

How to Use RPT Scripts to Raise Alerts on Server Errors

You are observing the default behavior of Rational Performance Tester (RPT) scripts.

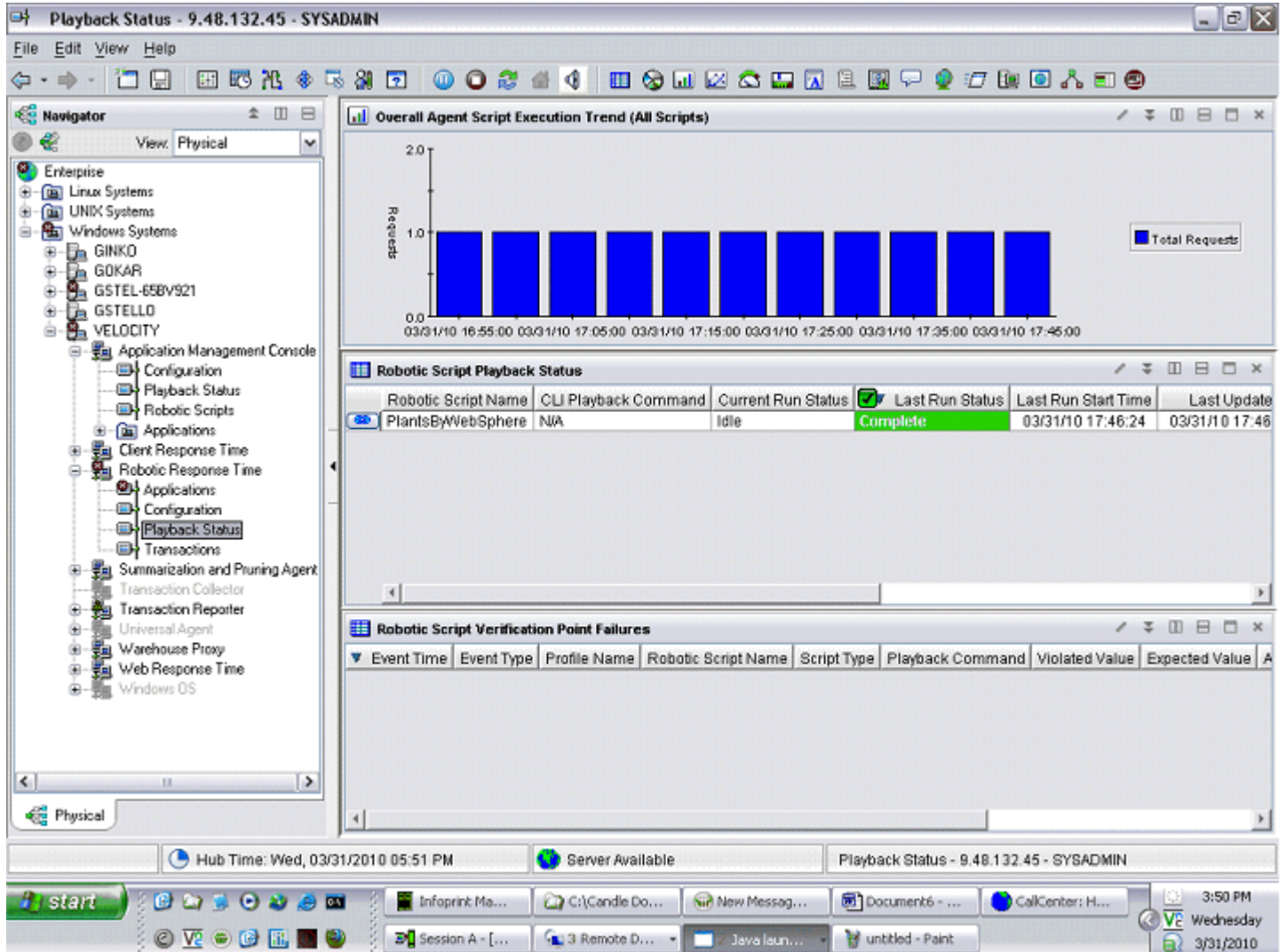
To raise alerts in the Tivoli Enterprise Portal (TEP), you need to include verification points in your RPTscript, and you need to add situations to raise appropriate alerts in the TEP.

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Sample Default Behavior

The following are views of sample Robotic Response Time (RRT) workspaces for a script that monitors the PlantsByWebSphere application. The application has been shutdown, but the TEP does not indicate that anything unusual has happened -- except that the Average Response Time is unusually high. Notice that the script Last Run Status is 'Complete'. Here, the response time is high because, under the covers, the script is actually timing out while trying to connect to the application.



Transaction Details - 9.48.132.45 - SYSADMIN

File Edit View Help

Navigator View: Physical

- Enterprise
 - Linux Systems
 - UNIX Systems
 - Windows Systems
 - GINKO
 - GOKAR
 - GSTEL-658V921
 - GSTELLO
 - VELOCITY
 - Application Management Co
 - Configuration
 - Playback Status
 - Robotic Scripts
 - Applications
 - Client Response Time
 - Robotic Response Time
 - Applications
 - Configuration
 - Playback Status
 - Transactions
 - Summarization and Pruning
 - Transaction Collector
 - Transaction Reporter
 - Universal Agent
 - Warehouse Proxy
 - Web Response Time
 - Windows OS

Selected Transaction

Application	Transaction	Start Time	End Time	Importance	Percent Available	Percent Slow	Percent Failed
PlantsByWebSphere	PlantsByWebSphere	03/31/10 17:50:00	03/31/10 17:52:51	Medium	100.000	0.000	0.000

Transaction Availability Trend

Response Time Breakdown

Transaction History

Start Time	Importance	Percent Available	Percent Slow	Average Response Time	Percent Failed	Percent Good
03/31/10 17:40:00	Medium	100.000	100.000	7.932	0.000	0.000
03/31/10 17:25:00	Medium	100.000	100.000	5.371	0.000	0.000
03/31/10 17:10:00	Medium	100.000	100.000	7.852	0.000	0.000
03/31/10 16:55:00	Medium	100.000	100.000	12.866	0.000	0.000

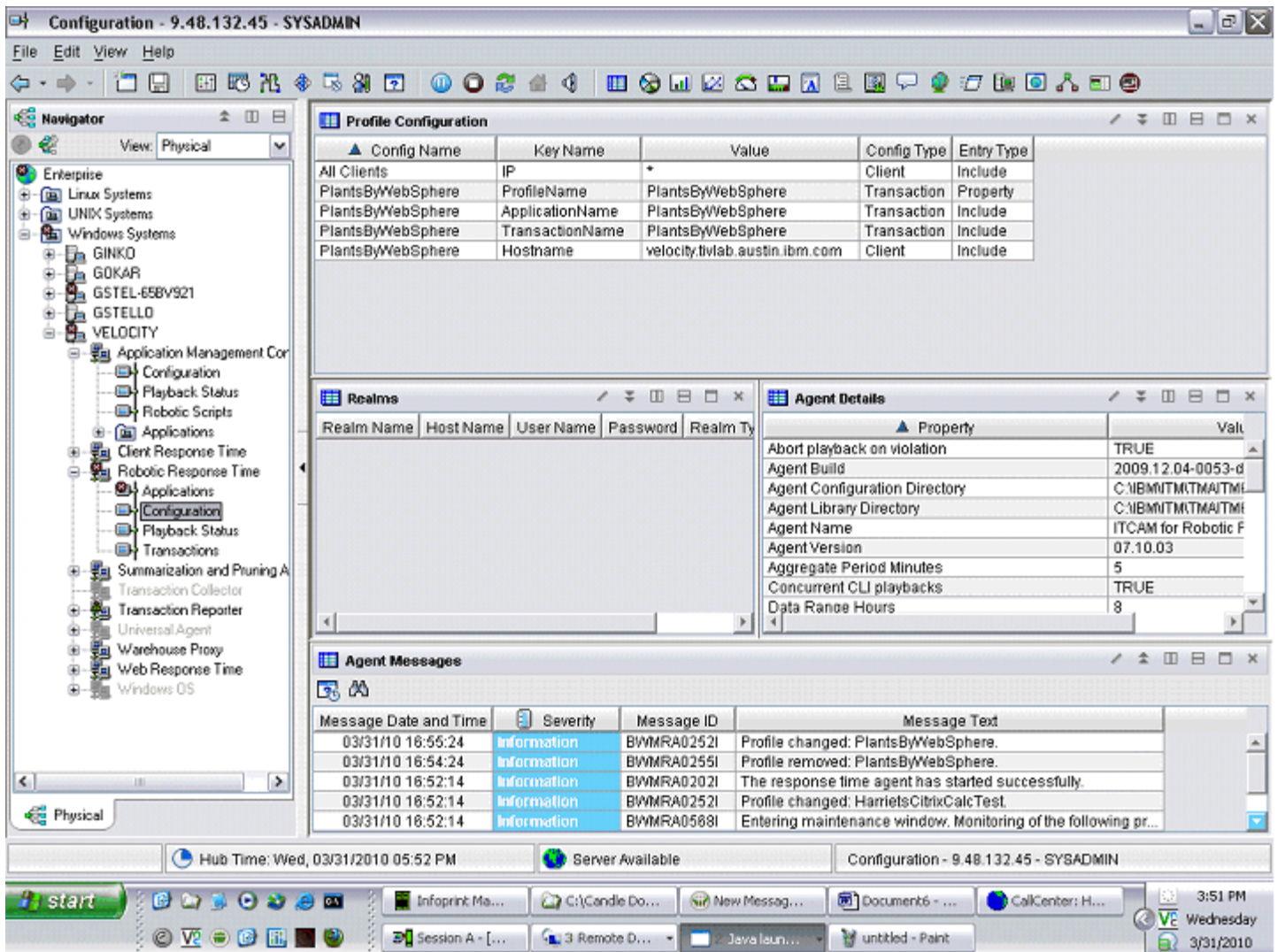
Hub Time: Wed, 03/31/2010 05:52 PM Server Available Transaction Details - 9.48.132.45 - SYSADMIN

start

Infoprint Ma... C:\Candle Do... New Messag... Document6 - ... CallCenter: H...

3:51 PM Wednesday 3/31/2010

Session A - [... 3 Remote D... Java laun... untitled - Paint



Effect of Adding Verification Points

In this example, we added page title verification points to the PlantsByWebSphere script. This is the text that you see in HTML TITLE tags in the HTML source. The PlantsByWebSphere script now reports errors when the web page is not available. Notice that the Last Run Status is 'Complete'. But, this time, we report verification point failures and zero Percent Available.

The screenshot shows the Robotic Response Time (RRT) console interface. The main window title is "Robotic Response Time - 9.48.132.45 - SYSADMIN". The interface is divided into several panes:

- Navigator:** Shows a tree view of the system hierarchy, including Enterprise, Linux Systems, UNIX Systems, Windows Systems, and various applications like GINKO, GDKAR, GSTEL-658V921, GSTELLO, VELOCITY, and Application Management Console.
- Situation Event Console:** Displays a list of critical events. The table below shows the details of these events:

Severity	Status	Owner	Situation Name	Display Item	Source
Critical	Open		RRT_Verification_Point_Failure	PlantsByWebSphere	velocity.T6
Critical	Open		gsRRT_Verification_PT_Failure	velocity.T6	velocity.T6
Critical	Open		RRT_Availability_Critical	PlantsByWebSphere	velocity.T6
Critical	Open		hbRRT_Availability_Critical	PlantsByWebSphere	velocity.T6
Critical	Open		gsRRT_Availability_Critical	PlantsByWebSphere	velocity.T6
Critical	Open	sysadmin	noConcurrentIntarsite ?	velocity.T6	velocity.T6

- Applications Current Status:** Shows the status of the PlantsByWebSphere application. The table below provides the details:

Application	Importance	Percent Available	Percent Slow	Average Response Time	Total Requests	Start Time
PlantsByWebSphere	Medium	0.000	0.000	4.657	1	03/31/10 22:10

- Playback Status:** Shows the playback status for the PlantsByWebSphere script. The table below provides the details:

Robotic Script Name	CLI Playback Command	Current Run Status	Last Run Status	Last Run Start Time	Last Update
PlantsByWebSphere	N/A	Idle	Complete	03/31/10 22:13:57	03/31/10 22:14:05

The bottom status bar shows "Hub Time: Wed, 03/31/2010 10:13 PM", "Server Available", and "Robotic Response Time - 9.48.132.45 - SYSADMIN". The Windows taskbar at the bottom shows the system clock as 8:12 PM on Wednesday, 3/31/2010, and several open applications including Infoprint Manager, Java launcher, and Mail.

Configuration - 9.48.132.45 - SYSADMIN

File Edit View Help

View: Physical

Enterprise

- Linux Systems
- UNIX Systems
- Windows Systems
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 - GSTELLO
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 - Windows OS

Profile Configuration

Config Name	Key Name	Value	Config Type	Entry Type
All Clients	IP	*	Client	Include
PlantsByWebSphere	ProfileName	PlantsByWebSphere	Transaction	Property
PlantsByWebSphere	ApplicationName	PlantsByWebSphere	Transaction	Include
PlantsByWebSphere	TransactionName	PlantsByWebSphere	Transaction	Include
PlantsByWebSphere	Hostname	velocity.tivlab.austin.ibm.com	Client	Include

Realms

Realm Name	Host Name	User Name	Password	Realm Ty
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Agent Details

Property	Value
Abort playback on violation	TRUE
Agent Build	2009.12.04-0053-d
Agent Configuration Directory	C:\IBM\ITM\TMA\ITM
Agent Library Directory	C:\IBM\ITM\TMA\ITM
Agent Name	ITCAM for Robotic F
Agent Version	07.10.03
Aggregate Period Minutes	5
Concurrent CLI playbacks	TRUE
Data Range Hours	8

Agent Messages

Message Date and Time	Severity	Message ID	Message Text
03/31/10 21:57:57	Information	BWMRA0252I	Profile changed: PlantsByWebSphere.
03/31/10 16:55:24	Information	BWMRA0252I	Profile changed: PlantsByWebSphere.
03/31/10 16:54:24	Information	BWMRA0255I	Profile removed: PlantsByWebSphere.
03/31/10 16:52:14	Information	BWMRA0202I	The response time agent has started successfully.
03/31/10 16:52:14	Information	BWMRA0568I	Entering maintenance window. Monitoring of the following pr...

Hub Time: Wed, 03/31/2010 10:15 PM

Server Available

Configuration - 9.48.132.45 - SYSADMIN

Playback Status - 9.48.132.45 - SYSADMIN

File Edit View Help

Navigator View: Physical

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Overall Agent Script Execution Trend (All Scripts)

Robotic Script Playback Status

Robotic Script Name	CLI Playback Command	Current Run Status	Last Run Status	Last Run Start Time	Last Update
PlantsByWebSphere	N/A	Idle	Complete	03/31/10 22:13:57	03/31/10 22:14

Robotic Script Verification Point Failures

Event Time	Event Type	Profile Name	Robotic Script Name	Script Type	Play
03/31/10 22:14:04	Page Title Failure	PlantsByWebSphere	PlantsByWebSphere	Rational Performance Tester	N/A
03/31/10 22:14:04	Page Title Failure	PlantsByWebSphere	PlantsByWebSphere	Rational Performance Tester	N/A
03/31/10 22:14:04	Page Title Failure	PlantsByWebSphere	PlantsByWebSphere	Rational Performance Tester	N/A
03/31/10 22:14:04	Page Title Failure	PlantsByWebSphere	PlantsByWebSphere	Rational Performance Tester	N/A
03/31/10 22:08:06	Page Title Failure	PlantsByWebSphere	PlantsByWebSphere	Rational Performance Tester	N/A
03/31/10 22:09:06	Page Title Failure	PlantsByWebSphere	PlantsByWebSphere	Rational Performance Tester	N/A

Hub Time: Wed, 03/31/2010 10:16 PM Server Available Playback Status - 9.48.132.45 - SYSADMIN

start

Infoprint Manager Me... C:\Candle Doc__L2... Mail - Inbox - IBM Lot...

77419.7TD.000_Scen... Java launcher

8:15 PM Wednesday 3/31/2010

Transactions - 9.48.132.45 - SYSADMIN

File Edit View Help

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Transaction Availability Historical Summary

PlantsByWebSphere

93.847 (PlantsByWebSphere)

Percent Failed
Percent Slow
Percent Good

Transaction Current Status Details

Transaction	Importance	Percent Available	Percent Slow	Start Time	Average Response Time	End Time
PlantsByWebSphere	Medium	0.000	0.000	03/31/10 22:10:00	4.657	03/31/10 22:10:00

Hub Time: Wed, 03/31/2010 10:17 PM Server Available Transactions - 9.48.132.45 - SYSADMIN

start

Infoprint Manager Me... C:\Candle Doc__L2... Mail - Inbox - IBM Lot...

77419.7TD.000_Scen... Java launcher

8:16 PM
Wednesday
3/31/2010

Configuring Situations to Raise Alerts on URL Unavailable and Slow Response Time Conditions

In addition to adding verification points to your scripts, you also need to add appropriate situations to raise alerts based on verification point failures and behavior such as unusually high response time.

For example, make a copy of the following situations and customize the copies of these situations:

- _ RRT Availability Critical
- _ RRT Response Time Warning
- _ RRT Verification Point Failure

For more information on creating situations, please refer to the following technote:

Create a Situation Associated with an Agent

<http://www-01.ibm.com/support/docview.wss?uid=swg21421211>

- 1) Copy of RRT Availability Critical situation with modifications

Description				
MySit: RRT_Availability_Critical				
Formula				
<i>fx</i>				
	Percent Failed	Percent Available	Application	Average Response Time
1	> 0.000	== 0.000	== 'PlantsByWebSphere'	>= 2.000
2				
3				

- 2) Copy of RRT Response Time Warning situation with modifications

Description			
MySit: RRT_Response_Time_Warning			
Formula			
<i>fx</i>			
	Percent Slow	Percent Good	Application
1	> 0.000	> 0.000	== 'PlantsByWebSphere'
2			
3			

3) Copy of RRT Verification Point Failure situation with modifications

The screenshot shows a configuration window with two tabs: "Description" and "Formula".

Description

MySit: RRT_Verification_Point_Failure

Formula

	Robotic Script Name	Event Type	Expected Value
1	== 'PlantsByWebSphere'	== Page Title Failure	== 'Shopping'
2			
3			

4) Global Situation Modifications

You use the Action tab in situations to program how the situation responds to events. The System Command entry is where you insert a system command to launch an email when the situation fires. Note that the format of the command needs to be appropriate for the operating system where the command runs.

The Attribute Substitution button allows you to insert parameters such as the Application name. For more information on launching email from a situation, please refer to the following technote:

Sending email from a situation

<http://www-01.ibm.com/support/docview.wss?uid=swg21405122>

If you are going to send email, typically you do not want to send an email each time the situation condition is true. Most customers select the options to take action on the first item (take action the first time the condition is true) and don't take action twice in a row. These options allow the situation to raise an alert the first time the condition is true (for example, the script playback time is suspiciously slow, or the percent availability is greater than zero). The situation resets and is ready to fire again after the condition becomes false (the web site is available again).

Normally, you would want to execute the action at the agent to avoid burdening the server. However, if you have configured your email server on the TEMS host, your best choice may be to execute the action at the TEMS.

Note that the RRT Verification Point Failure situation is a "pure event" situation instead of a sampled situation. In a pure situation, the Sampling Interval on the Formula tab is disabled. The options to only take action on the first item (or on each item) and to not take action twice in a row (or take action on each interval) are not used in pure situations.

The screenshot shows a "Sampling interval" control with a time format of 0 / 0 : 0 : 0. Below the input fields are labels: ddd, hh, mm, ss. There are also up and down arrow buttons to the right of the seconds field.

Inserting Verification Points in RPT Scripts

You can insert the following types of verification points (VP) into a script:

- _ Content VP
- _ Page Title VP
- _ Response Code VP
- _ Response Size VP

Note that you can insert verification points in the parent node, in the transaction, and in the page element. If you insert a verification point in the parent node or in the page element, you globally insert the verification point in lower-level elements.

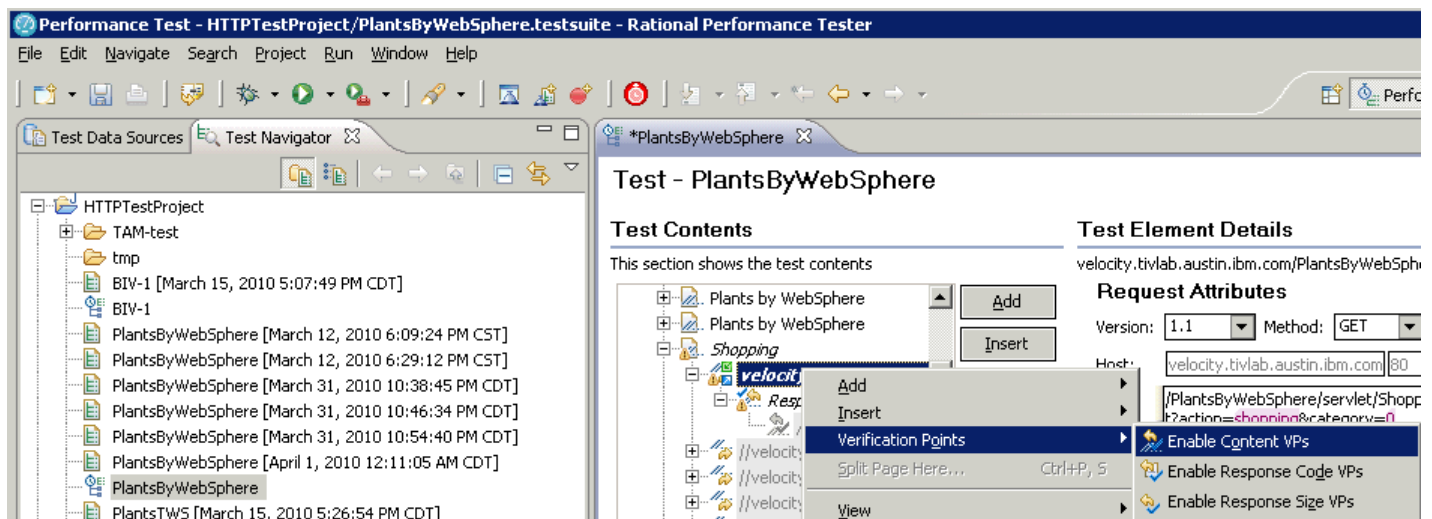
This technote reviews how to insert content and page title verification points. For more information on RPT verification points, please refer to your RPT workbench online Help and the following best practices whitepaper on RPT scripting:

Response Time monitoring using RPT and ITCAM: Best Practices and Techniques

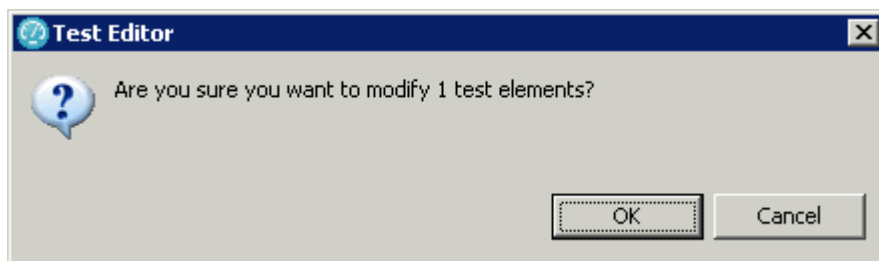
<https://www-304.ibm.com/software/brandcatalog/ismlibrary/details?catalog.label=1TW10CP19>

Using Content Verification Points

1) In the test perspective in RPT workbench, right-click a page element. From the pop-up menu, select Verification Points > Enable Content VPs.

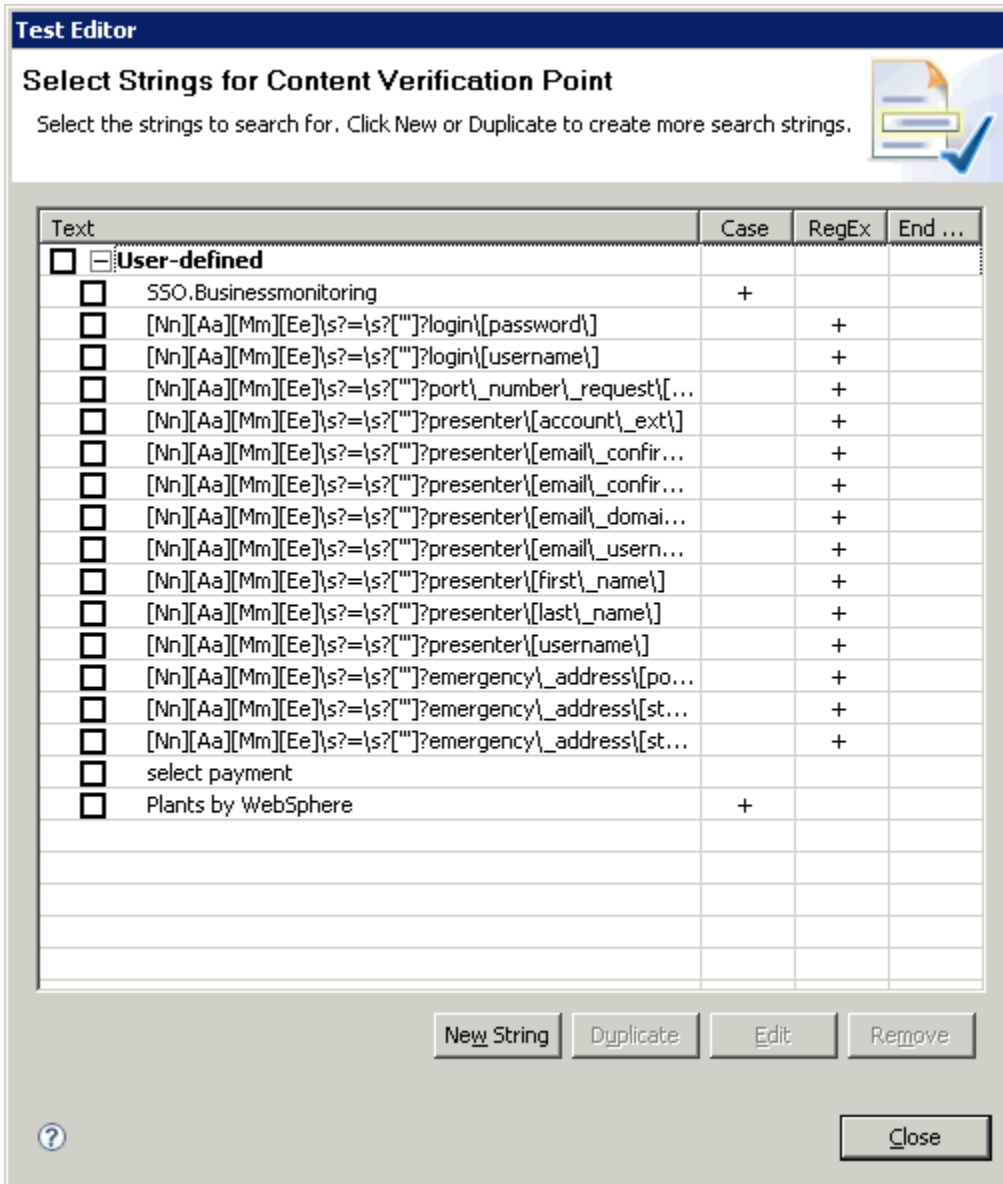


2) Click **OK**.

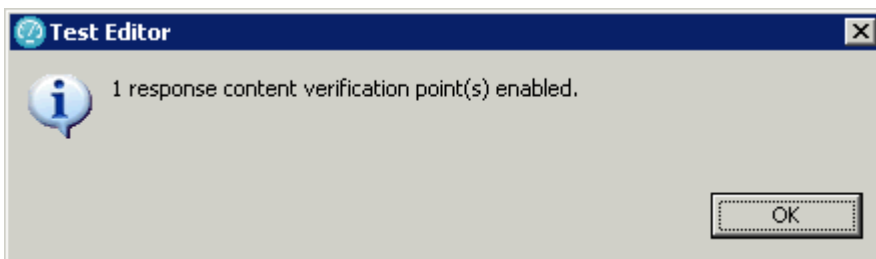


How to use RPT scripts to raise alerts on server errors (1426972)

3) The following dialog displays. Click **Close**.



4) Click **OK**.



How to use RPT scripts to raise alerts on server errors (1426972)

5) Select the response code verification point under the page element. Then, place your cursor inside the Content box, and press **Ctrl + Shift + Space** to display the HTML text for this page element. Select a text string for verification.

Test Contents

This section shows the test contents

Tree view elements:

- Plants by WebSphere
- Plants by WebSphere
- Shopping
 - velocity.tivlab.austin.i
 - Response: 200 - OK**
 - Content Verificatio
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr
- //velocity.tivlab.austin.ibr

Buttons: Add, Insert, Remove, Up, Down, Prev, Next, Run

Test Element Details

Response: 200 - OK

Response Data

Status: Version:
Reason:

Response Headers

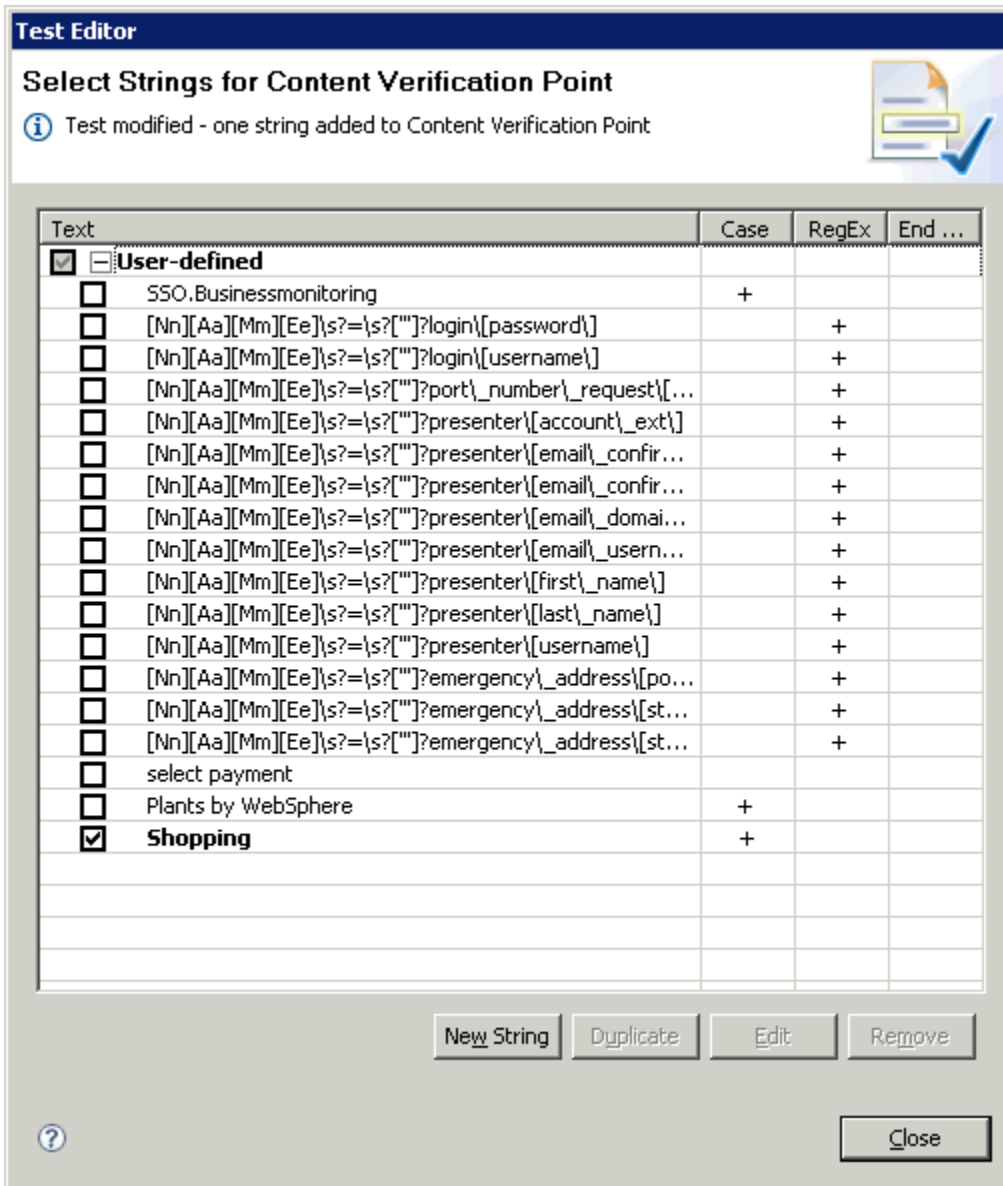
Header Name	Value	Add
Date	Fri, 12	Modify
Server	IBM HT	

Content:

```
{-- Content data is 12,520 characters long.  
Press Ctrl+Shift+Space or Ctrl+Left Click here to displa
```

6) Select **Content Verification (1)** and then click **New String (2)**.

8) Select the string in the Test Editor (add a checkmark to the selection box). Then, click **Close** to close the Test Editor.



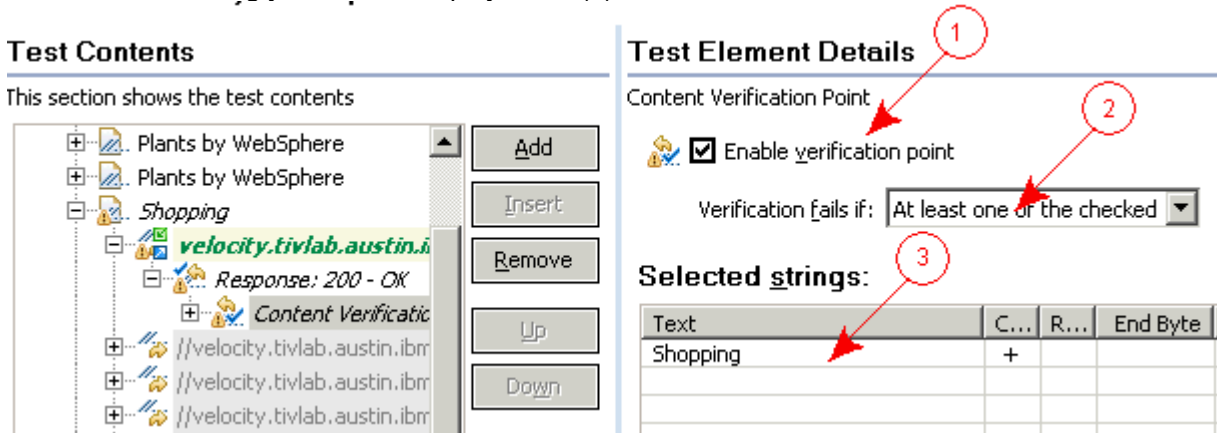
The screenshot shows the 'Test Editor' window with the title 'Select Strings for Content Verification Point'. A status bar at the top indicates 'Test modified - one string added to Content Verification Point'. The main area contains a table with columns for 'Text', 'Case', 'RegEx', and 'End ...'. The table lists various strings, including 'User-defined', 'SSO.Businessmonitoring', and 'Shopping'. The 'Shopping' string is selected with a checkmark in the first column. Below the table are buttons for 'New String', 'Duplicate', 'Edit', and 'Remove'. A 'Close' button is located at the bottom right.

Text	Case	RegEx	End ...
<input checked="" type="checkbox"/> User-defined			
<input type="checkbox"/> SSO.Businessmonitoring	+		
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?login\[password\]		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?login\[username\]		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?port_number_request\{...		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[account_ext\]		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[email_confir...		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[email_confir...		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[email_domai...		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[email_usern...		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[first_name\]		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[last_name\]		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?presenter\[username\]		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?emergency_address\[po...		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?emergency_address\[st...		+	
<input type="checkbox"/> [Nn][Aa][Mm][Ee]{s?=\s?["]?emergency_address\[st...		+	
<input type="checkbox"/> select payment			
<input type="checkbox"/> Plants by WebSphere	+		
<input checked="" type="checkbox"/> Shopping	+		

9) Under Test Element Details, ensure that **Enable verification point** is enabled (1). Ensure that the appropriate verification mode is selected (2):

- a. Verification fails if at least one of the checked strings is found.
- b. Verification fails if none of the checked strings are found.

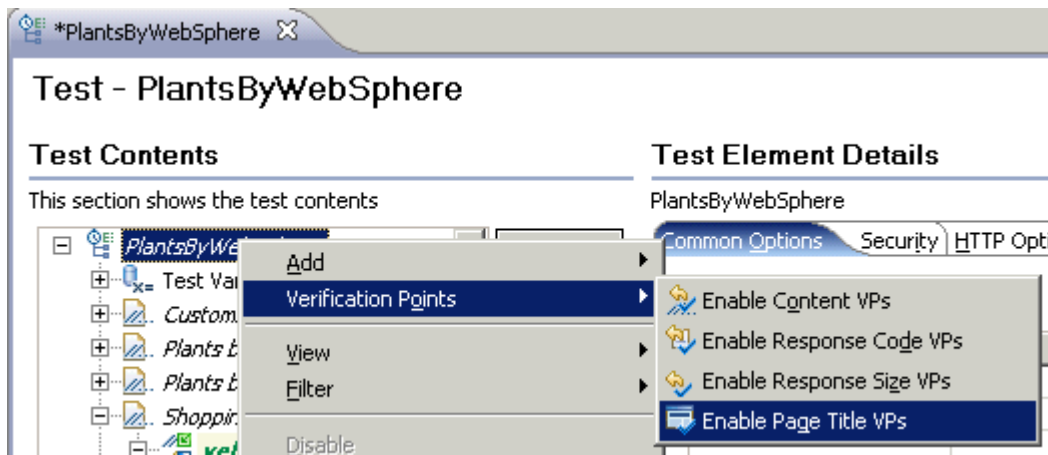
Ensure that the string you entered displays here (3).



Using Page Title Verification Points

The simplest way to add page title verification points is to add them at the parent node. Then, a page title verification point is added to each of the appropriate page elements.

- 1) Right-click the parent node, and select **Verification Points > Enable Page Title VPs** from the pop-up menus.



2) Click **OK**. RPT workbench adds the page title verification points to the appropriate page elements. In this example, page title verification points are added to 9 page elements after you click **OK**.

