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**Chapter 14. Developing Scripts in the VB.NET Environment**

**Larry Quesada**

*In this chapter, you find information on the Visual Studio version of Rational Functional Tester. Other chapters provide examples of concepts in both VB.NET and Java, so you do not find a lot of detail here. However, you do find a few discussions about using Rational Functional Tester in Visual Studio, which are not covered in other parts of the book.*

**Installing Rational Functional Tester into Visual Studio .NET**

To install the VB.NET version of Rational Functional Tester, you must first install Visual Studio. At the time of this writing, Rational Functional Tester supports Visual Studio Net 2003 with .NET Framework 1.1 and Visual Studio Net 2005 with .NET Framework 2.0. You begin the installation of Rational Functional Tester by starting the launch pad program, either from the CD or an electronic image. From the launch pad, click **Install IBM Rational Functional Tester**. Select either **install** or **modify** depending on your situation, and then follow the instructions in the wizard to complete the installation process. On the wizard screen that prompts you to select the features to install, select either **.NET 2003 Scripting** or **.NET 2005 Scripting**. Complete the installation and you are done!

**Locating Projects on Network Shares**

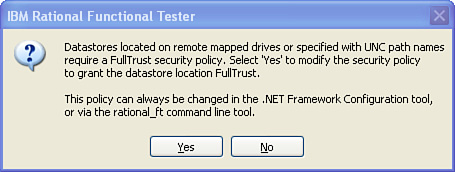
For various reasons, you might want to locate your Rational Functional Tester .NET project on a network share. This section describes what you need to do to get a Rational Functional Tester .NET project to work on a share.

**Code Access Security**

The .NET common language runtime has a code access security system, which determines an assembly’s permissions to access protected resources. The location of the assembly helps to determine what permissions the assembly has. If the permission set associated to the Rational Functional Tester .NET project is sufficiently strict, you get errors when using Rational Functional Tester in Visual Studio.

If you attempt to create a Rational Functional Tester .NET project in a network share and the security associated to the network location is not FullTrust, you get the error shown in [Figure 14.1](https://www.safaribooksonline.com/library/view/software-test-engineering/9780137036455/ch14.html#ch14fig01).

**Figure 14.1** Error when creating Rational Functional Tester.NET project on a network share without FullTrust



Further, anytime you open the project, you get the warning shown in [Figure 14.2](https://www.safaribooksonline.com/library/view/software-test-engineering/9780137036455/ch14.html#ch14fig02).

**Figure 14.2** Warning when opening Rational Functional Tester .NET project on a network share without FullTrust



Finally, when you play back a script, you might receive this message: FullTrust security policy needed to run script [Script1].

Selecting **Yes**, as the dialog box in [Figure 14.1](https://www.safaribooksonline.com/library/view/software-test-engineering/9780137036455/ch14.html#ch14fig01) recommends, does not actually change the security policy. To fix this problem, you can either adjust the zone security on your computer or adjust the security for your Rational Functional Tester project.

**Adjusting Local Zone Security**

You can change the security of your computer by network zone. To do so, follow these steps:

**1.** Open the Administrative Tools of your operating system.

**2.** Open the Microsoft .NET Framework <version> Configuration.

**3.** Right-click **Runtime Security Policy**, and then select **Adjust Security**.

**4.** Click the option button to make changes to this computer.

**5.** Set the Local Intranet security policy to **Full Trust**.

Depending upon where your share is, you might have to adjust the policy of the other zones, too, but usually Local Intranet is sufficient. You need to perform this step on any computer that uses the Rational Functional Tester project.

If you continue to have issues, try configuring security in Internet Explorer with the following steps:

**1.** Click **Tools** > **Internet Options** in the Internet Explorer window.

**2.** In the Security tab, select **Local intranet** zone.

**3.** Click **Sites**.

**4.** In the Local Intranet dialog box, click **Advanced**.

**5.** Uncheck **Require server verification (https:) for all sites in this zone**.

**6.** Specify the project path, and click **Add**.

**7.** Click **OK**.

**Adjusting the Security of a Rational Functional Tester Project**

Alternatively, you can adjust the security of the Rational Functional Tester project. Again, this must be done on each computer. IBM provides a utility called rational\_ft in the directory C:\Program Files\IBM\SDP\FunctionalTester\bin\NetCommandLine, which you can use for this purpose.

If your Rational Functional Tester project is located in the share <\\computerName\ projects\rft book\Example14\Example14>, then you run the following command:

rational\_ft -datastore "\\name\projects\rft  
book\Example14\Example14" -addfulltrust

After completing this command, your Rational Functional Tester project functions correctly, although you might still receive the *project location is not trusted* warning.

**Reusing Code**

One of the powerful capabilities of Rational Functional Tester is the capability to reuse code. You can make calls to any managed code, written in any .NET language from a Rational Functional Tester script in Visual Studio. This section describes how to do this.

**Using External .NET Assemblies in a Rational Functional Tester.NET Project**

In an out-of-the-box Visual Studio project, you can add a reference to an external assembly or project by right-clicking on your project and selecting **Add Reference**. Rational Functional Tester, however, does not support adding a reference in this way. Instead, Rational Functional Tester automatically creates a reference to any assembly located in the Rational Functional Tester customization directory. By default, the customization directory is located at C:\Documents and Settings\All Users\Application Data\IBM\RFT\customization. Rational Functional Tester immediately senses any changes you make to the customization directory.

The easiest way to share assemblies is to place them in a directory that all computers used to develop and run scripts can access. You can change the location of the Rational Functional Tester customization directory by altering the registry key located at HKEY\_LOCAL\_MACHINE\ SOFTWARE\Rational Software\Rational Test\8. The Rational Functional Tester customization direction is stored in the string value called Rational FT Customization Directory. The easiest way to share assemblies is to place the assemblies in your configuration management system. You can then create views on each computer your team users to develop scripts and point the Rational FT Customization Directory to the appropriate directory in your view.

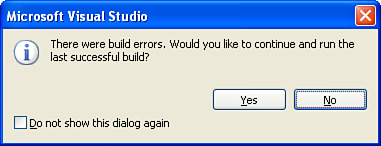
Another way you can add a reference to an assembly is to place the assembly in the Rational Functional Tester bin directory located in the Rational Functional Tester installation directory. When using this technique, you must also add the name of the Dynamic Link Library (DLL) to the netAssembliesForCompiler.txt in the same directory and restart Rational Functional Tester.

Be careful that you do not have any folders or classes in your Rational Functional Tester project that are the same as any namespaces or classes in your external assembly. If you do, your scripts might not compile or run.

**Using the .NET Foundation Class Library**

You can incorporate classes from the .NET Foundation Class Library into your scripts, and the scripts do compile. However, when you try to run the scripts, you might get the error displayed in [Figure 14.3](https://www.safaribooksonline.com/library/view/software-test-engineering/9780137036455/ch14.html#ch14fig03).

**Figure 14.3** Error when running a Rational Functional Tester.NET Script when Foundation Assembly is not found



The problem here is again about references. You can not create a reference from your Rational Functional Tester project to the appropriate .NET assembly. Instead, you need to find the assembly that contains the namespace you want to use and either copy the assembly to the customization directory or place it in the Rational Functional Tester bin directory. Don’t forget to update the netAssembliesForCompiler.txt if you use the bin directory route. You find the .NET Foundation library in the directory C:\windows\Microsoft.NET\Framework\<framework version>. You can use some Foundation namespaces, such as System and System.IO, without copying the assembly. For other namespaces, such as System.data and System.XML, you must copy the assembly.

**Sharing Scripts Between Rational Functional Tester.NET Projects**

One way to share code between Rational Functional Tester.NET projects is to refactor your code and extract those pieces that you want to reuse. You can then place these classes in an external assembly and share that assembly as described previously.

You cannot share some Rational Functional Tester test artifacts in this way. You cannot, for example, define a Helper Base Class in an external assembly nor can you run a test script from one Rational Functional Tester project that is defined in another Rational Functional Tester project. The best way to share these kinds of objects is to keep everything in one Rational Functional Tester project and partition the project with folders. You might also consider putting your project under a source control system, such as IBM Rational ClearCase.

**Summary**

This chapter covered some topics specific to using Rational Functional Tester in Visual Studio .NET that were not covered in other parts of the book. We explored installation, adjustment of security to locate a project on a network share, and reuse of code.

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