

R Scripts



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Chapter

1

Overview

Topics:

- Overview of the R Script Module
- Access a Script
- R Script Workflow

Overview of the R Script Module

The R script tool in APM provides a way for you to utilize the R programming language to create scripts that can receive data from inputs, make calculations, and then return one or more outputs. These R scripts can then be used within Policy Designer to expand the functionality of policies.

R scripts can be as simple or as complex as you need them to be, depending on the data that you want the script to calculate. For instance, a simple R script may calculate and return a value based only on two inputs. A more complex R script might utilize ten inputs, and have ten different output values. This documentation does not cover the process of developing R code.

R Scripts in Policies

R scripts can be used within Policy Designer to expand the functionality of policies. After you create and save an R script, you can use the R Script nodes in Policy Designer to pass values into the R script, and receive calculated values out of the R script.

The parameters that you define in the R script determine how the R Script node in Policy Designer will behave. Each parameter that you specify as an input appears as a field in the **Properties** window for the R Script node. You can then use standard policy options to provide values to the parameters in the R script. Each parameter that you specify as an output determines what values subsequent nodes in the policy model can use for additional calculations or actions.

Note: Before you can execute or validate a policy that includes an R node, you must complete the R server installation and configuration steps.

Access a Script

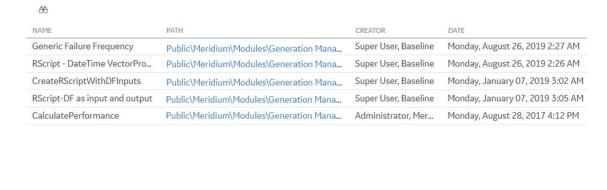
Procedure

1. In the **Applications** menu, navigate to the **TOOLS** section, and then select **R Scripts**.

The **R Scripts** page appears.

R Scripts







Note: Only R scripts created or accessed from the **R Scripts** page appear in this list. The 25 most recently accessed R scripts will appear in the list.

- 2. Choose one of the following:
 - Select an R script from the grid.
 - Browse the Catalog to select an R Script. To do so:
 - a. Select Browse.

The **Select a rscript from the catalog** window appears.

- b. Select an R script.
- c. Select Open.

A new page appears, displaying the selected script.

Tip: If you want to modify the script, make any required changes, including updating the values in the **Parameters** pane, and then select .

R Script Workflow

This workflow provides the basic, high-level steps for using this module. The steps and links in this workflow do not reference every possible procedure.

- 1. Create a new R script.
- 2. Enter R code in the R script editor.
- 3. Define each parameter in the R script.
- 4. Save the R script.
- 5. Create a policy containing the R Script node in order to execute the R script.

Chapter

2

Manage R Scripts

Topics:

- Create an R Script
- Define Parameters in R Scripts
- Delete Parameters in R Scripts
- Delete an R Script

Create an R Script

Procedure

- 1. In the **Applications** menu, navigate to the **TOOLS** section, and then select **R Scripts**. The **R Scripts** page appears.
- 2. Select Create New.

The **New R Script** page appears, which contains the script editor.

3. In the editor, enter your R code.

Note: When you use R scripts with policies, the policy execution engine sends date inputs to the R script in UTC. If your R script performs any calculations based on dates, the date output must also be in UTC and use the standard date format yyyy-MM-dd hh:mm:ss.fff.

- 4. Define each parameter in the R script using the **Parameters** pane.
- 5. Select 🛅.

The Save As window appears.

- 6. In the **Catalog** pane, navigate to the location at which you want to save the R script.
- 7. Enter values in the Name, Caption, Description, and Of type boxes.
- 8. Select Save.

The R script has been saved.

Define Parameters in R Scripts

About This Task

When you define a parameter, you are specifying whether each parameter in the R script is an input or output parameter, whether it is required, and what type of data it requires.

Procedure

- 1. Access the R script for which you want to define parameters.
- 2. At the bottom of the page, select **Parameters**. The **Parameters** pane appears.
- 3. Select +.

A new row is added to the grid.

- 4. In the ID cell, enter the parameter ID exactly as it appears in the R script.
- 5. In the **Name** cell, enter a name for the parameter as you want it to appear to the Policy Designer user.
- 6. In the **Type** list, select the data type of the parameter.
- 7. In the **Direction** list, specify whether the parameter represents an input or an output to the R script.
- 8. If the parameter is an input and is required, select the **Required** check box.
- 9. For each parameter in the R script, repeat steps 3 through 8.
- 10. Select 🛅.

The R script parameters are defined.

Delete Parameters in R Scripts

Procedure

- 1. Access the R script containing the parameter that you want to delete.
- 2. At the bottom of the page, select the **Parameters** tab. The **Parameters** pane appears.
- 3. On the left side of the **Parameters** pane, select the check boxes in the rows for the parameters you want to delete.
- 4. In the upper-left corner of the pane, select .

 The parameter is removed from the **Parameters** pane.
- 5. Select ...
 The R script parameters are deleted.

Delete an R Script

Procedure

- 1. Access the **Catalog** page for the folder that contains the R script that you want to delete.
- 2. Select the check box that corresponds to the R script that you want to delete.
- 4. Select **OK**. The R script is deleted.

Chapter

3

Deployment and Upgrade

Topics:

- Deployment
- Upgrade

Deployment

Deployment

Refer to the deployment information here Deploy R Scripts for the First Time.

Upgrade

Upgrade

Refer to the upgrade information here Upgrade or Update R Scripts to V5.1.2.0.0.