

Using RealWeb with Apache Tomcat (Windows XP / 2003 Server / Windows 7)

RealWeb is an integral feature of Reality. It provides the DataBasic programmer with the facility to web-enable an application with little or no knowledge of HTML, allowing the retention of existing business rules and utilising developers existing skill sets.

The Reality Installation CD includes demonstration software for RealWeb. The demonstrations utilise Apache Tomcat V3 as the web server, which now has little, or no, support. With this in mind, upgrading to a later version is highly desirable. Additionally, the later versions are able to run as a windows service, negating the need to run the Start Tomcat / Stop Tomcat .bat files, which are provided as part of the RealWeb demonstration package. Unfortunately, as Apache Tomcat has developed the directory and file structures have altered, which has meant that it is not just a case of looking at the V3 structures and copying the relevant files to the same locations in the later versions. To confuse matters even further, the directory structures also vary, slightly, between Apache Tomcat V5 and V6 or V7.

This document details what is required to install the RealWeb Servlets & HTML pages within an Apache Tomcat V7 environment. The same method can be used for Version 6, if required.

Firstly, there is a pre-requisite where the latest version of the Java Runtime Environment has to be used. A copy of which can be obtained from:

<http://www.softwarepatch.com/windows/sunjava.html>

Install this first.

Next you need to obtain the latest version of Apache Tomcat, which can be found at <http://tomcat.apache.org/download-70.cgi>

Under the heading Binary Distributions, select Windows Service Installer (pgp, md5).

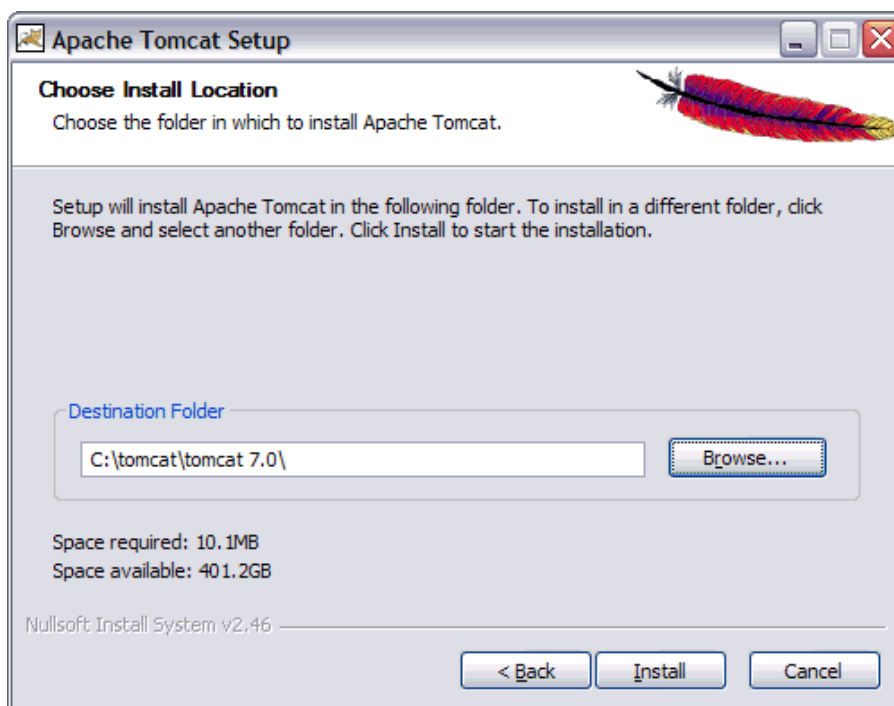
This will download apache-tomcat-7.0.27.exe

Install this.

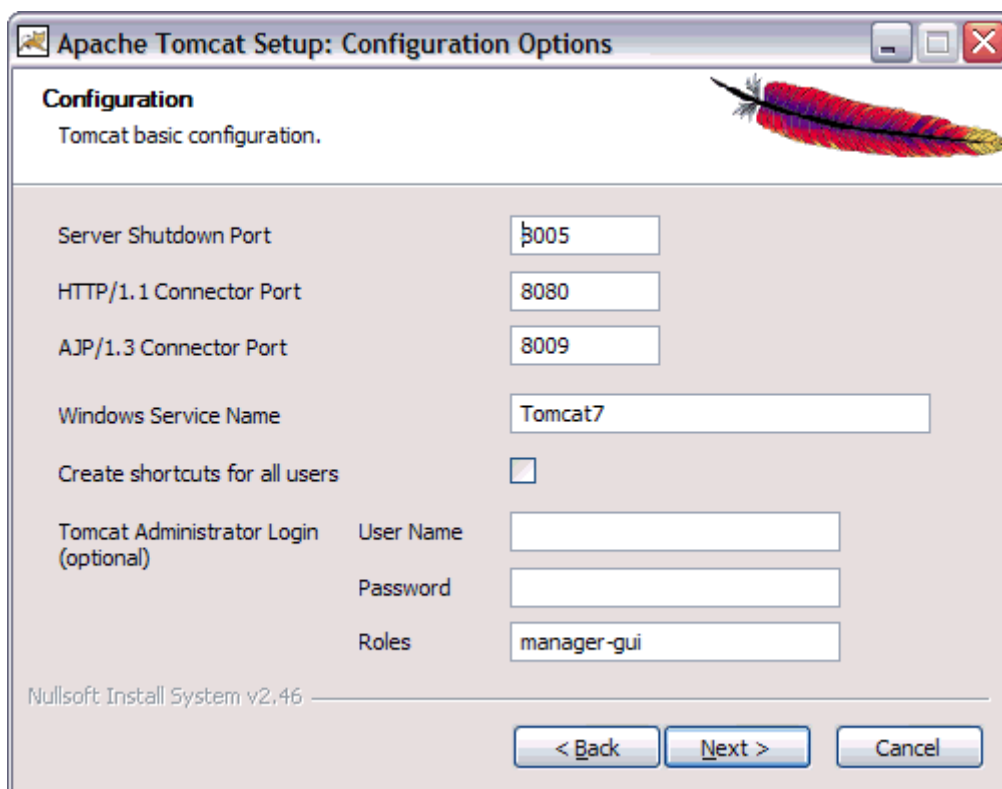
As part of the installation it suggests the location to install as

C:\Program Files\.....\Tomcat 7.0. You can change this to wherever you would like.

In this example I have installed it on c:\tomcat\tomcat 7.0

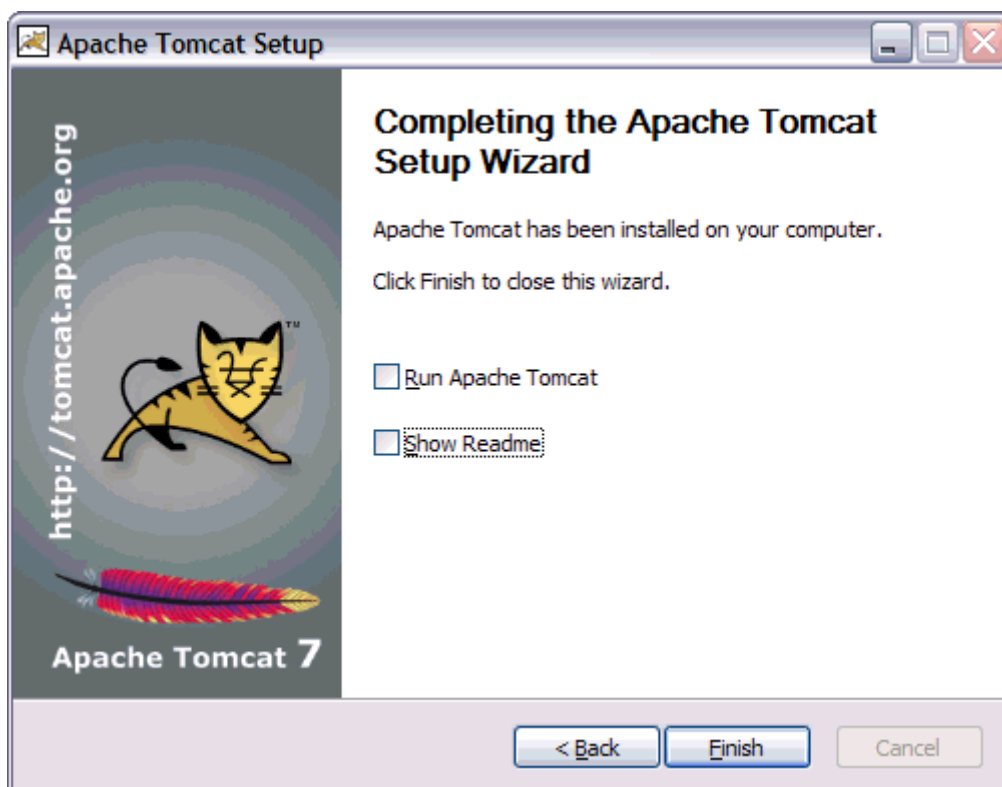


The next significant prompt is to specify the HTTP/1.1 Connector Port. The default is 8080, but you can change this to 80, which means that the port does not have to be specified in the URL.

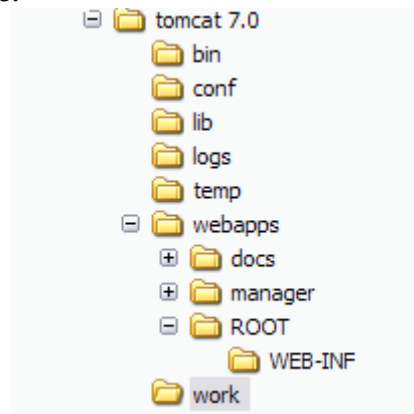


You are then prompted for the location of the Java Virtual Machine. Take the default value.

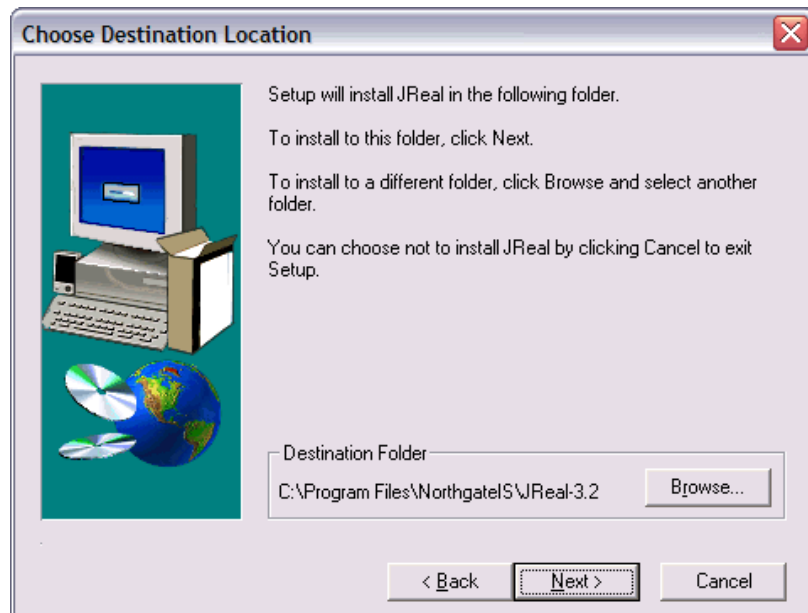
Finally, you are asked whether you wish to run Tomcat and to view the Readme file. Clear the checkboxes against both of these options and then click Finish.



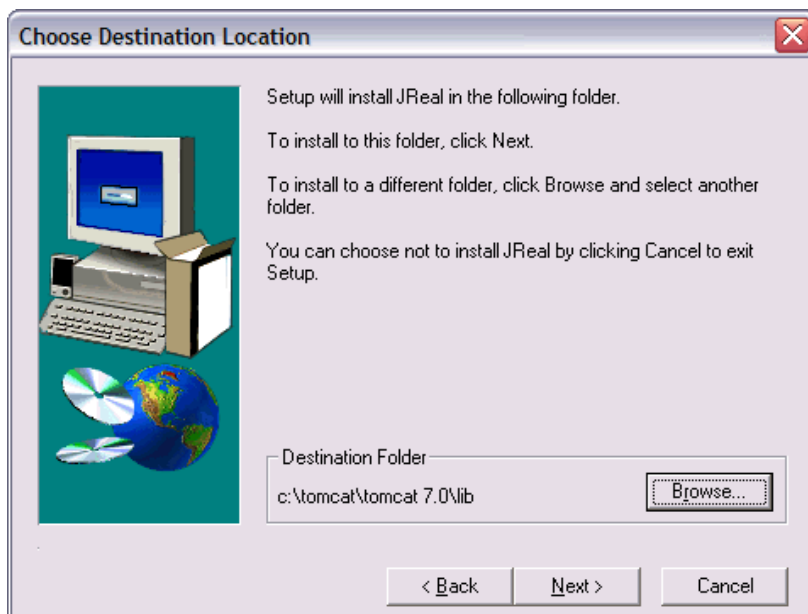
The directory structure should look like:



From the Reality CD, install JReal from the Core Reality Software menu. When prompted as to the location where the software should be installed the default is:



Change this to point to the Tomcat 7.0 sub-directory 'lib'



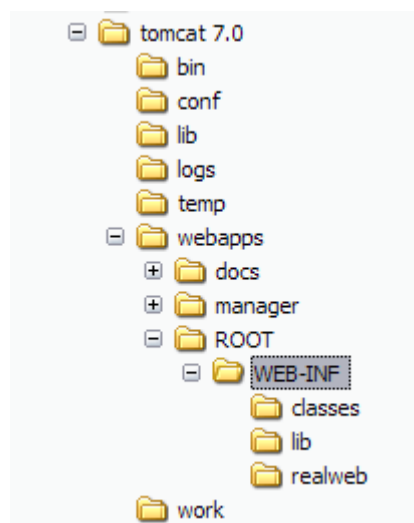
The contents of this directory will have four new files added:

Name	Size	Type	Date Modified
annotations-api.jar	15 KB	Executable Jar File	31/03/2012 15:44
catalina.jar	1,500 KB	Executable Jar File	31/03/2012 15:44
catalina-ant.jar	54 KB	Executable Jar File	31/03/2012 15:44
catalina-ha.jar	129 KB	Executable Jar File	31/03/2012 15:44
catalina-tribes.jar	248 KB	Executable Jar File	31/03/2012 15:44
ecj-3.7.2.jar	1,709 KB	Executable Jar File	31/03/2012 15:44
el-api.jar	46 KB	Executable Jar File	31/03/2012 15:44
jasper.jar	578 KB	Executable Jar File	31/03/2012 15:44
jasper-el.jar	121 KB	Executable Jar File	31/03/2012 15:44
jreal.jar	69 KB	Executable Jar File	07/10/2005 16:26
jrealdoc.tar	800 KB	WinZip File	15/08/2005 16:55
JRealUninst.isu	10 KB	ISU File	02/05/2012 09:48
jsp-api.jar	87 KB	Executable Jar File	31/03/2012 15:44
readme.txt	2 KB	Text Document	02/07/2003 11:25
reality.properties.default	2 KB	DEFAULT File	02/07/2003 11:25
servlet-api.jar	173 KB	Executable Jar File	31/03/2012 15:44
tomcat-api.jar	7 KB	Executable Jar File	31/03/2012 15:44
tomcat-coyote.jar	771 KB	Executable Jar File	31/03/2012 15:44
tomcat-dbcj.jar	230 KB	Executable Jar File	31/03/2012 15:44
tomcat-i18n-es.jar	75 KB	Executable Jar File	31/03/2012 15:44
tomcat-i18n-fr.jar	48 KB	Executable Jar File	31/03/2012 15:44
tomcat-i18n-ja.jar	51 KB	Executable Jar File	31/03/2012 15:44
tomcat-jdbc.jar	119 KB	Executable Jar File	31/03/2012 15:44
tomcat-util.jar	23 KB	Executable Jar File	31/03/2012 15:44

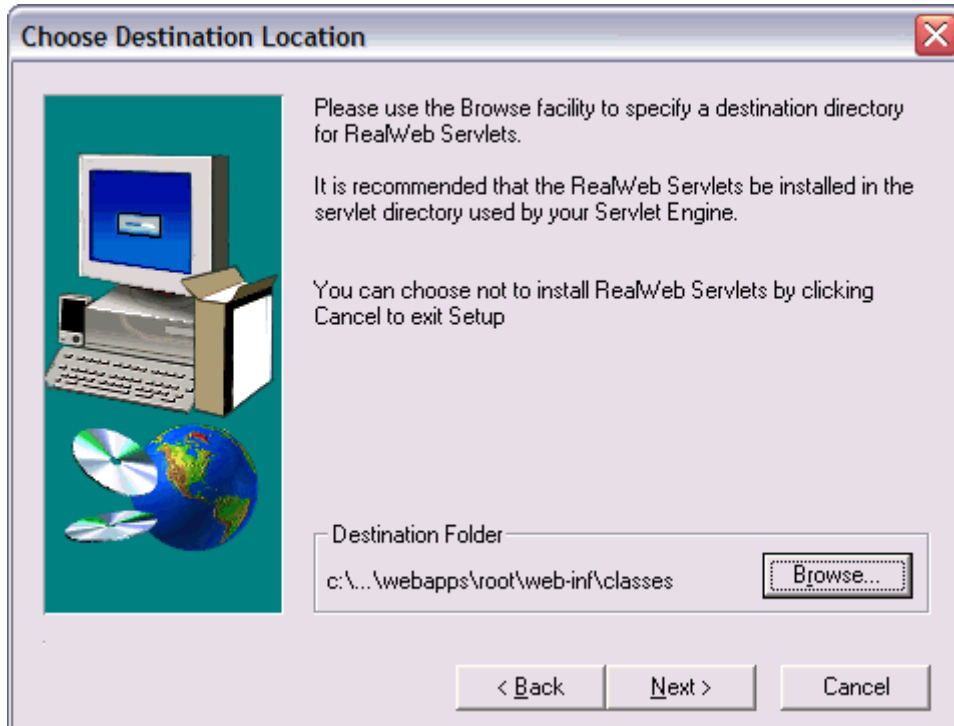
Rename the file [reality.properties.default](#) to [reality.properties](#).

The [readme.txt](#) file indicates that the CLASSPATH environment variable should contain an entry indicating the location of the [jreal.jar](#) file. This has been found to be unnecessary.

The next step is to install the RealWeb Servlets and, optionally, HTML pages. Before doing so, create three sub-directories in [Tomcat 7.0\webapps\ROOT\WEB-INF](#)
[classes](#) ; [lib](#) ; [realweb](#)



From the Web Software menu on the installation CD select RealWeb Servlets and install them in the classes sub-directory that was just created.



If you want to use the sample HTML pages for use with persistent connections then select RealWeb HTML from the menu and specify `Tomcat 7.0\webapps\ROOT\WEB-INF\realweb` as the location.

Within `Tomcat 7.0\webapps\ROOT\WEB-INF` there is a file called `web.xml`. In this file you have to define the RealWeb Servlet names and classes. Edit this file as follows:

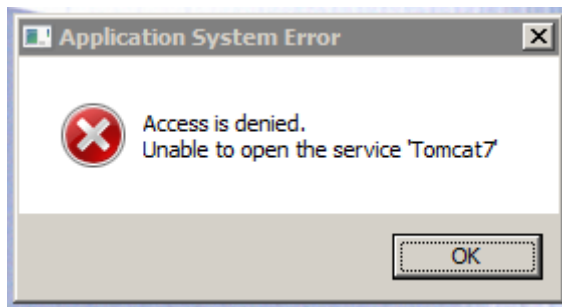
```
<?xml version="1.0" encoding="ISO-8859-1"?>
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-
app_2_5.xsd"
  version="2.5">
  <description>
    RealWeb
  </description>
  <display-name>RealWeb</display-name>
  <servlet>
    <servlet-name>rwconfig</servlet-name>
    <servlet-class>rwconfig</servlet-class>
  </servlet>
  <servlet>
    <servlet-name>reality</servlet-name>
    <servlet-class>reality</servlet-class>
  </servlet>
  <servlet>
    <servlet-name>realityis</servlet-name>
    <servlet-class>realityis</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>rwconfig</servlet-name>
    <url-pattern>/servlet/rwconfig</url-pattern>
  </servlet-mapping>
  <servlet-mapping>
    <servlet-name>reality</servlet-name>
    <url-pattern>/servlet/reality/*</url-pattern>
  </servlet-mapping>
```

```
<servlet-mapping>
  <servlet-name>realityis</servlet-name>
  <url-pattern>/servlet/realityis/*</url-pattern>
</servlet-mapping>
</web-app>
```

Now start the Apache Tomcat service. The default Startup Type is Manual, which you may wish to change to Automatic. If the service fails to start, this is probably due to the file msvc71.dll is missing from the Windows\System32 directory. Locate the file and move / copy it into the directory.

If you already have a [realweb.ini](#) file created, move / copy this file into the Tomcat 7.0 directory. Start your browser and enter <http://localhost:8080/servlet/rwconfig> (you don't need the :8080 if the Http/1.1 Connector Port was specified as 80 during the installation). This will load the rwconfig page, allowing you to create, modify, view, delete the RealWeb section definitions.

On Windows 7 it is possible that the following error is displayed:



The actual service should be running, but the Monitor Tomcat routine has failed. To rectify the problem, change the properties of the program to "Run as Administrator".

