

VMware Workbench IS Guide

VMware Workbench IS 3.5.3

This document supports the version of each product listed and supports all subsequent versions until the document is replaced by a new edition. To check for more recent editions of this document, see <http://www.vmware.com/support/pubs>.

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The VMware Web site also provides the latest product updates.

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About This Book

This book, the *VMware® Workbench Getting Started Guide*, provides information about VMware Workbench and its extensions to the Eclipse IDE.

Revision History

A revision of this book occurs with each release of the product, or as needed. A revised version can contain minor or major changes. [Table 1](#) lists the revision history of this book.

Table 1. Revision History

Revision	Description
10 September 2015	vSphere 6.0 U1 GA – Workbench 3.5.3 GA
12 March 2015	vSphere 6.0 GA – Workbench 3.5.1 GA
29 Sept 2014	vSphere 6.0 RC – Workbench 3.5 GA
30 June 2014	vSphere 6.0 Beta 2 – Workbench 3.5 Beta

Intended Audience

This book is for VMware customers partners who develop and certify products using VMware Workbench.

VMware Technical Publications Glossary

VMware Technical Publications provides a glossary of terms that might be unfamiliar to you. For definitions of terms as they are used in VMware technical documentation, go to <http://www.vmware.com/support/pubs>.

Documentation Resources

Each Workbench plug-in contains its own help documentation that displays in the **Help > Help Contents** window. PDF copies of these documents may be available on the VMware Developer Center Web site.

Documentation Feedback

Please send feedback to this documentation through your VMware partners representative.

VMware also welcomes your suggestions for improving our other VMware API and SDK documentation. Send your feedback to: docfeedback@vmware.com.

Technical Support and Education Resources

For all questions relating specifically to the VMware Workbench, see the VMware partner co-dev web site: <http://www.vmware.com/partners/alliances/programs/co-dev/iov.htm>

The following sections describe VMware technical support and educational resources available to you.

Online Support and Telephone Support

To use online support to submit technical support requests, view your product and contract information, and register your products, go to <http://www.vmware.com/support>.

Support Offerings

To find out how VMware support offerings can help meet your business needs, go to:

<http://www.vmware.com/support/services>

VMware Professional Services

VMware Education Services courses offer extensive hands-on labs, case study examples, and course materials designed to be used as on-the-job reference tools. Courses are available onsite, in the classroom, and live online. For onsite pilot programs and implementation best practices, VMware Consulting Services provides offerings to help you assess, plan, build, and manage your virtual environment. To access information about education classes, certification programs, and consulting services, go to <http://www.vmware.com/services>.

Introducing VMware Workbench IS

VMware Workbench IS is VMware developed plug-in to the Eclipse Integrated Development Environment (IDE), and can assist development of applications for VMware vSphere and vCloud. The user interface retains the look and feel of Eclipse, but with VMware-specific extensions. Additional plug-ins are available to support specific products and technologies.

Installing VMware Workbench

The following sections cover prerequisites and how to install VMware Workbench IS in Eclipse.

Operating System Support

On a 64-bit Windows machine, you should install 64-bit Eclipse. Both Eclipse and VMware Workbench will then require a 64-bit Java Development Kit.

On Linux, if you installed Eclipse using root (superuser) permissions, you must install VMware Workbench using root permissions as well.

Hardware Requirements

As of Workbench 3.5, the default memory for the machine running Eclipse is 3GB. To accommodate this default and maintain satisfactory performance, the physical machine that provides the Eclipse infrastructure for Workbench should meet the following requirements:

- Dual core processor
- 4GB RAM
- 40GB of free HDD space

Download and Install VMware Workbench

In the VMware Developer Center, find the introduction page for VMware Workbench IS. At the bottom of page is a button to Download the VMware Workbench IS plug-in as a ZIP file.

The plug-in installs (add software) to any recent version of Eclipse.

To install the VMware Workbench plug-in

- 1 In Eclipse, click **Help > Install new Software**.
- 2 Click the Add button on the right, then click Archive.
- 3 Browse to the `UpdateSite-WBIS-com.vmware.vid*` file that you downloaded from Developer Center.
- 4 Click the top level **VMware Workbench Integrated Suite** check box to select and install all features.
- 5 Click through the wizard, accepting the EULA. Restart Eclipse to apply the changes.

Configuring VMware Workbench

To install additional plug-ins, you might need to set HTTP and HTTPS proxies in Eclipse if your physical or virtual machine is behind a firewall, and does not already have proxies set.

Setting Network Proxies

The first time you start Eclipse with VMware Workbench, you can set proxies for HTTP and HTTPS as well as proxy by-passes for local machines that you will connect to.

At first start up, a dialog displays that encourages you to configure proxy settings.

In subsequent start ups, you can reach proxy settings by clicking **Window > Preferences**. Expand the **General** preferences and click **Network Connections**.

To set HTTP proxies

- 1 Select **Manual** proxy configuration in the Active Provider drop-down menu.
- 2 Highlight **HTTP** and click **Edit**.
Verify the proxy server name and port number are correct, or type the correct proxy and port number.
- 3 Select **HTTPS** and click **Edit**.
Verify the proxy server name and port number are correct, or type the correct proxy and port number.



CAUTION Do not edit the **SOCKS** (socket secure) proxy and authentication. Doing so may cause errors. Leave it unset.

- 4 In the **Proxy bypass** list, add systems on your intranet that you want Eclipse to find.

The following example shows various types of entries you might want to add:

```
10.*
*.example.com
127.0.0.1
localhost
```

Wildcards can be used for IP addresses and domain names. Domain names can have only three parts.

- 5 Click **Apply** to save changes, and click **OK**.
You are now ready to install development kits and certification tests.

Accessing Help Resources

Kit-specific, Workbench-specific and general Eclipse help topics are available from the Help menu by selecting **Help Contents**. The Help browser displays a list of available help libraries. You can search all topics or narrow the scope using the search tool. Tabs at the bottom of the left pane allow you to view the following items:

- Table of contents for any document
- Consolidated index of all topics
- Search results
- Bookmarks you have set in the help topics

Installing Additional Plug-ins

You can install additional software plug-ins for your development kit or certification tests from the update site. See [“Install New Software Instructions”](#) on page 18.

After installing a software plug-in, you must restart VMware Workbench. While in the Install Software wizard, after you have installed all of the software packages you need, click **Restart Now**. See [“Installing New VMware Workbench Software Packages”](#) on page 18.

Navigating the Workbench UI with the Dashboard

To start working with the VMware Workbench UI, use the Dashboard. This feature is the first screen presented to you upon logging in for the first time. You can access this page from anywhere in the VMware Workbench UI by selecting **VMware > Dashboard** from the menu bar.

From the Dashboard, the following information and actions are available:

- Information and instructions for common Getting Started tasks and problems
- View VMware partner news items
- View a list of the plug-ins already installed
- Download and install certification plug-ins
- Check for Global Certification Waivers
- Download and install development kits (SDKs)
- Download and install current debug symbols
- Preview documentation before installing a plug-in

For instructions on how to use the Dashboard, see [“The VMware Workbench Dashboard”](#) on page 11.

The VMware Workbench Dashboard

The VMware Workbench Dashboard contains active links to assist your development kit and certification suite workflow. The Dashboard appears when you initially start VMware Workbench. Some links on the Dashboard are inactive or hidden until you sign in. If you dismiss the Dashboard, you can return to it later by selecting **VMware > Dashboard** from the menu bar.

This chapter covers the following Dashboard topics:

- [“Signing In to See Content”](#) on page 11
- [“Workbench Panel”](#) on page 12
- [“Certifications Panel”](#) on page 12
- [“Development Panel”](#) on page 15

Signing In to See Content

Locate and click the blue **Sign In** button on upper right. Usually your sign-in ID is your company email address. You can choose whether to use your My VMware or Partner Central password. Some items are viewable only with Partner Central credentials.

After you sign in, your email address appears to the left of the **Sign In** button, and you can access content for all links on the left. Navigation bread crumbs will appear near the top, starting with **Home**.

Login Troubleshooting

If you fail to log in successfully, you will see one of the following error messages:

The account or password entered was incorrect.
Failed to connect through Dashboard.

Try the following remedies to fix the problem:

- Make sure you have configured network proxies correctly. See [“Setting Network Proxies”](#) on page 12 of this document.
- Make sure that the virtual appliance is connected to the network. For instance, verify that the Connected check box on the **VM > Settings > Network Adapter** page is selected.
- Verify that your VMware Workbench can access VMware Developer Center Repository by opening the web browser view (**Window > Show View > Other > General > Internal Web Browser**) and type the following URL for the VMware Developer Center Repository:

```
https://vdc-repo.vmware.com/api
```

You should see the date and time on the **vdc-repo** server. If this does not appear, ask your IT department to verify that you have access to the VMware Developer Center Repository site.

Workbench Panel

The top section on the left side provides information about VMware Workbench.

Getting Started

This line is selected initially, with helpful information displayed to the right. If you select another line, new information replaces the getting started instructions summarized below.

- First-time user? – Instructions for configuring the network proxy.
- Common issues and troubleshooting – Suggestions for solving common issues.
- Still have questions? – An email contact for getting questions answered.

News

VMware partner news and announcements about Workbench. Clicking a link opens a browser panel inside Workbench and displays the news or announcement.

Installed Packages

A list showing the VMware Test Manager and any certification suites or development kits already installed. Clicking a link leads you to start the Test Manager or to start a project for your development kit.

Certifications Panel

The middle section on the left side provides information about VMware certifications.

Certifications

Click the **Certifications** link to see a list of the certification kits available to you. If a message appears saying “you must log in to access available Certifications” then sign in with your company email address and either your My VMware or Partner Central password.

- After the list of Certifications appears, you can click on any certification kit that you are interested in.

The Package Details pane appears with information about the certification, including a short description, links to install or download the package, a link to documentation, platform type, vSphere version, package version, and dependencies.

 - You can preview the manual for a certification kit before you install the package, by clicking the link to view on-line documentation.
 - You can **download** a package to a local file system for installation on a machine not connected to the Internet. Specify the download location. The file name is prefilled for you. For complete installation instructions, see “[Installing Software Packages](#)” on page 17.
 - You can **install** a package to the machine you are working on. The installation wizard starts when you click to install the package. Update Site (Work with) is automatically filled in for you, saving you from having to cut and paste the Update Site from another location.

NOTE During install the **Contact all update sites during install to find required software** check box is selected to pick up any dependent packages. Non-VMware update sites are disabled to avoid changing Workbench by installing incompatible software. If you want to install extra software, you must do it before installing any plug-ins. Click **Window > Preferences > VMware > Dashboard** and uncheck **Disable non-VMware Update Sites when installing VMware plug-ins**.

- From the Package Details pane, you can navigate back to any previous page by clicking breadcrumbs, or click **Certifications** to see the list of available packages again.

Global Certification Waivers

If the computer you are using for certifications is not connected to the Web, not even through a proxy, see “[Global Waivers for Non-Internet Connected Computers](#)” on page 13.

Global Waivers for Internet Connected Computers

If the computer you are using for certifications is connected to the Web, click the **Global Certification Waivers** link to see a list of Product Types for which waivers are available.

Click **Download** to obtain the current list of Global Waivers. The global certification waivers list gets downloaded to `/opt/vmware/waivers/waivers.xml` by default, and soon an expandable list appears in the Global Certification Waivers > Product Types pane. You can refresh this list by downloading again.

In the Global Certification Waivers > Product Types pane, waivers are categorized: IO Devices, SRA (storage replication adapter), (ESXi) Server, Storage Array, VASA, and possibly others. Click one of the types to view the **Waiver Details** for that type.

The **Waiver Details** pane contains a list of the waiver IDs and a description of each. Clicking the waiver ID displays all available information about that waiver, including a short description, a detailed summary of the waiver, the list of waived tests, and the list of waived releases.

Some of the Product Type categories have a large number of waivers related to them. You can use the search box to restrict the list of waivers based on a keyword.

Figure 2-1. Searching waiver details



You can apply waivers to the tests you are running, or after tests have run, in the Test Manager by clicking the gearbox button (⚙️) then clicking **Apply Waivers** from the pop-up menu. Select the waivers you want to apply from the list and click **OK**. Only the waivers that apply to the certification will be applied.

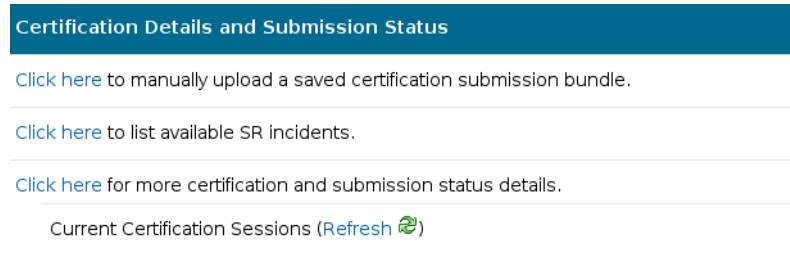
Global Waivers for Non-Internet Connected Computers

If your certification computer is not connected to the Web, follow this procedure to install the waivers:

- 1 Install VMware Workbench Toolsuite on a computer that is connected to the Internet. You can retrieve the Workbench Toolsuite from the VMware Developer Center:
`https://developercenter.vmware.com/group/workbench/toolsuite/3.5`
- 2 Start Workbench Toolsuite and log in with your credentials.
- 3 On the Workbench Dashboard, under Certifications, click the **Global Certification Waivers** link to see a list of Product Types for which waivers are available. (The list of product types appears only if you have already downloaded the list of certification waivers.) Click **Download** to obtain the list of Global Waivers.
- 4 Specify a place on your hard drive for the `waivers.xml` file, for example `C:\temp`. Click **OK** and the `waivers.xml` file will be downloaded to the location you specified.
- 5 Copy the file to portable media and take the media to the non-Internet connected computer where your certification setup is run. On your certification computer where the VMware Workbench virtual appliance is installed, copy the `waivers.xml` file to the `/opt/vmware/waivers/` directory.
- 6 Start Workbench and open the certification session.
- 7 You can apply waivers to the tests you are running, or after tests have run, in the Test Manager by clicking the gearbox button (⚙️) then clicking **Apply Waivers** from the pop-up menu. Select the waivers you want to apply from the list and click **OK**. Only the waivers that apply to the certification will be applied.

Certification Submission and Status

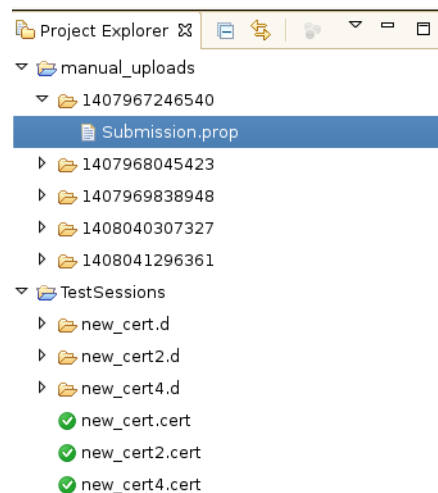
To upload certification submission bundles, check the status of your submission, and view SR incident status, click the **Certification Details and Submission Status** link.

Figure 2-2. Managing your certification submission

Manually Upload a Saved Submission Bundle

If you saved a submission bundle that you want to upload, click the top link **Click here to manually upload a saved certification submission bundle**. In the resulting Upload Certification Submission Bundle dialog, browse to locate your *.zip or *.gzip certification submission bundle, click **Upload**, and click **Finish**.

The resulting submissions upload properties will become visible in the Project Explorer view. If not already created, a new folder called **manual_uploads** will be created that contains `Submission.prop` and *.zip or *.gzip files in folders labeled by submission date, as shown in [Figure 2-3](#).

Figure 2-3. Project Explorer Submission.prop file

Click the `Submission.prop` file to open it in an editor for viewing. Further submission status can be accessed in the Dashboard, as shown in [Figure 2-4](#).

Available SR Incidents

To see all of the SR (service request) incident reports that you have filed, click the second link **Click here to list available SR incidents**. The resulting Certification Details and Submission Status pane contains your account information, a summary of SR incidents, and details of your SR incident reports.

Submission Status

All your current certification sessions are listed. To refresh the list, click the **Refresh** icon. To view the **Certification Submission and Status** details page, click **Click here**.

Certification Submission Status

To check status of your certification submission, click the third link **Click here for more certification and submission status details**. The resulting Certification Submission Status pane contains a list of your cert submissions with Cert Name, Cert Type, Transaction Id, Submission Status, and Cert Detail.

If you wish to export the submission status of your certifications in comma-separated variable (CSV) format, click the **Export** link. A dialog allows you to name the .csv file and choose where to store it.

If your certification submission status looks out of date, click the **Refresh** link and icon to update the status of your certification sessions.

Figure 2-4. Certification Submission and Status Detail Page

The screenshot shows the VMware Workbench interface. The top navigation bar includes 'Home', 'Certification Details and Submission Status', and 'Submission Status'. A 'Sign In' button is in the top right. The left sidebar contains a menu with items like 'Getting Started', 'News', 'Installed Packages', 'Certifications', 'Compatibility Tools', 'On-Demand Questionnaire Certifications', 'Global Certification Waivers', 'Certification Details and Submission Status' (highlighted), 'VCG Preview', 'Development', and 'SDKs'. The main content area is titled 'Certifications Submission Status' and features a table with the following data:

Cert Name	Cert Type	Transaction Id	Submission Status	Cert Detail
new_cert	server-cert55	06a5-55ce-7b3a-0f14	Not available	Not available
		0484-55bb-65d3-888d	Not available	Not available Remove

Below the table, there is a link: 'Add status by Transaction Id...'. At the top right of the table area, there are links for 'Export...' and a 'Refresh' icon.

Once your submission has started the VMware review process, a clickable link appears under **Cert Details**. The Cert Details page contains product and certification details and lists compatible or equivalent products.

Add Transaction Ids

This section list submission status of certifications by a given transaction ID. If you know the transaction ID of a certification that was submitted on a different instance of VMware Workbench, you can add it by clicking **Add status by Transaction Id**, and keying in the ID. All columns, except the certification name, are populated with information about that transaction ID. You can delete the entry for an added transaction ID by clicking the **X** icon next to the entry.

VCG Preview

If you would like to see a preview of how your certifications will look in the VMware Compatibility Guide (VCG), you must have signed in using your VMware partner credentials. The page lists the ESXi versions you have certifications for, and product types for each version. Click the appropriate product type to see how your certifications will be listed in the VCG. If you find any errors in the entry for your product(s), notify VMware to have it corrected.

Development Panel

The Development section appears at bottom left of the Dashboard. You might need to scroll down to see it.

SDKs

Click the **SDKs** link to see a list of development kits available to you. If a message appears saying “you must log in to access available SDKs” then sign in with your company email address and either your My VMware or Partner Central password. After sign in, you can do the following tasks at this link:

- View the list of available uninstalled packages.

- Click the link for an available development kit to see Package Details.

The Package Details pane provides information about a development kit, including short description, links to install or download the package, a link to documentation, platform, programming language, vSphere version, and dependencies.

- You can preview the manual for a development kit before you install the package, by clicking the link to view on-line documentation.
- You can **download** a package to a local file system for installation on a machine not connected to the Internet. Specify the download location. The file name is prefilled for you. For complete installation instructions, see [“Installing Software Packages”](#) on page 17.
- You can **install** a package to the machine you are working on. The installation wizard starts when you click to install the package. Update Site is automatically filled in for you, saving you from having to cut and paste the Update Site from another location.

NOTE During install the **Contact all update sites during install to find required software** check box is selected to pick up any dependent packages. Non-VMware update sites are disabled to avoid changing Workbench by installing incompatible software. If you want to install extra software, you must do it before installing any plug-ins. Click **Window > Preferences > VMware > Dashboard** and uncheck **Disable non-VMware Update Sites when installing VMware plug-ins**.

- From the Package Details pane, you can navigate back to any previous page by clicking breadcrumbs, or click **SDKs** to see the list of available packages again.

Debug Symbols for VMkernel Updates

If you have not already done so, sign in to access the Debug Symbols repository. For debugging, you will need to update Workbench’s debug symbols to match the version of ESXi host that is being tested.

To see a list of the available debug symbol files, click the **Debug Symbols for VMkernel Updates** link. To download a debug symbol file, click the link(s) of the build number(s) matching the ESXi build number for your host(s) under test, optionally change the save folder, and click **OK**.

Installing Software Packages

You can install software packages (plug-ins) from inside an Internet-connected Workbench virtual appliance, or download them to portable media (sneaker-net) and install them on a Workbench virtual appliance that is not connected to the Internet. One way to download development kits and certification suites is to use the Dashboard. Another way is Eclipse's Install New Software feature to download and install plug-ins.

This chapter contains the following topics:

- [“Simplified Installation Instructions from the Dashboard”](#) on page 17
- [“Install New Software Instructions”](#) on page 18
- [“Installing Packages Offline \(Sneaker-Net\)”](#) on page 20
- [“Fixing Proxy Issues”](#) on page 21
- [“Uninstalling Software”](#) on page 21

Simplified Installation Instructions from the Dashboard

The easiest way to install a software package in Workbench is from the Dashboard because the URL for the various SDKs and certifications is already filled in. The Dashboard is the first screen presented to you when Workbench starts up. However, you can always get to the Dashboard by navigating to **VMware > Dashboard**.

To install a software package from the Dashboard:

- 1 You must sign in to see the list of available SDKs or certifications. See [“Signing In to See Content”](#) on page 11.
- 2 On the left side, click either the **SDK** or **Certifications** link to see the list of SDKs or certifications that you can download and install.
- 3 Click the name of the SDK or certification that you wish to install.
- 4 Click the link to install the SDK or certification package to the local machine. The installation wizard starts after you click here to install. Update Site (Work with) is automatically filled in for you, saving you from having to cut and paste the Update Site from another location.
- 5 In the Install wizard, click **Select All**, and then click **Next**.
- 6 On the Install Details page, click **Next**.
- 7 Review the license, select **I accept the terms of the license agreement**, and click **Finish**.
- 8 During the install, a dialog box appears telling you the module is unsigned. Click **OK**.
- 9 At the end of the installation, a dialog box asks you for permission to restart VMware Workbench. If you are done installing software packages, click **Yes**. If you have more to install, click **No**.

Install New Software Instructions

You can install software using the classic Eclipse method where you provide the URL for a software package. This allows you to specify arbitrary software packages for a custom approach.

Specifying Available Software Sites

There may be multiple software sites from which you must download packages. Sometimes a package on one site has a dependency on a package on another download site. VMware Workbench can coordinate this for you and automatically download the components you need to satisfy any dependencies. To set up this feature, use the **Available Software Sites** preferences.

Set up Available Software Sites preferences

- 1 From the VMware Workbench click **Help > Install New Software** and click the **Install** link for the plug-in.
- 2 From the Install dialog box, click **Available Software Sites**.
The Preferences dialog box displays with **Install/Update** expanded and **Available Software Sites** selected.
- 3 Click **Add** to display the Add Repository dialog box.
- 4 Determine the URL you need from your partner site on the Developer Center or from another source. Enter, or copy and paste, the URL of the download site in the Location text box.
- 5 Type a name for that update site location in the **Name** text box. Click **OK**.
The update site appears, added to the list of available software sites in the Preferences dialog box.
- 6 The status of the site should be Enabled. If the status of the site is Disabled, select the site and click **Enable**.
- 7 Repeat the **Add** operation until you have added and enabled all the available software sites that you will be using for VMware Workbench.
- 8 When you are finished, click **OK** to dismiss the Preferences dialog box and return to the Install dialog box, where you can proceed to installing new software packages.

Installing New VMware Workbench Software Packages

You can add VMware Workbench software packages and certification tests or update existing packages using the Install dialog. You can reach the Install dialog two ways: by clicking **Help > Install New Software**, or by clicking **Install** in the Dashboard Development panel under SDKs, after you have logged in.

Software packages can be installed from a site you already entered using the Available Software Sites dialog, from a network update site, or from a local folder (after downloading the ZIP files to a local folder).

IMPORTANT Before you install any software packages, proxy settings must be configured. Failure to configure proxy settings can result in the installation stalling. You were offered the opportunity to set proxies when you installed the base VMware Workbench appliance. If you have not already configured the proxy settings, see [“Fixing Proxy Issues”](#) on page 21.

Install software packages from the list of available software sites

- 1 From the Install wizard, make a selection from the **Work with** drop-down menu.
- 2 Click **Select All**, or select the check box next to the package name, and click **Next**.

The system calculates the requirements and dependencies for the package(s) you selected.

NOTE The **Contact all update sites during install to find required software** check box is not selected by default here in the Install wizard, unlike when installing plug-ins from the Dashboard. Additionally, non-VMware Update Sites are disabled here as they are when installing from the Dashboard.

(Optional) You can expand **VMware Workbench <Package Name>** in the Name column to see the list of components included in the package. You can choose to exclude some or all components by deselecting them, however this step is not necessary because the installation software prevents you from installing duplicate or unnecessary components.

- 3 Review the **Install Details**, and click **Next**.
- 4 Review the license text, select **I accept the terms of the license agreements**. You cannot install the software without agreeing to the license terms. Click **Finish**. The software installation can take several minutes to complete. If you are asked to accept unsigned content, click **OK**.
- 5 When installation is complete, a dialog box advises you to restart Eclipse for the changes to take effect and asks you if you want to restart now.

If you have other packages to install, click **No**.

If you are finished installing software packages, click **Yes** to restart Eclipse.

Install software packages from the network update site

- 1 Open a Web browser and go to the VMware download site for your development kit or certification suite.
- 2 Copy the URL for the software package to download.
- 3 Click **Help > Install New Software**. From the Install dialog box, click **Add**.
- 4 The first time you install the package, paste the URL into the Location text box. Type a Name. Click **OK**. **VMware Workbench <Package Name>** shows in the text box.

If you are reinstalling the package (for an update of the software), select the update site from the list in the **Work with** drop-down menu.

- 5 Select the check box next to the package name, and click **Next**.

The system calculates the requirements and dependencies for the packages you have selected.

(Optional) You can expand **VMware Workbench <Package Name>** in the Name column to see the list of components included in the package. You can choose to exclude some or all components by deselecting them, however this step is not necessary because the installation software prevents you from installing duplicate or unnecessary components.

- 6 Review the Install Details and click **Next**.
- 7 Review the license text, select **I accept the terms of the license agreements**. You cannot install the software without agreeing to the license terms. Click **Finish**. The software installation can take several minutes to complete. If you are asked to accept unsigned content, click **OK**.
- 8 When installation is complete, a dialog box advises you to restart Eclipse for the changes to take effect and asks you if you want to restart now.

If you have other packages to install, click **No**.

If you are finished installing software packages, click **Yes** to restart Eclipse.

Install software packages from a local folder

- 1 In the Dashboard, you can choose to download a package to a local folder. Alternately, you can open a browser in the Workbench virtual appliance and go to a VMware download site. Download the ZIP file containing a software package. For example, download the following file:

```
UpdateSite-<package name>-com.vmware.vide-<version number>.zip
```

- 2 Make a new directory and move the ZIP file into it, for example `/home/vmware/update`.
- 3 In VMware Workbench, click **Help > Install New Software**.
- 4 Click **Add** to open the Add Repository dialog box.
- 5 Click **Local**, navigate to the `update` file path (repository root directory) and click **OK**.
- 6 Back in the Add Repository dialog box, type a name for the package and click **OK**.

- 7 Click **Select All**, or select the check box next to the package name, and click **Next**.

The system calculates the requirements and dependencies for the package(s) you selected.

(Optional) You can expand **VMware Workbench <Package Name>** in the Name column to see the list of components included in the package. You can choose to exclude some or all components by deselecting them, however this step is not necessary because the installation software prevents you from installing duplicate or unnecessary components.

- 8 Review the **Install Details**, and click **Next**.
- 9 Review the license text, select **I accept the terms of the license agreements**. You cannot install the software without agreeing to the license terms. Click **Finish**. The software installation can take several minutes to complete. If you are asked to accept unsigned content, click **OK**.
- 10 When installation is complete, a dialog box advises you to restart Eclipse for the changes to take effect and asks you if you want to restart now.

If you have other packages to install, click **No**.

If you are finished installing software packages, click **Yes** to restart Eclipse.

Installing Packages Offline (Sneaker-Net)

To accommodate those who do not have Internet access for installation of the software packages, VMware Workbench installation packages can be downloaded and transferred (sneaker-net) as individual ZIP files. You can download software packages from the same site where the base VMware Workbench package resides.

Install software packages off-line

- 1 On a machine connected to the Internet, using the Dashboard of the Workbench virtual appliance or Workbench IS, click the “download” link for one of the SDKs or Certifications. Download the software package as a ZIP file. Copy it to portable media. For example, download and copy the following file:

```
UpdateSite-<package name>-com.vmware.vide-<version number>.zip
```

- 2 Insert the portable media into the system running the Workbench virtual appliance where you wish to install the package.
- 3 On the Workbench virtual appliance, make a new directory, for example `/home/vmware/update`, and copy the ZIP file from portable media into the `update` directory.
- 4 In VMware Workbench, click **Help > Install New Software**.
- 5 Click **Add** to open the Add Repository dialog box.
- 6 Click **Local**, navigate to the `update` file path (repository root directory) and click **OK**.
- 7 Back in the Add Repository dialog box, type a name for the package and click **OK**.
- 8 Click **Select All**, or select the check box next to the package name, and click **Next**.

The system calculates the requirements and dependencies for the package(s) you selected.

(Optional) You can expand **VMware Workbench <Package Name>** in the Name column to see the list of components included in the package. You can choose to exclude some or all components by deselecting them, however this step is not necessary because the installation software prevents you from installing duplicate or unnecessary components.

- 9 Review the **Install Details**, and click **Next**. Review the license text, select **I accept the terms of the license agreements**. You cannot install software without agreeing to the license terms. Click **Finish**. Installation can take several minutes to complete. If you are asked to accept unsigned content, click **OK**.
- 10 When installation is complete, a dialog box advises you to restart Eclipse for the changes to take effect and asks you if you want to restart now.

If you have other packages to install, click **No**.

If you are finished installing software packages, click **Yes** to restart Eclipse.

Fixing Proxy Issues

If you have problems with the installation seeming to stall or taking a long time to complete, or you cannot open a terminal, you might need to configure proxy settings.

Fix proxy issues

- 1 In VMware Workbench (Eclipse) menu bar, click **Window > Preferences**.
- 2 On the left side, expand **General** and click **Network Connections**.
- 3 In the Active Provider drop-down menu, select **Manual** proxy configuration.
- 4 Verify that you have the HTTP and HTTPS proxies set properly. If not, select them one at a time, click **Edit**, and type the correct settings for the proxy host and port.
 - a Verify the proxy server name and port number are correct.
 - b In the **Proxy bypass** list, add the list of IP addresses or host names for which the proxy server should not be used. Use of wildcards is permitted. The list might look something like this:


```
*.example.com
127.0.0.1
localhost
```
- 5 Click **Apply** to save changes.
- 6 Click **OK** to exit.

Uninstalling Software

Also see the *Eclipse Workbench User Guide* for detailed instructions about removing software packages that are already installed.



CAUTION Even though it is possible to remove software packages, VMware advises against it. If you must do it, VMware urges you to be extremely careful because you risk rendering other packages inoperable because of missing dependencies. Data loss is possible.

Many installed packages contain common modules that are needed by other installed software packages (development kits and certification suites). If you inadvertently remove a common module that other installed software depends on, you can render those software packages inoperable.

If you have used the software to create valuable data that you want to keep, take measures to copy the files to a safe location before uninstalling the software.

Uninstall software

- 1 In the VMware Workbench (Eclipse) menu bar, click **Help > About VMware Workbench**.
- 2 Click **Installation Details** to see the Installation Details page.
- 3 On the **Installed Software** tab, select the package to uninstall, and click **Uninstall**.

Using the Remote System Explorer

The Remote System Explorer (RSE) is an Eclipse plug-in for connecting to and performing operations on remote systems. VMware has extended the standard RSE tool to connect to remote servers. This chapter contains the following sections:

- [“RSE Functions”](#) on page 23
- [“Configuring SSH on Your Target Machine”](#) on page 23
- [“Accessing the RSE”](#) on page 24
- [“Connecting to Windows Machines and Virtual Centers”](#) on page 24
- [“Connecting to an ESXi Server”](#) on page 24
- [“Properties and Details For ESXi Servers”](#) on page 25
- [“Launching SSH Terminals”](#) on page 29
- [“Configuring SSH Services on an ESXi Host”](#) on page 29
- [“Managing Packages on an ESXi Host”](#) on page 30
- [“Monitoring Server Logs”](#) on page 31
- [“Installing VIB Packages on the Remote System”](#) on page 31
- [“Managing Passwords”](#) on page 31

RSE Functions

You can use the ESXi connections that you create in RSE to do the following functions:

- Transfer files between your local system and a remote system.
- Run commands on the remote system.
- Install and deploy VIB packages on the remote system
- Test your module before certification
- Run certification tests

Configuring SSH on Your Target Machine

To ensure that SSH is configured properly to work with RSE, do the following:

- 1 Make sure that SSH is enabled on the target machine.
SSH is not enabled by default on a hardened SLES11 SP3 VM.
 - a In a terminal window on the target machine, log in as root.
 - b Start SSH.

```
service sshd start
```

- 2 For hardened SSH servers, change or add configure parameters.

Default values for a hardened SSH server (sshd) may be different than on other non hardened servers. Change the SSH configuration file to contain the following configuration parameters.

- a Change to the location for the configuration file. The Linux configuration file is located at:


```
/etc/ssh/sshd_config
```
- b Add or change to the following values:

```
MaxSessions 20
AllowTcpForwarding yes
```

Accessing the RSE

When you open the Project Explorer by selecting **Develop Your ESXi <Module Type>**, in the development kit menu, VMware Workbench also opens the RSE.

To explicitly open the RSE in VMware Workbench, perform one of the following:

- Select **Window > Open Perspective > Remote System Explorer**.
- Select **Window > Show View > Remote Systems**.

Connecting to Windows Machines and Virtual Centers

In the RSE New Connection wizard, you can choose to make remote connections to Windows machines and Window Virtual Centers. The process is essentially the same as with ESXi servers as explained in sections of this document that follow, but you must use Windows login credentials.

IMPORTANT For Windows Server 2008, the Datastore daemon is not installed by default. You must install it on your Windows system and have it running before the RSE can connect to it successfully.

Connecting to an ESXi Server

You need to connect to ESXi servers for testing and debugging purposes. Use the RSE to add server connections to your VMware Workbench session. If you have not already added the ESXi machine to your list of remote hosts, add it now. If you already have the ESXi machine added to the RSE, you must connect to it before you can install modules.

Add an ESXi Server

- 1 Display the New Connection dialog box.

With the RSE open in the VMware Workbench, right-click inside the Remote Systems pane and select **New > Connection** from the menu. (If it is the first time you've opened the RSE, and nothing is already selected, the right-click menu will have only two selections: **New Connection** and **Import Connections**.)

- 2 Select **ESX** from the list of system types and click **Next**.

You can filter your choices by typing **ESX** in the **System type** text box before selecting **ESX** in the list.

- 3 If the Parent profile drop-down menu has more than one choice, select the profile to use.

- 4 Supply the host name or IP address in the **Host Name** text box, or choose one of the ESXi hosts in the drop-down menu (if present).

If you are creating a new connection to a host that is not in the drop-down menu, the **Next** button becomes available. (Click **Next** to view the messages.)

- 5 (Optional) Type in a name in the **Connection name** text box, if you want it to be different than the host name.

- 6 (Optional) Type in a description of the ESXi host in the **Description** text box.
- 7 Select or deselect the **Verify host name** check box.
The check box is selected by default. When selected, it checks to see if the host name is a valid name.
- 8 (Optional) Type in a **User Name** and **Password** in the text boxes.
The **root** user name is the default. You can manage user names and passwords in the Preferences dialog box. See [“Managing Passwords”](#) on page 31 for instructions on setting and changing passwords.
- 9 Select or deselect the **Save password** check box.
The check box is selected by default.
- 10 Click **Finish**.

Start the SSH daemon on your remote system

- 1 In the Remote System Explorer, right-click the target ESXi machine, and select **VMware > Configure SSH Service** from the menu.
- 2 In the SSH configuration dialog box, observe the **Status**.
- 3 (Optional) If the Status is **Stopped**, click **Start** in the Service Commands area and click **OK**.

Connect to an ESXi server

Once you have added an ESXi machine, you must connect to it. With the remote ESXi host highlighted in the RSE pane, select **Connect** from right-click menu.

NOTE If the connection fails with “failed to connect sshd to <the ESXi host>”, the SSH process must be started.

Disconnect from an ESXi Server

If you wish to break the connection to one of the ESXi machines, select the ESXi host in the RSE pane and select **Disconnect** from the right-click menu.

Properties and Details For ESXi Servers

After you have connected to an ESXi server, the Remote Systems navigation tree contains many items of information about the server. The following sections describe each of the items available for ESXi servers.

Remote Systems Navigation Tree

The **Remote Systems** navigation tree contains the following items for a connection to an ESXi server.

Table 4-1. Remote Systems Navigation Tree Items

Navigation Tree Item	Description
File Explorer	Expand this item to view the local file system on the remote server.
Ssh Terminals	Click this item to create a SSH terminal window to the remote server. See “Launching SSH Terminals” on page 29 for more information.
Resource Explorer	List of resources that you can add to the ESXi machine.

Remote Systems Properties

The **Properties** tab displays information about the currently selected remote system (or **Local**).

Table 4-2. Properties for the Items in the Remote Systems Navigation Tree

Property	Description
Connection status	Connection status of subsystems.
Default User ID	User ID specified when the connection to the remote system was established.
Description	Description of this connection.
Host name	Host name or IP address of the remote system.
Name	Name of resource.
Number of children	Number of children currently under this parent.
Parent profile	Profile that owns this connection.
Remote system type	Type of remote host, for example, ESX.
Type	Type of resource, such as Connection.

Remote Systems Details

The Remote Systems Details tab displays the status of the connections in the Remote System Explorer. This tab provides you with an overview of the properties and other information of all connected remote systems. The columns in this tab correspond to the properties listed in Properties tab for the currently selected remote system.

Table 4-3. Remote Systems Details Tab Items

Column	Description
Resource	Name of the remote system connection.
Parent Profile	Parent profile specified when the remote system connection was established.
Remote system	Type of remote host, for example, ESX.
Connection status	Connection status of subsystems.
Host Name	Name or IP address of the remote host.
Default User ID	User ID specified when the connection to the remote system was established.
Description	Description of this connection.

Resource Explorer

The Resource Explorer displays resources and their properties for each ESXi connection in the Remote Systems tab.

Resource Types

The following resource types are listed under every remote system: Virtual Machines, SCSI LUNs, Storage Adapters, Data Stores, Virtual Switches, Network Adapters. Each resource type can be expanded to show the list of actual resources found on this ESXi machine.

When you click a resource type, a list of properties and their values show in the Properties tab. If the Properties tab is not displayed on the UI, you can access the properties by selecting the resource type and selecting **Properties** from the right-click menu.

The **Resource Explorer** itself has the following properties:

Table 4-4. Resource Explorer Properties

Property	Value
Connected	Yes/No – Answering the question, “Currently connected to this service?”
Name	Name of resources, for example, <code>Resource Explorer</code> .
Number of children	Number of entries under this resource type.
Port	Port to use when connecting to this remote subsystem.
Type	Subsystem: <code>Resource Explorer</code>
User ID	User ID for connecting to this service, for example, <code>root (Inherited)</code>
Version	Version, release and modification of remote system, if available.

Every resource type has the following properties:

Table 4-5. Resource Type Properties

Property	Value
Connection-private	Yes/No – Answers the question, “Is this a connection-private filter pool, which only exists for this connection?”
Name	Name of resource type, for example, <code>Virtual Machines</code> .
Number of children	Number of resources currently under this resource type.
Number of filter strings	Number of filter strings that are contained in this filter.
Parent filter	Filter containing this filter. Not applicable for resource types.
Parent filter pool	Filter pool that directly or indirectly contains this filter.
Type	The type of resource, for example, <code>Remote system filter</code> .

Resources

When you click one of the resources listed under the resource type, a list of properties and values for that resource displays in the Properties tab. The following is a list of resource types and their properties:

- Virtual machines

The Properties tab shows the following properties for each virtual machine on the ESXi host:

Table 4-6. Virtual Machines Properties

Property	Value
File	VMX file location.
Full Name	Full resource name in system.
Guest OS	Name of guest operating system as it is identified in the system, for example, <code>otherLinuxGuest</code> .
HostName	Full host name, for example, <code>host1.server1.example.com</code> . Available only while the host is running.
IP Address	Available only while the host is running.
Memory	Amount of memory this virtual machine has, in MB.
numCPU	Number of CPUs this virtual machine has.
Power	Status of virtual machine, either <code>poweredOn</code> , <code>poweredOff</code> , or <code>suspended</code> .
Tools Status	VMware tools status.

- SCSI LUNs

The Properties tab shows the following properties for each SCSI LUN:

Table 4-7. SCSI LUNs Properties

Property	Value
Device ID	Identifier for the device, for example, <code>mdx.vrrhoa2:C0:T0:L0</code> .
Device Type	Generic term for device type, for example, <code>disk</code> .
Model	Vendor's model number for this device, for example, <code>ST373207LW</code> .
Vendor	Name of vendor, for example, <code>SEAGATE</code> .

- Storage adapters

The Properties tab shows the following properties for each storage adapter:

Table 4-8. Storage Adapters Properties

Property	Value
Driver	Driver name, for example <code>pat a_ amd</code> .
Model	Model name, for example, <code>AMD 8111 IDE/PATA Controller</code>
PCI	PCI identifier, for example, <code>00:07.1</code>
Status	Status information, if available.

- Datastores

The Properties tab shows the following properties for each datastore:

Table 4-9. Data Stores Properties

Property	Value
Capacity	Amount of space in Gigabytes.
Free Size	Amount of free space in Gigabytes.
Location	Path for this volume, for example, <code>/vmfs/volumes/49b07ab9-2921257e-d158-0030485da766</code> .
Type	Type of file system, for example, <code>VMFS</code> .
VMs	List of running virtual machines that use this datastore.

- Virtual switches

The Properties tab shows the following properties for each virtual switch:

Table 4-10. Virtual Switch Properties

Property	Value
Free Num Ports	Number of available ports on this virtual switch.
MTU	Size in bytes of the largest data unit that the switch can pass onwards.
NumPorts	Number of total ports.
Uplinks	List of vNIC (network adapter) names the virtual switch uplinks to.

In addition, each virtual switch can have multiple port groups assigned to it. Each port group has properties of its own:

Table 4-11. Port Group Properties

Property	Value
Uplinks	List of uplinks for this port group, for example, <code>[vnic0]</code> .

Table 4-11. Port Group Properties (Continued)

Property	Value
Used Ports	Number of assigned ports in the port group.
VLAN ID	The VLAN ID for this port group. Value if no VLAN ID is assigned: 0.

- Network adapters

The Properties tab shows the following properties for each network adapter:

Table 4-12. Network Adapter Properties

Property	Value
Driver	The name of the driver, for example, tg3.
Duplex	Duplex mode, for example, FULL, HALF.
MAC	Unique hardware identifier (MAC Address), for example, 00:30:48:5d:a7:66.
PCI	PCI identifier, for example, 02:05.0.
Speed	Link speed in Megabytes per second, for example, 100 Mbps.

To refresh a node in the Resource Explorer

- 1 Select a node in the Resource Explorer.
- 2 Select **Refresh** in the right-click menu.

To clear a bad password in the Resource Explorer

If you entered a bad password, select **Clear Password** in the right-click menu. Upon next access, the user name and password dialog box displays.

Launching SSH Terminals

With SSH enabled, you can launch an SSH terminal by selecting **Ssh Terminals** and selecting **Launch Terminal** from the right-click menu.

A Terminal tab opens with a command line available for your use for that ESXi connection.

If you added an ESXi host but you can't open a terminal, it might be a proxy issue. Check your proxy settings. See [“Fixing Proxy Issues”](#) on page 21.

Configuring SSH Services on an ESXi Host

To configure SSH services on an ESXi host, select **VMware > Configure SSH Service** from the right-click menu in the Remote Systems pane. The **SSH configuration** page displays.

Choose a startup policy

- 1 Select one of the startup policies: **Start automatically**, **Start and stop with host** (the default), **Start and stop manually**.
- 2 Click OK to exit.

Start, stop or restart SSH

- 1 Click one of the **Service Commands** buttons: **Start**, **Stop**, **Restart**.
The action is taken on the host immediately. You see the **Status** change.
- 2 Click OK to exit.

Managing Packages on an ESXi Host

You can add or remove VIBs, VIBs in an offline bundle, or image profiles to or from an ESXi host using the RSE **Package Manager**. To access the **Package Manager**, highlight the ESXi host in the Remote Explorer pane and select **VMware > Package Manager** from the right-click menu.

The **Package Manager** displays with a list of the packages installed on the host.

Add a package

- 1 Click **Add** to display the **Install Wizard**.
- 2 Select the package to install: a VIB package from a local file or URL, a VIB package from a depot or offline bundle, or an image profile from a depot or offline bundle and click **Next**.
- 3 Supply the location of the VIB, offline bundle or image profile.
 - a For VIBs: In the **VIB Location** page, specify the local file or URL for the VIB package to install. Click **Browse** to find it in the local file system, or click **Projects** to find it in the Project Explorer.
 - b For VIBs in an offline bundle: In the **Depot Location** page, enter a depot URL or offline bundle ZIP file from a server. Click **Browse** to find it in the local file system.

The VIB packages available in that depot or offline bundle display.

- c For an image profile: In the **Depot Location** page, enter a depot URL or off-line bundle ZIP file from a server. Click **Browse** to find it in the local file system.

The image profiles available in that depot or offline bundle display.

- 4 Click **Next** to display the **Install Options** page.
- 5 Select the options for installation and click **Next**.
- 6 Click **Install** to start installation.
- 7 When the installation completes, click **Finish**.

If there are errors, they will display in the text box.

The Packages installed on host *<host name>* list displays with the new package listed.

Remove a package

- 1 Highlight one or more packages and click **Remove**.
The **Uninstall Wizard** displays with a list of the VIB packages to be removed.
- 2 Select the **Uninstall Options** and click **Next**.
- 3 Click **Uninstall**.
If there are any errors, they will display in the text box.
- 4 When the uninstallation completes, click **Finish**.

Monitoring Server Logs

Depending on which version of ESXi you have installed, a different set of logs is available for monitoring:

Table 4-13. ESX/ESXi Logs by Version

ESX/ESXi Version	Logs
ESXi 5.0, 5.1 and 5.5	/var/log/vmkernel.log /var/log/hostd.log /var/log/vpxa.log
ESXi 4.1	/var/log/vmkernel.log /var/log/hostd.log /var/log/vmware/vpx/vpxa.log /var/log/messages
ESX 4.0 and 4.1 Classic	/var/log/vmkernel /var/log/vmware/hostd.log /var/log/vmware/vpx/vpxa.log /var/log/messages /var/log/vmksummary /var/log/vmkwarning

Monitor a server log

- 1 In the RSE, highlight an ESXi host.
- 2 Select **VMware > Monitor System Logs** from the right-click menu.
A view opens for the ESXi host logs. A default log displays.
- 3 To select a different log, use the drop-down menu.
The log displays. Use the scroll controls to move back and forward through the log.

Installing VIB Packages on the Remote System

Before installing a VIB on the remote ESX, make sure that `sshd` is started on the remote ESX. See [“Start the SSH daemon on your remote system”](#) on page 25.

Install package on remote system

- 1 To install files on a remote ESXi system, select the system host name in the Remote Systems pane.
- 2 Right-click in the pane, and choose **VMware > Install Package** from the right-click menu.
A dialog box displays where you specify the name of the VIB to deploy and the ESXi host to deploy it on.
For instructions on installing a VIB, see [“Installing Your Test VIB on a Test ESXi Host”](#) on page 92.

Managing Passwords

To set or change user names and passwords, use the Eclipse Preferences dialog box.

To manage user names and passwords

- 1 Select **Preferences** from the Window menu.
- 2 In the left navigation frame in the Preferences window, expand the Remote Systems menu and select **Passwords**.
- 3 To add a user to any ESXi in the list, click **Add**.

In the New Saved Password dialog box, complete the following fields:

- a Type in the host name.
 - b Select **ESX** from the System type drop-down menu.
 - c Type a **User ID**.
 - d Type in a password for the new user and verify it by retyping it.
 - e Click **OK**.
- 4 To change a saved password, select a host from the host name list and click **Change**.
In the Change Saved Password dialog box, type the new password and verify it by retyping it. Click **OK**.
- 5 To delete a user name and password, select the entry in the list of existing host names and their user IDs, and click **Remove**.

NOTE No confirmation is required before the entry is deleted. Use with caution.

Using the Workbench Log Browser

The Log Browser in the Workbench UI supports the viewing and analysis of vSphere and Workbench log files. This chapter presents the following topics:

- [“Loading Log Files into Workbench”](#) on page 33
- [“Tour of the Workbench Log Browser”](#) on page 34
- [“Recording a Log Browser Session”](#) on page 35
- [“Displaying and Using the Activity Graph”](#) on page 35
- [“More About the Log Browser UI”](#) on page 37

Log Browser features are also available in the vSphere Web Client, however they operate faster in Eclipse or VMware Workbench, and you can choose to display an activity graph.

Loading Log Files into Workbench

The Workbench Log Browser works by creating `.logx` files in a designated folder. Rather than open log files directly, Log Browser is driven by these `.logx` configuration files, which tell Eclipse where to find a set of logs on local disk, or how to import a set of log files across the network. The `.logx` files also describe how to parse the log files into columns for display in a table.

Prerequisite To fetch logs from a remote system, if you have a network proxy set, you first must add the system’s hostname or IP address to the **Proxy bypass** list in **Window > Preferences > Network Connections**.

When you open (or double click) a `.logx` file in the Project Explorer pane, a tabular display with controls appears in the same pane where the Dashboard appeared. You can then filter, highlight, and examine the log.

To start using the Log Browser

- 1 In VMware Workbench, click **File > New > Log Analysis**.
Or to analyze logs associated with a project, select the project and right click **New > Log Analysis**.
- 2 To the right of the **Source host** drop-down list, click **Add**.
- 3 In the Select Remote System Type dialog, click **ESX** for an ESXi host, **Virtual Center** for vCenter Server, or another choice. You will probably be asked for a password.
- 4 Back in the Log Host and Format Selection dialog, choose a **Log Format**. You can either Browse to an existing **Project container**, or type in the name of a new folder to be created.
For vCenter Server Appliance, you will need to know the parent directory where your log files reside. For example, the **vpdx** logs appear in the `/var/log/vmware/vpx` directory.
For an ESXi host, you can select Standard Log Collection and get most of the available log types.
- 5 In the Project container area, double click (or open) one of the `.logx` files. A new middle pane appears.

To analyze Log Browser entries

- 1 With a log that scrolls past the end of pane, type a search term in the text box on upper left and click **Filter**. To make the filter more precise you can enable **Case sensitive**.
- 2 To restore all lines in the log, click **Unfilter**.
- 3 You can display context around a matching filter term, and show one (1) or more adjacent lines in the log, by changing **0** in the drop-down list between **Filter** and **Case sensitive**. The lines of context appear with alternating green and white backgrounds.
- 4 Instead of or in addition to filtering, you can emphasize a term by typing in the text box on upper right and clicking **Highlight**. The term appears in yellow.
- 5 There are two tabs at the bottom of the pane, one saying Log Viewer, the other giving the .logx file name. If you click the second, it shows the XML definition for retrieving and formatting this log type.

Tour of the Workbench Log Browser

Once you have a set of .logx files in a project, and open one of them, you can browse logs using directives in the **vLogBrowser** menu or Eclipse toolbar.

Opening an Existing Log Project

You can open an existing log analysis file that you saved to the Project Explorer by expanding the project name and double-clicking the .logx file. The file opens in a Workbench Log Browser view.

Enhanced Search with Named Filters

In addition to simple keyword filtering, you can perform more complex filtering using the Named Filter facility. With a Log Viewer pane displayed, find the Eclipse menu and click **vLogBrowser > Filter**. The toolbar contains the same icon as a shortcut.

A dialog box appears, Keyword Filtering with a Named Filter. By default the Filter Source is the current .logx file, but you can also open other .logx files, or take filters from a file on disk.

You can create a new named filter by adding keyword or regular expressions and using And/Or/Not boolean operators, then clicking **Save**. Later you can use the **Named Filters** drop-down list to choose that saved filter by name. You have a drop-down box to include 1 or more adjacent lines. When ready, click **Save and Filter**.

Only filters from this .logx file can be applied to the log. Filters from other sources can be viewed, but must be saved to this .logx file before you can edit or apply them.

Copying Log Entries to Clipboard

To search for log entries that match a search string, find the Eclipse menu and click **vLogBrowser > Find**. The toolbar contains the same icon as a shortcut.

In the Find by keyword dialog box, you can click either **Find All** or **Find next**. In either case, click **Close** then **vLogBrowser > Copy** to copy all these log entries to your desktop Clipboard.

Finding and Synchronizing Time Stamps

To see a log entry created near a certain time, in the Eclipse menu click **vLogBrowser > Find or Adjust Date**. The toolbar contains the same icon as a shortcut. In the Find by Timestamp or Adjust All Timestamps dialog, use the date and time picker to select a month and date, optionally change time, and click **Find**.

If you want to synchronize time stamps between logs, click the **Sync** button in both .logx browser windows, and the matching log entries that are nearest your specified time will be highlighted in both windows.

The **Sync** button also works without the dialog box. If you highlight a log entry in one .logx browser window a nearby timestamp will be highlighted in other .logx browser windows with **Sync** button checked.

You can also adjust time stamps, for instance to correct clock skew. This adjustment does not affect the actual log entries, only the display in the `.logx` browser window. To adjust time stamps, specify a date and time and click **Find**. In the box underneath Time, specify the date and time to adjust and click Adjust. The adjusted appearance appears in red, and the time difference (as an offset minus or plus) appears beneath. To undo the time adjustment, click **Clear Adjustment**.

Refreshing a Log

To reload the log entries in a `.logx` file, click **vLogBrowser > Refresh**. The toolbar contains the same icon as a shortcut. The lower right corner of Eclipse shows a progress bar for the refresh.

To view information about a loaded or refreshed `.logx` file, click **vLogBrowser > View Log Info**. The toolbar contains the same icon as a shortcut. The Log File Information dialog shows the source host, the full path and filename, the time stamp, and the file size in bytes. Log files are listed in chronological order.

If there is a log file on the local system that you want to add to the list, click **vLogBrowser > Add Log Files** and browse to the location of the local log file.

Click **vLogBrowser > Export** to export the current `.logx` file, in a variety of formats (XML, text, JSON, CSV) to a local file, in your Eclipse workspace by default. You can export all events, or a subset of filtered events.

Cheat Sheets

Eclipse offers Cheat Sheets to introduce certain features.


NOTE You can view cheat sheets for Workbench Log Browser by clicking **Help > Cheat Sheets** then expanding **VMware vLogBrowser** to select the desired cheat sheet.

VMware implemented three cheat sheets to explain Log Browser. Two of those cheat sheet topics are not covered in this chapter: importing a remote log file into the local project, and opening a local log file.

Recording a Log Browser Session


You can create a recording of some or all the actions that you take in the log browser. The recording is stored as a shell script (`lb-script.sh`) that can be replayed from the command line, edited, or embedded in another shell script. For more information about the command-line, see [Appendix A, “Log Browser Command Line,”](#) on page 101.

Start and stop recording

- 1 Start the recording of log browser actions by clicking the red start recording icon. 
- 2 In the **Select a file to save generated script contents** pop-up window, either accept the default name (`lb-script.sh`) and location (inside your project folder), or choose your own name and location, and click OK.

If you are attempting to overwrite an existing script with the same name and location, a warning pops up. Click **OK** to continue overwriting an old script, or click **Cancel** to rename or relocate the script.

The icon changes to the stop recording icon.

- 3 After you perform the log browser actions you want to record, click the stop recording icon: 

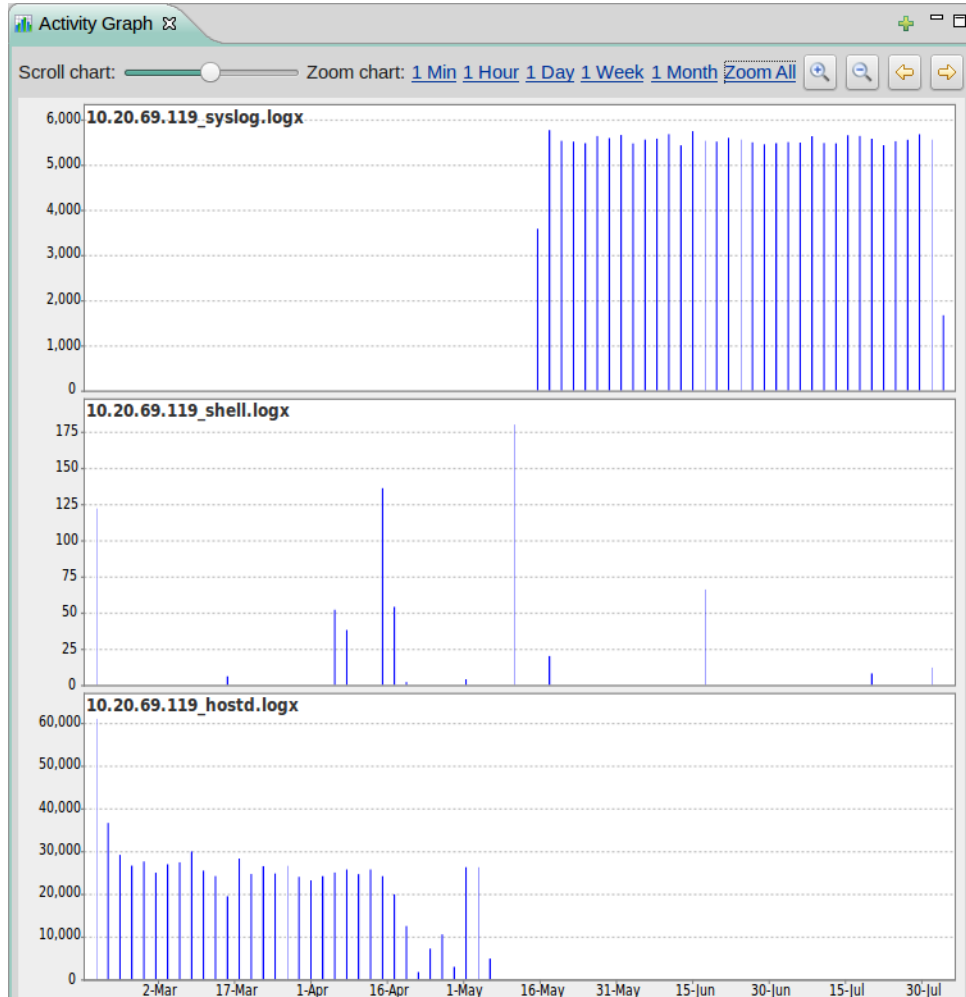
Displaying and Using the Activity Graph

The log browser includes an activity graph view that can show activity from multiple log files over a period of time. Activity graphs can be useful to identify irregular activity, such as a system reboot or a peripheral that stops responding.

Open the Activity Graph

- 1 From the Window menu, click **Show View > Other**.
- 2 From the **Show View** dialog box, expand **VMware**.
- 3 Click **Activity Graph** and click **OK**.

Figure 1. Activity Graph displaying three logs



Display log files in the activity graph

- 1 Click the plus (“+”) icon at top right of the activity graph to open the **Add Log File(s) to Graph** dialog box.
- 2 Select one or more log files that you want to display. Click **OK**.

The dialog box displays the log files already open in Workbench Log Browser. Each log is represented by a separate time line with the time scale spread out on the horizontal axis.

You can enlarge the activity graph window by clicking the Maximize button on upper right, and return to original size by clicking the Restore button (same location, different name and shape).

- 3 Adjust the time scale on the horizontal axis in one of three ways:
 - a In one of the time lines, click and drag the cursor across an area of the time line that you are interested in expanding. When you release the cursor, the area you highlighted is expanded to fill the entire time line. The time scale is adjusted on the bottom axis.
 - b Select one of the **Zoom chart** links at the top of the activity graph: **1min**, **1hour**, **1day**, **1week**, **1month**. The time line at the bottom changes to display the activity during that time interval.

- c Click the **Zoom In** or **Zoom Out** (magnifying glass) buttons to uniformly expand the time scale or shrink the time scale.

There are upper and lower bounds to the zoom scale. You will receive a warning message if you Zoom In to less than 100 ms, or Zoom Out to more than 10 years.
- 4 Use the **Zoom Back** and **Zoom Forward** (yellow arrow) buttons at the top of the activity graph to move backward and forward through previous zoom settings.
- 5 To scroll through the entire log, move the **Scroll chart** horizontal slider at the top left of the activity graph to move the view left or right.

IMPORTANT Double-clicking on an individual line in the activity graph causes the corresponding entry in the log browser to be highlighted.

More About the Log Browser UI

The **vLogBrowser** pane displays formatted log entries. Each log entry is formatted into columns. For VMkernel logs, the column headers are: #, **Date**, **CPU**, **World ID**, and **Entry**. For `hostd` and other logs the column headers are: #, **Date**, **Source** and **Entry** (log text).

In the log browser, you can perform the following tasks:

- Double-clicking an entry causes a dialog box to open, displaying other text associated with the log entry. Click **OK** when you are ready to dismiss the dialog box.
- Filter for specific keywords by typing the keyword into the unlabeled text box on the top left of the Workbench Log Browser view and clicking **Filter**. The button is a toggle. If you wish to return to the unfiltered view of the log, click **Unfilter**.
- Before clicking **Filter**, if you want to see the log entries immediately surrounding the entry with the keyword, select the number of surrounding entries to display from the numerical drop-down menu.
- Sort the log entries by any column by clicking the column header once to sort in ascending order and click again to sort in descending order. Restore the original order by clicking the number (“#”) column header to get ascending order.
- Synchronize log entries in multiple log browsers by a specific timestamp. Select the **Sync** check box in each log browser that you want synchronized. Select a time stamped entry in one of the browsers. The other log browsers have the log entry closest to that timestamp selected.
- Click the `<log_file_name.logx>` tab at the bottom of the **vLogBrowser** pane to see the `.logx` configuration file (XML formatted).

You can customize this log view by editing the XML in the `.logx` file. To see the changes, save, close and reload the file.

- Various actions are available in the right-click menu, from the task bar icons, or from the **vLogBrowser** menu in the VMware Workbench menu bar:

- a **Filter** – The **Keyword Filtering with a Named Filter** dialog box displays.

In the **Choose a Filter Source** area, select one of the radio buttons: **This .logx file**, **Filters file** (and Browse for the file), or **Other open .logx files** (select the file from a drop-down list).

To create your own named filter, type a name in the **Named Filters** field or select an already existing named filter from the drop-down menu. Edit or accept the keywords for the filter in the regular expression formatting fields that follow. If you want to include lines surrounding the filtered lines, choose the number to include in the **Include # Surrounding Lines** selector.

To save your new named filter or edited filter, click Save.

To delete the filter in the Named Filters field, click Delete Filter. To clear the regular expressions form, click Clear Form.

To save the new or edited **Named Filter** and filter the `.logx` file, click Save and Filter. To unfilter the `.logx` file and clear the regular expression form, click Unfilter and Clear Form.

- b **Find** – The **Find by keyword** dialog box displays. Enter the keyword to search for in the **Keyword** text box. Click Find All to see all entries in the log browser containing the keyword selected. Click Hide to close the dialog box. Click Find next to find the next instance of the keyword in the log browser.
- c **Find Next** – When selected, takes you to the next entry containing the keyword you searched for previously. If you haven't selected keyword, it opens the **Find by keyword** dialog box.
- d **Find or Adjust Date**– The **Find by Timestamp or Adjust All Timestamps** dialog box displays.

To find a specific timestamp, type the desired timestamp in the **Date Input** field and click Find to go to the first entry in the log with that timestamp.

Or you can construct the timestamp using the calendar and clock controls in the dialog box. Changes you make using the calendar controls are reflected in the timestamp shown in the **Date Input** field. For example, changing the month to February changes the timestamp month to 02. For the time portion of the timestamp, highlight a section of the clock display and click the buttons on the right to increment or decrement the number. For example, highlight the hour, and click the bottom button to decrement the hour number.

To adjust all of the timestamps in the log, set the desired timestamp in the Date Input field, and click Adjust. You can revert to the original timestamp by clicking Clear Adjustment.

- e **Highlight** – The **Highlight a keyword** dialog box displays. Type in the keyword to highlight and click Highlight. All instances of the keyword in the log are highlighted. Click Unhighlight to turn off the highlighting. Click Hide to close the dialog box.

To highlight keywords using the Highlight button on the Workbench Log Browser interface, type in a keyword in the unlabeled text box on the right side of the Workbench Log Browser view and click Highlight. The button is a toggle. If you wish to remove highlighting of the keyword, click Unhighlight.

- f **Copy** – Copy the selected entry or entries to the clipboard. You can open a text editor and paste the entries into a document.
- g **Refresh** – If additional log entries have been added to the log since you started analyzing it, you can select **Refresh** from the menu to bring those additional entries into the view. This works for logs on the local file system as well as logs from the ESXi hosts you are connected to.
- h **View Log Info** – A pop-up window displays the list of logs and their locations that you currently have loaded in this Workbench Log Browser project.
- i **Add Log Files** – Add local logs files to an existing Workbench Log Browser project (`.logx` file). The **Add local log files to table** dialog box displays. Browse to the log directory and select one or more logs to add. Click Add to add the files to the `.logx` file. The log display refreshes to include the new entries.

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