and Rates

When making changes to and managing resource availability and rates, you can synchronize availability and rates for resources within your workspace. After making changes in the **Availability & Rates** detail panel for an individual resource, you can then sync those changes to other resources down the workspace hierarchy.

To synchronize workspace resource availability and rates:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) Select the **Actions** ▼ menu, and then select **Synchronize Availability and Rates**.
- 3) In the **Synchronize availability and rates?** dialog box, select **Synchronize Now**. When **Synchronize Now** is selected, availability and rates in all child workspaces and projects are updated with changes made in this workspace.

### Tips

- ▶ Schedule and recalculate costs within a project to ensure the schedule is updated to reflect availability and rate changes.
- ▶ You must have the edit costs privilege for resources to synchronize availability and rates from the **Resource List** page. If you also have the edit costs privilege for roles in the current workspace, the roles will also be synchronized when **Synchronize Now** is selected.
- ▶ When synchronization is completed successfully, or if synchronization fails, a notification is displayed, and the full message can be reviewed in the **Inbox**.

---

## Modify Workspace Resource Details

Add important resource information to the resources in your workspace resource list, including contact details, work availability and price rates, codes, location, and associated roles.

When a user of the application is also a resource in the application, you can associate the user's account with the resource. This is required for users updating their timesheets to record progress on activities to which they have been assigned as a resource. Timesheet users must also be assigned a timesheet approver.

The topics below are optional depending on your organization's preferences and the type of resource being modified.

To modify workspace resource details:

- ▶ **Add Contact Information for a Workspace Resource** (on page 264)
- ▶ **Associate a User with a Workspace Resource** (on page 264)
- ▶ **Assign a Timesheet Approver to a Workspace Resource** (on page 265)
- ▶ **Assign a Unit of Measure to a Workspace Material Resource** (on page 265)
- ▶ **Assign a Calendar to a Workspace Resource** (on page 266)
- ▶ **Assign Work Availability and Rates to a Workspace Resource** (on page 266)
- ▶ **Assign a Code to a Workspace Resource** (on page 267)
- ▶ **Assign a Location to a Workspace Resource** (on page 267)
- ▶ **Associate a Workspace Resource with a Role** (on page 268)

### Add Contact Information for a Workspace Resource

Add contact information and other details to resources, such as Title, Email, Office Phone, and Other Phone to enable users to reference and contact resources in the system.

To add contact information for a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the resource.
- 3) Fields for resource details are available in the **General** detail window and as configurable columns in the resource list. Enter data in the necessary fields.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Associate a User with a Workspace Resource

When a user of the application is also a resource in the application, you can associate the user's account with the resource. This is required for users updating their timesheets to record progress on activities to which they have been assigned as a resource.

You can only associate users with labor resources. Users can only be associated with one resource at a time.

If you have the required privileges, you can also add and associate a workspace resource with an existing user in Global Admin.

To associate an application user with a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the resource.



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**Note:** You can only associate users with labor resources.

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- 3) Select the **General** detail window.
- 4) In the **User** field, select the username for the resource.

---

**Note:** If a user is already associated with the resource, select the username in the **User** column of the resource table, and then select **Remove**.

---

- 5) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Timesheet Approver to a Workspace Resource

Assign a timesheet approver to a workspace resource to identify the person responsible for approving the resource's timesheet. This could be a resource manager, project manager, or other type of supervisor. A resource must be assigned a timesheet approver to use timesheets.

To assign a timesheet approver to a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the resource.
- 3) Select the **General** detail window.
- 4) In the **Timesheet Approver** field, select a user.

---

**Note:** A user must have the **Manage Timesheets** global permission enabled to appear in this list.

---

- 5) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Unit of Measure to a Workspace Material Resource

Units of measure are used for measuring quantities of material resources such as tons of bricks, linear feet of wood, or cubic yards of concrete. Units of measure are defined in workspace dictionaries and made available to the workspaces and projects within the workspace. In the resource list, you can assign a specific unit of measure to each material resource.

To assign a unit of measure to a workspace material resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select a material resource.
- 3) Select the **General** detail window.
- 4) In the **Unit of Measure** field, select **... Select**.

- 5) In the **Select Unit of Measure** dialog box, select a measurement type, and then select **Select**.
- 6) All changes made to this page are saved automatically.

### Assign a Calendar to a Workspace Resource

Resource calendars determine when a resource is available to work, including their standard work week, time periods, holidays, and exception time. A resource's Default Units/Time and Max Units/Time values are measured against the time periods configured in the resource's calendar.

Resource calendars are used for leveling resources, scheduling a project, and allocating work when the activity to which the resource is assigned has a type of Resource Dependent. If the activity type is not Resource Dependent, the resource's calendar will not be used.

Calendars are added and configured in the **Calendars** (see "**Calendars Overview**" on page 46) dictionary.

To assign a calendar to a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the resource.
- 3) Select the **General** detail window.
- 4) In the **Calendar** field, select **... Select**.
- 5) In the **Select Calendar** dialog box, select the calendar, and select **OK**.
- 6) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign Work Availability and Rates to a Workspace Resource

The resources available to your workspace may have a variety of work availability periods and pay rates. This information is essential when deciding which resources should be assigned to the activities in your projects based on availability and cost.

You can define multiple availability periods for an individual resource, each with up to five separate pay rates. For more information on availability and rates, see **Understanding Resource Availability and Rates** (on page 279).

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**Note:** When new rates are added, recalculate the schedule and recalculate costs to ensure all cost values are current.


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To assign work availability and rates to a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the resource.
- 3) Select the **Availability & Rates** detail window.
- 4) Select **+ Add**.
- 5) In the new row, complete the following fields:
  - ▶ **Effective Start Date:** Select the date for the availability period to begin.

- ▶ **Max Units/Time:** Enter the resource's maximum work units per time for this availability period. Enter these values as units per duration or as a percentage. The value will automatically convert to your format preference. The default Units/Time value can be set in the **General** detail window.
- ▶ **Price/Unit:** Enter up to five different rates for the availability period.

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**Note:** Select  **Settings** in the page toolbar to modify the currency view settings.

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6) All changes made to this page are saved automatically.

### Tips

- ▶ Unit and duration labels, as well as the format for Units/Time, are set in the **user preferences** (see "**Configure Time Units**" on page 104).
- ▶ Currency display options are configured in the page view settings. Workspace resource rates will only be displayed in base currency. If a workspace resource is assigned to a project, its rates may be displayed in either base or project currency, depending on the view settings for the page.
- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Code to a Workspace Resource

With potentially hundreds of resources in use across the organization, resource codes provide an efficient means for tracking and sorting resources for reporting or analysis. You can assign as many codes as necessary to categorize your resources. Codes can be added and configured in the **Codes** (see "**Codes Overview**" on page 52) dictionary or added during the assignment process.

To assign a code to a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select a resource.
- 3) Select the **Codes** detail window.
- 4) Select **Assign**.
- 5) In the **Select Code** dialog box, expand the code, and select the code value.
- 6) Select **Select**.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Location to a Workspace Resource

Assign locations to workspace resources to determine where the resource is available to work and for reporting purposes. Locations are configured in the **Locations** (see "**Locations Overview**" on page 61) dictionary.

To assign a location to a workspace resource:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the resource.
- 3) Select the **Location** detail window.
- 4) Choose an existing location, or enter a new location.
- 5) To choose an existing location:
  - a. In the **Name** field, select **... Select**.
  - b. In the **Select Location** dialog box, choose a location, and select **OK**.
- 6) To add a new location:
  - a. In the **Name** field, enter a name for the new location.
  - b. Enter the address, and select **Locate**. Alternatively, you can enter the **Latitude** and **Longitude** and select **Locate**.

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**Notes:**

- Input longitude and latitude in the format that is appropriate for your geolocation service. Enter longitude and latitude in decimal degrees or directional designators.
  - Select a country when locating using longitude and latitude to improve results.
- c. To save this location to the Locations dictionary at the workspace level, select **Save location for future use**.
- 7) (Optional) In the **Description** field, enter a description of the location. The location must be saved for future use to enter a description.
  - 8) All changes made to this page are saved automatically.

**Tips**

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

**Associate a Workspace Resource with a Role**

The roles you associate with a resource describe the skill capabilities and job titles of the resource. Role associations enable you to assign roles to activities during the early stages of project planning before specific resource requirements are known. You can later staff the roles with an associated resource. This functionality is optional, as you can also choose to directly assign roles and resources to your project's activities.

Associated workspace-level resources and roles must be owned by the same workspace. You can only associate labor and nonlabor resources with roles.

To associate a workspace resource with a role:

- 1) **Navigate to the workspace resource page** (see page 338).
- 2) In the table, select the resource.
- 3) Select the **Roles** detail window.
- 4) Select **Assign**.

- 5) In the **Assign Roles** dialog box, select one or more roles to associate with the resource, and then select **Assign**.
- 6) (Optional) Designate one of your associated roles as the **Primary Role** for the resource. When the resource is assigned to an activity, the primary role will also be assigned.
- 7) In the **Proficiency** list, select the resource's experience level with each associated role.
- 8) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

## Project Resource List

Create labor, nonlabor, and material resources at the project level to be available for assignment to the activities in your project. Project resources can be promoted to the parent workspace if they should be made available to other projects in the workspace.

In Primavera Cloud, this page is called **Resource List**. In Primavera Professional, this page is called **Resources**.

To learn more about resources, see **Resource List Overview** (on page 258).

### Create a Project Resource

Create resources at the project level if they will only need to be assigned to activities in the current project. If you later decide that a project resource should be made available to other projects in your workspace, you can promote it to the parent workspace. Build resource hierarchies for easier organization of similar resources.

Resources can be added directly to the project, assigned from the parent workspace, or imported in bulk from a Microsoft Excel file.

If a resource is no longer needed, it can be marked as inactive or deleted permanently. Workspace resources assigned to the project can be removed from the project.

To create a project resource, do any of the following:

- ▶ **Add a Project Resource** (on page 270)
- ▶ **Assign a Workspace Resource to a Project** (on page 270)
- ▶ **Create a Resource by Import** (on page 260)

To manage a project resource, do any of the following:

- ▶ **Configure a Resource Hierarchy in a Project** (on page 272)
- ▶ **Promote a Project Resource to a Workspace** (on page 272)
- ▶ **Remove a Resource from a Project** (on page 273)
- ▶ **Delete a Project Resource** (on page 273)

## Add a Project Resource


Add resources to the project resource list if they will only need to be assigned to activities in the current project. Resources reused across multiple projects should be added as workspace resources.

Resources can be distinguished as either labor, material, or nonlabor. Labor and nonlabor resources are always time-based. Material resources, such as consumable items, are assigned a unit of measure to quantify their amounts.

To add a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) Select **+ Add**.
- 3) In the new row, complete the following fields:
  - ▶ **Name:** Enter a name for the resource.
  - ▶ **ID:** Enter an ID for the resource.
  - ▶ **Type:** Select the type of resource. The default is **Labor**.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ By default, the status of the resource is set to **Active**. If you do not want the resource to be available immediately upon creation, in the **Status** list, select **Inactive**.
- ▶ You can build a hierarchy of resources by adding them as siblings or children to other resources. Select the  **Context** menu, and then select **Add Sibling** or **Add Child**. Oracle Primavera Cloud supports resource hierarchies up to 30 levels.
- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

## Assign a Workspace Resource to a Project

Resources that are created in a workspace are available to be assigned to all projects within the workspace. Even though workspace-level resources can be assigned directly to project activities, assigning them first to the project level enables you to define different availability and rates for each project they are assigned to. A workspace resource assigned to activities in multiple projects can be tracked in each project against their project availability and tracked at the workspace level against their workspace availability. Making workspace resources available at the project level may also be useful for users who do not have the privileges to view workspace resources and assign them to activities directly.

When assigning workspace resources to a project, you can only view resources from the parent workspace. To assign resources from a higher-level workspace, they must be assigned down the workspace hierarchy one level at a time. See **Assign a Parent Workspace Resource to a Workspace** (on page 259) for more information. Assigning workspace resources will also include their associated roles.

Most resource details can only be edited in the workspace or project where it is owned. You can modify separate availability and rate settings in each workspace or project where the resource is assigned.

To assign a workspace resource to a project:

- 1) **Navigate to the project resources page** (see page 339).
- 2) Select **Assign**.
- 3) In the **Assign Resources** dialog box, select one or more resources from the parent workspace to assign to the current project.

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**Note:** If resources are configured hierarchically, when a resource with subordinate resources is selected, all resources below are selected. Expand the resource name to view the additional resources.

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- 4) Select **Assign**.
- 5) All changes made to this page are saved automatically.

### Tips

- ▶ If you assign a workspace resource directly to an activity, the resource and any associated roles will be automatically made available at the project level with their workspace availability and rate values, which can then be modified for the project.
- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Create a Resource by Import

Creating and updating resources using Microsoft Excel enables you to use data from an outside system which can save you time from manual entry.

### Download an Import Template for Importing Resources

Download a Microsoft Excel template to use when importing resources.

To download an import template:

- 1) **Navigate to the workspace or project resources page** (see page 339).
- 2) Select **Actions ▼**, and then select **Download Import Template**.

### Tips

- ▶ The import template is downloaded as a Microsoft Excel file with the default file name ResourcesImportTemplate.
- ▶ The top two rows of each worksheet are required when importing resources from a spreadsheet. You can delete unused optional columns, but do not change the data in these rows.
- ▶ Review the Instructions worksheet for helpful tips on populating the import template.

### Import Resource Data from Microsoft Excel

You can import resources into the application from a Microsoft Excel (.xls or .xlsx) file. After downloading the import template, follow the instructions to create or update resources in the spreadsheet. The import will fail if there are any invalid values in the spreadsheet. You can download the spreadsheet file to view and fix the errors indicated in the error column at the end of each worksheet, and then import the file again.

You must have sufficient privileges to perform this task.

To import resources from Microsoft Excel:


- 1) **Navigate to the workspace or project resources page** (see page 339).
- 2) Select the **Actions** ▼ menu, and then select **Import**.
- 3) In the **Import Resources** dialog box, select **... Browse**, select a file, and select **Import**.

### Configure a Resource Hierarchy in a Project

Resource hierarchies enable you to group similar resources together for easier organization and management. Examples of resource hierarchies might be company, organizational structure, or type of work.

Configure hierarchies by adding a child resource or indenting an existing resource beneath another resource. A project resource can only be made a child if it is owned by the current project. When resources in a hierarchy are assigned to child workspaces or projects within the workspace, the hierarchy is retained and the assigned resources cannot be changed. However, you can add resources from the current project to the assigned hierarchy. Oracle Primavera Cloud supports resource hierarchies up to 30 levels.

To configure a resource hierarchy in a project:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select a resource, select the  **Context** menu, and then do either of the following:
  - ▶ To add a new resource, select **Add Sibling** or **Add Child**.
  - ▶ To modify an existing resource, select **Move Left** or **Move Right**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Promote a Project Resource to a Workspace

When a resource is added at the project level and it is later determined that the resource should be made available at the workspace level, the resource can be promoted to the workspace level. Promoted resources are available to be assigned to all of the projects in the owning workspace. Codes and roles that are assigned to the resource are also promoted, and the relationships stay intact. You can only promote resources that are owned by the current project.

After a resource is promoted, only its project-level availability and rate data can be edited in the current project. All other resource information must be edited in the owning workspace. At the workspace level, you can modify the resource's availability and rate data without affecting its project-level values.

To promote a project resource to a workspace:

- 1) **Navigate to the project resources page** (see page 339).
- 2) Select **Promote**.
- 3) In the **Promote Resources** dialog box, select the resources to promote to the workspace level, and then select **Promote**.



- 4) All changes made to this page are saved automatically.


### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Remove a Resource from a Project

Remove a resource from a project when it is determined the resource is not needed for assignment in the project. A resource can only be removed if it was assigned from a workspace. If a resource is assigned to an activity, it cannot be removed.

To remove a resource from a project:

- 1) **Navigate to the project resources page** (see page 339).
- 2) Select the  **Context** menu next to a resource, and then select **Remove**.
- 3) Select **Yes**.
- 4) All changes made to this page are saved automatically.


### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Delete a Project Resource

Delete a resource from the project when it is determined the resource is not needed. A project resource can only be deleted from the project where it is owned. A project resource cannot be deleted if it is associated with a role or assigned to an activity. You must remove all of these associations before deleting the role.

To delete a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the  **Context** menu next to a resource, and then select **Delete**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ If a resource is no longer needed and cannot be deleted, change the **Status** to **Inactive**.
- ▶ If a resource was assigned from the workspace and it is determined the resource is not needed on the project, you can **remove the resource** (see "**Remove a Resource from a Project**" on page 273) from the project.
- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Modify Project Resource Details

Add important resource information to the resources in your project resource list, including contact details, work availability and price rates, codes, location, and associated roles.

When a user of the application is also a resource in the application, you can associate the user's account with the resource. This is required for users updating their timesheets to record progress on activities to which they have been assigned as a resource. Timesheet users must also be assigned a timesheet approver.

The topics below are optional depending on your organization's preferences and the type of resource being modified.

To modify project resource details:

- ▶ **Add Contact Information for a Project Resource** (on page 274)
- ▶ **Associate a User with a Project Resource** (on page 274)
- ▶ **Assign a Timesheet Approver to a Project Resource** (on page 275)
- ▶ **Assign a Unit of Measure to a Project Material Resource** (on page 275)
- ▶ **Assign a Calendar to a Project Resource** (on page 276)
- ▶ **Assign Work Availability and Rates to a Project Resource** (on page 276)
- ▶ **Assign a Code to a Project Resource** (on page 277)
- ▶ **Assign a Location to a Project Resource** (on page 278)
- ▶ **Associate a Project Resource with a Role** (on page 279)

### Add Contact Information for a Project Resource

Add contact information and other details to resources, such as Title, Email, Office Phone, and Other Phone to enable users to reference and contact resources in the system.

To add contact information for a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.
- 3) Fields for resource details are available in the **General** detail window and as configurable columns in the resource list. Enter data in the necessary fields.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Associate a User with a Project Resource

When a user of the application is also a resource in the application, you can associate the user's account with the resource. This is required for users updating their timesheets to record progress on activities to which they have been assigned as a resource.

You can only associate users with labor resources. Users can only be associated with one resource at a time.

To associate an application user with a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.

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**Note:** You can only associate users with labor resources.

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- 3) Select the **General** detail window.
- 4) In the **User** field, select the username for the resource.

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**Note:** If a user is already associated with the resource, select the username in the **User** column of the resource table, and then select **Remove**.

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- 5) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Timesheet Approver to a Project Resource

Assign a timesheet approver to a project resource to identify the person responsible for approving the resource's timesheet. This could be a resource manager, project manager, or other type of supervisor. A resource must be assigned a timesheet approver to use timesheets.

To assign a timesheet approver to a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.
- 3) Select the **General** detail window.
- 4) In the **Timesheet Approver** field, select a user.

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**Note:** A user must have the **Manage Timesheets** global permission enabled to appear in this list.

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- 5) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Unit of Measure to a Project Material Resource

Units of measure are used for measuring quantities of material resources such as tons of bricks, linear feet of wood, or cubic yards of concrete. Units of measure are defined in workspace dictionaries and made available to the workspaces and projects within the workspace. In the resource list, you can assign a specific unit of measure to each material resource.

To assign a unit of measure to a project material resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select a material resource.
- 3) Select the **General** detail window.
- 4) In the **Unit of Measure** field, select **... Select**.

- 5) In the **Select Unit of Measure** dialog box, select a measurement type, and then select **Select**.
- 6) All changes made to this page are saved automatically.

### Assign a Calendar to a Project Resource

Resource calendars determine when a resource is available to work, including their standard work week, time periods, holidays, and exception time. A resource's Default Units/Time and Max Units/Time values are measured against the time periods configured in the resource's calendar.

Resource calendars are used for leveling resources, scheduling a project, and allocating work when the activity to which the resource is assigned has a type of Resource Dependent. If the activity type is not Resource Dependent, the resource's calendar will not be used.

Calendars are added and configured in the **Calendars** (see "**Calendars Overview**" on page 46) dictionary.

To assign a calendar to a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.
- 3) Select the **General** detail window.
- 4) In the **Calendar** field, select **... Select**.
- 5) In the **Select Calendar** dialog box, in the **Filter By** list, select **Project** to view calendars available at the project level, or select **Workspace** to view calendars available at the workspace level.
- 6) Select the calendar, and then select **OK**.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign Work Availability and Rates to a Project Resource

The resources available to your project may have a variety of work availability periods and pay rates. This information is essential when deciding which resources should be assigned to the activities in your project based on availability and cost.

You can define multiple availability periods for an individual resource, each with up to five separate pay rates. For more information on availability and rates, see **Understanding Resource Availability and Rates** (on page 279).

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#### Notes:

- When new rates are added, recalculate the schedule and recalculate costs to ensure all cost values are current.
- If you frequently export and import data, either to Primavera Cloud or P6 EPPM, a resource or role's availability and rate values should be identical at the workspace and project levels. Resource and role values are imported at the workspace level only. If a project-level

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resource or role is created as part of the import, it will use the values that exist at the workspace level. Existing project-level availability and rate values will not be overwritten. If you want to update project-level availability and rate values, you should do so manually.

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To assign work availability and rates to a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.
- 3) Select the **Availability & Rates** detail window.
- 4) Select **+ Add**.
- 5) In the new row, complete the following fields:
  - ▶ **Effective Start Date:** Select the date for the availability period to begin.
  - ▶ **Max Units/Time:** Enter the resource's maximum work units per time for this availability period. Enter these values as units per duration or as a percentage. The value will automatically convert to your format preference. The default Units/Time value can be set in the **General** detail window.
  - ▶ **Price/Unit:** Enter up to five different rates for the availability period.

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**Note:** Select  **Settings** in the page toolbar to modify the currency view settings.

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- 6) All changes made to this page are saved automatically.

### Tips

- ▶ Unit and duration labels, as well as the format for Units/Time, are set in the **user preferences** (see "**Configure Time Units**" on page 104).
- ▶ Currency display options are configured in the page view settings. Project resource rates may be displayed in either base or project currency, depending on the currency and the view settings for the page. If a project resource is promoted to the parent workspace, its rates will only be displayed in base currency.
- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Code to a Project Resource

With potentially hundreds of resources in use across the organization, resource codes provide an efficient means for tracking and sorting resources for reporting or analysis. You can assign as many codes as necessary to categorize your resources. Codes can be added and configured in the **Codes** (see "**Codes Overview**" on page 52) dictionary or added during the assignment process.

To assign a code to a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.
- 3) Select the **Codes** detail window.
- 4) Select **Assign**.

- 5) In the **Select Code** dialog box, expand the code, and select the code value.
- 6) Select **Select**.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

### Assign a Location to a Project Resource

Assign locations to project resources to determine where the resource is available to work and for reporting purposes. Locations are configured in the **Locations** (see "**Locations Overview**" on page 61) dictionary.

To assign a location to a project resource:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.
- 3) Select the **Location** detail window.
- 4) Choose an existing location, or enter a new location.
- 5) To choose an existing location:
  - a. In the **Name** field, select **... Select**.
  - b. In the **Select Location** dialog box, choose a location, and select **OK**.
- 6) To add a new location:
  - a. In the **Name** field, enter a name for the new location.
  - b. Enter the address, and select **Locate**. Alternatively, you can enter the **Latitude** and **Longitude** and select **Locate**.

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#### Notes:

- Input longitude and latitude in the format that is appropriate for your geolocation service. Enter longitude and latitude in decimal degrees or directional designators.
  - Select a country when locating using longitude and latitude to improve results.
- 
- c. To save this location to the Locations dictionary at the workspace level, select **Save location for future use**.
  - 7) (Optional) In the **Description** field, enter a description of the location. The location must be saved for future use to enter a description.
  - 8) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

## Associate a Project Resource with a Role

The roles you associate with a resource describe the skill capabilities and job titles of the resource. Role associations enable you to assign roles to activities during the early stages of project planning before specific resource requirements are known. You can later staff the roles with an associated resource. This functionality is optional, as you can also choose to directly assign roles and resources to your project's activities.

Associated project-level resources and roles must be owned by the same workspace. You can only associate labor and nonlabor resources with roles.

To associate a project resource with a role:

- 1) **Navigate to the project resources page** (see page 339).
- 2) In the table, select the resource.
- 3) Select the **Roles** detail window.
- 4) Select **Assign**.
- 5) In the **Assign Roles** dialog box, select one or more roles to associate with the resource, and then select **Assign**.
- 6) (Optional) Designate one of your associated roles as the **Primary Role** for the resource. When the resource is assigned to an activity, the primary role will also be assigned.
- 7) In the **Proficiency** list, select the resource's experience level with each associated role.
- 8) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the resource belongs. Most resource information can only be edited in the workspace or project where it is owned.

## Understanding Resource Availability and Rates

You can define multiple availability periods and pay rates for individual resources to reflect realistic variations in a resource's schedule.

An individual resource's availability can vary over time due to factors such as multiple commitments or seasonal availability. You can specify as many periods as necessary to model each resource's availability. For each period, enter an effective start date and the maximum work units the resource can perform within a single work period. For example, a resource available to work a full day may have a Max Units/Time value of 8h/d, or 100%. A resource with limited availability may only be able to work 4h/d, or 50%.

Units/Time values are measured against the time periods in the resource's calendar. For example, if the calendar's Hours/Day setting is 8, and your preferences are set to show unit and duration labels of hours and days, then entering a max unit/time value of 100% would equate to 8h/d, depending on your units/time format preference. Entering 120% would equate to 10h/d. Unit and duration labels, as well as the format for Units/Time, are set in the **user preferences** (see "**Configure Time Units**" on page 104). Units/Time values can be entered as a ratio or percentage and will be automatically converted to your format preference. Labor and nonlabor resources use time units, while material resources use their specified unit of measure.

Separate resource availability is defined in each workspace and project where the resource is available. When you assign work availability to a resource **at the project level** (see "**Assign Work Availability and Rates to a Project Resource**" on page 276), the resource's project usage is measured against its project availability. When you assign work availability to the same resource **at the workspace level** (see "**Assign Work Availability and Rates to a Workspace Resource**" on page 266), the resource's usage on all projects to which it is assigned rolls up and is measured against its workspace availability. For example, if a resource has varying levels of availability at each level, the resource may be overallocated in Project A, 100% allocated in Project B, but still have availability at the parent workspace level. When entering availability values, consider if the resource may be assigned to activities in other projects at the same time and may need to split their availability.

For each availability period you can specify up to five different rate types. While some resources may have a single standard rate at all times, other resources may have separate standard, internal, and external rates. A resource's rates are used to compute costs for any activities to which the resource is assigned. Depending on the resource type, the rate may be the unit price for labor such as a worker, nonlabor such as equipment, or material such as concrete. Separate resource rates can be defined in each workspace and project where the resource is available. The label for each rate type can be customized in the Resource/Role object settings.

## Undo Changes in Primavera Cloud

Primavera Cloud supports Undo and Redo functionality on several pages throughout the application. Undo is a powerful tool that enables you to revert certain actions and field values to a pre-modified state. For example, if you entered a new duration value for an activity, you can use Undo to revert to the previous value. To reinstate an action or value that was undone, you can use Redo. Up to 50 items are stored in the Undo history. The Undo history is unique to each page that supports Undo.

The following pages support Undo functionality in Primavera Cloud:

- ▶ Activities
- ▶ Project and Program Resources Assignment List
- ▶ Project and Program Schedule Assignment List
- ▶ WBS
- ▶ Workspace and Project Resource List
- ▶ Workspace and Project Role List

To use Undo or Redo:

- 1) After modifying a value for an object on a page, you can do either of the following:
  - ▶ Select ↶ **Undo** or ↷ **Redo**.
  - ▶ Use the keyboard shortcuts **Ctrl + Z** to undo an action and **Ctrl + Y** to redo an action.

---

**Note:** If an action is not supported by Undo or Redo, the icons on the toolbar will be disabled. A confirmation message appears if a proposed action cannot be undone.

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- 2) All changes made to this page are saved automatically.



Certain actions will clear the Undo history in Primavera Cloud, including:

- ▶ Refreshing the page
- ▶ Adding or navigating to a scenario
- ▶ Applying view settings on a page
- ▶ Assigning or promoting a resource or role
- ▶ Importing templates
- ▶ Scheduling or leveling the project
- ▶ Setting a scenario as the current schedule
- ▶ Unlinking a file

Certain actions are not stored in the Undo history, including:

- ▶ Deleting an activity
- ▶ Deleting an activity assignment
- ▶ Deleting a resource or role
- ▶ Deleting a resource or role availability row
- ▶ Dissolving an activity relationship

## Role List Overview

Roles represent personnel job titles or skills needed to execute projects. Examples of roles include architect, general laborer, quality assurance tester, and engineer. You can establish an unlimited number of roles and organize them in a hierarchy for easier management and organization.

You can associate roles with individual resources that fulfill the role's skill requirements. For example, you may have three people that can perform the role of carpenter. After associating these three resources with the carpenter role, you can indicate each resource's proficiency level and whether this is their primary role. A primary role is the main role the resource is currently performing and will be assigned to an activity at the same time the resource is assigned. The proficiency level describes the resource's skill level in that role. When you are ready to assign roles to perform work on project activities, you can review their proficiencies to decide who should be assigned.

Roles can be directly assigned to perform the work on activities, or they can be used in conjunction with their associated resources. During the early stages of a project, you may only know the general work requirements of each activity. You can assign the roles that each activity may need, such as foreman, plumber, or painter. Later, when you know which specific resources can be assigned to work on the activity, you can staff each role with an associated resource. Any combination of direct assignment and staffing roles with resources is supported.

Roles can be added to a role list at the workspace level or the project level. Add roles at the workspace level when more than one project in the workspace will use the same roles. Add roles at the project level when the roles are only needed for a single project. A role added at the project level can later be promoted to the project's parent workspace to make it available to other projects in the workspace. When associating roles with resources, they must be owned by the same workspace or project.

All roles can have multiple availability periods defined to reflect the varying amounts of work a role is able to perform. Each availability period supports up to five pay rates, which represent the cost of the role in a given work period. See ***Understanding Role Availability and Rates*** (on page 297) for more information.

### Portfolio Resource Planning

Resource planning at the portfolio level is performed by reviewing the labor requirements of the workspace roles assigned to the projects in the portfolio, choosing the best project selection scenario that maximizes the portfolio's value, and committing labor units to the projects selected for execution. The objective of resource planning is to select projects that maximize portfolio value without overallocating the resources assigned to perform the project work.

Before you can begin portfolio resource planning, you should ***create workspace roles*** (see "***Create a Workspace Role***" on page 282), assign them to the Resource Demand page, and specify the labor units for each project.

### Workspace Role List

Create a standard set of roles at the workspace level so that you can associate them with labor and nonlabor workspace resources and assign them to activities on any of the projects in your workspace.

In Primavera Cloud, this page is called **Role List**. In Primavera Professional, this page is called **Roles**.

To learn more about roles, see ***Role List Overview*** (on page 281).

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### Create a Workspace Role

Create roles at the workspace level if they will be assigned to multiple projects in your workspace. Roles can be used solely for activity assignments or in conjunction with labor and nonlabor resources. Workspace roles are also required when performing demand planning.

Roles can be added directly to the workspace, assigned from the parent workspace, imported from a Microsoft Excel file, or imported from P6 EPPM. You can build role hierarchies for easier organization of similar roles.

Roles can also be promoted to a higher level, removed from the workspace, or deleted permanently from the application.

To create a workspace role, do any of the following:

- ▶ ***Add a Workspace Role*** (on page 283)
- ▶ ***Assign a Parent Workspace Role to a Workspace*** (on page 283)
- ▶ ***Create a Role by Import*** (on page 284)
- ▶ ***Import Roles from P6 EPPM*** (on page 284) (Primavera Cloud only)

To manage a workspace role, do any of the following:

- ▶ ***Configure a Role Hierarchy in a Workspace*** (on page 285)
- ▶ ***Promote a Workspace Role to a Parent Workspace*** (on page 285)
- ▶ ***Remove a Role from a Workspace*** (on page 286)

- ▶ **Delete a Workspace Role** (on page 286)


### Add a Workspace Role

Add roles to the workspace role list if they will be assigned to multiple projects in your workspace. Workspace roles are generally reused between activities and projects. Roles owned at the workspace level can be associated with labor and nonlabor resources from the same workspace.

To add a workspace role:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) Select **+** **Add**.
- 3) In the new row, complete the following fields:
  - ▶ **Name:** Enter a name for the role.
  - ▶ **ID:** Enter an ID for the role.
- 4) All changes made to this page are saved automatically.

### Tips

- ▶ By default, the status of the role is set to **Active**. If you do not want the role to be available immediately upon creation, in the **Status** list, select **Inactive**.
- ▶ You can build a hierarchy of roles by adding them as siblings or children to other roles. Select the  **Context** menu, and then select **Add Sibling** or **Add Child**. Oracle Primavera Cloud supports role hierarchies up to 30 levels.
- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Assign a Parent Workspace Role to a Workspace

Roles that are created in parent workspaces are available to be assigned to immediate child workspaces. You can assign roles from a parent workspace to a lower-level workspace to make them available to the child workspaces and projects within that workspace. This is useful when you need to pull down roles from a higher level before you **assign them to a project** (see "**Assign a Workspace Role to a Project**" on page 291).

In every workspace and project where a role is assigned, you can configure separate availability and rate information. This data can be analyzed at each level to monitor the role's allocation. All other role details can only be edited in the workspace or project where it is owned.

To assign a parent workspace role to a workspace:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) Select **Assign**.
- 3) In the **Assign Roles** dialog box, select one or more roles to use in the current workspace.

---

**Note:** If roles are configured hierarchically, when a role with subordinate roles is selected, all roles below are selected. Expand the role name to view the additional roles.

---

- 4) Select **Assign**.

5) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Create a Role by Import

Creating and updating roles using Microsoft Excel enables you to use data from an outside system which can save you time from manual entry.

### Download an Import Template for Importing Roles

Download a Microsoft Excel template to use when importing roles.

To download an import template:

- 1) **Navigate to the workspace or project roles page** (see page 340).
- 2) Select **Actions ▼**, and then select **Download Import Template**.

### Tips

- ▶ The import template is downloaded as a Microsoft Excel file with the default file name RolesImportTemplate.
- ▶ The top two rows of each worksheet are required when importing roles from a spreadsheet. You can delete unused optional columns, but do not change the data in these rows.
- ▶ Review the Instructions worksheet for helpful tips on populating the import template.

### Import Role Data from Microsoft Excel

You can import roles into the application from a Microsoft Excel (.xls or .xlsx) file. After downloading the import template, follow the instructions to create or update roles in the spreadsheet. The import will fail if there are any invalid values in the spreadsheet. You can download the spreadsheet file to view and fix the errors indicated in the error column at the end of each worksheet, and then import the file again.

You must have sufficient privileges to perform this task.

To import roles from Microsoft Excel:


- 1) **Navigate to the workspace or project roles page** (see page 340).
- 2) Select the **Actions ▼** menu, and then select **Import**.
- 3) In the **Import Roles** dialog box, select **... Browse**, select a file, and select **Import**.

### Import Roles from P6 EPPM

If Oracle Primavera Cloud is configured for integration with P6 EPPM using Primavera Gateway, you can import roles stored in P6 EPPM into Oracle Primavera Cloud. The import occurs at the root workspace level, enabling all child workspaces access to the role list.

If roles are configured hierarchically, the hierarchy will be maintained through the import. All role details, except for associations, will be imported.

To import roles from P6 EPPM:


- 1) In the object selector, select the root workspace.
- 2) In the sidebar, hover over  **Resources**, and select **Role List**.
- 3) Select **Actions** ▼, and select the name of the import synchronization.

### Configure a Role Hierarchy in a Workspace

Role hierarchies enable you to group similar roles together for easier organization and management. Examples of role hierarchies might be industry or job title.

Configure hierarchies by adding a child role or indenting an existing role beneath another role. A workspace role can only be made a child in its owning workspace. When roles in a hierarchy are assigned to child workspaces or projects within the workspace, the hierarchy is retained and the assigned roles cannot be changed. However, you can add roles from the current workspace to the assigned hierarchy. Oracle Primavera Cloud supports role hierarchies up to 30 levels.

To configure a workspace role hierarchy:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) In the table, select a role, select the  **Context** menu, and then do either of the following:
  - ▶ To add a new role, select **Add Sibling** or **Add Child**.
  - ▶ To modify an existing role, select **Move Left** or **Move Right**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Promote a Workspace Role to a Parent Workspace

When a role is added to a workspace and it is later determined that the role should be made available at its parent workspace level, the role can be promoted to the parent workspace. Promoted roles are available to be assigned to all of the child workspaces in the owning workspace. Codes and resources that are assigned to the role are also promoted, and the relationships stay intact. You can only promote roles that are owned by the current workspace.

After a role is promoted, only its availability and rate data can be edited in the current workspace. All other role information must be edited in the owning workspace. At the parent workspace level, you can modify the role's availability and rate data without affecting the current workspace-level values.

To promote a workspace role to a parent workspace:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) Select **Promote**.
- 3) In the **Promote Roles** dialog box, select the roles to promote to the parent workspace level, and then select **Promote**.
- 4) All changes made to this page are saved automatically.


### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Remove a Role from a Workspace

Remove a role from a workspace when it is determined the role is not needed for assignment in the workspace. A role can only be removed if it was assigned from a parent workspace. Removing a role removes the role from the current workspace, but it does not delete the role from the owning workspace. If a role is assigned to an activity, it cannot be removed.

To remove a role from a workspace:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) In the table, select the  **Context** menu next to a role, and then, and select **Remove**.
- 3) Select **Yes**.
- 4) All changes made to this page are saved automatically.


### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Delete a Workspace Role

Delete a role from the workspace when it is determined the role is not needed. A workspace role can only be deleted from its owning workspace. A role cannot be deleted if it is associated with a resource, assigned to a child workspace or project, or assigned to an activity. You must remove all of these associations before deleting the role.

To delete a workspace role:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) In the table, select the  **Context** menu next to a role, and then select **Delete**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ If a role is no longer needed and cannot be deleted, change the **Status** to **Inactive**.
- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

---

### Modify Workspace Role Details

Add important role information to the roles in your workspace role list, including calendar assignment, work availability and price rates, codes, and associated resources.

The topics below are optional depending on your organization's preferences.

To modify workspace role details:

- ▶ **Assign a Calendar to a Workspace Role** (on page 287)
- ▶ **Assign Work Availability and Rates to a Workspace Role** (on page 287)

- ▶ **Assign a Code to a Workspace Role** (on page 288)
- ▶ **Associate a Workspace Role with a Resource** (on page 289)

### Assign a Calendar to a Workspace Role

Role calendars determine when a role is available to work, including their standard work week, time periods, holidays, and exception time. A role's Default Units/Time and Max Units/Time values are measured against the time periods configured in the role's calendar.


Role calendars are used for leveling roles, scheduling a project, and allocating work when the activity to which role resource is assigned has a type of Resource Dependent. If the activity type is not Resource Dependent, the role's calendar will not be used.

Calendars are added and configured in the **Calendars** (see "**Calendars Overview**" on page 46) dictionary.

To assign a calendar to a workspace role:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) In the table, select the role.
- 3) In the **Calendar** column, select a calendar to assign to the role.

---

**Note:** If the **Calendar** column is not displayed, select  **Settings** to add it to the view.

---

- 4) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Assign Work Availability and Rates to a Workspace Role

The roles available to your workspace may have a variety of work availability periods and pay rates. This information is essential when deciding which roles should be assigned to the activities in your projects based on availability and cost. If you are using roles for high-level project planning before assigning specific resources, you can use role rates to estimate costs for different job types and skill levels. The specific resources you associate with each role may have more accurate availability and rate data.

You can define multiple availability periods for an individual role, each with up to five separate pay rates. For more information on availability and rates, see **Understanding Role Availability and Rates** (on page 297).

---

**Note:** When new rates are added, recalculate the schedule and recalculate costs to ensure all cost values are current.


---

To assign work availability and rates to a workspace role:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) In the table, select the role, and then select the **Availability & Rates** detail window.
- 3) Select + **Add**.

- 4) In the new row, complete the following fields:
  - ▶ **Effective Start Date:** Select the date for the availability period to begin.
  - ▶ **Max Units/Time:** Enter the role's maximum work units per time for this availability period. Enter these values as units per duration or as a percentage. The value will automatically convert to your format preference. The **Default Units/Time** value can be set in the table.
  - ▶ **Price/Unit:** Enter up to five different rates for the availability period.

---

**Note:** Select  **Settings** in the page toolbar to modify the currency view settings.

---

- 5) All changes made to this page are saved automatically.

### Tips

- ▶ Unit and duration labels, as well as the format for Units/Time, are set in the **user preferences** (see "**Configure Time Units**" on page 104).
- ▶ Currency display options are configured in the Role List page view settings. Workspace role rates will only be displayed in base currency. If a workspace resource is assigned to a project, its rates may be displayed in either base or project currency, depending on the view settings for the page.
- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Assign a Code to a Workspace Role

With potentially hundreds of resources in use across the organization, role codes provide an efficient means for tracking and sorting roles for reporting or analysis. You can assign as many codes as necessary to categorize your roles. Codes can be added and configured in the **Codes** (see "**Codes Overview**" on page 52) dictionary or added during the assignment process.

To assign a code to a workspace role:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) In the table, select the role.
- 3) Select the **Codes** detail window.
- 4) Select **Assign**.
- 5) In the **Select Code** dialog box, expand the code, and then select the code value.
- 6) Select **Select**.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.



## Associate a Workspace Role with a Resource

The resources you associate with a role define the specific people or equipment available to perform the work represented by a role. A resource's association with a role makes it easy to assign roles to activities during early project planning and later staff the role with a specific resource. You can associate multiple resources with the same role to manage resources with different availability periods, price rates, and proficiency levels. The same resource can be associated with multiple roles if it performs multiple jobs.

Associated workspace-level resources and roles must be owned by the same workspace. You can only associate labor and nonlabor resources with roles.

To associate a workspace role with a resource:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) In the table, select the role.
- 3) Select the **Resources** detail window.
- 4) Select **Assign**.
- 5) In the **Assign Resources** dialog box, select one or more resources to associate with the role, and then select **Assign**.
- 6) In the **Proficiency** list, select the resource's experience level with each associated role.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

## Synchronize Role Availability and Rates

When making changes to and managing role availability and rates, you can synchronize availability and rates for roles within your workspace. After making changes in the **Availability & Rates** detail panel for an individual role, you can then sync those changes to other instances of the role down the workspace hierarchy.

To synchronize workspace role availability and rates:

- 1) **Navigate to the workspace role page** (see page 339).
- 2) Select the **Actions** ▼ menu, and then select **Synchronize Availability and Rates**.
- 3) In the **Synchronize availability and rates?** dialog box, select **Synchronize Now**. When **Synchronize Now** is selected, the role availability and rates in all child workspaces and projects are updated with changes made in this workspace.

### Tips

- ▶ Schedule and recalculate costs within a project to ensure the schedule is updated to reflect availability and rate changes.
- ▶ You must have the edit costs privilege for roles to synchronize availability and rates from the **Role List** page.
- ▶ When the synchronization has either completed successfully or failed, a notification is displayed, and the full message can be reviewed in the **Inbox**.

## Project Role List

Create a standard set of roles that you can associate with labor and nonlabor resources and assign to activities in your project. Project roles can be promoted to the parent workspace if they should be made available to other projects in the workspace.

In Primavera Cloud, this page is called **Role List**. In Primavera Professional, this page is called **Roles**.

To learn more about roles, see **Role List Overview** (on page 281).

---

### Create a Project Role

Create roles at the project level if they will only need to be assigned to activities in the current project. If you later decide that a project role should be made available to other projects in your workspace, you can promote it to the parent workspace. Roles can be used solely for activity assignments or in conjunction with labor and nonlabor resources.

Roles can be added directly to the project, assigned from the parent workspace, or imported in bulk from a Microsoft Excel file. You can build role hierarchies for easier organization of similar roles.

If a role is no longer needed, it can be marked as inactive or deleted permanently. Workspace roles assigned to the project can be removed from the project.

To create a project role, do any of the following:

- ▶ **Add a Project Role** (on page 290)
- ▶ **Assign a Workspace Role to a Project** (on page 291)
- ▶ **Create a Role by Import** (on page 284)

To manage a project role, do any of the following:

- ▶ **Configure a Role Hierarchy in a Project** (on page 292)
- ▶ **Promote a Project Role to a Workspace** (on page 293)
- ▶ **Remove a Role from a Project** (on page 293)
- ▶ **Delete a Project Role** (on page 294)

### Add a Project Role


Add roles to the project role list if they will only need to be assigned to activities in the current project. Roles reused across multiple projects should be added as workspace roles. Roles owned at the project level can be associated with labor and nonlabor roles from the same workspace.

To add a project role:

- 1) **Navigate to the project roles page** (see page 339).
- 2) Select **+ Add**.
- 3) In the new row, complete the following fields:
  - ▶ **Name**: Enter a name for the role.
  - ▶ **ID**: Enter an ID for the role.

4) All changes made to this page are saved automatically.

### Tips

- ▶ By default, the status of the role is set to **Active**. If you do not want to role to be available immediately upon creation, in the **Status** list, select **Inactive**.
- ▶ You can build a hierarchy of roles by adding them as siblings or children to other roles. Select the  **Context** menu, and then select **Add Sibling** or **Add Child**. Oracle Primavera Cloud supports role hierarchies up to 30 levels.
- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Assign a Workspace Role to a Project

Roles that are created in a workspace are available to be assigned to all projects within the workspace. Even though workspace-level roles can be assigned directly to project activities, assigning them first to the project level enables you to define different availability and rates for each project they are assigned to. A workspace role assigned to activities in multiple projects can be tracked in each project against their project availability and tracked at the workspace level against their workspace availability. Making workspace roles available at the project level may also be useful for users who do not have the privileges to view workspace roles and assign them to activities directly.

When assigning workspace roles to a project, you can only view roles from the parent workspace. To assign roles from a higher-level workspace, they must be assigned down the workspace hierarchy one level at a time. See **Assign a Parent Workspace Role to a Workspace** (on page 283) for more information. Assigning workspace roles will also include their associated resources.

Most role details can only be edited in the workspace or project where it is owned. You can modify separate availability and rate settings in each workspace or project where the role is assigned.

To assign a workspace role to a project:

- 1) **Navigate to the project roles page** (see page 339).
- 2) Select **Assign**.
- 3) In the **Assign Roles** dialog box, select one or more roles from the parent workspace to assign to the current project.

---

**Note:** If roles are configured hierarchically, when a role with subordinate roles is selected, all roles below are selected. Expand the role name to view the additional roles.

---

- 4) Select **Assign**.
- 5) All changes made to this page are saved automatically.

### Tips

- ▶ If you assign a workspace role directly to an activity, the role and any associated resources will be automatically made available at the project level with their workspace availability and rate values, which can then be modified for the project.

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Create a Role by Import

Creating and updating roles using Microsoft Excel enables you to use data from an outside system which can save you time from manual entry.

### Download an Import Template for Importing Roles

Download a Microsoft Excel template to use when importing roles.

To download an import template:

- 1) **Navigate to the workspace or project roles page** (see page 340).
- 2) Select **Actions ▼**, and then select **Download Import Template**.

### Tips

- ▶ The import template is downloaded as a Microsoft Excel file with the default file name RolesImportTemplate.
- ▶ The top two rows of each worksheet are required when importing roles from a spreadsheet. You can delete unused optional columns, but do not change the data in these rows.
- ▶ Review the Instructions worksheet for helpful tips on populating the import template.

### Import Role Data from Microsoft Excel

You can import roles into the application from a Microsoft Excel (.xls or .xlsx) file. After downloading the import template, follow the instructions to create or update roles in the spreadsheet. The import will fail if there are any invalid values in the spreadsheet. You can download the spreadsheet file to view and fix the errors indicated in the error column at the end of each worksheet, and then import the file again.

You must have sufficient privileges to perform this task.

To import roles from Microsoft Excel:


- 1) **Navigate to the workspace or project roles page** (see page 340).
- 2) Select the **Actions ▼** menu, and then select **Import**.
- 3) In the **Import Roles** dialog box, select **... Browse**, select a file, and select **Import**.

### Configure a Role Hierarchy in a Project

Role hierarchies enable you to group similar roles together for easier organization and management. Examples of role hierarchies might be industry or job title.

Configure hierarchies by adding a child role or indenting an existing role beneath another role. A project role can only be made a child if it is owned by the current project. When roles in a hierarchy are assigned to child workspaces or projects within the workspace, the hierarchy is retained and the assigned roles cannot be changed. However, you can add roles from the current project to the assigned hierarchy. Oracle Primavera Cloud supports role hierarchies up to 30 levels.

To configure a role hierarchy:

- 1) **Navigate to the project roles page** (see page 339).
- 2) In the table, select a role, select  **Context** the menu, and then do either of the following:
  - ▶ To add a new role, select **Add Sibling** or **Add Child**.
  - ▶ To modify an existing role, select **Move Left** or **Move Right**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Promote a Project Role to a Workspace

When a role is added at the project level and it is later determined that the role should be made available at the workspace level, the role can be promoted to the workspace level. Promoted roles are available to be assigned to all of the projects in the owning workspace. Codes and resources that are assigned to the role are also promoted, and the relationships stay intact. You can only promote roles that are owned by the current project.

After a role is promoted, only its project-level availability and rate data can be edited in the current project. All other role information must be edited in the owning workspace. At the workspace level, you can modify the role's availability and rate data without affecting its project-level values.

To promote a project role to a workspace:

- 1) **Navigate to the project roles page** (see page 339).
- 2) Select **Promote**.
- 3) In the **Promote Roles** dialog box, select the roles to promote to the workspace level, and then select **Promote**.
- 4) All changes made to this page are saved automatically.


### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Remove a Role from a Project

Remove a role from a project when it is determined the role is not needed for assignment in the project. A role can only be removed if it was assigned from a workspace. If a role is assigned to an activity, it cannot be removed.

To remove a role from a project:

- 1) **Navigate to the project roles page** (see page 339).
- 2) Select the  **Context** menu next to a role, and then select **Remove**.
- 3) Select **Yes**.
- 4) All changes made to this page are saved automatically.


### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Delete a Project Role

Delete a role from the project when it is determined the role is not needed. A project role can only be deleted from the project where it is owned. A project role cannot be deleted if it is associated with a resource or assigned to an activity. You must remove all of these associations before deleting the role.

To delete a project role:

- 1) **Navigate to the project roles page** (see page 339).
- 2) In the table, select the  **Context** menu next to a role, and then select **Delete**.
- 3) All changes made to this page are saved automatically.

### Tips

- ▶ If a role is no longer needed and cannot be deleted, change the **Status** to **Inactive**.
- ▶ If a role was assigned from the workspace and it is determined the role is not needed on the project, you can **remove the role** (see "**Remove a Role from a Project**" on page 293) from the project.
- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

---

### Modify Project Role Details

Add important role information to the roles in your project role list, including calendar assignment, work availability and price rates, codes, and associated resources.

The topics below are optional depending on your organization's preferences.

To modify project role details:

- ▶ **Assign a Calendar to a Project Role** (on page 294)
- ▶ **Assign Work Availability and Rates to a Project Role** (on page 295)
- ▶ **Assign a Code to a Project Role** (on page 296)
- ▶ **Associate a Project Role with a Resource** (on page 297)

### Assign a Calendar to a Project Role

Role calendars determine when a role is available to work, including their standard work week, time periods, holidays, and exception time. A role's Default Units/Time and Max Units/Time values are measured against the time periods configured in the role's calendar.


Role calendars are used for leveling roles, scheduling a project, and allocating work when the activity to which role resource is assigned has a type of Resource Dependent. If the activity type is not Resource Dependent, the role's calendar will not be used.

Calendars are added and configured in the **Calendars** (see "**Calendars Overview**" on page 46) dictionary.

To assign a calendar to a project role:

- 1) **Navigate to the project roles page** (see page 339).
- 2) In the table, select the role.
- 3) In the **Calendar** column, select **Select**.
- 4) In the **Select Calendar** dialog box, in the **Filter By** list, select **Project** to view calendars available at the project level, or select **Workspace** to view calendars available at the workspace level.
- 5) Select a calendar, and then select **OK**.

---

**Note:** If the **Calendar** column is not displayed, select  **Settings** to add it to the view.

---

- 6) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Assign Work Availability and Rates to a Project Role

The roles available to your project may have a variety of work availability periods and pay rates. This information is essential when deciding which roles should be assigned to the activities in your project based on availability and cost. If you are using roles for high-level project planning before assigning specific resources, you can use role rates to estimate costs for different job types and skill levels. The specific resources you associate with each role may have more accurate availability and rate data.

You can define multiple availability periods for an individual role, each with up to five separate pay rates. For more information on availability and rates, see **Understanding Role Availability and Rates** (on page 297).

---

#### Notes:


- When new rates are added, recalculate the schedule and recalculate costs to ensure all cost values are current.
  - If you frequently export and import data, either to Primavera Cloud or P6 EPPM, a resource or role's availability and rate values should be identical at the workspace and project levels. Resource and role values are imported at the workspace level only. If a project-level resource or role is created as part of the import, it will use the values that exist at the workspace level. Existing project-level availability and rate values will not be overwritten. If you want to update project-level availability and rate values, you should do so manually.
- 

To assign work availability and rates to a project role:

- 1) **Navigate to the project roles page** (see page 339).

- 2) In the table, select a role, and then select the **Availability & Rates** detail window.
- 3) Select **+ Add**.
- 4) In the new row, complete the following fields:
  - ▶ **Effective Start Date**: Select the date for the availability period to begin.
  - ▶ **Max Units/Time**: Enter the role's maximum work units per time for this availability period. Enter these values as units per duration or as a percentage. The value will automatically convert to your format preference. The **Default Units/Time** value can be set in the table.
  - ▶ **Price/Unit**: Enter up to five different rates for the availability period.

---

**Note:** Select  **Settings** in the page toolbar to modify the currency view settings.

---

- 5) All changes made to this page are saved automatically.

### Tips

- ▶ Unit and duration labels, as well as the format for Units/Time, are set in the **user preferences** (see "**Configure Time Units**" on page 104).
- ▶ Currency display options are configured in the page view settings. Project role rates may be displayed in either base or project currency, depending on the currency and the view settings for the page. If a project role is promoted to the parent workspace, its rates will only be displayed in base currency.
- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

### Assign a Code to a Project Role

With potentially hundreds of resources in use across the organization, role codes provide an efficient means for tracking and sorting roles for reporting or analysis. You can assign as many codes as necessary to categorize your roles. Codes can be added and configured in the **Codes** (see "**Codes Overview**" on page 52) dictionary or added during the assignment process.

To assign a code to a project role:

- 1) **Navigate to the project roles page** (see page 339).
- 2) In the table, select a role.
- 3) Select the **Codes** detail window.
- 4) Select **Assign**.
- 5) In the **Select Code** dialog box, expand the code, and select the code value.
- 6) Select **Select**.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.



## Associate a Project Role with a Resource

The resources you associate with a role define the specific people or equipment available to perform the work represented by a role. A resource's association with a role makes it easy to assign roles to activities during early project planning and later staff the role with a specific resource. You can associate multiple resources with the same role to manage resources with different availability periods, price rates, and proficiency levels. The same resource can be associated with multiple roles if it performs multiple jobs.

Associated project-level resources and roles must be owned by the same project. You can only associate labor and nonlabor resources with roles.

To associate a project role with a resource:

- 1) **Navigate to the project roles page** (see page 339).
- 2) In the table, select a role.
- 3) Select the **Resources** detail window.
- 4) Select **Assign**.
- 5) In the **Assign Resources** dialog box, select one or more resources to associate with the role, and then select **Assign**.
- 6) In the **Proficiency** list, select the associated resource's experience level with each associated role.
- 7) All changes made to this page are saved automatically.

### Tips

- ▶ The **Owned By** column indicates the workspace or project to which the role belongs. Most role information can only be edited in the workspace or project where it is owned.

## Understanding Role Availability and Rates

You can define multiple availability periods and pay rates for individual roles to reflect realistic variations in a role's schedule. If you are using roles for high-level project planning before assigning specific resources, you can use role rates to estimate costs for different job types and skill levels. The specific resources you associate with each role may have more accurate availability and rate data.

An individual role's availability can vary over time due to factors such as multiple commitments or seasonal availability. You can specify as many periods as necessary to model each role's availability. For each period, enter an effective start date and the maximum work units the role can perform within a single work period. For example, a role available to work a full day may have a Max Units/Time value of 8h/d, or 100%. A role with limited availability may only be able to work 4h/d, or 50%.

Units/Time values are measured against the time periods in the role's calendar. For example, if the calendar's Hours/Day setting is 8, and your preferences are set to show unit and duration labels of hours and days, then entering a max unit/time value of 100% would equate to 8h/d, depending on your units/time format preference. Entering 120% would equate to 10h/d. Unit and duration labels, as well as the format for Units/Time, are set in the **user preferences** (see "**Configure Time Units**" on page 104). Units/Time values can be entered as a ratio or percentage and will be automatically converted to your format preference.

Separate role availability is defined in each workspace and project where the role is available. When you assign work availability to a role **at the project level** (see "**Assign Work Availability and Rates to a Project Role**" on page 295), the role's project usage is measured against its project availability. When you assign work availability to the same role **at the workspace level** (see "**Assign Work Availability and Rates to a Workspace Role**" on page 287), the role's usage on all projects to which it is assigned rolls up and is measured against its workspace availability. For example, if a role has varying levels of availability at each level, the role may be overallocated in Project A, 100% allocated in Project B, but still have availability at the parent workspace level. When entering availability values, consider if the role may be assigned to activities in other projects at the same time and may need to split their availability.

When a role availability or rate is assigned and then modified, you have the option to keep the modified availability and rate separate or **Synchronize Role Availability and Rates** (on page 289) with other roles which are further down the workspace hierarchy. This type of synchronization is done directly from the Roles List page or at the Synchronize All Resource and Role Availability and Rates by an application administrator.

For each availability period you can specify up to five different rate types. While some roles may have a single standard rate at all times, other roles may have separate standard, internal, and external rates. A role's rates are used to compute costs for any activities to which the role is assigned. Separate role rates can be defined in each workspace and project where the resource is available. The label for each rate type can be customized in the Resource/Role object settings.

Because roles can be used as placeholders for specific resources, you can use role rates to estimate the cost of a particular role assignment. When a role is staffed with a resource, the assignment can be adjusted to either use the role's pay rate or the resource's pay rate. Resource and role rates are used to calculate the cost of each activity to which they are assigned.

## Undo Changes in Primavera Cloud

Primavera Cloud supports Undo and Redo functionality on several pages throughout the application. Undo is a powerful tool that enables you to revert certain actions and field values to a pre-modified state. For example, if you entered a new duration value for an activity, you can use Undo to revert to the previous value. To reinstate an action or value that was undone, you can use Redo. Up to 50 items are stored in the Undo history. The Undo history is unique to each page that supports Undo.

The following pages support Undo functionality in Primavera Cloud:

- ▶ Activities
- ▶ Project and Program Resources Assignment List
- ▶ Project and Program Schedule Assignment List
- ▶ WBS
- ▶ Workspace and Project Resource List
- ▶ Workspace and Project Role List

To use Undo or Redo:

- 1) After modifying a value for an object on a page, you can do either of the following:
  - ▶ Select ↶ **Undo** or ↷ **Redo**.
  - ▶ Use the keyboard shortcuts **Ctrl + Z** to undo an action and **Ctrl + Y** to redo an action.

---

**Note:** If an action is not supported by Undo or Redo, the icons on the toolbar will be disabled. A confirmation message appears if a proposed action cannot be undone.

---

- 2) All changes made to this page are saved automatically.

Certain actions will clear the Undo history in Primavera Cloud, including:

- ▶ Refreshing the page
- ▶ Adding or navigating to a scenario
- ▶ Applying view settings on a page
- ▶ Assigning or promoting a resource or role
- ▶ Importing templates
- ▶ Scheduling or leveling the project
- ▶ Setting a scenario as the current schedule
- ▶ Unlinking a file

Certain actions are not stored in the Undo history, including:

- ▶ Deleting an activity
- ▶ Deleting an activity assignment
- ▶ Deleting a resource or role
- ▶ Deleting a resource or role availability row
- ▶ Dissolving an activity relationship

## Assignment List Overview

Resource assignments can be viewed on the Assignment List page at the workspace, project, and program levels, enabling resource and project managers to review resource allocation for planning and analysis.

At the workspace and program levels, you can view all resources that are assigned to the projects in the workspace (and its child workspaces) or program. At the project level, you can view all resources that are assigned to the project.

The Assignment List page can be used by resource and project managers to:

- ▶ Review time-phased unit, cost, and other details for the resources assigned to your projects.
- ▶ Group resource assignments by code, activity, associated role, project, and more.
- ▶ Track unstaffed roles by their units, costs, or lack of assigned resource.
- ▶ Ensure the right resources are working on the right assignments and are adequately allocated.
- ▶ Monitor resource and role cost usage.
- ▶ Delete assignments directly from the page.

## Workspace Assignment List

Review usage data for the resources assigned to the projects in the workspace.

In Primavera Cloud, this page is called **Assignment List**. In Primavera Professional, this page is called **Resource Assignments**.

---

### Review Resource Assignments in a Workspace

The Assignment List page at the workspace level displays all of the resources assigned to projects within the workspace.

You can view resource assignments and their data in two different layouts: Grid or Spreadsheet.

#### Grid

Use the standard Grid layout for a view of total values for your resource assignments and their data. The data is displayed in customizable columns and grouping criteria depending on your needs. Because the Grid layout doesn't include a breakdown of the data over time, you can use this view to report high-level data to stakeholders.


#### Spreadsheet

Use the Spreadsheet layout to view resource assignments and their data in a customizable table format with a breakdown of values along the timescale configured for the page. Add vertical columns to view general information, dates and durations, and rolled up unit and cost fields for each resource. The same unit and cost fields can be displayed in horizontal spreadsheet rows so that their values can be analyzed along a timescale. Time-phased values for each row roll up to a corresponding Total column.

The first column of the table shows each resource assignment's name. Resources can be grouped by their activity assignments, associated roles, projects, codes, and more. These same fields can also be shown as columns. If a resource is grouped by a role or has an associated role listed in a column, it means that the role is staffed by the resource. If a resource is grouped by a role with a grouping band value of None, or if the associated role column is blank, it means that the resource is directly assigned to the project and has no associated role. If a resource name field is blank, it means that an unstaffed role is assigned to the project. You may need to add a column for role name or ID or group by roles to see which roles are staffed or unstaffed.



You can save your page layouts as named views. Create as many named views as necessary for different displays of your data.

To review resource assignments in a workspace:

- 1) **Navigate to the workspace resource assignments page** (see page 340).
- 2) On the **Layout** ▼ menu, select **Grid** or **Spreadsheet**.
- 3) Select  **Settings** in the toolbar to configure view options such as columns, filters, grouping, timescale, spreadsheet rows, and currency.
- 4) Use columns to view resource details and rolled up values.
- 5) (Spreadsheet layout only) Use spreadsheet rows to view time-phased unit and cost values. To start the spreadsheet timescale at a specific date, in the **Go to** field, select a date.

6) Use the **Search** field to search for keywords in the table.

### Tips

- ▶ When you apply a filter to a view, the filter icon changes to indicate that the data on the page has a filter applied.
- ▶ You can quickly delete activity resource assignments directly from this page. Select one or more resource rows, select the  **Context** menu, and then select **Delete**. To delete large groups of related assignments, group by Resource ID, Role ID, or Activity ID, select the  **Context** menu in a grouping band, and then select **Delete**.
- ▶ If all labor or nonlabor assignments have been deleted from an activity, you will be prompted to retain or delete all unit and cost values of that assignment type. Select **Yes** to reset all activity labor or nonlabor unit and cost values to 0. Select **No** to retain the activity labor or nonlabor unit and cost values. After all material resources have been removed, all activity material costs will be reset to 0.

### Assignment List Fields

Depending on your settings, the following fields might appear on the page as table columns, spreadsheet rows, or in detail windows. Fields that are generic across the application, such as Name, may not be included here.

#### Dates

##### Actual Finish

The date on which the assignment was completed.

##### Actual Start

If the activity has started, the date work began on the activity.

##### Finish

The finish date for the assignment.

##### Planned Finish

The date the assignment is scheduled to be finished.

##### Planned Start

The planned start date for the assignment on the activity.

##### Remaining Early Finish

The date the assignment is scheduled to be finished.

##### Remaining Early Start

The date the assignment is scheduled to begin.

##### Remaining Late Finish

The latest possible date the assignment must be finished to not delay the project finish date.

##### Remaining Late Start

The latest possible date the assignment must begin to not delay the project finish date.

**Start**

The start date for the activity assignment.

**Timesheet Actual Start**

Actual Start Date derived from Timesheet at the time of timesheet approval

**Durations**

**Actual Duration**

The total working time from the assignment actual start date to the actual finish date for completed assignments, or the total working time from the actual start date to the data date for in-progress assignments.

**At Completion Duration**

The total working time from the assignment's current start date to the current finish date.

**Planned Duration**

The resource's total working time on the activity from the Planned Start date to the Planned Finish date.

**Planned Lag**

The planned time lag between the activity's planned start date and the resource's planned start date on the activity.

**Remaining Duration**

The remaining working time for the resource assignment on the activity, from the resource's remaining start date to the remaining finish date.

**Remaining Lag**

The time lag between the activity's remaining start date and the resource's remaining start date on the activity.

**Financial**

**Actual Cost**

The actual cost for the resource assignment on the activity.

**Actual This Period Cost**

The labor, nonlabor, and material costs incurred during the current financial period.

**At Completion Cost**

The sum of the actual costs plus remaining costs for the resource assignment on the activity.

**Planned Cost**

The expected total cost of the item, such as an assignment, expense, or response plan.

**Price/Unit**

The price per unit of time for the resource or role.

#### Remaining Cost

The remaining cost for the resource assignment on the activity.

#### Staffed Remaining Cost

The remaining cost for resource assignments that have a filled role.

#### Unstaffed Remaining Cost

The remaining cost for resource assignments that do not have a filled role.

### General

#### Calendar

The calendar assigned to the activity.

#### Calculate Costs from Units

Indicates whether to calculate costs based on units for an assignment.

#### Curve

The resource's units and costs distributed over the duration of an activity.

#### Rate Source

The value that indicates which Price/Unit will be used to calculate costs for the assignment. Valid options are Resource, Role, or Override.

#### Rate Type

Identifies the Resource or Role rate to be used as a default when creating activity resource assignments.

#### Resource Type

The resource type. Valid values are Labor, Nonlabor, and Material.

#### Proficiency

The skill level of the resource an activity is assigned to. The valid values are Master, Expert, Skilled, Proficient, and Inexperienced.

### Percentages

#### Units Percent Complete

The percent complete of units for the resource assignment on the activity.

### Units

#### Actual This Period Units

The labor, nonlabor, and material units used during the current financial period.

#### Actual Units

The sum of the actual non-overtime and the overtime units worked by the resource on the activity.

**At Completion Units**

The sum of the actual units and remaining units for the resource assignment on the activity. Calculated as Actual Units plus Remaining Units.

**Planned Units**

The planned units of work for the resource assignment on the activity.

**Planned Units/Time**

The planned units per time at which the resource is to perform work on the activity.

**Remaining Units**

The remaining units of work to be performed by the resource on the activity. Calculated as Planned Units minus Actual Units.

**Remaining Units/Time**

The units per time required for the resource assignment to complete the activity.

**Staffed Remaining Units**

The remaining units for resource assignments that have filled a role.

**Timesheet Actual Units**

Timesheet actual hours logged from timesheet for the assignment.

**Unstaffed Remaining Units**

The remaining units for resource assignments that have not filled a role.

## Project Assignment List

Review usage data for the resources assigned to the project.

You can also open this page in the context of a program to review the resources assigned to the projects within the program.

In Primavera Cloud, this page is called **Assignment List**. In Primavera Professional, this page is called **Resource Assignments**.

---

### Review Resource Assignments in a Project or Program

The Assignment List page at the project level displays all of the resources assigned to the project. This page is also available at the program level for resources assigned to the projects within the program.

You can view resource assignments and their data in two different layouts: Grid or Spreadsheet.



---

## Grid

Use the standard Grid layout for a view of total values for your resource assignments and their data. The data is displayed in customizable columns and grouping criteria depending on your needs. Because the Grid layout doesn't include a breakdown of the data over time, you can use this view to report high-level data to stakeholders. Some cells can be updated by selecting the cell and entering a new value or selecting a value from the drop-down options available. Multiple cells can be updated with the same value by selecting the highlighted corner of the cell and clicking-and-dragging the cell up or down to fill-up or fill-down the rows in that column with the selected cell value. You can also use Shift + Click to highlight multiple cells or use Ctrl + Click to select multiple cells, and then use the right-click **Fill Down** menu option.

## Spreadsheet


Use the Spreadsheet layout to view resource assignments and their data in a customizable table format with a breakdown of values along the timescale configured for the page. Add vertical columns to view general information, dates and durations, and rolled up unit and cost fields for each resource. The same unit and cost fields can be displayed in horizontal spreadsheet rows so that their values can be analyzed along a timescale. Time-phased values for each row roll up to a corresponding Total column.

The first column of the table shows each resource assignment's name. Resources can be grouped by their activity assignments, associated roles, projects, codes, and more. These same fields can also be shown as columns. If a resource is grouped by a role or has an associated role listed in a column, it means that the role is staffed by the resource. If a resource is grouped by a role with a grouping band value of None, or if the associated role column is blank, it means that the resource is directly assigned to the project and has no associated role. If a resource name field is blank, it means that an unstaffed role is assigned to the project. You may need to add a column for role name or ID or group by roles to see which roles are staffed or unstaffed.

Some cells can be updated by selecting the cell and entering a new value or selecting a value from the drop-down options available. Multiple cells can be updated with the same value by selecting the highlighted corner of the cell and clicking-and-dragging the cell up or down to fill-up or fill-down the rows in that column with the selected cell value. You can also use Shift + Click to highlight multiple cells or use Ctrl + Click to select multiple cells, and then use the right-click **Fill Down** menu option.




You can save your page layouts as named views. Create as many named views as necessary for different displays of your data.

To review resource assignments in a project or program:

- 1) **Navigate to the project or program resource assignments page** (see page 340).
- 2) On the **Layout ▼** menu, select **Grid** or **Spreadsheet**.
- 3) Select  **Settings** in the toolbar to configure view options such as columns, filters, grouping, timescale, spreadsheet rows, and currency.
- 4) Use columns to view resource details and rolled up values.
- 5) (Spreadsheet layout only) Use spreadsheet rows to view time-phased unit and cost values. To start the spreadsheet timescale at a specific date, in the **Go to** field, select a date.
- 6) Use the **Search** field to search for keywords in the table.

- 7) Update the value in a cell by selecting the cell and entering a new value or selecting a value from the options available. Not all cells can be edited from the assignments page.
- 8) Update multiple cells in a column with an existing cell value in one of the following ways:
  - ▶ Select the cell and then click-and-drag the corner of the cell box up or down to fill-up or fill-down those rows with the selected value.
  - ▶ Select a cell and then Shift + Click a cell in the same column to highlight multiple cells. Right click a highlighted cell and select **Fill Down**. The cells are updated with the value from the first cell you selected.
  - ▶ Select a cell and then Ctrl + Click multiple cells in the same column. Right click a highlighted cell and select **Fill Down**. The cells are updated with the value from the first cell you selected.

### Tips

- ▶ When you apply a filter to a view, the filter icon changes to indicate that the data on the page has a filter applied.
- ▶ You can quickly delete activity resource assignments directly from this page. Select one or more resource rows, select the  **Context** menu, and then select **Delete**. To delete large groups of related assignments, group by Resource ID, Role ID, or Activity ID, select the  **Context** menu in a grouping band, and then select **Delete**.
- ▶ If all labor or nonlabor assignments have been deleted from an activity, you will be prompted to retain or delete all unit and cost values of that assignment type. Select **Yes** to reset all activity labor or nonlabor unit and cost values to 0. Select **No** to retain the activity labor or nonlabor unit and cost values. After all material resources have been removed, all activity material costs will be reset to 0.
- ▶ When an activity is set to **Completed**, you cannot use fill-down or fill-up with some date values from an **In Progress** or **Not Started** activity. If you do attempt to use fill-down or fill-up with data from a **Not Started** or **In Progress** activity, a warning icon is displayed, and the cell value is not changed. To remove the warning icon select the cell.
- ▶ When performing fill-down or fill-up in the **Rate Source** column, the resource or role rate must match what is assigned to the activity.
- ▶ To quickly view the details of the activity associated with the resource, select  **Activity Details**. The **Activity Details** panel displays important information such as **Project** name, **WBS** name, **Start** date with indicators for Actual Start date, **Finish** date with indicators for Actual Finish date, **Status**, Constraint indicators, and **Percent Complete**. See **Configure Activity Date Indicators** (on page 106) to enable indicators.

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### Undo Changes in Primavera Cloud

Primavera Cloud supports Undo and Redo functionality on several pages throughout the application. Undo is a powerful tool that enables you to revert certain actions and field values to a pre-modified state. For example, if you entered a new duration value for an activity, you can use Undo to revert to the previous value. To reinstate an action or value that was undone, you can use Redo. Up to 50 items are stored in the Undo history. The Undo history is unique to each page that supports Undo.

The following pages support Undo functionality in Primavera Cloud:

- ▶ Activities
- ▶ Project and Program Resources Assignment List
- ▶ Project and Program Schedule Assignment List
- ▶ WBS
- ▶ Workspace and Project Resource List
- ▶ Workspace and Project Role List

To use Undo or Redo:

- 1) After modifying a value for an object on a page, you can do either of the following:
  - ▶ Select ↶ **Undo** or ↷ **Redo**.
  - ▶ Use the keyboard shortcuts **Ctrl + Z** to undo an action and **Ctrl + Y** to redo an action.

---

**Note:** If an action is not supported by Undo or Redo, the icons on the toolbar will be disabled. A confirmation message appears if a proposed action cannot be undone.

---

- 2) All changes made to this page are saved automatically.

Certain actions will clear the Undo history in Primavera Cloud, including:

- ▶ Refreshing the page
- ▶ Adding or navigating to a scenario
- ▶ Applying view settings on a page
- ▶ Assigning or promoting a resource or role
- ▶ Importing templates
- ▶ Scheduling or leveling the project
- ▶ Setting a scenario as the current schedule
- ▶ Unlinking a file

Certain actions are not stored in the Undo history, including:

- ▶ Deleting an activity
- ▶ Deleting an activity assignment
- ▶ Deleting a resource or role
- ▶ Deleting a resource or role availability row
- ▶ Dissolving an activity relationship

---

### Assignment List Fields

Depending on your settings, the following fields might appear on the page as table columns, spreadsheet rows, or in detail windows. Fields that are generic across the application, such as Name, may not be included here.

#### Dates

Actual Finish

The date on which the assignment was completed.

**Actual Start**

If the activity has started, the date work began on the activity.

**Finish**

The finish date for the assignment.

**Planned Finish**

The date the assignment is scheduled to be finished.

**Planned Start**

The planned start date for the assignment on the activity.

**Remaining Early Finish**

The date the assignment is scheduled to be finished.

**Remaining Early Start**

The date the assignment is scheduled to begin.

**Remaining Late Finish**

The latest possible date the assignment must be finished to not delay the project finish date.

**Remaining Late Start**

The latest possible date the assignment must begin to not delay the project finish date.

**Start**

The start date for the activity assignment.

**Timesheet Actual Start**

Actual Start Date derived from Timesheet at the time of timesheet approval

**Durations**

**Actual Duration**

The total working time from the assignment actual start date to the actual finish date for completed assignments, or the total working time from the actual start date to the data date for in-progress assignments.

**At Completion Duration**

The total working time from the assignment's current start date to the current finish date.

**Planned Duration**

The resource's total working time on the activity from the Planned Start date to the Planned Finish date.

**Planned Lag**

The planned time lag between the activity's planned start date and the resource's planned start date on the activity.

**Remaining Duration**

The remaining working time for the resource assignment on the activity, from the resource's remaining start date to the remaining finish date.

#### Remaining Lag

The time lag between the activity's remaining start date and the resource's remaining start date on the activity.

### Financial

#### Actual Cost

The actual cost for the resource assignment on the activity.

#### Actual This Period Cost

The labor, nonlabor, and material costs incurred during the current financial period.

#### At Completion Cost

The sum of the actual costs plus remaining costs for the resource assignment on the activity.

#### Planned Cost

The expected total cost of the item, such as an assignment, expense, or response plan.

#### Price/Unit

The price per unit of time for the resource or role.

#### Remaining Cost

The remaining cost for the resource assignment on the activity.

#### Staffed Remaining Cost

The remaining cost for resource assignments that have a filled role.

#### Unstaffed Remaining Cost

The remaining cost for resource assignments that do not have a filled role.

### General

#### Calendar

The calendar assigned to the activity.

#### Calculate Costs from Units

Indicates whether to calculate costs based on units for an assignment.

#### Curve

The resource's units and costs distributed over the duration of an activity.

#### Rate Source

The value that indicates which Price/Unit will be used to calculate costs for the assignment. Valid options are Resource, Role, or Override.

#### Rate Type

Identifies the Resource or Role rate to be used as a default when creating activity resource assignments.

**Resource Type**

The resource type. Valid values are Labor, Nonlabor, and Material.

**Proficiency**

The skill level of the resource an activity is assigned to. The valid values are Master, Expert, Skilled, Proficient, and Inexperienced.

**Percentages**

**Units Percent Complete**

The percent complete of units for the resource assignment on the activity.

**Units**

**Actual This Period Units**

The labor, nonlabor, and material units used during the current financial period.

**Actual Units**

The sum of the actual non-overtime and the overtime units worked by the resource on the activity.

**At Completion Units**

The sum of the actual units and remaining units for the resource assignment on the activity. Calculated as Actual Units plus Remaining Units.

**Planned Units**

The planned units of work for the resource assignment on the activity.

**Planned Units/Time**

The planned units per time at which the resource is to perform work on the activity.

**Remaining Units**

The remaining units of work to be performed by the resource on the activity. Calculated as Planned Units minus Actual Units.

**Remaining Units/Time**

The units per time required for the resource assignment to complete the activity.

**Staffed Remaining Units**

The remaining units for resource assignments that have filled a role.

**Timesheet Actual Units**

Timesheet actual hours logged from timesheet for the assignment.

**Unstaffed Remaining Units**

The remaining units for resource assignments that have not filled a role.

## Analysis Overview

The Analysis page is used to monitor the current time-phased unit allocations of your resources and roles. For resources, actual and remaining units are measured against the resource's maximum availability. For roles, staffed and unstaffed remaining units are measured against the role's maximum availability.

The page shows all of the resources and roles available to the current object whether they are assigned to activities or not. At the workspace level, you can view all of the workspace resources and roles that are available to the workspace. At the project and program levels, you can view all of the workspace and project resources and roles that are available to the project or program.

You can use the page to see where a resource may be overallocated or underallocated or where a role may be staffed or unstaffed. Overallocated resources are scheduled for more work than their availability allows. To resolve overallocations, you can respread units, adjust availability, allow the resource to work overtime, or assign additional resources to redistribute the assignment units. Resources that are underallocated can be scheduled for more work because their current allocation of units does not exceed their availability. Unstaffed roles are role assignments that lack an associated resource assignment. If you are planning your entire project using only roles, unstaffed role values can be ignored. If you plan your project by staffing roles with associated resources, then unstaffed role values indicate that a specific resource assignment is needed.

Resources and roles on the Analysis page are shown in separate views. Each resource or role in the view is displayed on its own line in a table. Resources and roles display time-phased units aggregated from their activity assignments. At the workspace and program levels, resources and roles assigned to multiple projects will appear once per project, and the units for each project will be aggregated only from the activities within the project. The sections below explain the different interface options available on the Analysis page and the calculations that may be used.

### Spreadsheet Rows

For each resource in the Resources view, the following spreadsheet rows are displayed:

- ▶ **Max Availability:** The maximum amount of units the resource is available to work during the time period. This value is set for workspace and project resources in the **Resource List** (see "**Resource List Overview**" on page 258). Each resource entry uses the availability values set at the project level.
- ▶ **Under/Over:** This value is calculated from each time period's availability and allocation values. A resource is overallocated for a time period if its allocation units exceed its max availability. If the allocation units are less than the max availability, then the resource is underallocated and is available to perform more work during the time period. The Under/Over field indicates the number of units by which the resource is underallocated or overallocated. If the value is blank, then the resource's allocation matches its availability.
- ▶ **Allocation:** The number of actual and remaining units the resource has been scheduled to work during the given period. Each period's allocation value is an aggregation of all of the resource's activity assignment units during the period. If an allocation value is blank, then the resource has no units allocated for the time period.

For each role in the Roles view, the following spreadsheet rows are displayed:

- ▶ **Max Availability:** The maximum amount of units the role is available to work during the time period. This value is set for workspace and project roles in the **Role List** (see "**Role List Overview**" on page 281). Each role entry uses the availability values set at the project level.
- ▶ **Staffed Remaining Early Units:** This value reflects the number of remaining units that exist in the time period for assignments where the role is staffed by a resource. This number is an aggregation of all of the role's staffed activity assignment remaining units during the period.
- ▶ **Unstaffed Remaining Early Units:** This value reflects the number of remaining units that exist in the time period for assignments where the role is not staffed by a resource. This number is an aggregation of all of the role's unstaffed activity assignment remaining units during the period.

A role may display both staffed and unstaffed units if it has staffed and unstaffed activity assignments.

### Grouping Bands

Resources and roles on the Analysis page can be ungrouped and displayed in a flat list, or they can be grouped by common attribute.

At the workspace, project, and program levels, individual resources and roles can be grouped by code or by resource/role. The workspace and program levels also support grouping by project. For all grouping options, resource allocation values and role remaining values roll up to the grouping band level to show total units for the group. When grouping by resource/role at the workspace and program levels, additional aggregated values are available for workspace-level resources and roles. While all individual resource and role entries use project-level availability values, the **Max Availability** field at the grouping band level uses the resource or role's workspace-level availability values. This enables you to view a workspace resource or role's allocation across a single project at the individual level and across all projects in the workspace in the grouping band. Because workspace resources and roles can have separate availability values defined at the workspace and project levels, a resource may be overallocated in one of its projects but still underallocated or evenly allocated at the workspace level. The separate availabilities enable you to review such a scenario.

### Histogram

The Analysis page also shows allocation units as vertical bars in a time-phased histogram when a resource or role is selected in the table. For resources, each time period in the histogram may show a stacked set of bars that includes actual units, remaining units, and overallocated units. For roles, the histogram may show actual units, staffed remaining units, unstaffed remaining units, and overallocated units. In either view, you can toggle the display of horizontal lines, a chart legend, and the max availability line.

At the workspace and program levels, grouping band totals can also be shown in the histogram. When a code, project ID, or resource/role grouping band is selected, you can view actual, remaining, and allocation bars broken down by project. When a resource/role grouping band is selected, you can also view the total usage of all resources or roles within the grouping band broken down by stacked actual, remaining, and overallocated unit bars. When a resource or role grouping band is selected, the max availability line in the histogram uses the workspace-level availability values of the resource or role.



## Workspace Analysis

Analyze the resources and roles available to the workspace to identify resources that are overallocated or underallocated and roles that are understaffed and staffed. When grouping by resource or role, max availability values reflect workspace-level resource or role availability values.

In Primavera Cloud, this page is called **Analysis**. In Primavera Professional, this page is called **Resource Analysis**.



### Analyze Resource and Role Allocation in a Workspace

Review time-phased allocation values for all of the workspace resources and roles that are available to the workspace. The resources and roles in the table are listed according to the projects they are available to. If a resource or role has no project listed, it has not been made available to any projects. If a resource or role appears multiple times, it is available to multiple projects.

The spreadsheet in the table shows time-phased max availability and allocated units for the selected resource or role. Resource allocation values contain actual and remaining units. Role allocation values are divided into staffed and unstaffed remaining early units. Availability values are shown if availability periods have been configured for the resource or role. Allocation values are shown if a resource or role is assigned to at least one activity. A role may have only unstaffed units, only staffed units, or a combination of both. If no allocation values exist for an entry, the resource or role has not been assigned to any activities.

You can analyze resource and role allocations using the spreadsheet, grouping bands, and the histogram. See **Analysis Overview** (on page 311) for more information on these interface options and availability and allocation calculations.


To analyze resource and role allocation in a workspace:

- 1) **Navigate to the workspace resource analysis page** (see page 340).
- 2) In the page toolbar:
  - ▶ Select the  **Resources** or  **Roles** view.
  - ▶ In the **Quick Filters** section of the page toolbar, configure the following quick filters:
    - **All Resources:** Choose to display all resources in the table or a selection of resources.
    - **All Assignments:** Choose to display all resources regardless of their assignments, only resources with activity assignments, or only resources without activity assignments.

---





**Note:** In the **Roles** view, the quick filter options are called **All Roles** and **All Assignments**.

---

- ▶ Select  **Settings** to configure filtering, grouping, and timescale view options.
- ▶ To start the spreadsheet timescale at a specific date, in the **Go to** field, select a date.

- 3) In the **Resources** view, review the resource's time-phased **Max Availability**, **Under/Over**, and **Allocation** values. If allocation is less than availability, the resource is underallocated for that time period. If allocation exceeds availability, the resource is overallocated. If a resource is overallocated for a time period, an icon (⚠) will be shown in the **Under/Over** field.

In the **Roles** view, review the role's time-phased **Max Availability**, **Staffed Remaining Early Units**, and **Unstaffed Remaining Early Units** values. Staffed units indicate the role has been staffed with a resource assignment. Unstaffed units indicate that a specific resource assignment is needed to staff the role.

- 4) In the **Resource Name** or **Role Name** column, select the  **Details** icon to view the activities that the resource or role is assigned. Allocation values in the spreadsheet are aggregated from these activity assignments.
- 5) To view allocation values in the histogram, select a resource, role, or grouping band, and then do the following:
  - ▶ In the histogram panel, select  **Dock Bottom** or  **Dock Right** to position the histogram on the page.
  - ▶ Select  **Settings** to toggle the display of the legend, the max availability line, and horizontal sight lines.
  - ▶ If a grouping band is selected, use the first **View** list to display aggregated allocations by **Total Usage** (Resource/Role groupings) or by **By Project** (Code, Project ID, or Resource/Role groupings). If you are viewing the histogram by project, use the second view list to show **Allocation**, **Actual**, or **Remaining** unit bars for resources or **Total Allocation**, **Actual**, **Staffed**, or **Unstaffed** unit bars for roles.
  - ▶ Hover over a bar to view its details.

### Tips

- ▶ When grouping by **Resource/Role**, workspace resource and role values are rolled up and measured against the availability set for the resource or role at the workspace level. Workspace availability values are shown in the grouping band and in the histogram when a grouping band is selected.
- ▶ Depending on the granularity of the spreadsheet timescale, a resource may appear underallocated at a higher level, such as month, but may be overallocated at a lower level, such as week or day. You may need to adjust the timescale to see these overallocated periods.
- ▶ Use the arrows in the spreadsheet timescale or histogram timescale to move the dates left or right.

## Project Analysis

Analyze the workspace and project resources and roles that are available to the project to identify resources that are overallocated or underallocated and roles that are understaffed and staffed.

You can also open this page in the context of a program to analyze the resources and roles available to the projects within the program.

In Primavera Cloud, this page is called **Analysis**. In Primavera Professional, this page is called **Resource Analysis**.

### Analyze Resource and Role Allocation in a Project or Program



Review time-phased allocation values for all of the workspace and project resources and roles that are available to the project or program.

At the program level, the resources and roles in the table are listed according to the projects they are available to. If a resource or role has no project listed, it has not been made available to any projects. If a resource or role appears multiple times, it is available to multiple projects.

The spreadsheet in the table shows time-phased max availability and allocated units for the selected resource or role. Resource allocation values contain actual and remaining units. Role allocation values are divided into staffed and unstaffed remaining early units. Availability values are shown if availability periods have been configured for the resource or role. Allocation values are shown if a resource or role is assigned to at least one activity. A role may have only unstaffed units, only staffed units, or a combination of both. If no allocation values exist for an entry, the resource or role has not been assigned to any activities.

You can analyze resource and role allocations using the spreadsheet, grouping bands, and the histogram. See **Analysis Overview** (on page 311) for more information on these interface options and availability and allocation calculations.



To analyze resource and role allocation in a project or program:

- 1) **Navigate to the project or program resource analysis page** (see page 341).
- 2) In the page toolbar:
  - ▶ Select the  **Resources** or  **Roles** view.
  - ▶ In the **Quick Filters** section of the page toolbar, configure the following quick filters:
    - **All Resources:** Choose to display all resources in the table or a selection of resources.
    - **All Assignments:** Choose to display all resources regardless of their assignments, only resources with activity assignments, or only resources without activity assignments.





---

**Note:** In the **Roles** view, the quick filter options are called **All Roles** and **All Assignments**.

---

- ▶ Select  **Settings** to configure filtering, grouping, and timescale view options.
  - ▶ To start the spreadsheet timescale at a specific date, in the **Go to** field, select a date.
- 3) In the **Resources** view, review the resource's time-phased **Max Availability**, **Under/Over**, and **Allocation** values. If allocation is less than availability, the resource is underallocated for that time period. If allocation exceeds availability, the resource is overallocated. If a resource is overallocated for a time period, an icon () will be shown in the **Under/Over** field.

In the **Roles** view, review the role's time-phased **Max Availability**, **Staffed Remaining Early Units**, and **Unstaffed Remaining Early Units** values. Staffed units indicate the role has been staffed with a resource assignment. Unstaffed units indicate that a specific resource assignment is needed to staff the role.

- 4) In the **Resource Name** or **Role Name** column, select the  **Details** icon to view the activities that the resource or role is assigned. Allocation values in the spreadsheet are aggregated from these activity assignments.
- 5) To view allocation values in the histogram, select a resource, role, or grouping band, and then do the following:
  - ▶ In the histogram panel, select  **Dock Bottom** or  **Dock Right** to position the histogram on the page.
  - ▶ Select  **Settings** to toggle the display of the legend, the max availability line, and horizontal sight lines.
  - ▶ (Program level only) If a grouping band is selected, use the first **View** list to display aggregated allocations by **Total Usage** (Resource/Role groupings) or by **By Project** (Code, Project ID, or Resource/Role groupings). If you are viewing the histogram by project, use the second view list to show **Allocation**, **Actual**, or **Remaining** unit bars for resources or **Total Allocation**, **Actual**, **Staffed**, or **Unstaffed** unit bars for roles.
  - ▶ Hover over a bar to view its details.

### Tips

- ▶ At the program level, when grouping by **Resource/Role**, workspace resource and role values are rolled up and measured against the availability set for the resource or role at the workspace level. Workspace availability values are shown in the grouping band and in the histogram when a grouping band is selected.
- ▶ Depending on the granularity of the spreadsheet timescale, a resource may appear underallocated at a higher level, such as month, but may be overallocated at a lower level, such as week or day. You may need to adjust the timescale to see these overallocated periods.
- ▶ Use the arrows in the spreadsheet timescale or histogram timescale to move the dates left or right.

## Configure View Settings

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A view is a configured visual layout of a page.

The following section contains view options common throughout Oracle Primavera Cloud. Available options will vary by page.

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**Note:** Certain page view settings are not maintained when the page is refreshed using the Safari browser.

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## Views Overview

A view is a configured visual layout of a page. Views allow you to customize content and layout choices such as column selection, filtering, grouping, and sorting. Some pages support additional view options, such as Gantt charts, Gantt bars, and spreadsheet rows. Selecting the best view for your needs can facilitate the process of managing data in Primavera Cloud and Primavera Professional.

Some pages support the ability to save named views. Named views can be saved as one of the three following types: Personal, Project, and Workspace. Personal views are private and only accessible to the user who created them. Project views are saved at the project level and can be accessed by other members of the project. Likewise, workspace views are saved at the workspace level and are available to all users in the workspace. Available view types may vary by page. A fourth named view type, standard, can be found on the Activities page. Standard views are views that come with Primavera Cloud and contain pre-configured view options. They are read-only, but you can modify the view options and save the modifications as a new view.

On pages that support named views, you can create any number of views necessary to display your layouts. Personal, project, and workspace named views can be added, modified, and deleted in the Manage Views panel on a page. On pages without named views, available view options are configured in the Settings panel and are applied and saved to the page.

For pages that support named views and autosave, you can configure if view changes to those pages are saved manually or automatically by configuring the **Save Views** options in **Preferences** (see "**Configure Save Views**" on page 108).

Available view options will vary by page. The title of the ⚙ **Settings** icon may be specific to the grid or detail window that the icon pertains to. For example, the title of the icon for the Activities grid is Activities Grid Settings.

## Add a View

Some pages support the ability to add and save named views. Named views can be configured and applied at any time. Add multiple views to display different layouts.

There are four types of named views:

- ▶ **Standard:** Accessible by all users. Only available on the Activities page. You cannot add, edit, or delete standard views, but you can modify the view and save the changes as a new view of another type.
- ▶ **Project:** Accessible by other members of the project.
- ▶ **Workspace:** Accessible by all members of the workspace.
- ▶ **Personal:** Only accessible to the user who created them.

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### Notes:



- Your security privileges determine your ability to create project and

workspace views.


- View options may vary per page.

---

To add a view:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** panel, select a view type, select the  **Context** menu, and then select **Add**.
- 3) Enter a name for the new view.
- 4) Add the view:  
In the **Manage Views** panel:
  - a. Select **Save**.
  - b. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save the view select **Save** in the **View** list.
  - c. Select **Reset**. Reset deletes the view that was previously added.

### Tips

- ▶ On the  **Context** menu next to an existing view, you can cut, copy, and paste the view into any of the view types. Select **Delete** to delete the view. Select **Set Active** to apply the view to the page.

## Apply a View



Select a view to apply its display settings to a page.

---

**Note:** You can only apply a view on pages that support named views.

---

To apply a view:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** panel, select a view.
- 3) Select the  **Context** menu, and then select **Set Active**.

### Tips

- ▶ For quicker selection, the **View** list displays a list of the five most recently applied views. Select a view to apply it.
- ▶ When edits are made to a view and the **Save Views** preference is set to manual, a warning icon is displayed in the **View** list and you will have the option to reset the view, save the view, or save the changes as a new view directly from the **View** list.

## Configure a Column

Configure columns to select and position the columns of data that appear on a page.

---

**Note:** View options may vary per page. The title of the ⚙ **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure a column:

- 1) Navigate to a page, and then select the ⚙ **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Columns** tab.
- 3) In the **Available Columns** section, select columns and select **Add Column to Selected Columns** to add them to the **Selected Columns** section.
- 4) To position the columns in the **Selected Columns** section by:
  - a. Using the up and down arrows to change the positioning of the columns.
  - b. Dragging columns between the pinned and unpinned sections or by dragging the **Pinned Columns Above** slider up or down. Pinned columns are displayed in a section at the beginning of the table and will not move when the rest of the table is scrolled horizontally. Pinned columns are not available on every page.
- 5) Apply the view:

In the **Manage Views** panel:

  - a. Select **Save**.
  - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
  - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
  - d. Select **Reset**.
  - e. Select × **Close**.

In the **Settings** panel:

  - ▶ Select **Save**.

### Tips

- ▶ You can choose to show or hide the discussion icon in a table. Select the ⚙ **Settings** icon and, in the **Standard Column Options** section, select the **Show Discussion Indicator** option.


## Configure a Saved Filter

Filters reduce the data displayed on a page without deleting or otherwise removing it. Data that has been filtered out is still used for all calculations and reports. Some pages offer saved filters, which enable you to create multiple filters and apply them later.

Filters can be saved as one of three types: Workspace, Project, or Personal. Workspace filters are accessible to all users in the workspace. Project filters are accessible to all users in a project. Personal filters are private and only accessible to the user who created them. Users can view and edit all visible filters for a page, but can only apply a filter if it is accessible by the current view. For example, workspace views can only apply workspace filters, but personal views can apply workspace, project, and personal filters. Project views can apply project and personal views, if applicable. To apply a filter that is not accessible by the current view, you can cut or copy it to a type that is accessible to the view. A fourth filter type, standard, contains read-only filters that come with Primavera Cloud. Standard filters cannot be added, edited, or deleted, but then can be copied to a different type of filter and then modified.



Applied filters are saved to the selected view. On a page without named views, saved filters are saved and applied to the page.

---


**Note:** View options may vary per page. The title of the  **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure a saved filter:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Saved Filters** tab, and then select **Manage Filters**.
- 3) In the **Manage Filters** panel, in the navigation tree, select a filter type, select the  **Context** menu, and then select **Add**.

---

**Note:** Filters applied in the Manage Filters panel are applied to the currently active view. To change the active view, in the **Manage Views** panel, select the  **Context** menu next to a view, and then select **Set Active**.

---

- 4) Enter a name for the new filter.
- 5) Do the following to define the filter criteria:
  - a. In the **Match** list, select an option to define the filter conditions:
    - **All of the following:** Data is filtered only if it matches all the specified rules.
    - **Any of the following:** Data is filtered if it matches any of the specified rules.
  - b. Select **+ Add a filter condition**.
  - c. In the first empty row, use the following fields to define a filter rule:
    - **Field:** The data field to which the rule is applied.
    - **Operator:** The comparison operation for the rule.
    - **Value:** The value against which the rule compares the data field.
  - d. Add rows for each filter rule you want to define.
  - e. Add filter groups to define additional sets of conditions.
- 6) Apply the view:  
In the **Manage Views** panel:



- a. Select **Save**.
- b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
- c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
- d. Select **Reset**.
- e. Select **×** **Close**.

In the **Settings** panel:

- 7) Select **Save**.

### Tips

- ▶ On the page, select **∨ Filters** to open the **Manage Filters** panel, apply a recently used filter, or clear filters currently in use.
- ▶ For information on applying a saved filter, see **Apply a Saved Filter** (on page 321).

## Apply a Saved Filter

Apply a filter to reduce the data displayed on a page without deleting or otherwise removing it. Data that has been filtered out is still used for all calculations and reports. Saved filters enable you to create multiple filters and apply them later.

Applied filters are saved to the selected view. On a page without named views, applied filters are saved to the page. For information on configuring a saved filter, see **Configure a Saved Filter** (on page 319).

---

**Note:** View options may vary per page. The title of the **⚙ Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To apply a saved filter:

- 1) Navigate to a page, and then select the **⚙ Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Saved Filters** tab.
- 3) In the **Manage Views** panel, select the view to which you want to apply the filter.

---


**Note:** In the **Settings** panel, applied filters are saved directly to the page.

---

- 4) In the **Match** field, select an option to define the filter application conditions:
  - **All applied:** Data is filtered only if it matches all of the selected filters.
  - **Any applied:** Data is filtered if it matches any of the selected filters.
- 5) In the filters tree, select the filters to apply to the view.

---

**Note:** If you want to edit a filter before you apply it, select **Manage Filters**. Any filter in the **Manage Filters** panel can be edited, but you can

only apply a filter if it is accessible by the currently active view. To change the active view, in the **Manage Views** panel, select the  **Context** menu next to a view, and then select **Set Active**.

---

6) Apply the view:


In the **Manage Views** panel:

- a. Select **Save**.
- b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
- c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
- d. Select **Reset**.
- e. Select **× Close**.

In the **Settings** panel:

- ▶ Select **Save**.

### Tips

- ▶ Some pages include several standard filters, preconfigured for your use. You can apply them to your view at any time.
- ▶ On the page, select  **Filters** to open the **Manage Filters** panel, apply a recently used filter, or clear filters currently in use.
- ▶ When you apply a filter to a view, the filter icon changes to indicate that the data on the page has a filter applied.

## Configure and Apply Filtering

On pages without saved filters, you can configure and apply filtering options as part of the current view. Filters reduce the data displayed on a page without deleting or otherwise removing it. Data that has been filtered out is still used for all calculations and reports.


On pages with named views, you can configure a different set of filtering options for each view. On pages without named views, filtering options are applied to the page.

---

### Notes:

- For information on configuring a saved filter, see **Configure a Saved Filter** (on page 319).
  - View options may vary per page.
- 

To configure and apply filtering options:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Filtering** tab.
- 3) In the **Manage Views** panel, select the view to which you want to apply the filter.

---

**Note:** In the **Settings** panel, filtering options are configured and applied directly to the page.

---

- 4) Add a filter:
  - a. In the **Match** list, select an option to define the filter conditions:
    - **All of the following:** Data is filtered only if it matches all the specified rules.
    - **Any of the following:** Data is filtered if it matches any of the specified rules.
  - b. Select **+ Add a filter condition**.
  - c. In the first row, use the following fields to define a filter rule:
    - **Field:** The data field to which the rule is applied.
    - **Operator:** The comparison operation for the rule.
    - **Value:** The value against which the rule compares the data field.
  - d. Add rows for each filter rule you want to define.
  - e. Add filter groups to define additional sets of conditions.

- 5) Apply the view:

In the **Manage Views** panel:

- a. Select **Save**.
- b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
- c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
- d. Select **Reset**.
- e. Select **× Close**.

In the **Settings** panel:

- ▶ Select **Save**.

In addition to the standard filtering options, the Work Plan, Hand-offs, Task List, and Constraints pages in the Tasks app also support the ability to configure and apply planning period options from the Filtering tab. On the Work Plan, Hand-offs, and Task List pages, you are filtering activities and tasks based on their start and finish dates. On the Constraints page, you are filtering task constraints based on their dates needed, promised dates, and assigned task start and finish dates.

To configure planning period filtering options:

- 1) On the **Filtering** tab, in the **Planning Period** section, select one of the following:
  - ▶ **All Weeks:** Select to display all objects regardless of their dates.
  - ▶ **Rolling Time Frame:** Select to filter objects according to a planning period:
    - **Weeks Before:** Display any object whose dates occur within the specified number of weeks before the current date.
    - **Weeks After:** Display any object whose dates occur within the specified number of weeks after the current date.


## Tips

- ▶ Tasks that fall outside the planning period may still be visible if any of the following are true:
  - ▶ Any of its dates occur within the period.
  - ▶ Assigned activity dates occur within the period.
  - ▶ It is part of a hand-off chain that occurs within the period.
- ▶ Depending on the fields selected in the standard filtering options, the Work Plan, Hand-offs, and Task List pages support the filtering of tasks by a variety of task values, including the activities and WBS nodes with which the tasks may be associated.

## Configure Grouping Options


Configure grouping options for views to specify how data is grouped on a page. You can customize the color and appearance of your grouping bands by level.

---


**Note:** View options may vary per page. The title of the  **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure grouping:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Grouping** tab.
- 3) To configure the grouping options, select the **Configure** tab and do the following:
  - a. In the **Group By** section, select your grouping options:
    - **Group By:** Defines how data is grouped together on the page.
    - **Sort Order:** Defines how data is sorted within groupings.
    - **Grouping Interval:** Specifies an interval by which to separate your groupings. This field is only available when grouping by hierarchical fields.

---

**Note:** To add grouping rows, select the  **Context** menu, and select **Add Above** or **Add Below**.

---


- b. In the **Band Options** section, select view options:
      - **Show field title:** Displays the title of the field by which data is grouped in a band.
      - **Show field rollups:** Displays the calculated total of all data in a grouping band.
      - **Hide if empty:** Hides grouping bands that do not contain any data.
      - In the **Display text in band using** field, select an option to specify the text to appear in the band.

---

**Note:** This field only applies to group by fields that have both an ID and name.

---

- 4) To configure grouping band color options, select the **Theme** tab and do the following:
        - a. In the **Style** list, select a grouping style.
        - b. In the **Colors** list, select a default or custom color theme.

- c. To add a custom theme, select **Add Custom Colors**, and then choose up to six colors for the custom theme. Each color corresponds to a grouping band level. You can create multiple custom color themes and select them in the **Colors** list. After choosing a custom theme from the list, you can edit its individual colors or select  **Remove Custom Colors** to delete the theme.
- 5) Apply the view:
- In the **Manage Views** panel:
- a. Select **Save**.
  - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
  - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
  - d. Select **Reset**.
  - e. Select **×** **Close**.
- In the **Settings** panel:
- ▶ Select **Save**.

## Configure the Schedule Variance Analysis Panel

Configure comparison options to determine what is displayed on the Schedule Variance Analysis panel.

To configure the Schedule Variance Analysis panel tab options:

- 1) **Navigate to the Schedule Comparison page** (see page 338)
- 2) In the **Settings** panel, select the **Comparison Panel** tab.
- 3) To configure the comparison panel, select from the following:
  - a. In the **New** section, select the new items to display:
    - **New Activities**
    - **New Relationships**
    - **New Resources Assignments**
    - **New Risk Mappings**
  - b. In the **Deleted** section, select the deleted items to display:
    - **Deleted Activities**
    - **Deleted Relationships**
    - **Deleted Resource Assignments**
    - **Deleted Risk Mappings**
  - c. In the **Changed** section, select the changed items to display:
    - **Changed Scheduler Settings**
    - **Changed Project Values**
    - **Changed Entered Values**
    - **Changed Calculated Values**


- **Changed Relationships**
- **Changed Resources Assignments**

4) Select **Apply**.

## Configure Sorting Options



Configure sorting options to specify how data is arranged on a page.

---

**Note:** View options may vary per page. The title of the  **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure sorting options on a page:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Sorting** tab.
- 3) Complete the following fields to define a sort order:
  - ▶ **Sort By:** Select a column by which to order the data.
  - ▶ **Order:** Select a direction in which to arrange the sorted data.
- 4) To define additional levels of sorting, select the  **Context** menu, and then select **Add Above** or **Add Below**.
- 5) Apply the view:
  - In the **Manage Views** panel:
    - a. Select **Save**.
    - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
    - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
    - d. Select **Reset**.
    - e. Select **×** **Close**.
  - In the **Settings** panel:
    - ▶ Select **Save**.



## Configure Gantt Bars

To visually distinguish the different bars displayed in the Gantt chart, you can configure bar settings for the Gantt chart view on a page. Some bars, such as the Current bar, have additional configuration options.

You can configure Gantt bars on the following pages:

- ▶ Activities

To configure Gantt chart bars:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Bars** tab.
- 3) To add a new bar, do the following:
  - a. Select **+ Add ▼**, and then select **Bar**.
  - b. In the **Bar Type** list, select one of the available bar types.
  - c. In the **Height** list, specify a bar height.
  - d. In the **Bar Color** list, use the color picker to select a color for the bar. Optionally you can select a theme from the **Theme** list to apply a pre-configured color theme for all bars in the Gantt chart.
  - e. Click and drag one or more bars to change the order in which they appear.
- 4) To configure the Current bar, select the bar and do any of the following:
  - ▶ Select **Show Progress** to show activity progress as a separate bar color. Select a **Progress Color** from the list.
  - ▶ If you want to color your activities according to their assigned code values, select the check box next to **Color by Activity Code**, and then select a workspace-level or project-level activity code. The code's values and their associated colors are shown below the list. Select **Configure** to configure the code value colors in the corresponding Codes dictionary. If Show Progress is enabled, you can configure the same options for **Progress Color by Activity Code**. Other bars also support the ability to color by activity code.
  - ▶ Select  **Swap Colors** to switch the positions of the bar and progress colors or the bar and progress activity codes.
  - ▶ In the **Progress Style** list, select a progress style.
  - ▶ Select **Show Critical** to represent critical activities with a red bar instead of the colors selected for the Current bar.
- 5) To configure labels for a bar, do the following:
  - a. Select the bar, select **+ Add ▼**, and then select **Label**.
  - b. In the **Label Field** list, select a label for the bar.
  - c. In the **Color** list, use the color selector to select a font color.
  - d. In the **Height** list, select a font height.
  - e. Click and drag the label to position it next to or inside the bar.
- 6) Apply the view:

In the **Manage Views** panel:

  - a. Select **Save**.
  - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
  - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
  - d. Select **Reset**.
  - e. Select **× Close**.

In the **Settings** panel:

- ▶ Select **Save**.

### Tips

- ▶ Select the **Summary Bar**. Enable **Show Expanded Summary Bars** to show summary bars for each expanded and collapsed grouping band in the Gantt view. When this option is disabled, a summary bar will only be displayed if its corresponding grouping band is collapsed.
- ▶ To preview how your Gantt chart bars will look, select **Preview**.
- ▶ To reset your Gantt chart settings to the default configuration, select **Reset**.

## Configure Gantt Chart Settings

Configure Gantt chart settings to determine how the chart will display.

You can configure Gantt chart settings on the following pages:

- ▶ Activities
- ▶ Task List

---

**Note:** View options may vary per page. The title of the ⚙ **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---


To configure Gantt chart settings:

- 1) Navigate to a page, and then select the ⚙ **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Gantt** tab.
- 3) In the **Show** section, define your chart display options:
  - ▶ **Data date line:** Determines whether to show the project data date in the Gantt chart.
  - ▶ **Relationship lines:** Determines whether to show activity relationship lines in the Gantt chart.
    - **Critical relationships:** Determines whether to show relationships for activities that must start or finish on time to ensure the project completes on schedule.
    - **Non-driving relationships:** Determines whether to show relationships for activities not on the longest path to project completion.
  - ▶ **Sight Lines:** Determines whether to show lines of demarcation for the selected timescale.
  - ▶ **Non-working time shading:** Determines whether to gray out time periods in which no work will be performed, as defined by the project calendar.
  - ▶ **Progress Spotlight:** Enables the Progress Spotlight highlighting feature in the Gantt chart.
- 4) In the **Timescale** section, define your timescale options:
  - ▶ In the Timescale list, select a timescale for the Gantt chart:
    - **Week/Day:** The Gantt chart is divided into weeks which are then divided into days.
    - **Month/Week:** The Gantt chart is divided into months which are then divided into weeks.



- **Quarter/Month:** The Gantt chart is divided into quarters which are then divided into months.
  - **Year/Month:** The Gantt chart is divided into years which are then divided into months.
  - **Year/Quarter:** The Gantt chart is divided into years which are then divided into quarters.
  - **Reporting Period:** The Gantt chart is divided into the units set by the reporting cycle. This option is only available in a project view on the Activities page, and a reporting cycle must be defined for the project.
    - ▶ (Reporting Period timescale only) For the **Reporting Period Label** option, select **Custom label only** to display the reporting period as the label on the Gantt chart (such as WK3). When deselected, the label uses the dates (such as Sat 24 - Fri 30).
- 5) Apply the view:
- In the **Manage Views** panel:
- a. Select **Save**.
  - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
  - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
  - d. Select **Reset**.
  - e. Select × **Close**.
- In the **Settings** panel:
- ▶ Select **Save**.

### Tips

- ▶ You can also enable some or all of these options by selecting  **Gantt Settings** under the Gantt chart.
- ▶ Tasks bars are colored by specific attributes. Go to Project Settings to modify this option.


## Configure Network Settings

The Activity Network is a view that displays a full diagram of the activities and relationships in your project. Configure the number of activity-related fields to display in each activity box.

You can configure network settings on the following pages:

- ▶ Activities

To configure Activity Network settings:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the view to configure.
- 3) Select the **Network Setting** tab.

- 4) In the **Customize Activity Box Fields** section, display up to eight additional fields across two columns. Select **One field per line** to limit the display to a single column of four fields.
- 5) In the **Preview** section, you can preview the display of an activity box based on your selected fields.
- 6) Apply the view:  
In the **Manage Views** panel:
  - a. Select **Save**.
  - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
  - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
  - d. Select **Reset**.
  - e. Select **× Close**.In the **Settings** panel:
  - ▶ Select **Save**.

## Configure Quick Filters


You can use quick filters to reduce the number of visible items on a page.

---

### Notes:

- View options may vary per page.
  - Due to slight differences in functionality, some pages in the application have their own set of help topics for quick filters.
- 

To configure quick filters:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Quick Filters** tab.
- 3) In the **Show** section, select up to three quick filters to apply to the view.
- 4) Apply the view:  
In the **Manage Views** panel:
  - a. Select **Save**.
  - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
  - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
  - d. Select **Reset**.
  - e. Select **× Close**.In the **Settings** panel:

- ▶ Select **Save**.

## Apply a Quick Filter

You can use quick filters to refine the data displayed on a page. In a filter list, select one or more values on which to filter. Use multiple quick filters to further reduce how much data is displayed. Clear a filter to show more results. Quick filter selections are not saved with the view.

### Notes:

- View options may vary per page.
- Due to slight differences in functionality, some pages in the application have their own set of help topics for quick filters.

To apply a quick filter to a page:

- 1) In the **Quick Filters** list, select applicable filter values.
- 2) To remove a filter, expand a filter list, and select **Clear Filter**.

## Configure Task Counts

Task counts display the number of tasks of a specific status that are assigned to an activity. Use the Task Counts tab to configure which task counts are displayed in the activity details popover. Activity details provide additional information about the activities in your project, including associated WBS, start and finish dates, and activity percent complete. All task counts are enabled by default. Task counts are for public tasks only and do not include private tasks.

You can configure task counts on the following pages:

- ▶ Work Plan
- ▶ Hand-offs
- ▶ Task List

**Note:** View options may vary per page. The title of the ⚙ **Settings** icon may be specific to the grid or detail window that the icon pertains to.

To configure task counts:

- 1) Navigate to a page, and then select the ⚙ **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Task Counts** tab.
- 3) Select the task counts that you want to display:
  - ▶ **Total Tasks:** The total number of tasks assigned to the activity.
  - ▶ **Unplanned tasks:** Tasks without a due date.
  - ▶ **Planned tasks, not completed:** Tasks with a due date or committed date that are not complete.
  - ▶ **Planned tasks, completed:** Tasks with a due date or committed date that are marked as complete.

- ▶ **Planned tasks outside of activity dates:** Tasks with a due date before the activity start date or after the activity finish date.
- ▶ **Tasks hidden by filters and security:** Tasks that are not visible due to the planning period, enabled task filters or quick filters, or due to the current user's security settings. Tasks with assigned activities that occur within the planning period dates are visible.

---

**Note:** The **Unplanned tasks; Planned tasks, not completed;** and **Planned tasks, completed** task counts contain the total number of tasks associated with the selected activity. The **Planned tasks outside of activity dates** and **Tasks hidden by filters and security** task counts contain tasks already counted in the other categories.

---

4) Apply the view:

In the **Manage Views** panel:

- a. Select **Save**.
- b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
- c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
- d. Select **Reset**.
- e. Select **× Close**.


In the **Settings** panel:

- ▶ Select **Save**.

## Configure a Timescale


Configure the timescale interval for a page.

---

**Note:** View options may vary per page. The title of the  **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure a timescale:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) On the **Manage Views** or **Settings** panel, select **Timescale**.
- 3) In the **Timescale Standards Settings** section, select a timescale interval.
- 4) Apply the view:

In the **Manage Views** panel:

  - a. Select **Save**.
  - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.

- c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
- d. Select **Reset**.
- e. Select **× Close**.

In the **Settings** panel:

- ▶ Select **Save**.

---

**Note:** If you are changing the timescale on the **Time Phase** view of the **Fund Sources** page, remember this: You can only distribute quantities for a time-phased fund if the **Timescale** setting you choose here matches that fund's **Distribution Type** value. For example, if you want to distribute quantities for a fund that has a **Distribution Type** value of **Yearly**, you must first set the **Timescale** value to **Yearly**.

---


### Tips

- ▶ You can also change the timescale interval by right-clicking on the timescale on a page and selecting an option.

## Configure Spreadsheet Rows


Configure spreadsheet rows to show summary and spread values for each item in a table. For example, a resource spreadsheet lists all of the available resources in a project. Each resource may display separate rows for demand hours, commitment hours, demand costs, and commitment costs. Each field row can show values across a timescale and rolled up to a summary level.

---

**Note:** View options may vary per page. The title of the  **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure a spreadsheet row:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Spreadsheet Rows** tab.
- 3) In the **Available Spreadsheet Rows** section, select rows and select **Add Row to Selected Rows** to add them to the **Selected Spreadsheet Rows** section.
- 4) Use the up and down arrows to change the positioning of the columns in the **Selected Spreadsheet Rows** section.
- 5) Apply the view:
  - In the **Manage Views** panel:
    - a. Select **Save**.
    - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.

- c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
- d. Select **Reset**.
- e. Select **× Close**.

In the **Settings** panel:


- ▶ Select **Save**.

## Configure Currency Settings

Configure the currency display settings on a page. Currency settings are user-specific and are saved across views.


On project-level pages that support currencies, you can choose to view your costs in terms of the application's base currency or the current set for the project.

---

**Note:** View options may vary per page. The title of the  **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure a currency view:

- 1) Navigate to a page, and then select the  **Settings** icon.
- 2) On the **Manage Views** or **Settings** panel, select **Currency**.
- 3) Configure the following settings:
  - ▶ Select **Show currency symbols** to display the symbol of the currency.

---

**Note:** This option is only enabled if the **Show currency symbol** option is also enabled in the user preferences.

---

- ▶ Select **Show currency banner** to display the chosen currency in the page toolbar.
  - ▶ In the **In what currency do you want to view costs?** section, choose which currency to view costs. If **Base Currency** is selected, cost fields will be read-only. If all available currencies are the same, this field is disabled.
- 4) Apply the view:

In the **Manage Views** panel:

    - a. Select **Save**.
    - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
    - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
    - d. Select **Reset**.
    - e. Select **× Close**.

In the **Settings** panel:

- ▶ Select **Save**.

## Configure Formatting

Configure the formatting on a page.

The Work Plan page in the Tasks app contains additional page formatting options.

---

**Note:** View options may vary per page. The title of the ⚙ **Settings** icon may be specific to the grid or detail window that the icon pertains to.

---

To configure the formatting:

- 1) Navigate to a page, and then select the ⚙ **Settings** icon.
- 2) In the **Manage Views** or **Settings** panel, select the **Formatting** tab.
- 3) In the **Read-only Styling** section, select **Highlight Read-only cells** to highlight read-only cells on the page.
- 4) (Work Plan page only) Do any of the following:
  - ▶ In the **Band Options** section, select **Hide if empty on Hopper** or **Hide if empty on Planning Board** to hide empty grouping bands in the hopper or planning board for activities that have not been assigned any tasks.
  - ▶ In the **Planning Board Options** section, select **Show Info Bar** to display details for the selected task or activity below the planning board.
- 5) Apply the view:
  - In the **Manage Views** panel:
    - a. Select **Save**.
    - b. Select **Save As**. When selected, you can create a new Personal, Project, or Workspace view with a new name in the **Save View as** window.
    - c. Select **Apply**. When selected, you are returned to the grid. The grid displays any changes you have made; however, those changes are not saved. To save changes select **Save** or **Save As** in the View list.
    - d. Select **Reset**.
    - e. Select × **Close**.
  - In the **Settings** panel:
    - ▶ Select **Save**.







# Appendix of Referenced Navigation Steps

---

## Navigate to the WBS page

In **Primavera Cloud**:


- a) In the object selector, select a project.
- b) In the sidebar, hover over  **Schedule** or  **Scope**, and select **WBS**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **WBS**.

## Navigate to the Activities page

In **Primavera Cloud**:


- a) In the object selector, select a project or program.
- b) In the sidebar, hover over  **Schedule**, and select **Activities**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Project** or **Program** menu, select **Activities**.

## Navigate to the project Activities page

In **Primavera Cloud**:

- a) In the object selector, select a project.
- b) In the sidebar, hover over  **Schedule**, and select **Activities**.



In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Activities**.

## Navigate to the Baselines page

In **Primavera Cloud**:

- a) In the object selector, select a project.



- b) In the sidebar, hover over  **Scope** or  **Schedule**, and select **Baselines**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Baselines**.

### Navigate to the Baselines or Activities page

In **Primavera Cloud**:


- a) In the object selector, select a project.
- b) In the sidebar, hover over  **Scope** , and select **Baselines** or hover over  **Schedule**, and select **Baselines** or **Activities**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Baselines** or **Activities**.

### Navigate to the Schedule Comparison page

In **Primavera Cloud**:


- a) In the object selector, select a project.
- b) In the sidebar, hover over  **Schedule**, and select **Schedule Comparison**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Schedule Comparison**.

### Navigate to the workspace resource page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, hover over  **Resources**, and select **Resource List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Resources**.

## Navigate to the project resources page

In **Primavera Cloud**:


- a) In the object selector, select a project.
- b) In the sidebar, hover over  **Resources**, and select **Resource List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Resources**.

## Navigate to the workspace or project resources page

In **Primavera Cloud**:


- a) In the object selector, select a workspace or project.
- b) In the sidebar, hover over  **Resources**, and select **Resource List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** or **Project** menu, select **Resources**.

## Navigate to the workspace role page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, hover over  **Resources**, and select **Role List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Roles**.

## Navigate to the project roles page

In **Primavera Cloud**:


- a) In the object selector, select a project.
- b) In the sidebar, hover over  **Resources**, and select **Role List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Roles**.

### Navigate to the workspace or project roles page

In **Primavera Cloud**:


- a) In the object selector, select a workspace or project.
- b) In the sidebar, hover over  **Resources**, and select **Role List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** or **Project** menu, select **Roles**.

### Navigate to the workspace resource assignments page

In **Primavera Cloud**:



- a) In the object selector, select a workspace.
- b) In the sidebar, hover over  **Resources**, and select **Assignment List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Resource Assignments**.

### Navigate to the project or program resource assignments page

In **Primavera Cloud**:


- a) In the object selector, select a project or program.
- b) In the sidebar, hover over  **Resources** or  **Schedule**, and select **Assignment List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Project** or **Program** menu, select **Resource Assignments**.

### Navigate to the workspace resource analysis page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, hover over  **Resources**, and select **Analysis**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) In the **Workspace** menu, select **Resource Analysis**.

### Navigate to the project or program resource analysis page

In **Primavera Cloud**:


- a) In the object selector, select a project or program.
- b) In the sidebar, hover over  **Resources**, and select **Analysis**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Project** or **Program** menu, select **Resource Analysis**.

### Navigate to the files page

In **Primavera Cloud**:


- a) In the object selector, select a project, portfolio, program, or idea.
- b) In the sidebar, hover over  **Files**, and select **File List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Project** or **Program** menu, select **Files**.

### Navigate to the project files page

In **Primavera Cloud**:

- a) In the object selector, select a project.
- b) In the sidebar, hover over  **Files**, and select **File List**.


In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.

- c) On the **Project** menu, select **Files**.

### Navigate to the project or portfolio files page

In **Primavera Cloud**:


- a) In the object selector, select a project or portfolio.
- b) In the sidebar, hover over  **Files**, and select **File List**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Files**.

### Navigate to the project Details page

In **Primavera Cloud**:


- a) In the object selector, select a project.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Details**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Details**.

### Navigate to the project settings page

In **Primavera Cloud**:


- a) In the object selector, select a project.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Settings**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Project** menu, select **Project Settings**.

### Navigate to the program settings page

In **Primavera Cloud**:

- 1) In the object selector, select a program.
- 2) In the sidebar, select  **Summary & Settings**.


- a) On the **Summary & Settings** menu, select **Settings**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Programs** tab, select a program, and then select **Open**.
- c) On the **Program** menu, select **Details**.

### Navigate to the program codes page

In **Primavera Cloud**:


- 1) In the object selector, select a program.
- a) In the sidebar, select  **Summary & Settings**.
- b) On the **Summary & Settings** menu, select **Codes**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Programs** tab, select a program, and then select **Open**.
- c) On the **Program** menu, select **Program Codes**.

### Navigate to a dictionary page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select a dictionary item.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Dictionaries** menu, select a dictionary item.

### Navigate to the Calendars dictionary page

In **Primavera Cloud**:

- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Calendars**.


In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.

- c) On the **Dictionaries** menu, select **Workspace**, and then select **Calendars**.

### Navigate to the Codes dictionary page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Codes**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Dictionaries** menu, select **Workspace**, and then select **Codes**.

### Navigate to the Curve Profiles dictionary page

In **Primavera Cloud**:


- 1) In the object selector, select a workspace.
- 2) In the sidebar, select  **Summary & Settings**.
- 3) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Curve Profiles**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Dictionaries** menu, select **Workspace**, and then select **Curve Profiles**.

### Navigate to the Units of Measure dictionary page

In **Primavera Cloud**:

- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Units of Measure**.


In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Dictionaries** menu, select **Workspace**, and then select **Units of Measure**.



## Navigate to the Locations dictionary page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Locations**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Dictionaries** menu, select **Workspace**, and then select **Locations**.

## Navigate to the Currencies dictionary page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Currencies**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Dictionaries** menu, select **Workspace**, and then select **Currencies**.

## Navigate to the project Calendars dictionary page

In **Primavera Cloud**:

- a) In the object selector, select a project.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Calendars**.


In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Dictionaries** menu, select **Project**, and then select **Calendars**.

## Navigate to the project Codes dictionary page

In **Primavera Cloud**:

- a) In the object selector, select a project.


- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Dictionaries**, and then select **Codes**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** tab, select a project, and then select **Open**.
- c) On the **Dictionaries** menu, select **Project**, and then select **Codes**.

### Navigate to an object configuration page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select an object.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select an object.

### Navigate to the Activity configuration page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select **Activity**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select **Activity**.

### Navigate to the File configuration page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select **File**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select **Files**.

### Navigate to the Project configuration page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select **Project**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select **Project**.

### Navigate to the Program configuration page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select **Program**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select **Program**.

### Navigate to the Resource/Role configuration page

In **Primavera Cloud**:

- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select **Resource/Role**.


In **Primavera Professional**:

- a) On the **File** menu, select **Open**.

- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select **Resource/Role**.

### Navigate to the Resource Assignment configuration page

In **Primavera Cloud**:


- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select **Resource Assignment**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select **Resource Assignment**.

### Navigate to the WBS configuration page

In **Primavera Cloud**:

- a) In the object selector, select a workspace.
- b) In the sidebar, select  **Summary & Settings**.
- c) On the **Summary & Settings** menu, select **Defaults & Options**, and then select **WBS**.

In **Primavera Professional**:

- a) On the **File** menu, select **Open**.
- b) In the **Open** dialog box, select the **Projects** or **Programs** tab, select a project or program, and then select **Open**.
- c) On the **Workspace** menu, select **Configuration**, and then select **WBS**.

### Navigate to the Manage Services page

In **Primavera Cloud**:

- a) In the header, select your username.
- b) On the **User** menu, select **Manage Services**.

In **Primavera Professional**:

- ▶ On the **User** menu, select **Manage Services**.

### Navigate to the Preferences page

In **Primavera Cloud**:

- a) In the header, select your username.
- b) On the **User** menu, select **Preferences**.

In **Primavera Professional**:

- ▶ On the **User** menu, select **Preferences**.

# Copyright

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Oracle Primavera Cloud Schedule Management User Guide

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