How to Send Custom ITCAM for RT Playback Violation Events from RPT

Abstract

ITCAM for Response Time v6.2 (ITCAM RT) plays back IBM Rational Performance Tester (RPT) test scripts on robotic monitoring agents, so you can proactively detect SLA violations in business critical applications. ITCAM for RT & RPT are tightly integrated and provide many out-of-the-box events and alerts, but you might find it necessary to customize or extend the base capability for more complex error checking and custom event alerting. This document describes how to customize an RPT script to send custom availability alerts that affect the playback status and trigger a Situation violation that is visible in the TEP, TEC or Omnibus. These custom events can contain custom event text messages as well as custom, expected, and actual playback values that occurred at the time of the playback violation.

Outline

Step 1. Create an RPT script

This example assumes you have an RPT script to edit. In this example, there is an HTTP test against the WebSphere sample application called PlantsByWebSphere.
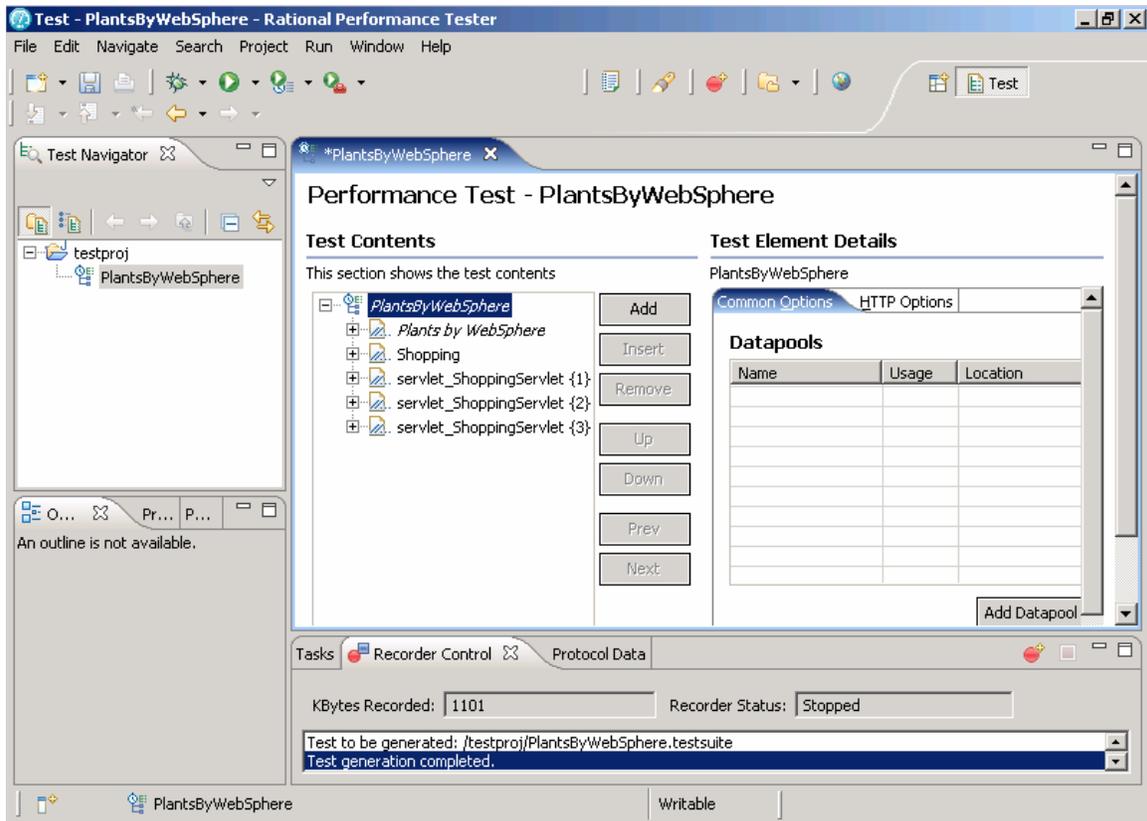
Step 2. Add Custom Code

From the test navigator, expand the steps of the test to the step where you want to add your new custom error checking and custom event.

1. Select the step in the test.
2. Click **Add**.
3. Click **Custom Code**.
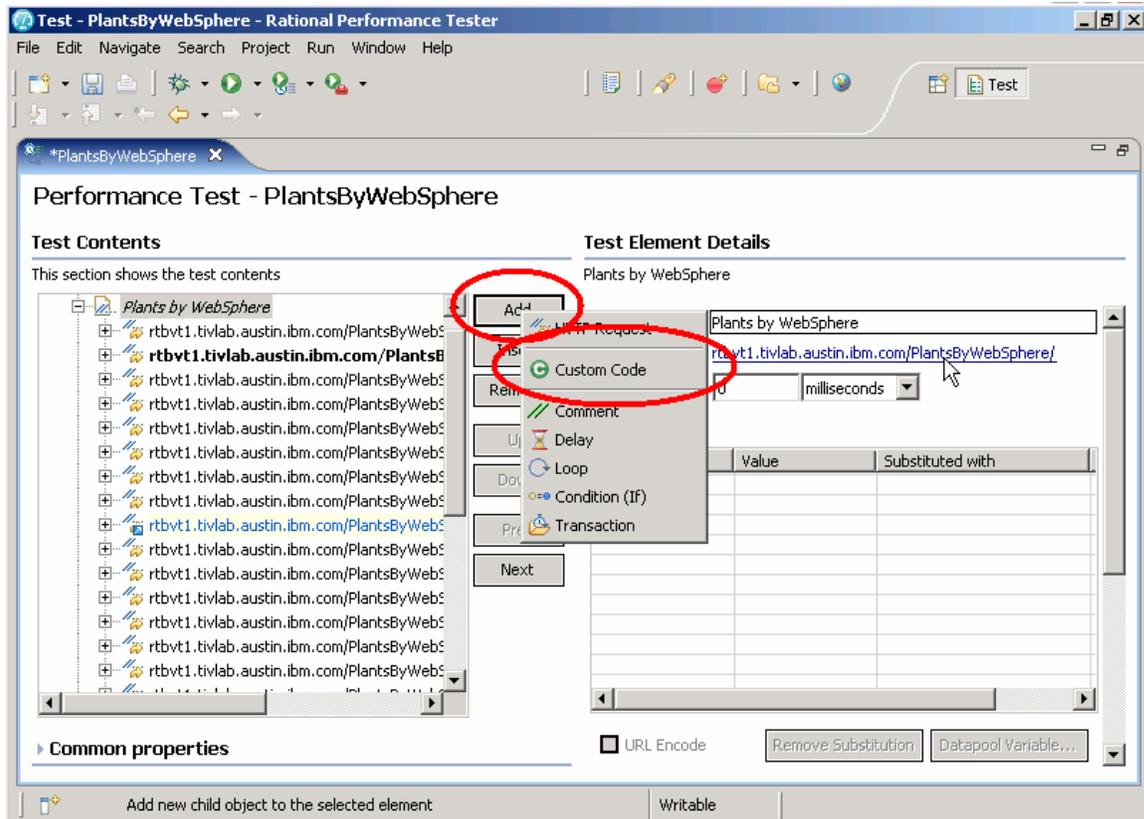
The new Custom Code Java class has now been added to the test. You can see it in the following screenshot in the test navigator.

4. *(Optional)* Modify name of the class by editing the **Class Name** field.
   If you define a reusable class that will be referenced from multiple tests and multiple steps, name the class something meaningful. This example uses **test.MyCustomCode**.
5. Click **View Code** to start editing.
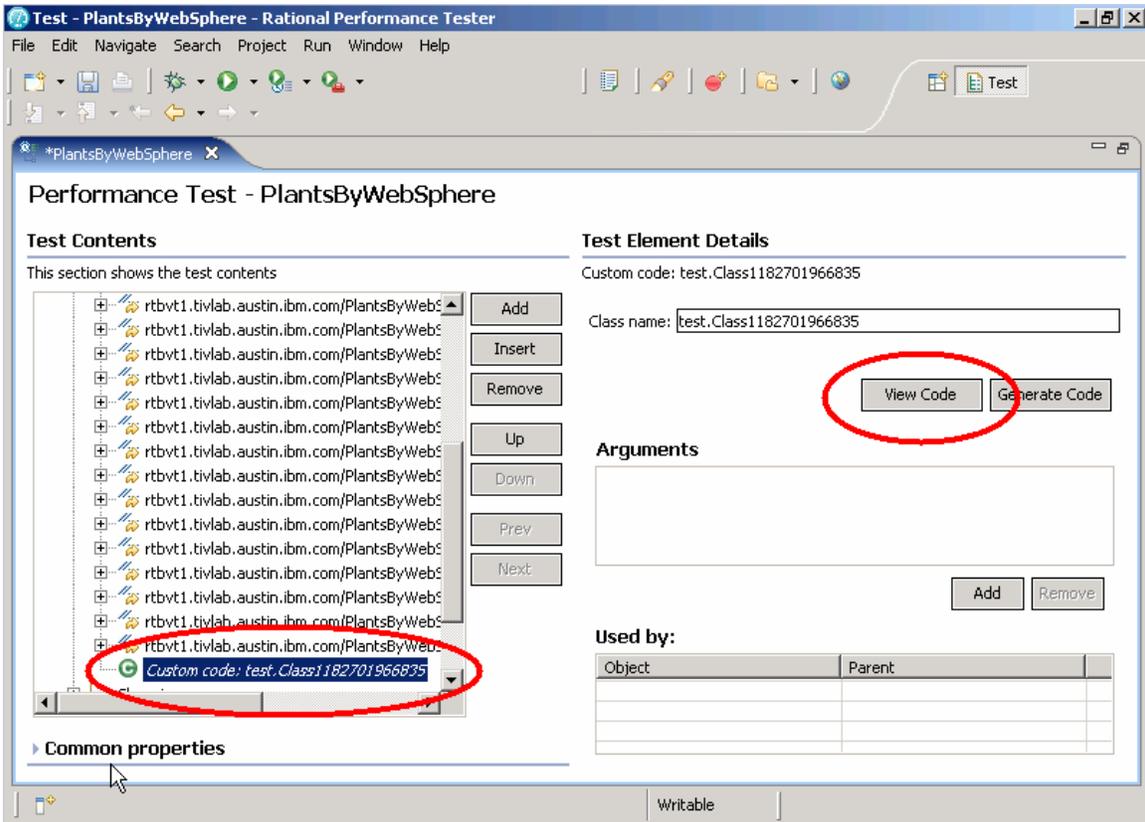
Step 3. Edit the Custom Code

After clicking View Code, the software displays the Java test editor; the new Java custom code class is ready to edit. The skeleton code and interface are required for to run in RPT and should not be modified, but anything else can be customized. The majority of your changes should be in the "exec" method which will get invoked each time the script runs and the step reaches this custom code.

This example demonstrates the steps for generating a violation event in ITCAM for RT. In addition to this code, you can add any custom logic for error handling, content checking, or any other advanced status checking. Then if your custom code detected a problem, it would use this sample code to generate an event for ITCAM for RT.

NOTE: More information on how to create custom code can be found in the Help Contents section on the RPT workbench. It has several detailed examples of things you can do with custom code.

```
package test;
m nnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnn
import org.eclipse.hyades.test.common.event.EventProperty;
import org.eclipse.hyades.test.common.event.VerdictEvent;

import com.ibm.rational.test.lt.kernel.services.ITestExecutionServices;
import com.ibm.rational.test.lt.kernel.services.ITestLogManager;


/**
 * @author unknown
 */
public class MyCustomCode implements
            com.ibm.rational.test.lt.kernel.custom.ICustomCode2 {

        /**
         * Instances of this will be created using the no-arg constructor.
         */
        public MyCustomCode() {
        }

        /**
         * For javadoc of ICustomCode2 and ITestExecutionServices interfaces, select 'Help
         * Contents' in the Help menu and select 'IBM Rational Performance Tester TES'.
         */
        public String exec(ITestExecutionServices tes, String[] args) {
                //Create the event
                ITestLogManager tlm = tes.getTestLogManager();
                VerdictEvent verdict = new VerdictEvent();
                verdict.setCausedBy("CausedBy Description: custom code VP failure.");
                verdict.setEventType("MyCustomEvent");
                verdict.setText("Text message: force VP failure in Custom RPT code");
                verdict.setReason(VerdictEvent.REASON_SEE_DESCRIPTION);
                verdict.setVerdict(VerdictEvent.VERDICT_FAIL);

                //Optionally set expected and actual runtime values
                EventProperty expected = new EventProperty();
                expected.setName("Expected");
                expected.setValue("Sample expected value");
                expected.setType("String");
                verdict.addProperty(expected);

                EventProperty actual = new EventProperty();
                actual.setName("Actual");
                actual.setValue("Sample actual value");
                actual.setType("String");
                verdict.addProperty(actual);

                //Send the event
                tlm.reportEvent(verdict);

                return null;
        }

}
```

VerdictEvent

Method Name	Description
.setCausedBy(String)	Describes what caused the event. This field is not displayed in ITCAM RT.
.setEventType(String)	Required event name. It can be anything, but must be provided.
.setText(String)	Displayed as Additional Details in ITCAM RT.

.setReason(VerdictEvent.REASON_SEE_DESCRIPTION);	Required. Do not change.
.setVerdict(VerdictEvent.VERDICT_FAIL);	Required. Do not change.
.addProperty(EventProperty)	If defining "Expected" and "Actual" event values, then after creating the event properties, you must add them to the VerdictEvent.

EventProperty

Method Name	Description
.setName(String)	The name of the property. Must be either "Expected" or "Actual".
.setValue(String)	The "Expected" property should contain the expected value. Displayed as Expected Value in ITCAM RT. The "Actual" property should contain the actual value detected at runtime. Displayed as Violated Value in ITCAM RT.
.setType("String")	String type is the only type supported. Do not change this method call.

ITestLogManager

Method Name	Description
.reportEvent(VerdictEvent)	Generates the event so that it can be displayed by ITCAM RT.

Step 4. Export your RPT test to ITCAM for RT

After making custom code changes, save the custom code and RPT test script. It is recommended that after making any changes to an RPT test that you play back the test script from the RPT workbench first to ensure that it runs correctly. When you are sure everything is running as expected, you can upload the RPT test script to ITCAM for RT so that it is available for playback on the robotic agents.

1. Click **File**. → **Export.**
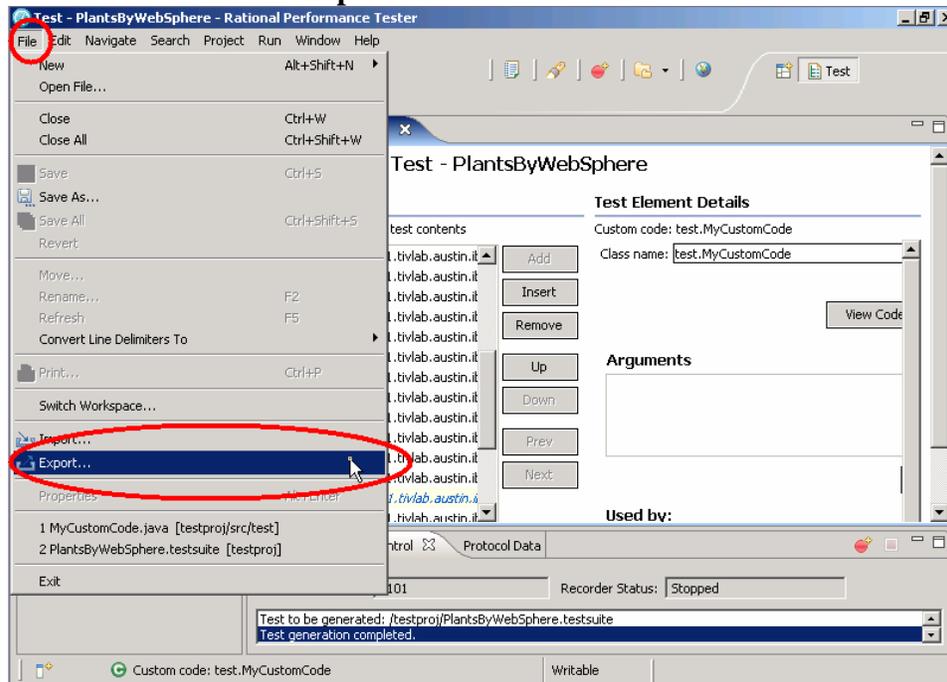
3. Select **Other → ITCAM for Response Time**
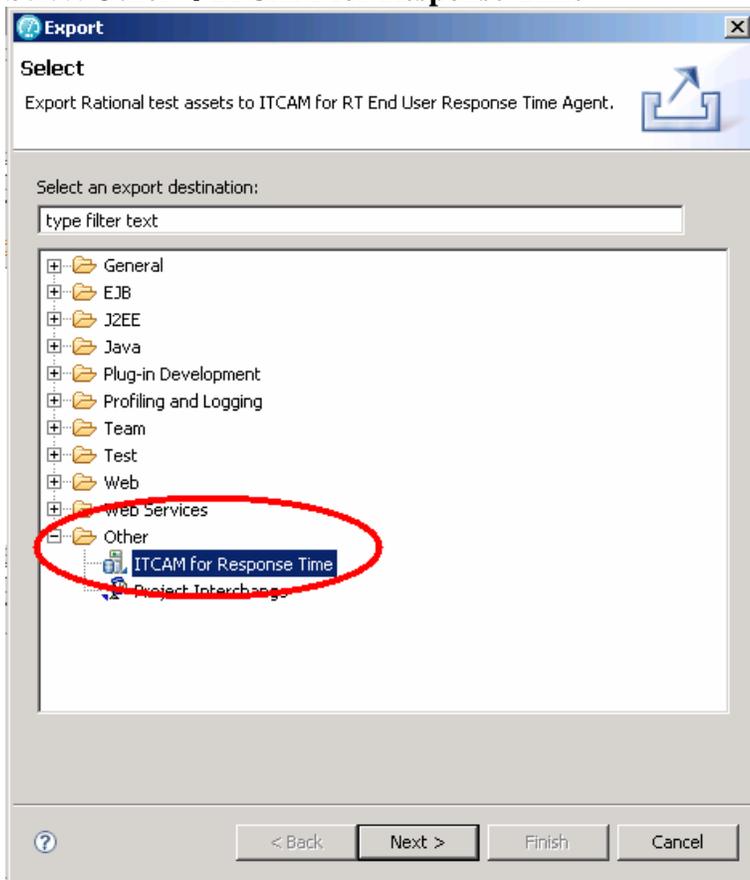
4. Follow the steps in the wizard.

Step 5. Schedule Playback and View Results

If you have a Robotic Response Time agent installed and running and the default playback situation RRT_Robotic_Playback is enabled, the newly uploaded script automatically starts playing on the robotic agents. If not, you must setup a new playback situation. The *Robotic Response Time User's Guide* describes how to do this.

After the RPT script plays back, you can view the new custom event, which is generated automatically when the RPT script runs. It trigger the RRT_Playback_Error situation violation. This violation is visible in the TEP Enterprise view, and if you have configured ITM to forward events to TEC or Omnibus, then the event is also in those consoles.

You can also view all playback violation events in the Playback Status workspace for the Robotic Response Time agent.
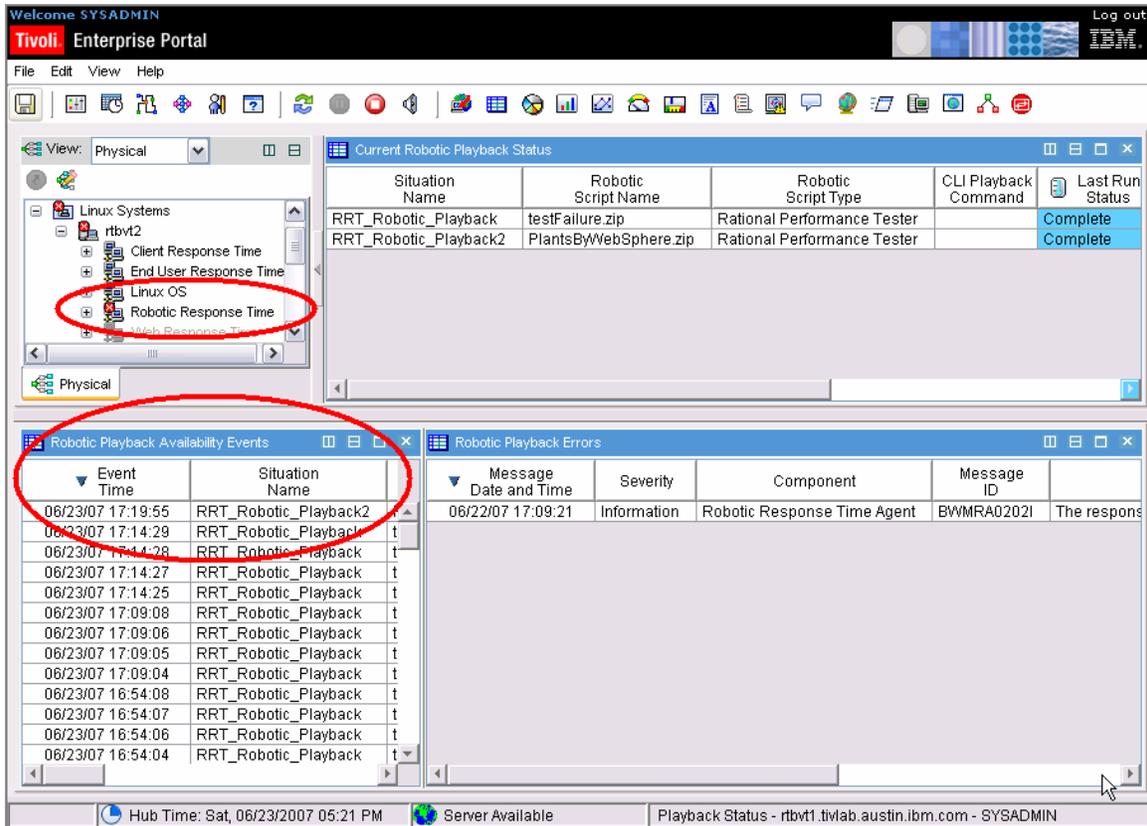
You can expand the Robotic Playback Availability Events view to focus on the event results. Here , the RRT_Robotic_Playback2 situation has run the PlantsByWebSphere script two times and both times a custom event was generated with the following output fields:

Event Time	06/23/2007 17:24:11
Situation Name	RRT_Robotic_Playback2
Robotic Script Name	PlantsByWebSphere.zip
Script Type	Rational Performance Tester
Event Type	Generic Failure
Violated Value	Sample actual value
Expected Value	Sample expected value
Additional Details	Text message: force VP failure in custom code ; Actual Value: Sample actual value ; Expected Value: Sample expected value

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File   Edit   View   Help

Robotic Playback Availability Events

ack and	Event Type	Violated Value	Expected Value	Additional Details
	Generic Failure	Sample actual value	Sample expected value	Text message: force VP failure in Custom RPT code ; A
	Generic Failure	Sample actual value	Sample expected value	Text message: force VP failure in Custom RPT code ; A
	URL Unavailable Failure			Error o
	URL Unavailable Failure			Error o
	URL Unavailable Failure			Error o Text message: force VP failure in Custom RPT code
	URL Unavailable Failure			Error o ; Actual Value :Sample actual value ;Expected
	URL Unavailable Failure			Error occurred Value: Sample expected value
	URL Unavailable Failure			Error occurred during connection to server 'rtbvt2.tivlab.a
	URL Unavailable Failure			Error occurred during connection to server 'rtbvt2.tivlab.a
	URL Unavailable Failure			Error occurred during connection to server 'rtbvt2.tivlab.a
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	URL Unavailable Failure			Error occurred during connection to server 'rtbvt2.tivlab.a
	URL Unavailable Failure			Error occurred during connection to server 'rtbvt2.tivlab.a
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	URL Unavailable Failure			Error occurred during connection to server 'rtbvt2.tivlab.a
	URL Unavailable Failure			Error occurred during connection to server 'rtbvt2.tivlab.a

Hub Time: Sat, 06/23/2007 05:26 PM   Server Available   Playback Status - rtbvt1.tivlab.austin.ibm.com - SYSADMIN