IBM Rational Build Forge Samples:
Basic Project

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Level: Intermediate
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Contents

This example demonstrates a very basic IBM® Rational® Build Forge® project library that creates and deploys a Java™ applet. Common tools and applications are used throughout the steps of this project. Please note that these examples are not intended to execute successfully without modification to match your specific environment.

Importing the project

Before you begin, import the file named Basic.xml by following the instructions in the README.pdf file in this directory. Be sure to select the check boxes marked **Import Selectors** and **Import Collectors**

Note: After the file is imported, a project will exist in the Projects section of your Build Forge installation. You need to be logged in as a user with Build Engineer Group Access in order to view the project and its subcomponents.

Servers

Two servers are created with this project. To view them, select **Servers > Selectors**. There are two new Selectors called *Local Server* and *Web Server*. At this time, Server Authentications are not imported, and therefore these are merely examples. Notice that on the Projects view, the imported project has a Selector of **Local Server**. Also notice that when the steps for the Basic Sample project are shown, two of the steps have the **Web Server** selector. The rest of the steps inherit the default (Local Server) selector from the project definition.

Environments

To view the environment variables that this project uses, as shown in Table 1, go to **Environments** and click the environment named **Basic Environment**.

Table 1. Environment variables

Variable Name	Default (Shipped)	Value Description
CVSROOT	C:\CVS_Storage	The root directory of a CVS installation containing the CVS module for this project
MODULE	TicTacToeApplet	The name of the CVS module that contains the code for this project
CVSCLIENT	Build Server 1	
TOMCAT_HOME	C:\jakartatomcat3.3.2	The root installation directory of Apache Tomcat
JAVA_HOME	C:\Java50	The root installation directory of a Java™ Runtime Environment (JRE)
PATH	$JAVA_HOME\bin	The bin directory in the Java installation. This is set so that Build Forge will have access to the executables for compiling and executing Java code.

Steps

The commands for each step can be viewed by clicking the step name in the Projects view. The step names are deliberately descriptive to make it easier to see the overall flow of the project. Following is additional detail about how each step is configured.

Note: Familiarity with the tools being automated by Build Forge – Concurrent Versions System (CVS) Java, and Tomcat – is assumed, and these examples are not intended as a tutorial on the tools themselves.

1. **Check out Source** checks out code from the MODULE specified in the environment. The directory that the code is checked out into is also named the value of the MODULE variable.
2. **Update Applet Version** looks in the MODULE directory for a file named TicTacToe.html, and changes all instances of the string @VERSION@ to the major and minor revision numbers (stored in the **Tags** section of the Projects configuration).
3. **Create Baseline** stores in memory information about the files in the MODULE directory for use in the Bill of Materials. For more information on the .scan command, see the Build Forge documentation.
4. **Compile Applet** runs the Java compiler in the MODULE directory to create the compiled Java class. A full path to the javac executable is not necessary, because its location was added to the environment's PATH variable.
5. **Create Web Archive** compresses the compiled Java files into a Web archive (.war) file.
6. **Create Checkpoint** stores information about the current state of the MODULE directory for the Bill of Materials.
7. **Stop Web Server** calls the command shutdown.bat from the TOMCAT_HOME/bin directory on a server that meets the criteria for the **Web Server** selector.
8. **Deploy Applet** removes the outdated .war file and application from the Tomcat home directory and then copies the newly created .war into its place.
9. **Restart Web Server** calls the startup.bat command from the TOMCAT_HOME/bin directory on a server that meets the criteria for the **Web Server** selector.

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