Rational Integration Tester

Integration Guide for HP Quality Center

Version 8.0.0

Note

Before using this information and the product it supports, read the information in "Notices" on page 42.

Contents

About this Publication

Contents

This document provides details about how to install and utilize the IBM® Rational® Integration Tester add-in for HP Quality Center.

Intended Audience

This document is intended to be read by those with a fair understanding and exposure to the concepts involved in both testing and development and in enterprise integration.

Scope

This document covers the HP Quality Center add-in for IBM Rational Integration Tester. It is assumed that you are already familiar with the version of HP Quality Center that you will be using.

Users of this document are assumed to have some experience using Rational Integration Tester and some of its core functions such as Tagging, Data Validation, creating reports, and running tests. Please refer to *IBM Rational Integration Tester Getting Started Guide* and *IBM Rational Integration Tester Reference Guide* for more information.

Typographical Conventions

The following typographical conventions are observed throughout this document:

Type	Usage
`Constant Width`	Program output, listings of code examples, file names, commands, options, configuration file parameters, and literal programming elements in running text.
Italic	Document title names in statements that refer you to other documents. Also used to highlight concepts when first introduced.
Bold	Menu items in graphical user interface windows (such as Microsoft Windows-based or UNIX X Window applications) from which you select options or execute macros and functions.
	Submenus and options of a menu item are indicated with a "greater than" sign, such as **Menu > Submenu** or **Menu > Option**.

Contacting IBM Support

To contact IBM Support, see: www.ibm.com/contact/us/en/

Installation

Contents

This chapter describes how to install and register the components that enable the bridge between Rational Integration Tester and HP Quality Center. Information is also provided about customizing your Quality Center workflow.

1.1 Overview

The Rational Integration Tester add-in for HP Quality Center provides a way to integrate the powerful test creation and execution functionality of Rational Integration Tester with the organizational structures provided by Quality Center.

To integrate with HP's tools, a series of files are provided that enable the Quality Center client to locate and execute tests and suites from a Rational Integration Tester project. All modifications required for the integration are performed on the Quality Center server, and any clients connecting to such servers are automatically updated to enable the Rational Integration Tester functionality.

1.2   System Requirements

Your machine must meet the minimum requirements and recommendations of a Quality Center client, as well as those of a Rational Integration Tester client.

NOTE: Some Quality Center hardware requirements exceed those of Rational Integration Tester. For up-to-date information about Quality Center hardware and software requirements, visit the HP website.

1.2.1   Supported Versions

- Rational Integration Tester 5.x

- HP Quality Center 9.0, 9.2, 10, and 11

1.2.2   Supported Web Browsers

The following table outlines which web browsers work with different versions of Quality Center.

Browser	QC 9.0	QC 9.2	QC 10	ALM QC 11
Microsoft Internet Explorer 6.0 Service Pack 1 (or later)	Yes	Yes	Yes	(Refer to HP documentation)
Microsoft Internet Explorer 7.0	(Refer to HP documentation)	Yes	Yes	Yes
Microsoft Internet Explorer 8.0	(Refer to HP documentation)	(Refer to HP documentation)	Yes **NOTE:** Requires Patch 5 (or later).	Yes
Microsoft Internet Explorer 9.0	(Refer to HP documentation)	(Refer to HP documentation)	Yes **NOTE:** Requires Patch 23 (or later).	Yes **NOTE:** Requires Service Pack 2 (or later).

NOTE: The Quality Center Explorer Add-in, which can be downloaded from the HP website, enables you to use Quality Center without using a

web browser, such as Microsoft Internet Explorer. However, this add-in cannot be used with Rational Integration Tester.

1.2.2.1   Security and Active X

When using Quality Center 9.2 (or later), security warnings will be displayed when the customized components are loaded in your browser. You will need to grant these components permission to run if you want to continue.

If desired, click the arrows next to **More options** and enable the **Always run software from "Green Hat..."** option to stop the security dialogs from popping up every time you run Quality Center.

NOTE: Clients accessing the Quality Center server will also need permissions to install and run Active X components in their browser.

1.2.2.2 Configuring Microsoft Internet Explorer 8.0 (or Later) For Use With Quality Center 9.2 (or Later)

In addition to any Quality Center patches or service packs that need to be installed if Microsoft Internet Explorer 8.0 (or later) is being used, the changes in the following table need to be made to Internet Explorer to enable the browser to work with Quality Center 9.2 (or later).

Internet Explorer 8.0 (or Later) Configuration Change	Instructions
Disable memory protection.	1. Open Internet Explorer 8.0 (or later) "as administrator". 2. On the toolbar, click **Tools**. 3. On the **Tools** menu, click **Internet Options**. 4. On the Internet Options dialog box, click the **Advanced** tab. 5. On the **Advanced** tab, under Security, clear the **Enable memory protection to help mitigate online attacks** check box. 6. Click **Apply**. 7. Click **OK**. 8. Quit Internet Explorer to apply the change.

Internet Explorer 8.0 (or Later) Configuration Change	Instructions
Add the Quality Center Server web site to the "local intranet zone".	1. Open Internet Explorer 8.0 (or later). 2. Open the URL of the Quality Center Server. 3. On the toolbar, click **Tools**. 4. On the **Tools** menu, click **Internet Options**. 5. On the Internet Options dialog box, click the **Security** tab. 6. On the **Security** tab, click the **Local intranet** zone. 7. Click **Sites**. 8. On the Local intranet dialog box, click **Advanced**. 9. On the (Add/Remove) Local intranet (zone) dialog box, the **Add this website to zone** field is populated with URL of the Quality Center Server (if the field does not contain the correct URL, modify it). 10. Click **Add**. 11. Click **Close**. 12. Click **OK** on the Local intranet dialog box. 13. Click **OK** on the Internet Options dialog box.
Specify that "Local intranet zone" and Quality Center run in "Compatibility mode". **NOTE:** Internet Explorer 8.0 (or later) adheres more strictly to World Wide Web Consortium (W3C) standards than Internet Explorer 7.0 (or earlier), so Compatibility mode is provided in the browser to enable users to view pages that would otherwise not be displayed (properly).	1. Open Internet Explorer 8.0 (or later). 2. Open the URL of the Quality Center Server. 3. On the toolbar, click **Tools**. 4. On the **Tools** menu, click **Compatibility View Settings**. 5. On the Compatibility View Settings dialog box, the **Add this website** field is populated with URL of the Quality Center Server (if the field does not contain the correct URL, modify it). 6. Click **Add**. 7. Select the **Display intranet sites in Compatibility View** check box. 8. Click **Close**.

1.2.3   Client Requirements

Quality Center will be accessed from the client workstation where Rational Integration Tester is installed.

- The following table lists minimum hardware requirements for different versions of the Quality Center clients.

Minimum Requirement	QC 9.0/9.2	QC 10	ALM QC 11
CPU	Pentium III	Pentium 4, 2 GHz (or higher)	Core Duo 1.6 GHz (or higher)
RAM	512 MB	1 GB	2 GB
Free Disk Space	300 MB	1 GB	2 GB

- The following table lists the different versions of Microsoft Windows supported by different versions of the Quality Center client.

QC 9.0	QC 9.2	QC 10	ALM QC 11
Windows 2000 Professional SP4 (32-bit)	Windows 2000 Server/Professional SP4 (32-bit)	Windows 2000 Server/Professional SP4 (32-bit)	Windows 2000 Server/Professional SP4 (32-bit)
Windows XP Professional SP2 (32-bit)	Windows XP Professional SP2 (32-bit)	Windows XP Professional SP2 (32 bit)	Windows XP Professional SP2 (32-bit)
		Windows XP Professional SP3 (32-bit)	Windows XP (SP3) (32-bit)
		NOTE: Recommended by HP.	
		Window Vista SP1 (32-bit)	Windows Server 2003 (SP2)
			NOTE: Requires ALM QC 11 Patch 3 (or later).
		Windows 7 (32 bit)	Window Vista (SP1) (32-bit)
		NOTE: Requires QC 10 Patch 12 (or later).	

QC 9.0	QC 9.2	QC 10	ALM QC 11
		Windows 7 (64-bit) **NOTE:** Requires QC 10 Patch 18 (or later).	Windows Server 2008 (R2) **NOTE:** Requires ALM QC 11 Patch 1 (or later). Windows 7 (32-bit) **NOTE:** Recommended by HP. Windows 7 (64-bit) **NOTE:** Requires ALM QC 11 Patch 2 (or later).

NOTE: Depending on the operating system, specific versions of other Microsoft software may also be required, for example, Microsoft Office, Microsoft Visual C++, and Microsoft .NET Framework.

• Rational Integration Tester Results Server installation is required for viewing detailed results for Rational Integration Tester Test Suites executed from Quality Center (please speak with your Green Hat sales representative if you need more information)

NOTE: For more specific information about client requirements, refer to your HP documentation or visit the HP website.

1.3 Installation Files

To enable the integration of Rational Integration Tester and Quality Center, it is necessary to modify the list of existing test types and deploy additional files to the Quality Center server. The table below lists the files to be deployed.

File Name	Short Name	Description	ProgID
`GHExecConfig.xco`	`GHExecConfig.ocx`	Rational Integration Tester Envs	GHTester_ExecConfig.GHT_ExecConfig
`GHResultViewer.xco`	`GHResultViewer.ocx`	Rational Integration Tester Results	GHTester_ResultViewer.GHT_ResultViewer
`GHRunAgent.xxx`	`GHRunAgent.exe`	Rational Integration Tester Run Agent	GHTester.RunAgent
`GHScriptViewer.xco`	`GHScriptViewer.ocx`	Rational Integration Tester Scripts	GHTester_ScriptViewer.GHT_ScriptViewer
`GHTestType.lld`	`GHTestType.dll`	Rational Integration Tester TestType	GHTester.TestType
`mscomctl.xco`	`mscomctl.ocx`	MS Common Control	
`RICHTX32.xco`	`RICHTX32.ocx`	MS Richtext Control	RICHTEXT.RichtextCtrl.1
`unzip32.lld`	`unzip32.dll`	Extract DLL for Win32	

NOTE: These files and examples of the `.ini` files that need to be edited are located in `QualityCenterServerDist9x.zip`, `QualityCenterServerDist10.zip`, or `QualityCenterServerDist11.zip`, which are copied to `<Rational Integration Tester Installation Directory>\tools\HP`.

The contents of the .zip file should be extracted to a new directory on the Quality Center server. The files will be used by the detailed procedures in subsequent sections of this chapter.

1.4 Server Installation for Auto Deployment to Quality Center Clients

The integration files can be installed a Quality Center server for auto-distribution to connecting clients. The process varies according to the version of Quality Center in use. See the appropriate section based on your environment:

- Quality Center 9.0

- Quality Center 9.2 and 10

- HP Application Lifecycle Management (ALM) Quality Center 11

1.4.1 Quality Center 9.0

For Quality Center 9.0 server installations, two files in the application archive (qcbin.war, located by default in the `C:\Program Files\Mercury\Quality Center\Application` directory) must be modified in addition to adding the files listed under Installation Files

The simplest way to modify the files is to use a file compression tool that enables you to browse the contents of the archive, view and edit individual files, update the archive with the edited files, or add files and/or directories to the archive. If such a tool is not available, you will need to have a suitable Java JDK installed so that you can extract and modify the files, update the archive with the modified files, and add the new server deployment files listed under Installation Files.

NOTE: If you do not feel comfortable performing the steps listed below (for example, extracting files from a WAR file, deploying a WAR file on an application server), you should seek assistance from the Quality Center or application server administrator

1. Stop the Quality Center application server.

2. Make a backup copy of `qcbin.war`.

3. To extract the required files, open a command prompt, change to the directory that contains the WAR file, and issue the following command:

   `jar xf qcbin.war Install\test_type.ini setup_a.ini`

   The files will be extracted in the same location as the WAR file.

   NOTE: If you are using a modified WAR file, you should extract the files from the modified file.

4. Open `test_type.ini` (in the `Install` folder) and add the new test type and Class ID:

```
[GH-TESTER]
CLSID={A78DFDE0-8231-FBDC-9FD1-0040CA1B8A87}
```

5. Open `setup_a.ini` and define each of the deployment files (listed under Installation Files) with the following section of text:

```
[File_n]
Register=Y
URLName=%URL%/Install/<File Name from table>
ShortName=<ShortName from table>
Description=<Description from table>
ProgID=<ProgID from table>
Version=5.1.0.11
```

NOTE: Replace n in `[File_n]` with the next available integer (for example, `[File_28]` based on the sequence numbers that are currently used in the file.

6. To prevent files from being downloaded each time a client connects to the server, ensure that the proper version is set for each of the following file definitions:

- `GHExecConfig.ocx`
- `GHResultViewer.ocx`
- `GHRunAgent.exe`
- `GHScriptViewer.ocx`
- `GHTestType.dll`
- `RICHTX32.ocx`
- `unzip32.dll`
- `mscomctl.ocx`

The current version for each file is listed in `version.txt`, included in the `.zip` archive that contains the files.

For example, the definition for `GHScriptViewer.ocx` might appear as follows:

```
[File_0046]
Register=Y
URLName=%URL%/Install/GHScriptViewer.xco
ShortName=GHScriptViewer.ocx
Description=Rational Integration Tester Scripts
ProgID=GHTester_ScriptViewer.GHT_ScriptViewer
Version=5.1.0.11
```

> **NOTE:** If any system updates are applied to the Quality Center server, you may need to repeat the preceding procedures, as the update may overwrite some of the configuration files.

7. Copy the files listed under Installation Files to the extracted "Install" directory.

8. Using the same command prompt from step 3, update the WAR file using the following command:

    ```
    jar uf qcbin.war Install\* setup_a.ini
    ```

9. If using the JBoss application server, rename `qcbin.war` to `20qcbin.war`.

10. Restart the application server and deploy the new WAR file according to your server's requirements.

11. After completing these steps, you can restart the Quality Center client.

> **NOTE:** If any system updates are applied to the Quality Center server, you may need to repeat the preceding procedures, as the update may overwrite some of the configuration files.

1.4.2 Quality Center 9.2 and 10

Quality Center 9.2 introduced a strict security mechanism for the files included in its deployment. Files must be digitally signed and check-summed before they can be accessed via Quality Center. Because of this, the Rational Integration Tester add-in installation process is significantly different than for previous Quality Center versions.

The server modifications require changes to specific files in the Quality Center application archive (`20qcbin.war`). The files can be extracted by using a file compression program or by using the `jar` command (Java JDK required). The `20qcbin.war` file is located in Quality Center's application server directory (for example, `C:\Program Files\Mercury\Quality Center\jboss\server\default\deploy\20qcbin.war`).

After the required files have been extracted from the archive, you must send them to Green Hat Support to be updated with the required information. Green Hat Support will return the updated files, along with the additional files that must be added to the Quality Center WAR file. These files, in addition to the required file modifications, are what enable the integration of Rational Integration Tester and Quality Center.

Follow the steps below to extract the required files from your Quality Center WAR file. After the files are returned to you, they will be added back to the WAR file along with the additional files from Green Hat Support.

1. Stop the Quality Center application server (or Windows service).

2. Make a backup copy of `20qcbin.war` and place it in a different directory.

3. Extract `setup_a.cab` and Install\`test_type.cab` from `20qcbin.war` using a file compression program or the **jar** command.

4. Send the files as an attachment to support@greenhat.com, being sure to include your Rational Integration Tester version. If you are using a non-customer email address, please also include the customer name.

   NOTE: Depending on the time at which the files are received, Green Hat will attempt to return them as soon as possible.

   If necessary, you can restart the Quality Center server and continue to use it until the files are returned by Green Hat Support.

   Green Hat Support will send a .zip archive to you that includes updated copies of `setup_a.cab` and `test_type.cab`, as well as the files listed under Installation Files.

5. When you are ready to complete the installation, stop the Quality Center application server if it is running.

6. Add `setup_a.cab` and `test_type.cab` back to `20qcbin.war`, as well as the additional files that were sent from Green Hat Support.

   NOTE: `setup_a.cab` can be added to the root of the WAR file. `test_type.cab` and the other files returned by Green Hat should be added to the Install directory within the WAR file.

   You can drag and drop the files if you have opened the archive using a file compression program, or add the files using the **jar** command.

7. When all of the files have been added to the WAR file, start the Quality Center application server (or Windows service).

1.4.3   HP Application Lifecycle Management (ALM) Quality Center 11

The Rational Integration Tester integration with HP Application Lifecycle Management (ALM) 11 requires the addition of a few files to the directory where the ALM application archive (`20qcbin.war`) is deployed. The `20qcbin.war` directory is located in the ALM deployment directory (specified below).

In addition to the server updates, the DLLs that are downloaded from the ALM server must be registered on each of the client machines that will access the server.

1.4.3.1   Server Configuration

Follow the steps below using the **Administrator** account on the ALM Server machine to update the ALM server.

   NOTE: If projects containing Rational Integration Tester integration tests from Quality Center versions 9.x or 10.x are going to be migrated to Quality Center 11, the Rational Integration Tester integration must be deployed to the ALM Server before upgrading those projects to Quality Center 11.

   NOTE: Deployment of the Rational Integration Tester integration on the ALM Server requires HP ALM Patch 2 (or later).

1. Shut down the HP ALM Server.

2. Extract `QualityCenterServerDist11.zip` to a temporary location on the server.

3. Locate the ALM deployment directory, referred to as *<ALM Deployment Directory>*.

On Windows 2003 Server, the default location is `C:\Documents and Settings\All Users\Application Data\HP\ALM`. On Windows 2008 Server, the default location is `C:\ProgramData\HP\ALM`.

4. If they do not already exist, create the following folders in `20qcbin.war`, which is located in `<ALM Deployment Directory>\application`:

    *   `CustomTestTypes`
    *   `Extensions`

    Copy the following files from the extracted `QualityCenterServerDist11.zip` archive as follows:

    *   `GHTesterQC11Integration\CustomTestTypes\GHTester.ini` **to** `<ALM Deployment Directory>\application\20qcbin.war\CustomTestTypes`

    *   `GHTesterQC11Integration\Extensions\*` **to** `<ALM Deployment Directory>\application\20qcbin.war\Extensions`

    *   `GHTesterQC11Integration\HP\ALM\repository\sa\DomsInfo\Metadata\TEST\GHTester.xml` **to** `<ALM Deployment Directory>\repository\sa\DomsInfo\Metadata\TEST`

5. Run the **Server Deployment Wizard** from **Start > HP ALM Platform** (click **Next** on the Welcome screen to deploy the server, then click **Finish**).

6. Start the server if it does not start automatically.

7. After ALM is started, log into Site Administrator as a user with administrator privileges.

8. On the **Tools** menu, click **Update Test Types** and click **Yes** to confirm (the update may take several minutes).

1.4.3.2 Configuring Client Machines

Using an account with administrator privileges, complete the following steps on each client machine that will access the ALM server before executing Rational Integration Tester integration tests from within Quality Center 11:

1. Log into Quality Center.

2. On the menu bar, click **Help > Add-Ins Page**.

3. Click **HP Quality Center Connectivity** on the Add-Ins window.

    The HP Quality Center Connectivity Add-in page is displayed.

4. Click **Download Add-in**.

5. Follow the instructions provided to install the Connectivity Add-In.

6. After installing the Connectivity Add-In, restart the Quality Center client to enable the changes to take effect.

    NOTE: The Connectivity Add-in enables Rational Integration Tester tests to be executed properly from Quality Center.

1.5 Installation on Quality Center 9 or 10 Clients

Quality Center's auto deploy option is a simple way to enable functionality for any client accessing the server. In some organizations, however, auto deployment may not be a feasible scenario (for example, if security policies prohibit clients from having local admin privileges). In such cases, clients that require the integrated Green Hat functionality can have the plugin files deployed manually. In this way, the plugin files can be targeted to only the clients that require them, rather than all Quality Center users.

NOTE: This deployment can be carried out using a batch file that is included with the server files in `QualityCenterServerDist9x.zip` (for Quality Center 9 users) or `QualityCenterServerDist10.zip` (for Quality Center 9.2 or 10 users), copied to `<Rational Integration Tester Installation Directory>\tools\HP`.

Before deploying the required files to a Quality Center client, please ensure that:

- Quality Center has already been installed and configured and the Quality Center client is installed on the local workstation.

- Microsoft Internet Explorer 6.0 SP01 (or later) is installed on the local workstation (for more information about this, refer to Supported Web Browsers).

- A domain and a project have been identified for plugging into Quality Center.

- The `test_type.ini` and `setup_a` files are accessible and modifiable. For example, if Quality Center is installed on a workstation running Windows, the files are probably located in `C:\Program Files\Mercury\Quality Centre\jboss\server\default\deploy\20qcbin.war`.

- The user accessing the Quality Center client has sufficient privileges on the local workstation to modify the project, and has retrieved the `test_type.ini` file and copied it to the local workstation.

Follow the steps below to deploy the required files to a Quality Center client.

1. Log into the client workstation using an account that has local admin privileges.

2. Extract the contents of the appropriate .zip file to a new directory on the client workstation (for example, `C:\qcclient`).

3. Extract test_type.ini from the Quality Center server WAR file by changing to the directory that contains the WAR file and issuing the following command:

```
jar xf qcbin.war \install\test_type.cab\test_type.ini
```

The file will be extracted in the same location as the WAR file.

> **NOTE:** If you are using a modified WAR file, you should extract the file from the modified file.

4. Add the following line at the end of `test_type.ini` file:

   ```
   [GH-Tester]
   CLSID={A78DFDE0-8231-FBDC-9FD1-0040CA1B8A87}
   ```

5. Extract the `QualityCenterServerDist10.zip` file, which is in *<Rational Integration Tester Installation Directory>*`\tools\HP`, to `C:\QC Client Plug In`.

6. Open a command prompt and browse to the directory where the above file has been extracted.

7. Log off from Quality Center if it is still running.

8. Run the `GH_Client_QC10.bat` file.

9. Log into Quality Center.

10. On the **Tools** menu, click **Customize**.

11. Click **Workflow** on the left side of the screen.

12. On the Workflow page, click the **Script Editor** link.

13. Click the **Toolbar Button Editor** tab on the Script Editor page.

14. Click **Test Lab** in the **Command bar** list.

15. Click **Add** to add a new command.

16. Change the following items:

    - **Caption:**   GHTester Environment
    - **Hint:**   Select the GHTester Environment for the selected Test Cycle
    - **Action Name:**   TestLab_GHTesterEnv

17. Using the list of available images, choose an icon to display on the new button.

18. Click **Apply**.

19. Click the **Script Editor** tab.

20. Expand the tree on the left to show **Workflow Scripts > Common Scripts > ActionCanExecute** and select it.

21. Change the script (on the right) to the following:

    ```
    Function ActionCanExecute (ActionName)
    ```

```
'Use ActiveModule and ActiveDialogName to get the current context.
     On Error Resume Next
If ActionName = "TestLab_GHTesterEnv" Then
         If IsObject(TDConnection) Then
             Set TSTestFactory = Actions.TSTestFactory
             Set TSTest =
TSTestFactory.Item(TestSetTest_Fields("TC_TESTCYCL_ID").value)
             Set dlg =
CreateObject("GHTester_ExecConfig.EnvSelectionHelper")
             dlg.EnvironmentDialog TDConnection, TSTest
         End If
     End If
ActionCanExecute = DefaultRes
     On Error GoTo 0
End Function
```

22.   On the **File** menu in the **Script Editor**, click **Save**.

23.   Close the **Script Editor**.

The files are now deployed to the Quality Center client.

1.6   Customizing Your Quality Center Workflow

You can add workflow scripts to HP Quality Center to customize the user interface and add actions for users. For more information, refer to *Quality Center Administrator's Guide.*

Examples of workflow customization for Quality Center 9.0 and Quality Center 9.2 or 10 are detailed in the following sections. In these examples, a new button is added to the Test Lab module that allows users to set a Rational Integration Tester environment for all tests in the current Test Set.

- Customizations in Quality Center 9.0
- Customizations in Quality Center 9.2 or 10
- Customizations in HP ALM Quality Center 11

1.6.1   Customizations in Quality Center 9.0

> **NOTE:**   The script included in the following example is supported only with HP Quality Center 9.0.

1.   Launch Quality Center and log into your project.

2.   On the **Tools** menu, click **Customize**.

3.   Click **Workflow** on the left side of the screen.

4.   On the Workflow page, click the **Script Editor** link.

5.   Click the **Toolbar Button Editor** tab on the Script Editor page.

6.   Click **Test Lab** in the **Command bar** list.

7.   Click **Add** to add a new command.

8.   Change the following items:

   - **Caption:**   GHTester Environment
   - **Hint:**   Select the GHTester Environment for all Tests in the Test Set
   - **Action Name:**   TestLab_GHTesterEnv

9.   Using the list of available images, choose an icon to display on the new button.

10.   Click **Apply**.

11.   Click the **Script Editor** tab.

---

12. Expand the tree on the left to show **Workflow Scripts > Test Lab module script > TestLab_ActionCanExecute** and select it.

13. Change the script (on the right) to the following:

```
Function TestLab_ActionCanExecute(ActionName)

  On Error Resume Next

If ActionName = "TestLab_GHTesterEnv" Then

    If IsObject(TDConnection) Then

        Set TSTestFactory = Actions.TSTestFactory

        Set TSTest =
TSTestFactory.Item(TestSetTest_Fields("TC_TESTCYCL_ID").value)

        Set dlg =
CreateObject("GHTester_ExecConfig.EnvSelectionHelper")

        dlg.EnvironmentDialog TDConnection, TSTest

    End If

  End If

TestLab_ActionCanExecute = Project_DefaultRes

  On Error GoTo 0

End Function
```

NOTE: If your script already had other action buttons defined, you will need to insert only the following into the existing script:

```
  If ActionName = "TestLab_GHTesterEnv" Then

    If IsObject(TDConnection) Then

        Set TSTestFactory = Actions.TSTestFactory

        Set TSTest =
TSTestFactory.Item(TestSetTest_Fields("TC_TESTCYCL_ID").value)

        Set dlg =
CreateObject("GHTester_ExecConfig.EnvSelectionHelper")

        dlg.EnvironmentDialog TDConnection, TSTest

    End If

  End If
```

14. On the **File** menu in the **Script Editor**, click **Save**.

15. Close the **Script Editor**.

16. Click the **RETURN** button to go back to Quality Center.

    The new button will now be displayed on the **Test Lab** toolbar.

1.6.2 Customizations in Quality Center 9.2 or 10

NOTE: The script included in the following example is supported only with HP Quality Center 9.2 or 10.

1.   Launch Quality Center and log into your project.

2.   On the **Tools** menu, click **Customize**.

3.   Click **Workflow** on the left side of the screen.

4.   On the **Workflow** page, click the **Script Editor** link.

5.   Click the **Toolbar Button Editor** tab on the Script Editor page.

6.   Click **Test Lab** in the **Command bar** list.

7.   Click **Add** to add a new command.

8.   Change the following items:

  - **Caption:**   GHTester Environment

  - **Hint:**   Select the GHTester Environment for all Tests in the Test Set

  - **Action Name:** TestLab_GHTesterEnv

9.   Using the list of available images, choose an icon to display on the new button.

10. Click **Apply**.

11. Click the **Script Editor** tab.

12. Expand the tree on the left to show **Workflow Scripts > Common script > ActionCanExecute** and select it.

13. Change the script (on the right) to the following:

```
Function ActionCanExecute(ActionName)

   'Use ActiveModule and ActiveDialogName to get the current
context.

  On Error Resume Next

If ActionName = "TestLab_GHTesterEnv" Then

     If IsObject(TDConnection) Then

         Set TSTestFactory = Actions.TSTestFactory

         Set TSTest =
TSTestFactory.Item(TestSetTest_Fields("TC_TESTCYCL_ID").value)

         Set dlg =
CreateObject("GHTester_ExecConfig.EnvSelectionHelper")

         dlg.EnvironmentDialog TDConnection, TSTest

     End If

  End If

  ActionCanExecute = DefaultRes

  On Error GoTo 0

End Function
```

NOTE: If your script already had other action buttons defined, you will need to insert only the following into the existing script:

```
If ActionName = "TestLab_GHTesterEnv" Then

     If IsObject(TDConnection) Then

         Set TSTestFactory = Actions.TSTestFactory

         Set TSTest =
TSTestFactory.Item(TestSetTest_Fields("TC_TESTCYCL_ID").value)

         Set dlg =
CreateObject("GHTester_ExecConfig.EnvSelectionHelper")

         dlg.EnvironmentDialog TDConnection, TSTest

     End If

End If
```

14. On the **File** menu in the **Script Editor**, click **Save**.

15. Close the **Script Editor**.

16. Click the **RETURN** button to go back to Quality Center.

The new button will now be displayed on the **Test Lab** toolbar.

23

1.6.3   Customizations in HP ALM Quality Center 11

> **NOTE:**   The script included in the following example is supported only with
> HP ALM Quality Center 11.

1.   Launch Quality Center and log into your project.

2.   Select **Customize** from the **Tools** menu.

3.   Click **Workflow** on the left side of the screen.

4.   On the **Workflow** page, click the **Script Editor** link.

5.   Click the **Toolbar Button Editor** tab on the Script Editor page.

6.   Click **Test Lab** in the **Command bar** list.

7.   Click **Add** to add a new command.

8.   Change the following items:

   • **Caption:**   GHTester Environment

   • **Hint:**   Select the GHTester Environment for all Tests in the Test Set

   • **Action Name:**   TestLab_GHTesterEnv

9.   Using the list of available images, choose an icon to display on the new button.

10.   Click **Apply**.

11.   Click the **Script Editor** tab.

12.   Expand the tree on the left to show **Workflow Scripts > Common script > ActionCanExecute** and select it.

13.   Change the script (on the right) to the following:

```
Function ActionCanExecute(ActionName)

  On Error Resume Next

If ActionName = "UserDefinedActions.TestLab_GHTesterEnv" Then

    If IsObject(TDConnection) Then

      Set TSTestFactory = Actions.TSTestFactory

      Set TSTest =
TSTestFactory.Item(TestSetTest_Fields("TC_TESTCYCL_ID").value)

      Set dlg =
CreateObject("GHTester_ExecConfig.EnvSelectionHelper")

      If IsObject(TSTest) Then

          dlg.EnvironmentDialog TDConnection, TSTest
```

```
        Else

            MsgBox "No test was selected. Please select a Test
instance in a Test Set's Execution Grid and try again.", 48, "No
Test Selected"

        End If

    End If

  End If

On Error GoTo 0

End Function
```

NOTE: If your script already had other action buttons defined, you will need to insert only the following into the existing script:

```
If ActionName = "UserDefinedActions.TestLab_GHTesterEnv" Then

    If IsObject(TDConnection) Then

        Set TSTestFactory = Actions.TSTestFactory

        Set TSTest =
TSTestFactory.Item(TestSetTest_Fields("TC_TESTCYCL_ID").value)

        Set dlg =
CreateObject("GHTester_ExecConfig.EnvSelectionHelper")

        If IsObject(TSTest) Then

            dlg.EnvironmentDialog TDConnection, TSTest

        Else

            MsgBox "No test was selected. Please select a Test
instance in a Test Set's Execution Grid and try again.", 48, "No
Test Selected"

        End If

    End If

  End If
```

14. On the **File** menu in the **Script Editor**, click **Save**.

15. Close the **Script Editor**.

16. Click the **RETURN** button to go back to Quality Center.

17. When prompted in the **Customization Changes** dialog box, specify whether the change is major or minor (this affects how the change is passed to users) and click **OK**.

     After users connect to the project in a new session, the new button will be displayed on the **Test Lab** toolbar.

Creating and Running Rational Integration Tester Tests

Contents

This chapter describes how to create and execute Quality Center tests that are built from Rational Integration Tester resources.

2.1 Overview

After the Quality Center/Rational Integration Tester integration is complete, users can create tests in Quality Center and link them to testable resources (that is, tests, test suites, and performance tests) in Rational Integration Tester. Tests are created as the new test type – GH-Tester – in Quality Center in the same way that existing test types are created (for example, manual tests, WinRunner tests, and so on).

Rational Integration Tester tests are created and linked in the Test Plan module, then the tests are added to test sets in the Test Lab module. The results of test execution can also be viewed in the Test Lab module.

For more information about each phase, see the following sections:

- Creating Tests

- Executing Tests

- Viewing Execution Results

NOTE: When Quality Center's auto deploy option is enabled, clients accessing the server will need to have local admin privileges to download and install plugin files. If the client browser fails to load these files or seems to hang when trying, please verify that the current user account has the appropriate privileges.

2.2 Creating Tests

This section describes how to create Rational Integration Tester tests in Quality Center and link them to existing resources in Rational Integration Tester.

1. Log in to Quality Center and open the **Test Plan** module.

2. Create a new test and select **GH-Tester** as the type.
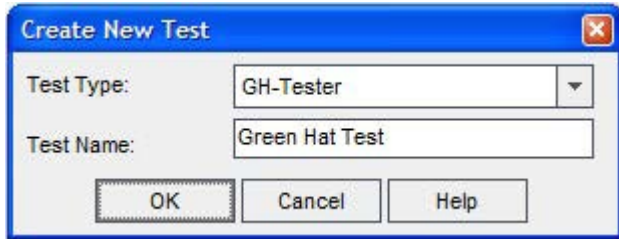
After the new test object is created, you can edit all of the normal details associated with a Quality Center test.

3. To assign a Rational Integration Tester resource to the new test, click the **Test Script** tab.

4. Click **Select** next to the **Project** field to select a Rational Integration Tester project and testable resource that it contains.

   NOTE: If versioning is enabled in your Quality Center 10 project (from within Site Administrator) and the test has not been checked out, the **Project** and **Resource** controls will be disabled. In this case, you will need to manually check out the Test Plan test before any changes are allowed.

The **Resource Selection** dialog is displayed.
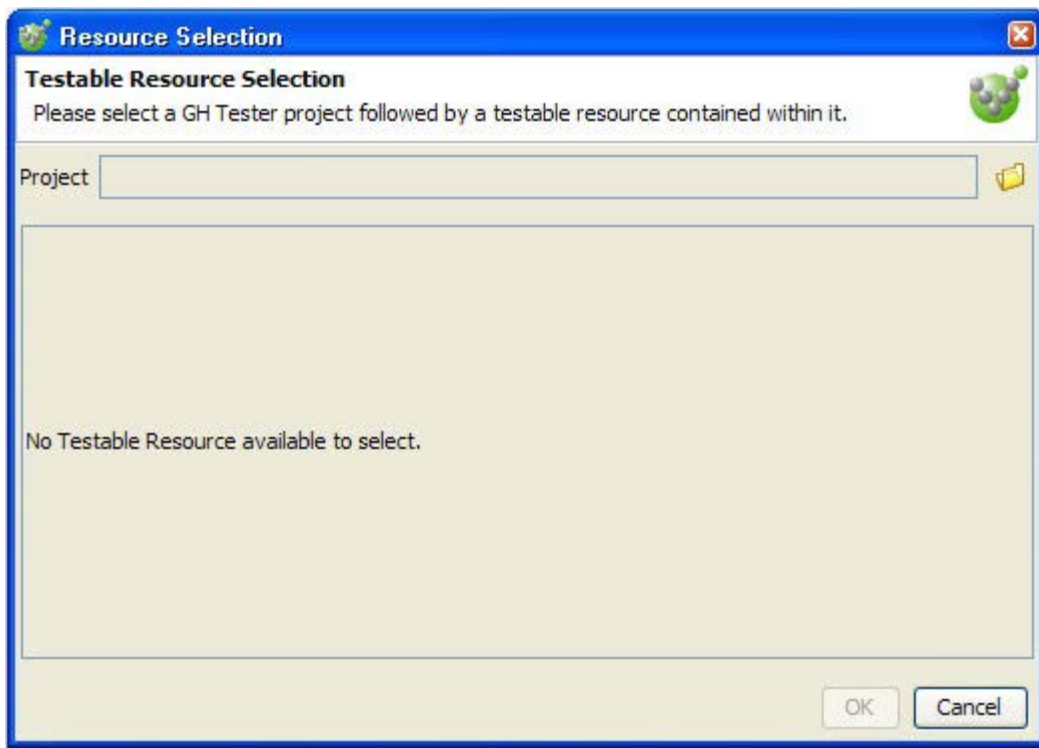
5.   Click the folder icon 📁 to open the Rational Integration Tester project selection
       dialog.
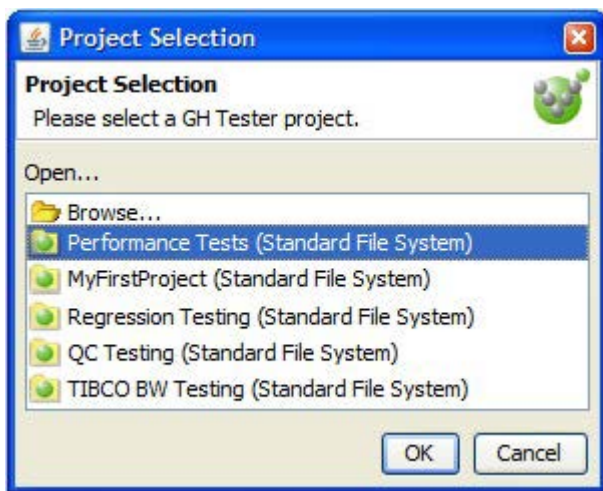
6.   Select the Rational Integration Tester project that contains the resource you want to
       use and click **OK**.

7.	Locate and select the desired test resource within the project tree, then click **OK**.
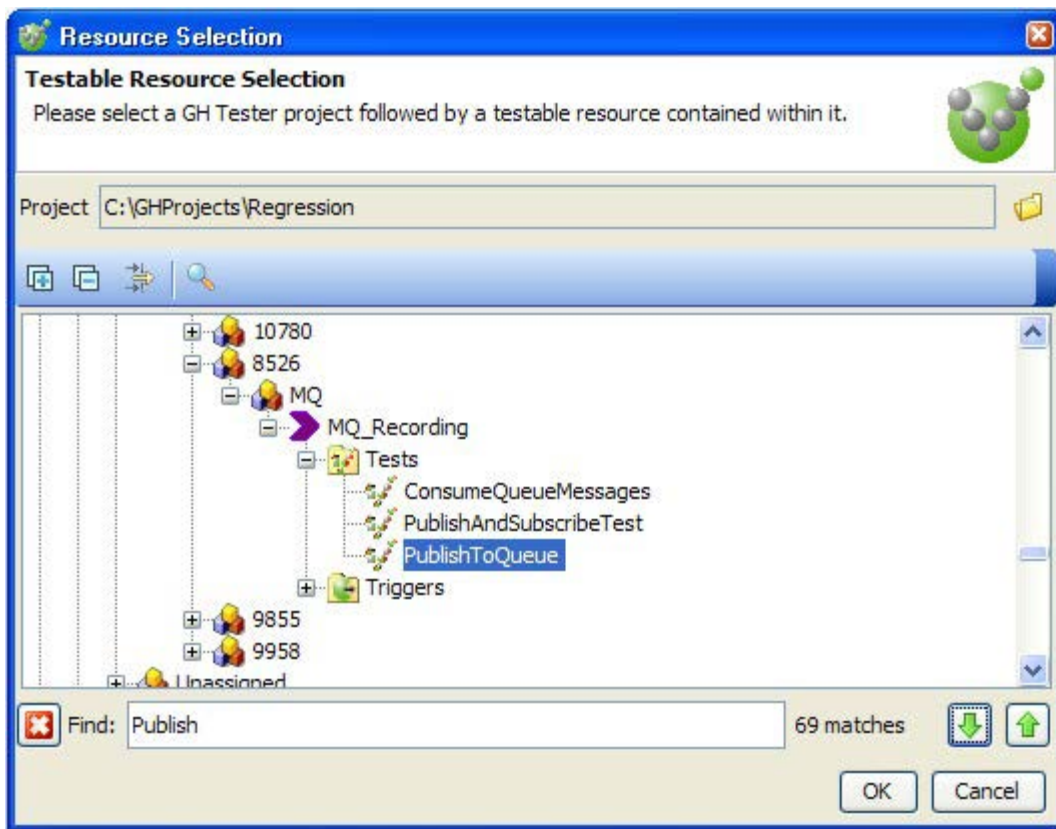
You can filter the contents of the component tree using the **Configure Filters** icon
⇥ in the toolbar, or search for specific resources by clicking the **Search** 🔍 icon (see
IBM Rational Integration Tester Reference Guide for more information). To expand or
collapse the selected branch of the tree, click the ⊞ or ⊟ icon.

To search the project for specific test resources, press CTRL+F to open the **Find**
panel (shown above), then enter the desired search string in the text field. The first
matching resource will be selected as you type. To jump to the next or previous
matching resource, click the ⬇ or ⬆ icon.

8. A snapshot of the selected test resource will be displayed under the **Test Script** tab, back in the Test Plan module. The snapshot lets users without Rational Integration Tester review pertinent information about the linked test.
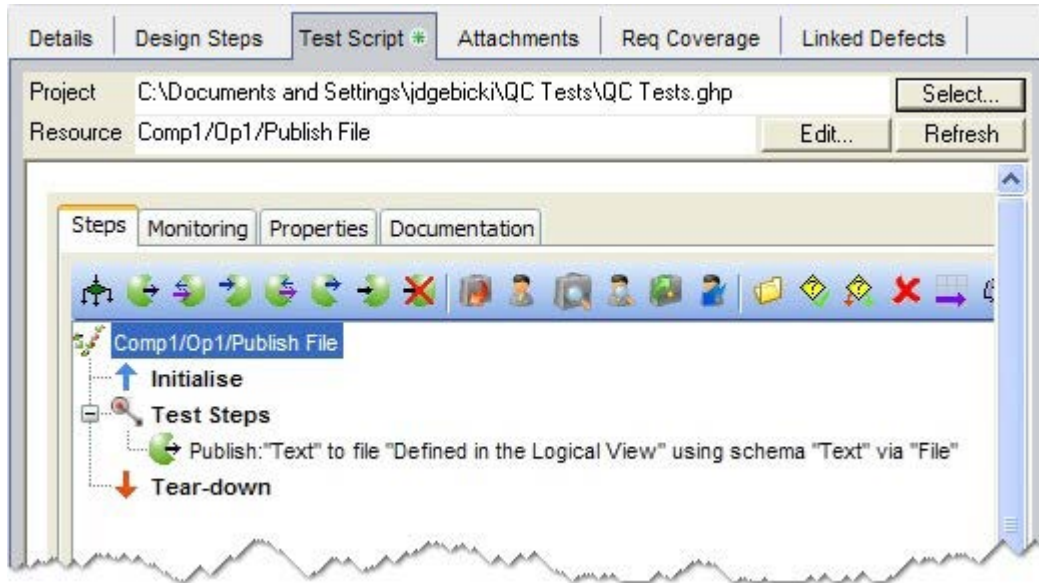
NOTE: If desired, you can modify the **Project** or **Resource** selections manually. When finished, you must click **Refresh** to verify the changes and update the resource used in the test.

NOTE: If other Quality Center users will execute the tests that you create, you should consider using UNC-based project paths (for example, \\<host>\<project_path>\<project>).

If the Rational Integration Tester resource is modified, the snapshot can be updated using the **Refresh** button. If the test resource and snapshot are found to be out of sync, an asterisk will appear on the **Refresh** button. Additionally, refreshing the snapshot validates that the project and resource are available to the current user.

9. To edit the selected resource in Rational Integration Tester, click the **Edit** button.

NOTE: Rational Integration Tester must be installed on the user's machine to utilize the editing feature, and Rational Integration Tester should not be running already when the **Edit** button is clicked.

Rational Integration Tester will be launched, and the selected resource will be opened in the Test Factory perspective.

2.3 Executing Tests

This section describes how to add Rational Integration Tester tests to test sets and configure them for execution in Quality Center.

- Add Rational Integration Tester Tests to Test Sets

- Setting an Environment for Rational Integration Tester Tests

- Running Rational Integration Tester Tests

2.3.1 Add Rational Integration Tester Tests to Test Sets

Follow the steps below to add one or more Rational Integration Tester tests to a new or existing test set.

1. Log in to Quality Center and select the **Test Lab** module.

2. Select an existing test set or create a new one.

3. Select the **Execution Grid** and, if not already visible, click **Select Tests** to display the Test Plan Tree.
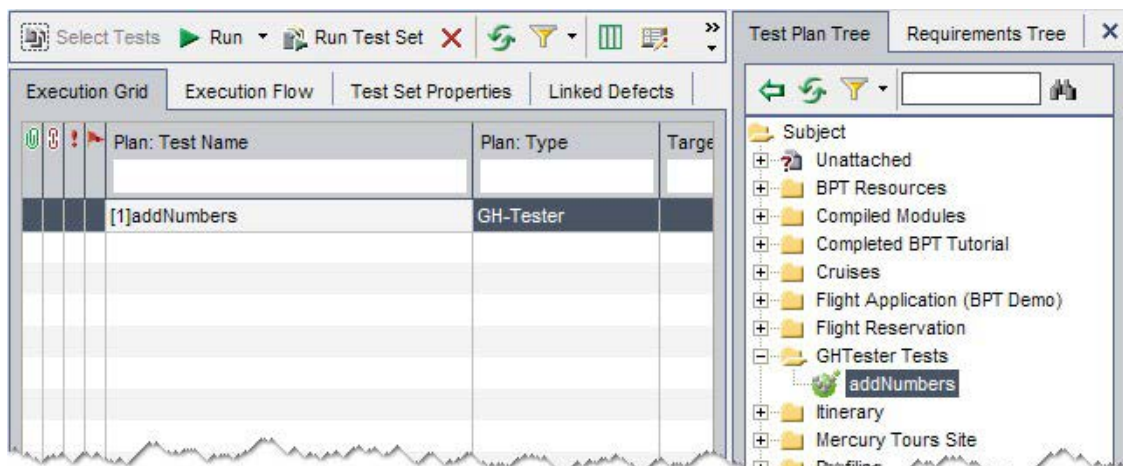
4. Add the desired tests from the **Test Plan Tree** to the current test set.

   Now the environment must be set for each Rational Integration Tester test in the test set (see Setting an Environment for Rational Integration Tester Tests).

2.3.2 Setting an Environment for Rational Integration Tester Tests

Follow the steps below to set the environment for a Rational Integration Tester test, or to set a default environment for all tests in your Rational Integration Tester project.

1. In the Test Lab module, open a test set (or create a new one) that contains your Rational Integration Tester tests (see Add Rational Integration Tester Tests to Test Sets).

2. Open the **Test Instance Properties/Details** dialog for a selected Rational Integration Tester test (double-click the test in the Execution Grid, or right-click and select **Test Instance Properties/Details**).

3. Open the **Configuration** or **Execution Settings** page and click the **Automated** tab.
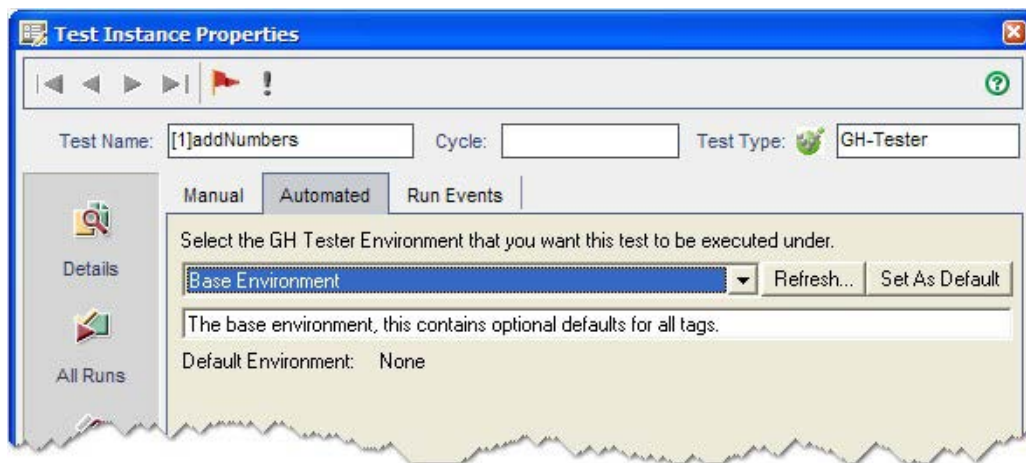
4. Select the desired environment from the combo box – you can select any of the environments in the project that contains the linked Rational Integration Tester test. To update the list of available environments, click **Refresh**.

   NOTE: If no environment is selected, the test will not be able to execute successfully.

5. Click the **Set as Default** button to set the currently selected environment as the default environment for any tests linked to the same Rational Integration Tester project as the test being edited.

You will be prompted to confirm your selection.
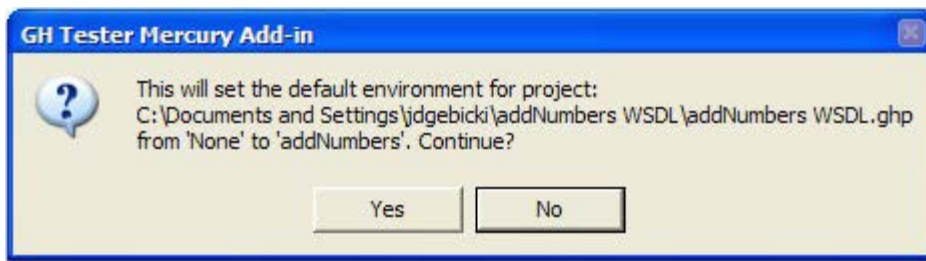
Using this option, if no environment is set explicitly for a test, it will use the default environment for the project to which it is linked.

NOTE: If no default environment is set, the test will fail because tests in Rational Integration Tester require an environment to execute successfully.

- To make an existing test instance (that is, one that has its environment specified) start using the default environment for the project instead of the specified test, set it to **Base Environment**.

- To change the environment used for all tests linked from a Rational Integration Tester project, set all existing test instances to use **Base Environment** and then use the **Set As Default** option to set the environment that every test instance will use.

- To remove the default environment set for a Rational Integration Tester project, simply set the default environment to **Base Environment**.

NOTE: Default environments are a user setting within Quality Center, so they will be set only for the user who sets them.

6. When finished, click **Close** or **OK** to close the **Test Instance Properties/Details** dialog.

### 2.3.3 Running Rational Integration Tester Tests

After adding Rational Integration Tester tests to a test set and setting the environment options, you are ready to run your tests.

1. In the Test Lab module, run the test set as you normally would (**Run Test Set**) – the execution is controlled in the **Automatic Runner** dialog.
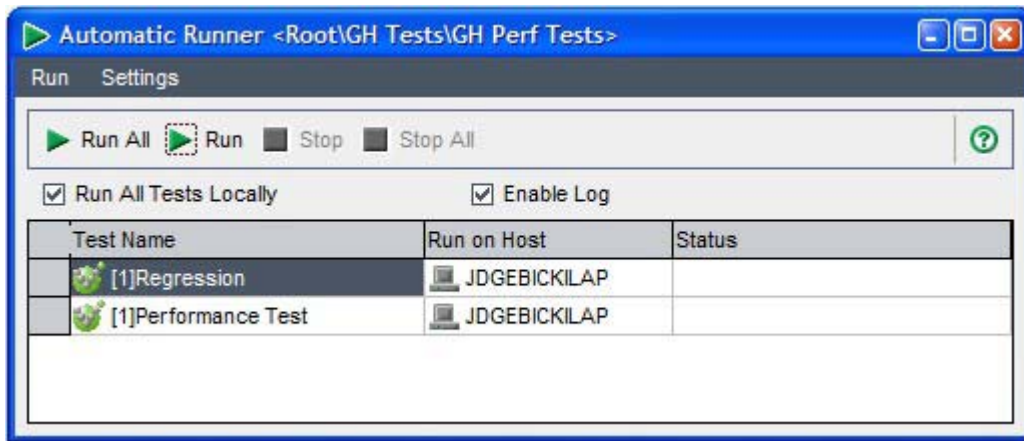
2. If all tests should be run on the local host, ensure that the **Run All Tests Locally** option is enabled, set the **Enable Log** option as desired, then click **Run All** or **Run**, as desired (to run a single test or all tests).

   While the test set is running, the progress of each test will be displayed in the **Status** column.
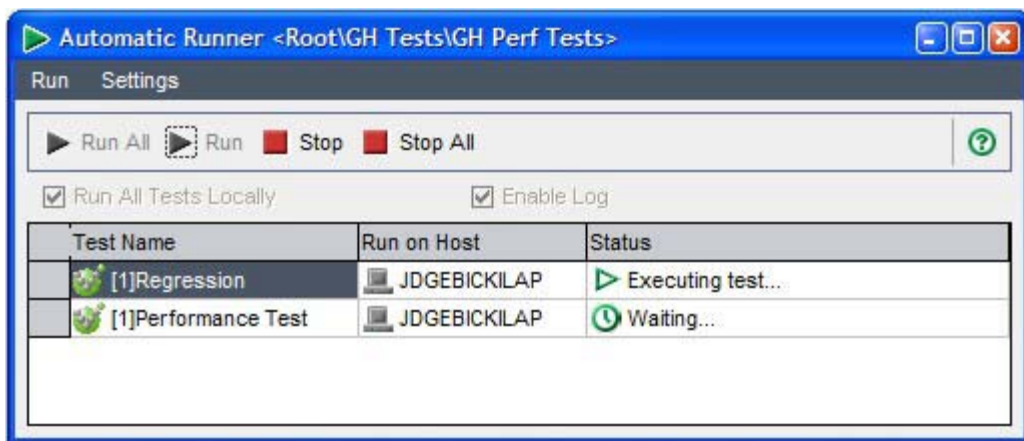
3. Click **Stop** or **Stop All** if you need to halt the execution of one or all tests.

4. When the tests have finished executing, you can close the **Automatic Runner** dialog.

2.4   Add Test Types for Filtering

You can apply filters to the Test Lab to view a reduced number of items. Before you can filter on an item, however, it must be included in the applicable project list (for example, the "GH-TESTER" type in the **TestType** list). The following steps illustrate how to add an asset type to a project list using the GH-TESTER test type as an example.

1.   In the main Quality Center window, click the **Tools** menu and select **Customize...**
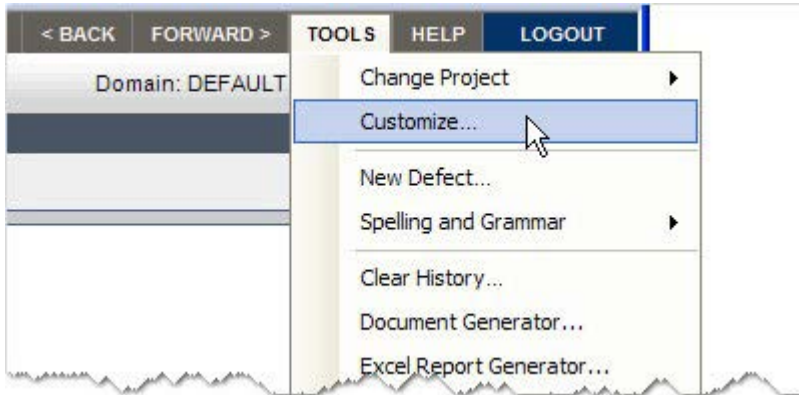
2.   In the **Project Customization** window, click the **Project Lists** link.

3.   In the **Project Lists** panel, select the **TestType** list from the **Lists** combo box, or in QC 11, simply select the **TestType** option.

4.   If "GH-TESTER" is not listed, click **New Item** at the bottom of the panel.

     NOTE: If "GH-TESTER" is already listed, nothing further is required and you can leave the **Project Customization**.

5.   In the **New Item** dialog, enter "GH-TESTER" (without the quotes) in the **Item Name** field, then click **OK**.
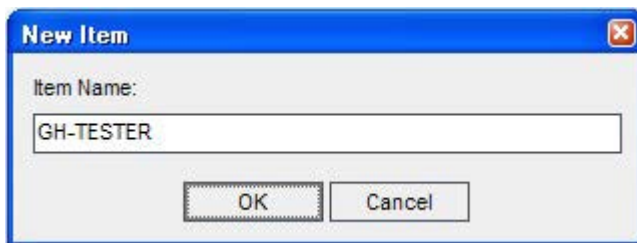
6.   Click **Save** in the **Project Lists** panel.

36

7.   After confirming the changes, click **Return** in the upper-right corner of the window to return to your last location in the project.

2.5 Viewing Execution Results

Results for Rational Integration Tester tests and test suites that are executed from HP Quality Center can be viewed in the Results Gallery perspective of Rational Integration Tester. Within Quality Center, last run results can be viewed in the execution grid, and historical results can be viewed from the **Test Instance Properties/Details** dialog.

The overall status of a test or test suite can be seen in the execution grid, and detailed results (taken from the Rational Integration Tester console) for the selected entry can be viewed in the **Last Run Result** window (below the grid).

Historical results can be viewed under **All Runs**, in the **Test Instance Properties/Details** dialog (double-click an entry in the execution grid, or right-click and select **Test Instance Properties/Details**).

To view the detailed results for any run, select its entry and view the results in the lower half of the **Test Instance Properties/Details** dialog.

NOTE: In both places, if console output generated by Rational Integration Tester exceeds 100 lines, only the first 50 and the last 50 lines will be stored and displayed.

Included in the console output are a link to view the execution results in Rational Integration Tester (in the Results Gallery) and a link to view the detailed report in Rational Integration Tester Results Server. The Results Server URL is generated according to the **Results Server URL** value in Rational Integration Tester's project settings, and Results Server must be installed to view the detailed report.

NOTE: If you don't have a valid DB connection configured in Rational Integration Tester, the Results Server link is omitted from the output.

If using Results Server, ensure that your Internet Explorer options are set to NOT reuse windows for launching shortcuts (under **Tools > Internet Options**, click the **Advanced** tab and disable this option under the **Browsing** group).

2.6 Running Rational Integration Tester Tests on Remote Hosts or Host Groups

Quality Center allows test instances in a Test Set to be configured to run on a remote host. Hosts can also be placed in a Host Group for failover purposes.

NOTE: When a Host Group is used, Quality Center tries each host in the group until it finds one that will run the test.

Hosts and Host groups are created in the Test Lab by selecting **Host Manager** from the **Test Sets** menu.

Hosts and Host Groups are specified in the Test Set by choosing one from the list in the **Planned Host Name** column for test instances in the **Execution Grid** tab.

For more information about running tests on remote hosts, refer to *HP Quality Center User's Guide*.

Note the following requirements for running Rational Integration Tester tests on remote hosts:

1. The remote machine must have a properly licensed copy of Rational Integration Tester installed.

2. The Rational Integration Tester project(s) linked to the test(s) created in Quality Center must be located on the remote host in the exact same path. For example, if the project is located in `C:\projects\myproject` on the local machine, then the project must be found on the remote host in `C:\projects\myproject`.

   NOTE: To run a test on a remote host in Quality Center, Microsoft Windows DCOM must configured properly on both machines. If DCOM is not configured properly, you will receive an error ("Access is denied" or "RPC server is unavailable") when trying to run the test. Additionally, the network user executing the test from Quality Center must have privileges to run processes on the remote host via DCOM.

Glossary

The following table below lists some of the key terms used in this document, and provides a description of each.

Term	Description
Field	A bit of data constituent to a message. Most fields are scalar and therefore unitary, equivalent to data attributes. Vector fields are an aggregation of fields both scalar and vector, and are usually referred to as Messages (see also Message, below).
Message	A unit of information made up of a header consisting of meta-information and a body consisting of the message data.
Host	The computer on which a software process runs.
Publish-Subscribe	A messaging paradigm for efficient one-to-many communication in which one process (the publisher) sends information to zero or more other processes (subscribers).
Transport	Informally, the messaging software in use. For instance, TIBCO EMS, TIBCO ActiveEnterprise, IBM WebSphere® MQ (JMS).
Publishing	Making a message (data) available on a message channel.
Subscribing	Receiving a stream of messages (data) on a given message channel.
Server	A host computer on a network shared by more than one user.
Subject	A user-defined, meaningful name for identifying messages on transports. For example, the subject EQ.IBM might identify all pricing data about IBM stocks, while EQ.IBM.N might identify price data from the New York Stock Exchange only.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
1623-14, Shimotsuruma, Yamato-shi
Kanagawa 242-8502 Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT,

MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM United Kingdom Limited
Intellectual Property Law
Hursley Park
Winchester
SO21 2JN
Hampshire
United Kingdom

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the

capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows:

© (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corporation 2001, 2012.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks and service marks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.