



“Working with Calculation Manager Part I” For Hyperion Planning

History:

Version	Description Change	Author	Publish Date
0.1	Initial Draft	Irshad Ahamed	28 th Sep 2011
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Calculation Manager:- It is a single, common product to design the sophisticated calculation for Oracle Hyperion Financial Management, Oracle Hyperion Planning, Oracle Hyperion Essbase BSO and ASO applications. Calc Manager is a powerful tool to develop the complicated calculation easily. It is GUI and centralized calculation tool where we can easily design the calculation for Classic and EPMA HFM, Planning and Essbase applications.

Here, I am using the classic planning and Essbase(11.1.2.1) for designing the calc Manager rules.

Calculation Manager Prerequisites: Before you log onto EPM Workspace to access Calculation Manager, you must complete the following tasks:

1. You must install and configure Oracle's Hyperion® Shared Services.
2. You must install and configure EPM Workspace.
3. If you are using EPMA application then you must install and configure Performance Management Architect. Else you can use Classic Planning or HFM applications.
4. You must install and configure Hyperion Calculation Manager.
5. You must provision users and assign roles in Shared Services.
6. You must ensure that these servers are installed and running:
 - Shared Services Server
 - EPM Workspace Server
 - Optional: Performance Management Architect Application Server
 - Optional: Performance Management Architect Dimension Server, Financial Management Server, Planning Server, and/or Essbase Server, if you want to deploy business rules and rulesets to Financial Management, Planning, and/or Essbase applications.
 - Calculation Manager Server.

Follow the link below for detail installation and configuration :

<http://learnhyperion.wordpress.com/category/hyperion-server-installation/Calculation Manager>

Security:-

Before deploying the applications the following access privileges are required to create/edit, ownership and manage the Business Rule, Rule Sets and other objects such as Scripts, Formula Components, Conditional Components, Fixed Loop Components, etc.

The global Calculation Manager administrator role enables you to create, edit and delete Planning, Financial Management, and Essbase objects.

- The Financial Management Calculation Manager administrator role enables to create, edit and delete Financial Management objects.

- The Planning Calculation Manager administrator role enables to create, edit and delete Planning objects.
- The Essbase administrator role enables to create, edit, and delete Essbase objects.
- The Essbase administrator role is inherited from Essbase; there is no Essbase Calculation Manager administrator role.

After deploying business rules and other objects, define launch security. Then one can launch Financial Management business rulesets in Financial Management, Planning business rules in Planning and Essbase business rules in Oracle Essbase Administration Services or Calculation Manager.

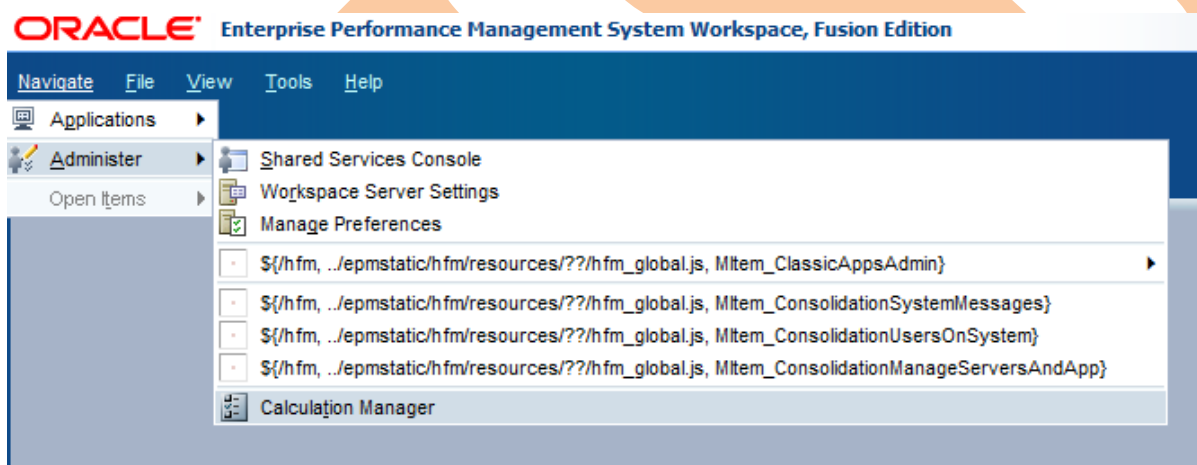
For deployed application, following access privileges are required:

Administrator: If you have Administrator privileges for that application then you can create ,edit and delete business rules, Rule sets, etc.

Designer: If you have Designer privileges for that application then you can create ,edit and delete your own business rules, Rule sets and see other user rules. You cannot edit other user's rules unless the other user assigns the ownership of the rule to Change Ownership feature.

Viewer: You can view the Financial or Planning Business rules and Rule sets.

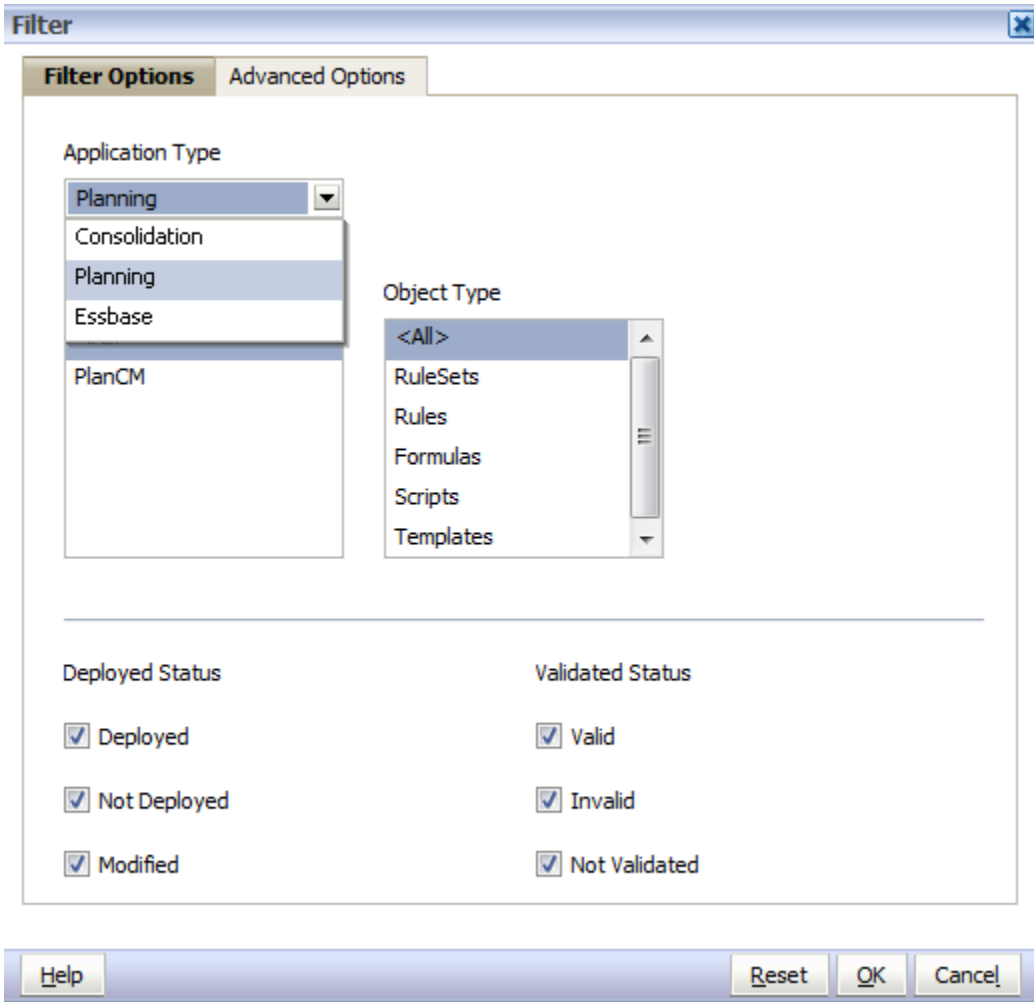
Accessing Calculation Manager: To Access the Calculation Manager you must launch EPM Workspace and log on and select Navigate->Administer->Calculation Manager (see screen shot below for navigation path).



View Menu: The View menu enables you to open different views in Calculation Manager. There are different ways to view the rules and other objects.

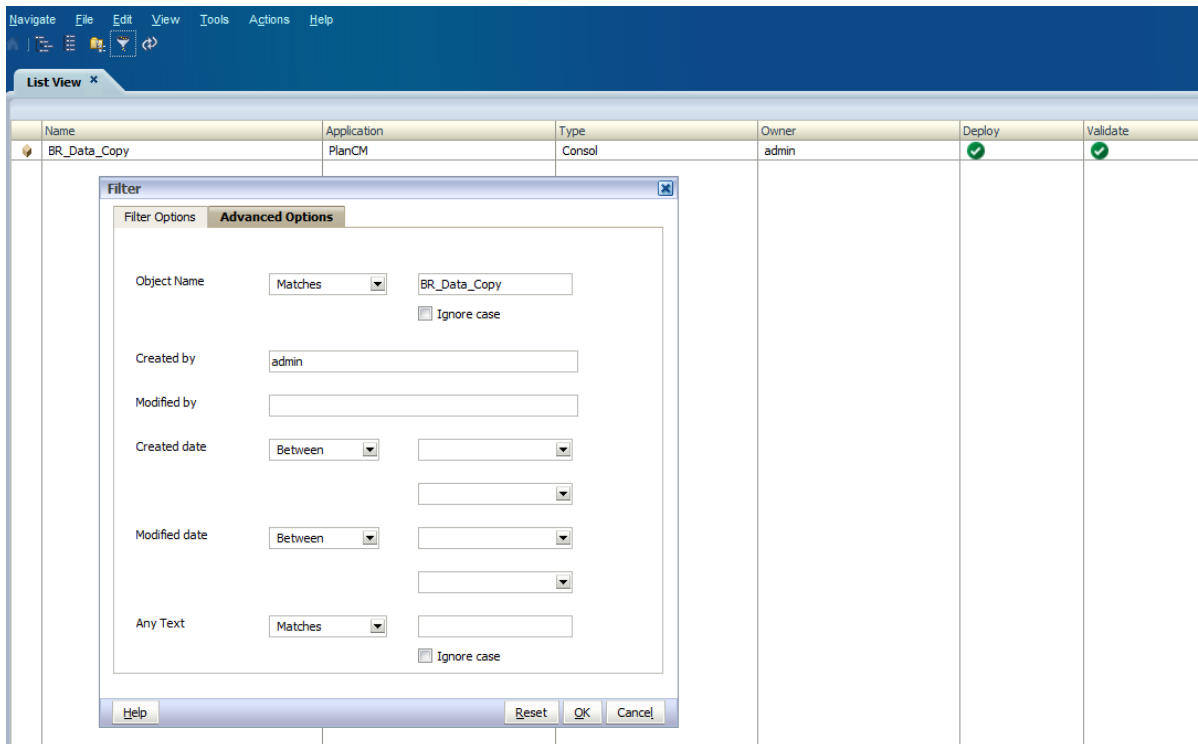
In the Custom View, Rule Designer, Ruleset Designer, Template Designer, and Component Designer, displays or hides a list of existing and/or new objects that you can add to rules, rulesets, components, and templates by dragging and dropping them.

Filter View: Displays a list of the objects you select on the Filter dialog. The filter dialog enables you to create a filtered list, by application type, of applications, calculation types, plan types, or databases, and objects. Find the below screenshot of Filter view.



List View:—After filtering the object this will enable you to display the selected objects.

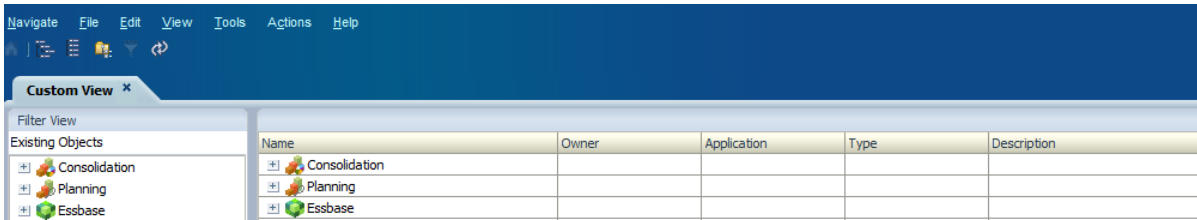
Name	Application	Type	Owner	Deploy	Validate
BR_Data_Copy	PlanCM	Consol	admin	✓	✓
Data_Copy	PlanCM	Consol	admin	N/A	✓
SetSc	PlanCM	Consol	admin	N/A	📄



Custom View: Displays a view that you can customize with folders you create and objects you drag and drop into them. This view enables you to organize objects in a way that is meaningful to you.

From the Custom View you can do these tasks:

- Create, open, rename, remove, refresh and close Calculation Manager objects, EPM Workspace pages and other documents
- Set preferences
- Import and export objects
- Show the usages of an object
- Create a copy of an object
- Change the owner of an object
- Print a business rule
- Import and export business rules and other objects
- Exit or log off EPM Workspace
- Select views
- Work with favorites
- Perform an advanced search, install other EPM Workspace products, and work with Variables
- Validate and migrate objects
- Access help for Calculation Manager and other EPM Workspace products

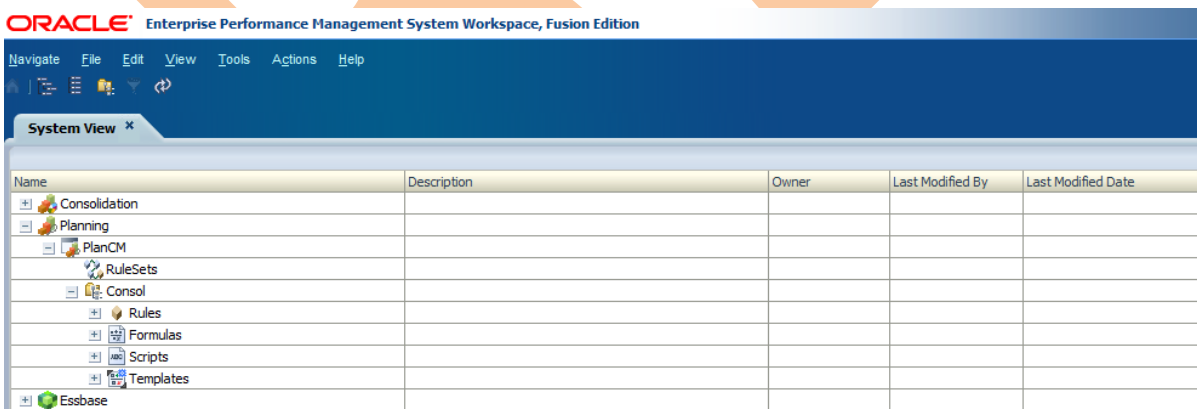


System View: is the default view that is displayed when you launch Calculation Manager. Displays a list of the Financial Management, Planning and/or Essbase applications, calculation types, plan types or databases and objects to which you have access.

You can follow these tasks:

Create, open, rename, delete, refresh and close Calculation Manager objects, EPM Workspace pages and other documents

- Set preferences
- Import and export objects
- Show the usages of an object
- Create a copy of an object
- Change the owner of an object
- Create a shortcut to a business rule
- Print a business rule
- Import and export business rules and other objects
- Exit or log off of EPM Workspace
- Select views
- Work with favorites
- Perform an advanced search
- Install other EPM Workspace products
- Work with variables
- Validate and migrate objects
- Access help for Calculation Manager and other EPM Workspace products



Deployment View:-Displays a list, by application type and application, of the rules and rulesets that are deployed and not deployed, and their deployment and validation status.

From the Deployment View, you can do these tasks:

□□ Create, open, rename, remove, refresh, and close Calculation Manager objects, EPM Workspace pages, and other documents

- Set preferences
- Import and export objects
- Show the usages of an object
- Create a copy of an object
- Using Calculation Manager Views and Filters
- Change the owner of an object
- Print a business rule
- Exit or log off EPM Workspace
- Select views
- Work with favorites
- Perform an advanced search
- Install other EPM Workspace products
- Work with variables
- Validate and migrate objects
- Deploy objects
- Access help for Calculation Manager and other EPM Workspace products

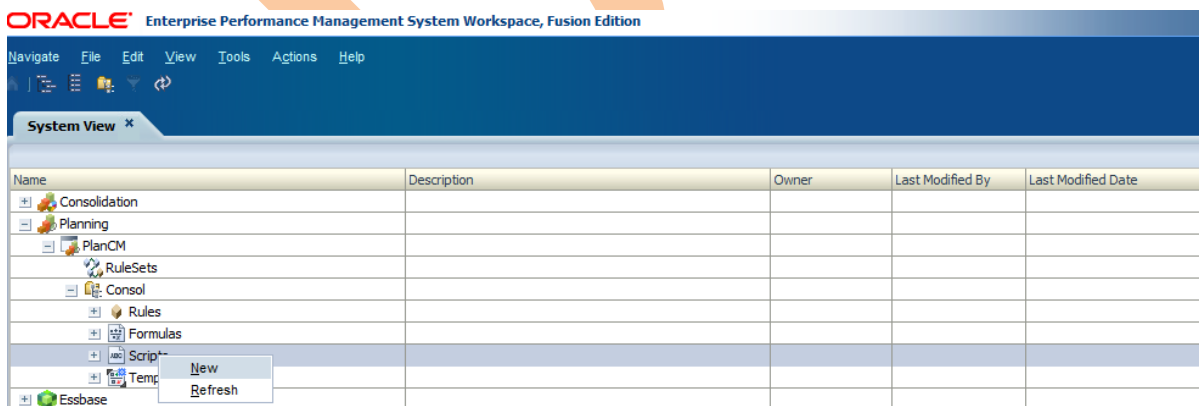
There are three types of objects within Calc Manager: components, rules and rulesets.

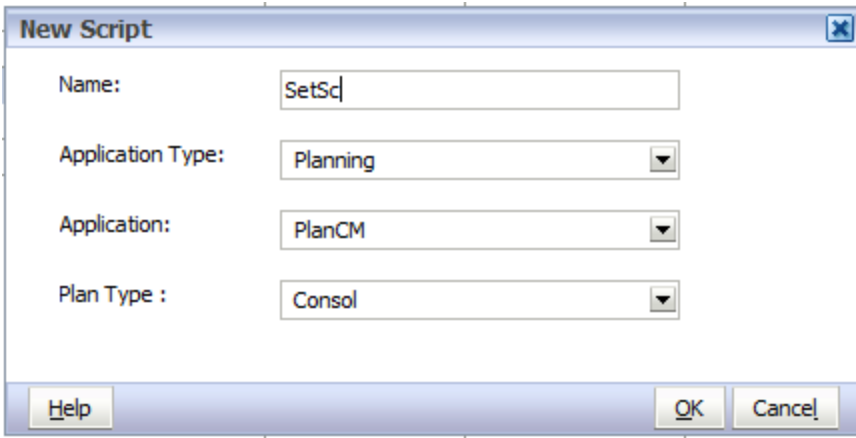
Components: are smaller pieces of a larger rule. Things like SET commands, FIX statements, formulas, etc. are examples of components.

Rule: Here Rule is similar to Business Rule which is a finished calculation script. Aggregation, Clearing, Exporting, Copying, Allocating are the examples of Rules (Templates). In the same way, we can create similar kind of calculation scripts using the Rule.

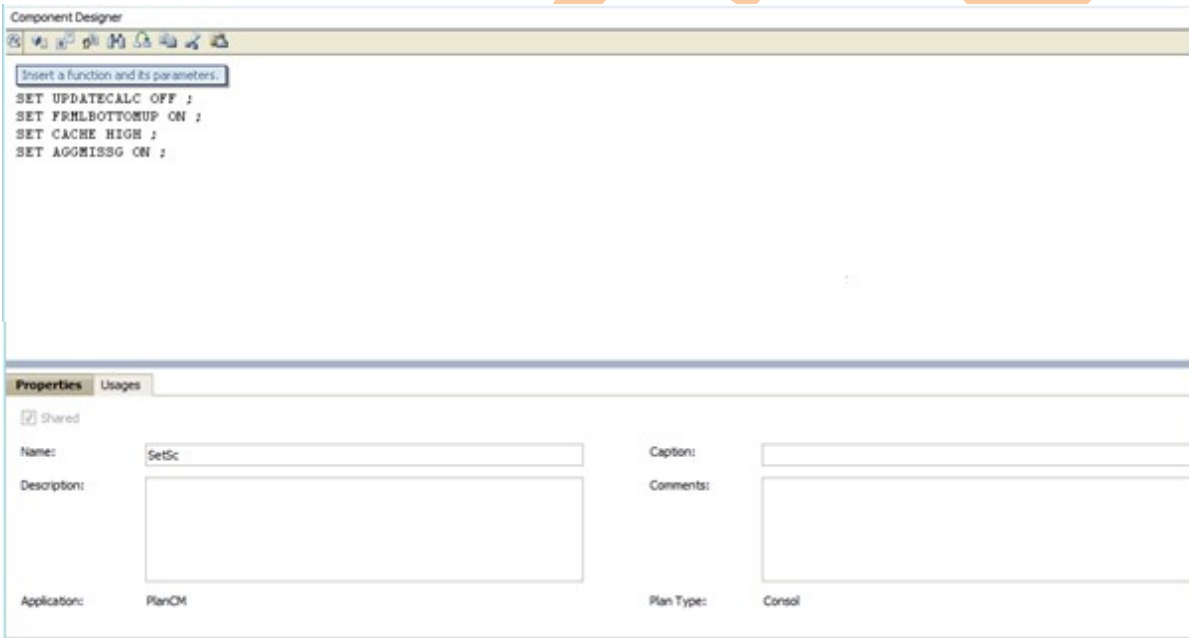
Rulesets: are similar to Business Rule Sequences under Hyperion Business Rules. Rulesets can be used to launch rules sequentially or simultaneously depending on your logic requirements.

Here first we design the smaller piece of component which is new script for all required set commands. Right Click on “Script” and click on “New” give the script name and select the Planning or Financial or Essbase application. This script is designed for planning application and select the plan type. Once you click on “OK” then the component designer will be launched.





Following screen shot is for the component designer. Here there are two options. If you know, you can directly write the set commands in the component designer.



or you can click on function button from top left corner of menu. List of Set functions will display, then you can select as per your requirement. Once your script is finalized then

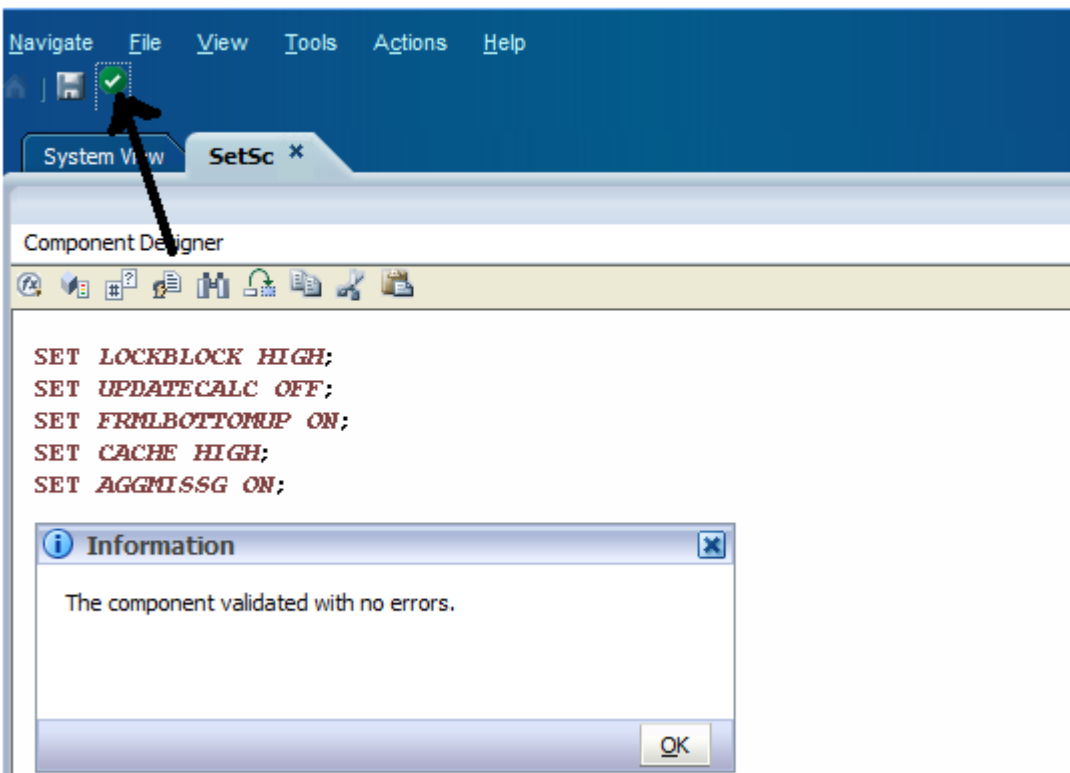
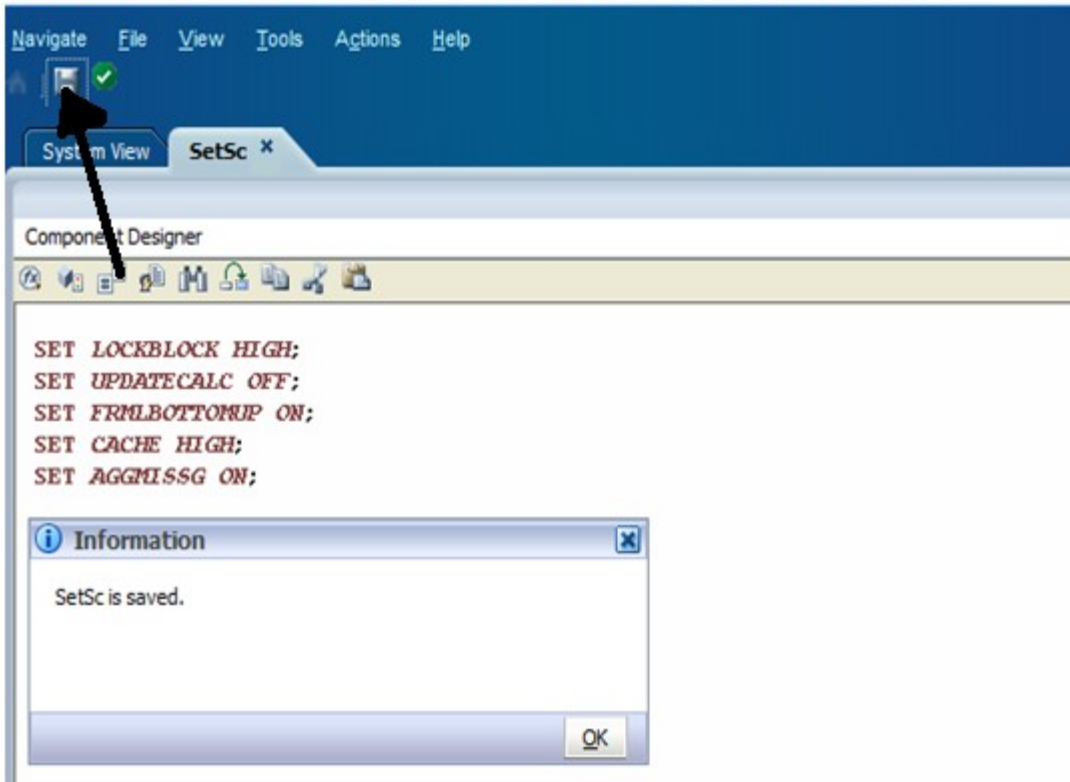
Select Function

Category:

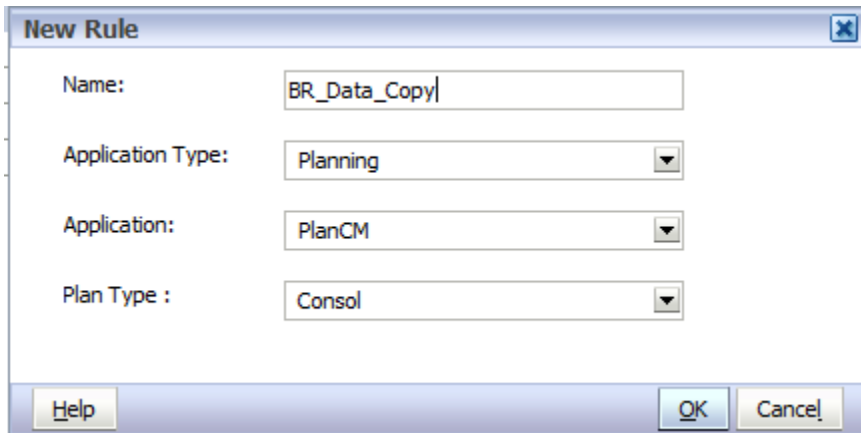
All Functions

Function Name	
SET CALCPARALLEL	Enables parallel calculation in p
SET CALCTASKDIMS	Specifies the number of sparse
SET CCTRACKCALC	Specifies whether Analytic Ser
SET CLEARUPDATESTATUS	Specifies when Essbase marks
SET COPYMISSINGBLOCK	Sets whether the DATACOPY c
SET CREATEBLOCKONEQ	Controls, within a calculation s
SET CREATENONMISSINGBLK	Controls whether or not poten
SET DATAIMPORTIGNORETIMESTAMP	Specifies whether or not to ign
SET EMPTYMEMBERSETS	Stops the calculation within a F
SET FRMLBOTTOMUP	Optimizes the calculation of fo
SET FRMLRTDYNAMIC	Enables you to turn off calcula
SET LOCKBLOCK	Specifies the maximum number
SET MSG	Traces your calculations
SET NOTICE	Monitors the progress of your
SET REMOTECALC	For applications with transpare
SET UPDATECALC	Turns on and off Intelligent Ca
SET UPTOLOCAL	Restricts aggregations to thos

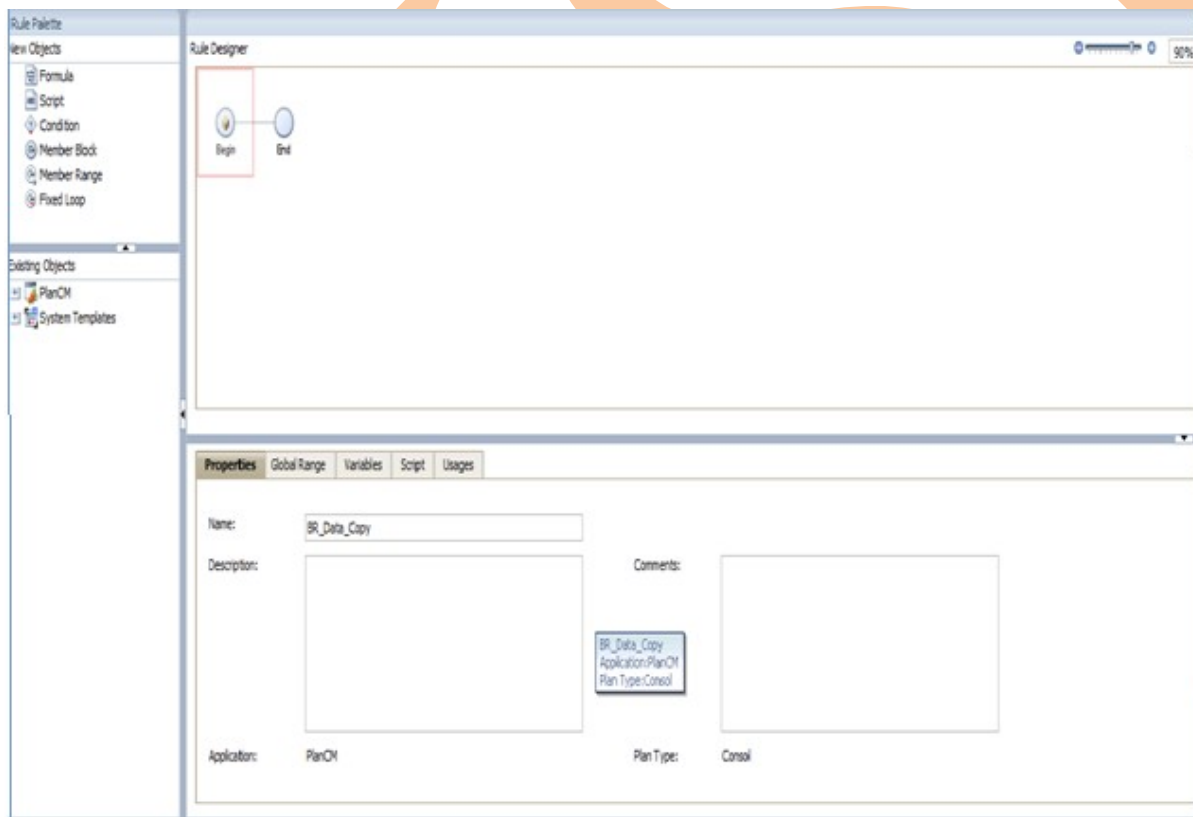
Click on Save and validate the script. This Set Command script can be used in multiple rules no need to write again and again.



Now , the time to develop our rule. To begin, right click on “Rules” under the database node and select “New”. Give your rule name and click on “OK”. The Rule Designer window will be launched.

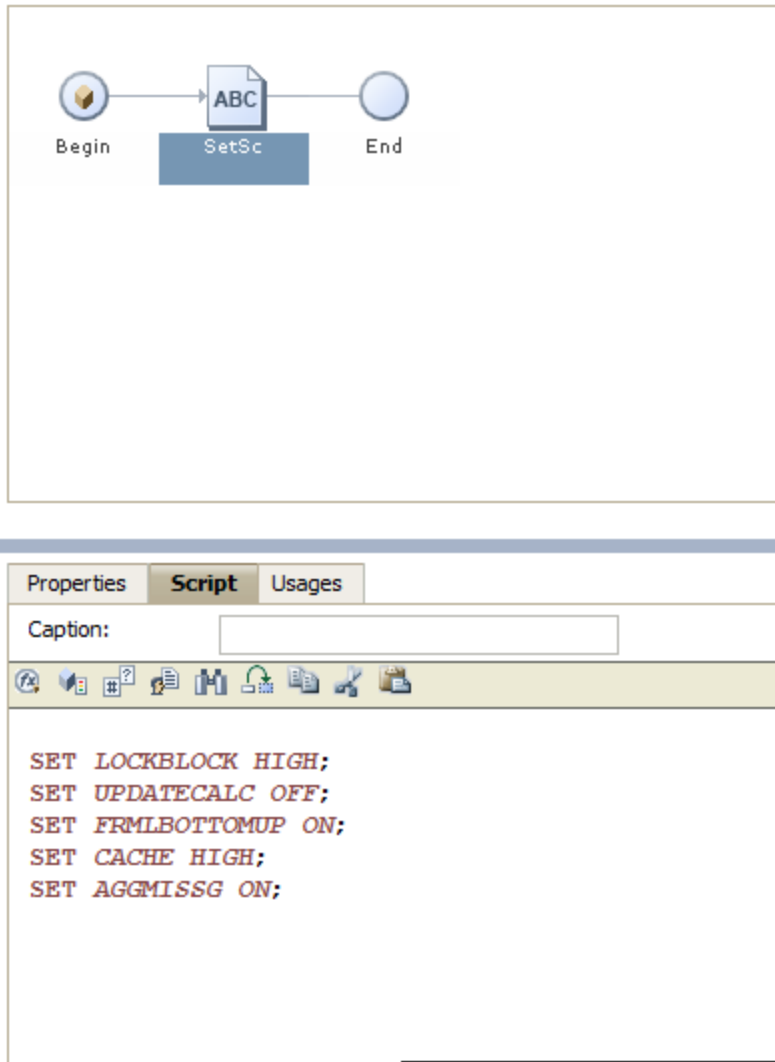


In this example, I am going to create a rule that copies one Scenario data to another scenario data, using a run time prompt variable for the Scenario dimension. Right click on “Rule” and click on “New” the Rule Designer is launched. Below is the screen shot of Rule Designer.



First, we'll select the script component for our SET commands that we developed earlier. Simply drag this into the rule designer to the right of “Begin”. The Rule Designer window now looks like this:

Rule Designer



The screenshot shows the Rule Designer interface. At the top, a flow diagram illustrates a rule process starting with a 'Begin' node, followed by a 'SetSc' component (represented by a document icon with 'ABC' on it), and ending at an 'End' node. Below the flow diagram, there are three tabs: 'Properties', 'Script', and 'Usages'. The 'Script' tab is active, showing a text area with the following code:

```
SET LOCKBLOCK HIGH;  
SET UPDATECALC OFF;  
SET FRMLBOTTOMUP ON;  
SET CACHE HIGH;  
SET AGGMISSG ON;
```

Now we will create variable for the Scenario dimension with run time prompt. There are two types of Variables:

Replacement Variable: When you are designing or launching the business rule, the variable is substituted with a calculation. You can use replacement variables in formula components. There are several types of execution and replacement variables you can create.

Note: Runtime prompt variables can be used only in Planning and Essbase aggregate storage business rules.

Note: You cannot use an Essbase substitution variable in a component of a business rule in an Essbase aggregate storage application.

Execution Variable:- When the business rule is launched, the calculation defined for the variable is performed. You can use execution variables in formula, condition or loop components.

For example if you want to use Array then create Execution variable to pick the array value.

Note: Execution variables are not supported in Essbase aggregate storage applications.

Here we are going to create Replacement variable. In order to create the variable, Go to “Tools” menu and select “Variables”. Once the Variable Navigator is launched, expand the Planning application, and database

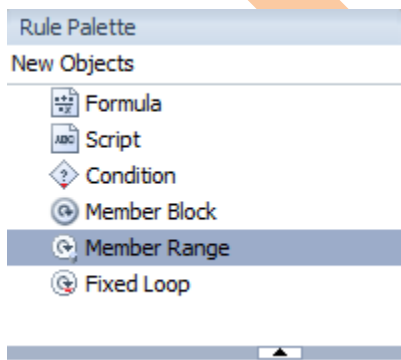
nodes. Now create a run time prompt variable for the Scenario dimension. Right click on your rule name and select “New”. The following Replacement Variable window is displayed on the screen.

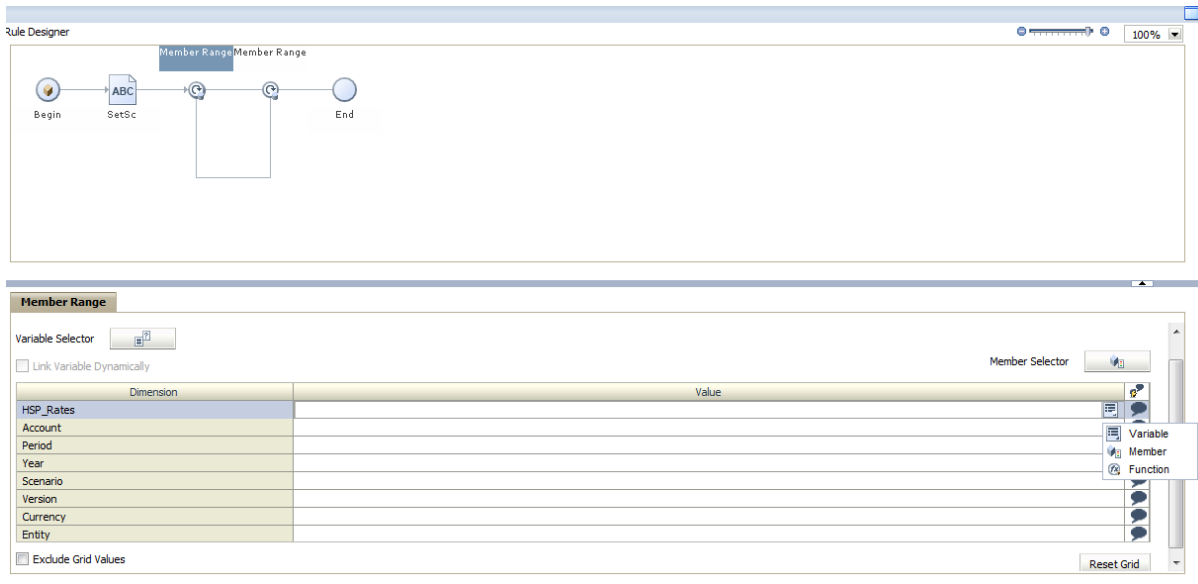
The screenshot shows the 'Replacement Variable' window with the 'Properties' tab selected. The 'Name' field contains 'DC_Scenario', 'Application' is 'PlanCM', 'Type' is 'Member', and 'Description' is empty. The 'Value' table is as follows:

Dimension Type	Limits	Default Value	RTP	RTP Text
Scenario			<input checked="" type="checkbox"/>	select scenario to copy the data

Type the variable name, select the type whether it is Member or other option. Select the Dimension type “Scenario” from the value option. If you want to give the limit, then provide the limit. If you want to use prompt, then click on “RTP” check box. Give the prompt statement under “RTPText”. When completed, save the variable. Now back to the rule Designer.

We’re going to specify members for the “Fix” statement. To do this, select “Member Range” in the New Objects portion of the Rule Palette and drag into the rule designer.





If you want to select Function. This invokes the function selection window that we have observed earlier. And If you want to select @LEVMBRS from the list, which will then prompt for the dimension and level number.

Select Accounts from the drop down box and enter “0” for the level name. same way, repeat this process for all non aggregating dimensions, with the exception of the Scenario dimension.

Select Function

Category:

Member Set

Function Name

@LANCESTORS

@LDESCENDANTS

@LEVMBRS

@LIST

@LSIBLINGS

@MATCH

@MERGE

@NEXTSIBLING

@LEVMBRS(Dimension Name , Level Name)

Dimension Name:

Account

Level Name:

0

Result = @LEVMBRS(Account , 0)

Now, select the variable but before that, decide which type of variable to create. There are different types of variables that can be created. Here, I have selected the Application variable.

- **Global variables** for use in all applications belonging to an application type (global variables can be created in Financial Management and Planning.)
- **Application variables**, for use in one application only (application variables can be created in Financial Management, Planning, and Essbase.)
- **Plan type or database variables**, for use in one plan type or database (plan type or database variables can be created in Planning and Essbase.)
- **Rule variables**, for use in one business rule only (rule variables can be created in Planning and Essbase.)

This will be handled via the run time prompt. For the Scenario dimension, select “Variable” in the Actions box. Change the Category selection to “Application” and this is what we see.

Select Variable

Category: Application

Create

Variable	Group	Description
DC_Scenario		

Type:

Value:

Help OK Cancel

Member Range

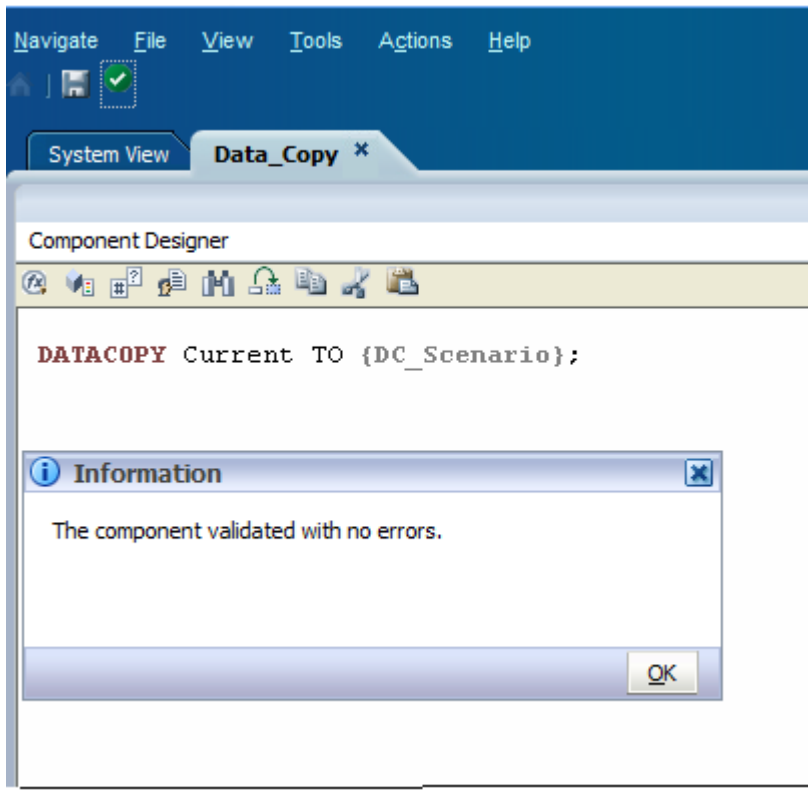
Link Variable Dynamically

Dimension	Value
Account	@LEVMERS(Account , 0)
Period	@LEVMERS(Period , 0)
Year	@LEVMERS(Year , 0)
Scenario	(DC_Scenario)
Version	@LEVMERS(Version , 0)
Currency	@LEVMERS(Currency , 0)
Entity	@LEVMERS(Entity , 0)

Exclude Grid Values

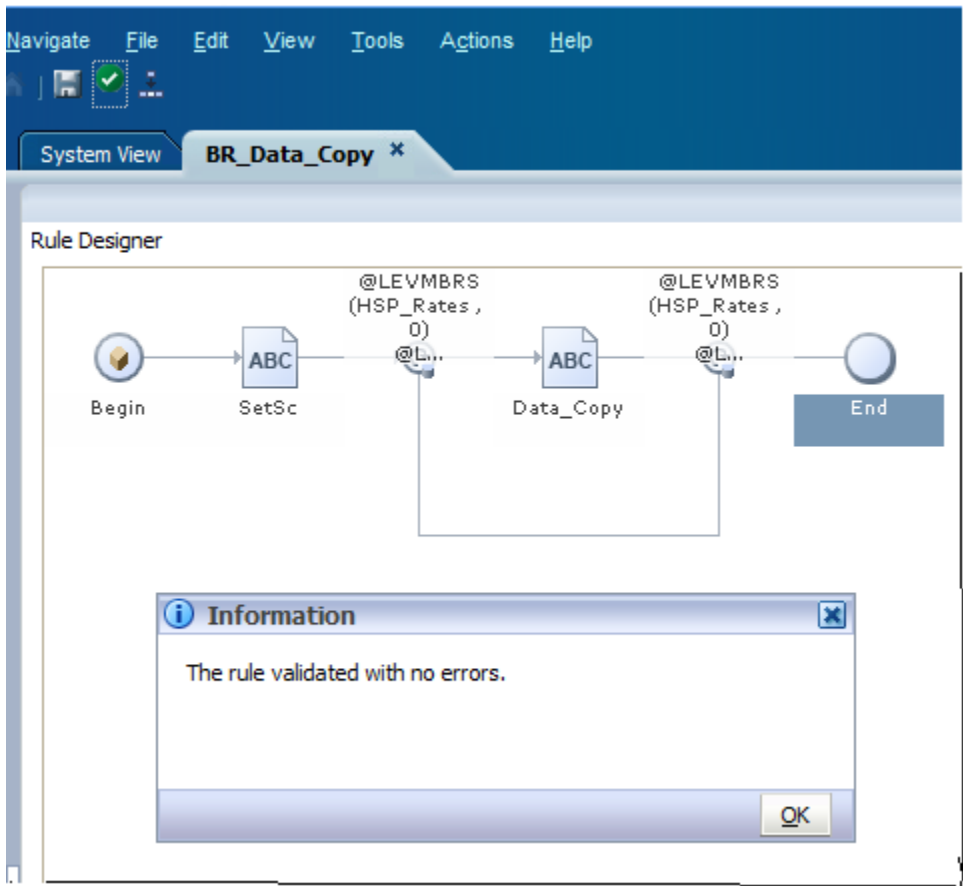
Reset Grid

Now, the script component is developed to copy the Current Scenario to target scenario. Click on function menu from top left corner and select the “DataCopy” function or if you know the command then directly type the DataCopy command and type the source scenario and target scenario. Here, earlier defined variable is used. This will prompt from the destination scenario to copy the data.

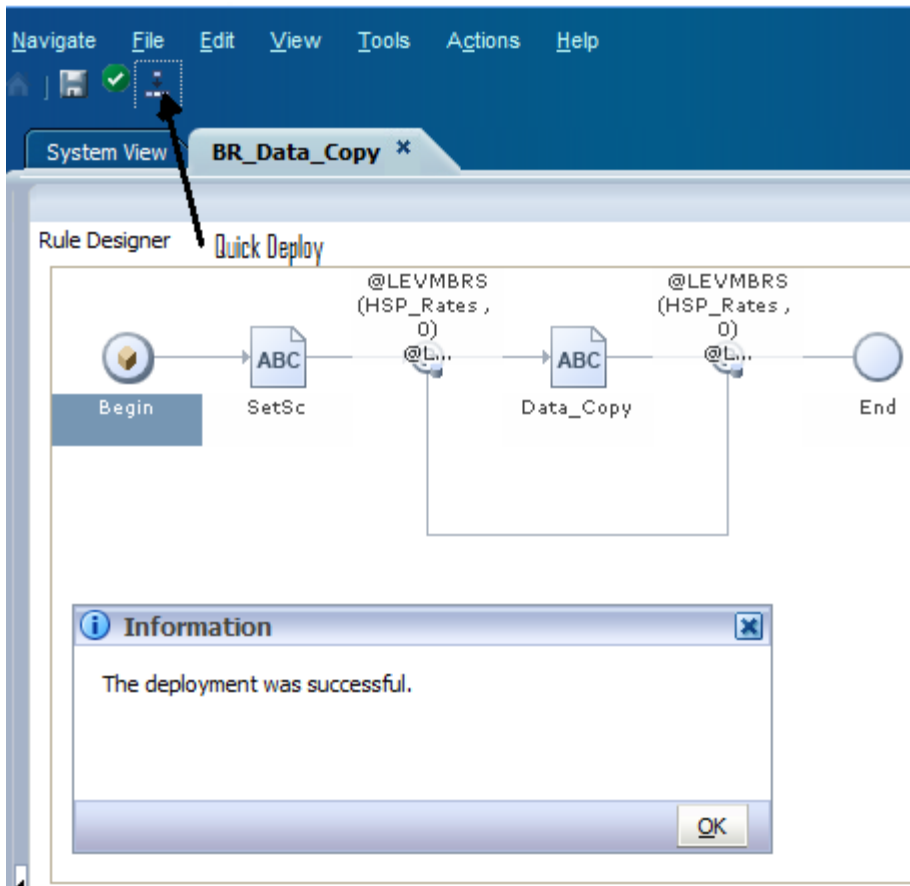


Now drag a script from the “New Objects” portion of the Rule Palette into member range. The graphical display looks like as shown below.

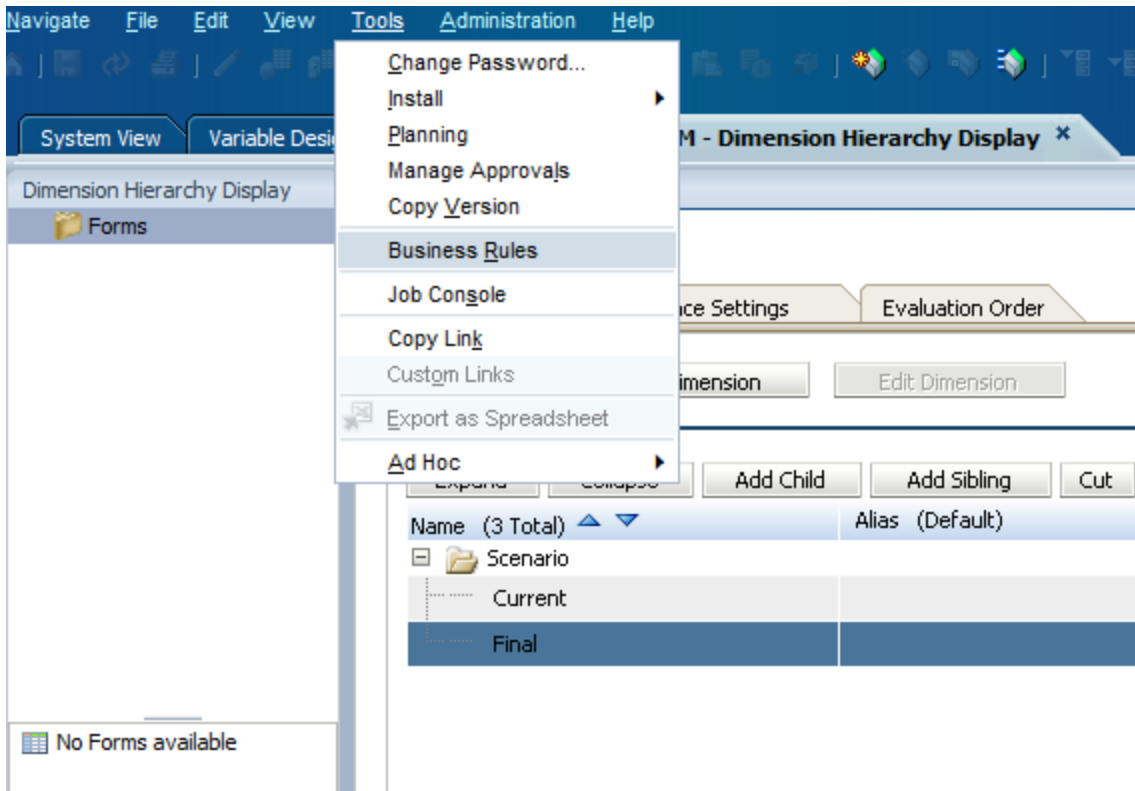
Now, save and validate the Rule.



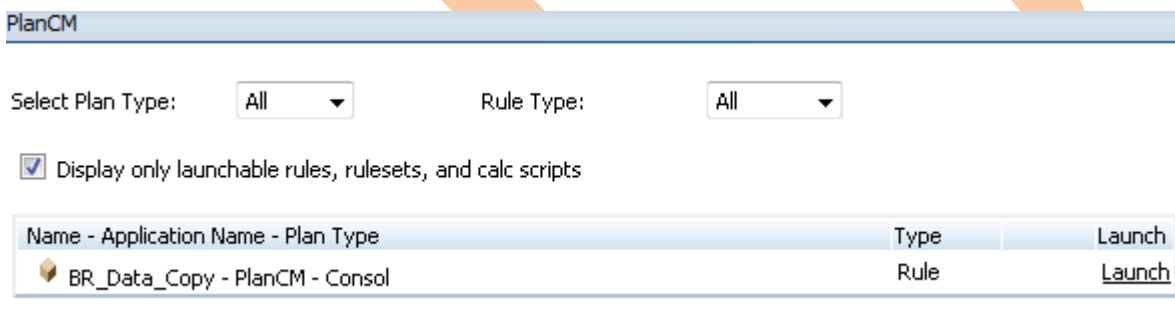
To Deploy the Rule in planning application, click on Quick Deploy. This will deploy in the Planning application. Once it is deployed then you can be able to run the business rule.



After deploying you can see the rule in planning application. Also you can check the deployment status in deployment view. To see the business rule in planning application, you can either login to the planning application or click on the planning application from workspace, the application opens then go to Tools->Business Rule then you can see the below business rule

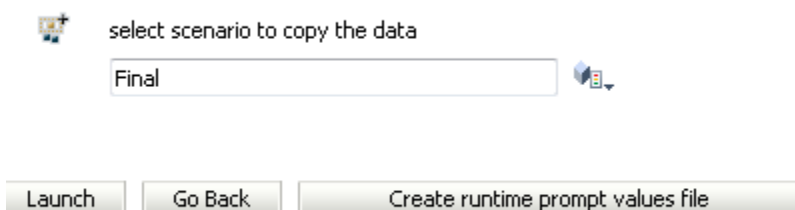


Click on Launch the Business Rule.

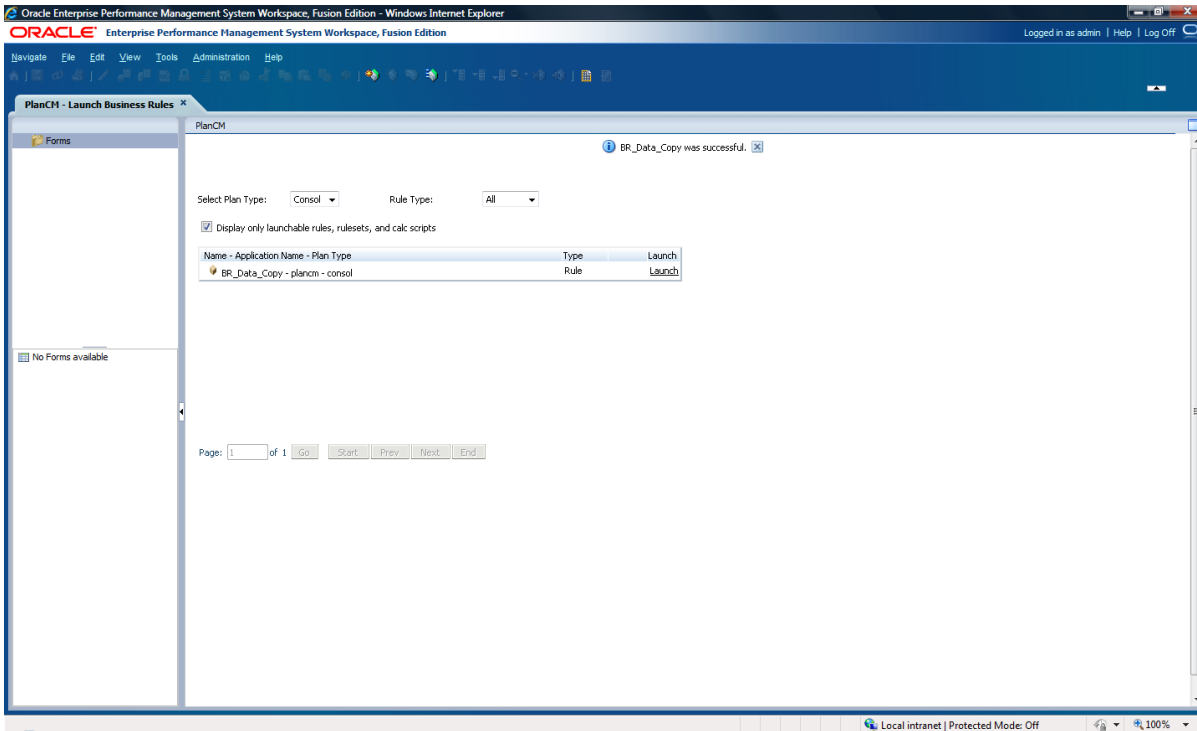


It will launch runtime prompt variable select the destination scenario to copy the data.

BR_Data_Copy



After defining the scenario click on launch then the data is copied from source scenario to destination scenario.



In this post, we've provided a walk through on developing a new rule using the graphical designer. More experienced developers can directly code the calc in script mode. To convert into script mode, select "Edit" and "Script" from the menu.

In the next post, we'll explore templates, ruleset creation and Migration of all the Business rules to Calc Manager. In the meantime, please leave comments if you have any.....!