



Tomcat 8 Installation - Windows Environment

July 2015



Document Control

Version	Date	Author	Notes
1.0	13 July 2015	C Edwards	First release.

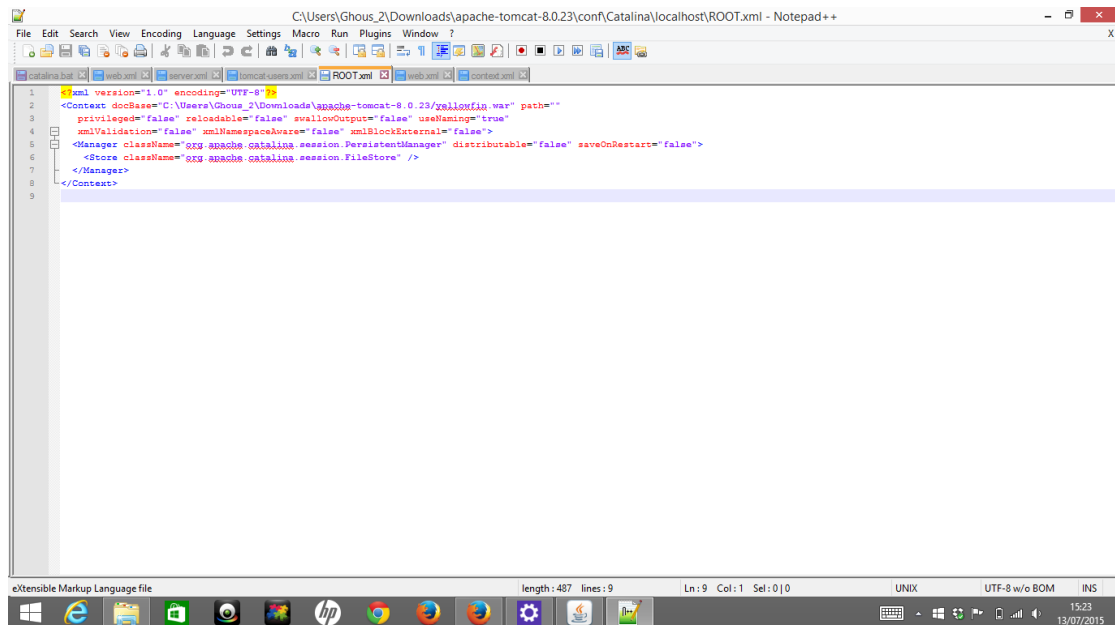
NOTE: *These instructions are written as a simple step by step guide. They are specifically for the Microsoft Windows™ environment. Screen shots have been taken, to emphasise the installation, from a Windows 8 environment.*

Assumptions

It is reasonably assumed that a level of IT competence is available for these instructions to be followed. It is also assumed that Windows has been installed and is up-to date, functioning as expected, with internet connectivity and no additional internet services running on the device intended to be used with these instructions.

Installation Guide

1. Download the relevant Tomcat 8 package for your environment from:
<https://tomcat.apache.org/download-80.cgi>
2. Ensure you note the directory you place the unpackaged files, you will need this in a later stage.
3. If you haven't already, Install Yellowfin as normal and install the License.
4. Navigate to your Yellowfin folder and into the appserver/webapps/ROOT folder. Select and copy all files and folders.
5. Navigate to your new Apache Tomcat directory and into the webapps folder.
6. Rename the exiting ROOT folder to ROOTold
7. Create a New ROOT folder and enter the folder
8. Paste all folder and items selected and copied in point 4
9. From the Yellowfin Root directory, copy the yellowfin.war file to the new root of Tomcat 8 (i.e. the same folder as the bin/BirtResources etc) make note of this directory.
10. Copy the ROOT.XML file from your old yellowfin7.1/appserver/conf/Catalin/localhost folder to the new tomcat 8 conf/Catalina/localhost directory.
11. Edit the ROOT.XML within the new tomcat conf/Catalina/localhost directory, file replacing the docBase reference to the new directory taken at point 9 and ensure /yellowfin.war is appended to the end

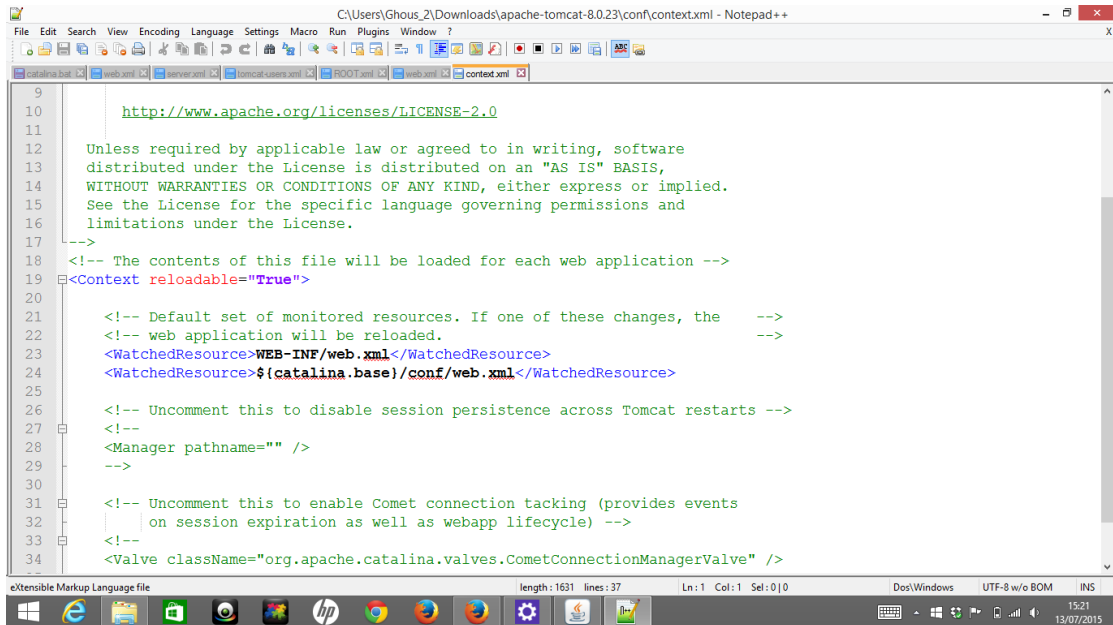


The screenshot shows a Notepad++ window titled "C:\Users\Ghous_Z\Downloads\apache-tomcat-8.0.23\conf\Catalina\localhost\ROOT.xml - Notepad++". The window displays the following XML code:

```
1 <?xml version="1.0" encoding="UTF-8" ?>
2 <Context docBase="C:\Users\Ghous_Z\Downloads\apache-tomcat-8.0.23\yellowfin.war" path=""
3     privileged="false" reloadable="false" svlloOutput="false" useNaming="true"
4     xmlValidation="false" xmlNamespaceAware="false" xmlBlockExternal="false">
5     <Manager className="org.apache.catalina.session.PersistentManager" distributable="false" saveOnRestart="false">
6         <Score className="org.apache.catalina.session.FileStore" />
7     </Manager>
8 </Context>
9
```

The status bar at the bottom of the window indicates "length: 487 lines: 9", "Ln: 9 Col: 1 Sel: 0 | 0", "UNIX", "UTF-8 w/o BOM", "INS", and the date "15:23 13/07/2015".

12. Move to the new Tomcat 8 conf directory. Take a backup of the context.xml, server.xml, tomcat-users.xml and web.xml files.
13. Edit the context.xml file and find the <context> section title around line 19. Edit the title to read <context reloadable="true"> save the file.



The screenshot shows a Notepad++ window editing the file C:\Users\Ghous_2\Downloads\apache-tomcat-8.0.23\conf\context.xml. The file content is as follows:

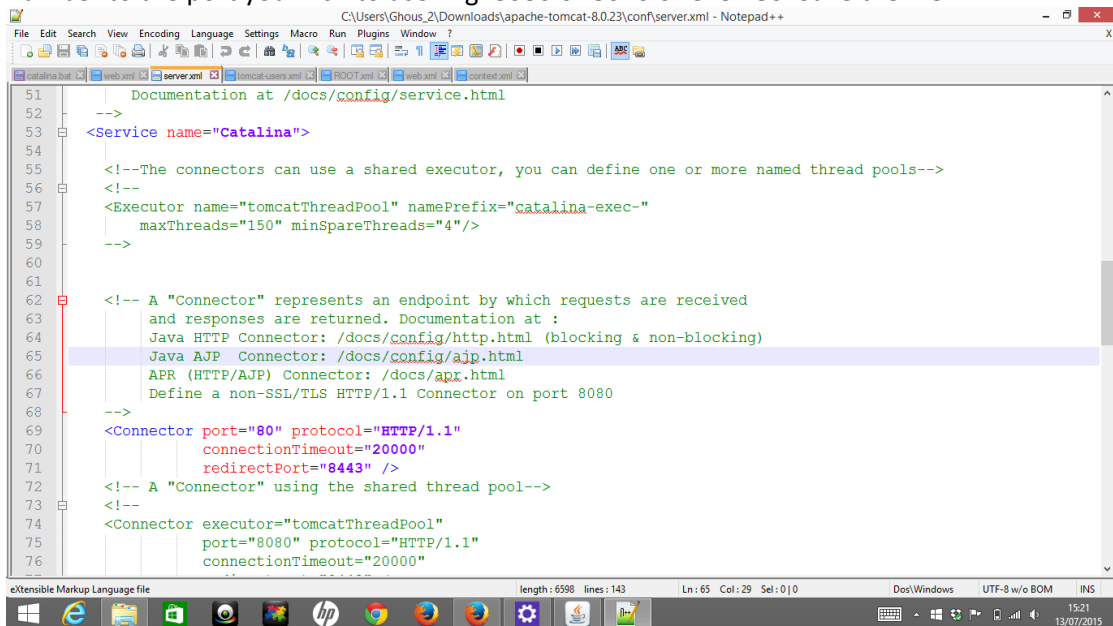
```

9
10     http://www.apache.org/licenses/LICENSE-2.0
11
12     Unless required by applicable law or agreed to in writing, software
13     distributed under the License is distributed on an "AS IS" BASIS,
14     WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
15     See the License for the specific language governing permissions and
16     limitations under the License.
17
18     <!-- The contents of this file will be loaded for each web application -->
19     <Context reloadable="True">
20
21         <!-- Default set of monitored resources. If one of these changes, the
22         <!-- web application will be reloaded.
23         <WatchedResource>WEB-INF/web.xml</WatchedResource>
24         <WatchedResource>${catalina.base}/conf/web.xml</WatchedResource>
25
26         <!-- Uncomment this to disable session persistence across Tomcat restarts -->
27         <!--
28         <Manager pathname="" />
29         <!--
30
31         <!-- Uncomment this to enable Comet connection tacking (provides events
32         <!-- on session expiration as well as webapp lifecycle) -->
33         <!--
34         <Valve className="org.apache.catalina.valves.CometConnectionManagerValve" />

```

The status bar at the bottom indicates the file is an Extensible Markup Language file, with a length of 1631 and 37 lines. The cursor is at line 1, column 1.

14. Edit the server.xml file and look for the connector port reference around line 69. Change the port number to the port you wish to use. E.g. 8080 or 8070 or even 80. Save the file.



The screenshot shows a Notepad++ window editing the file C:\Users\Ghous_2\Downloads\apache-tomcat-8.0.23\conf\server.xml. The file content is as follows:

```

51     Documentation at /docs/config/service.html
52     -->
53     <Service name="Catalina">
54
55         <!--The connectors can use a shared executor, you can define one or more named thread pools-->
56         <!--
57         <Executor name="tomcatThreadPool" namePrefix="catalina-exec-"
58         maxThreads="150" minSpareThreads="4"/>
59         <!--
60
61
62         <!-- A "Connector" represents an endpoint by which requests are received
63         and responses are returned. Documentation at :
64         Java HTTP Connector: /docs/config/http.html (blocking & non-blocking)
65         Java AJP Connector: /docs/config/ajp.html
66         APR (HTTP/AJP) Connector: /docs/apr.html
67         Define a non-SSL/TLS HTTP/1.1 Connector on port 8080
68         -->
69         <Connector port="80" protocol="HTTP/1.1"
70             connectionTimeout="20000"
71             redirectPort="8443" />
72         <!-- A "Connector" using the shared thread pool-->
73         <!--
74         <Connector executor="tomcatThreadPool"
75             port="8080" protocol="HTTP/1.1"
76             connectionTimeout="20000"

```

The status bar at the bottom indicates the file is an Extensible Markup Language file, with a length of 6598 and 143 lines. The cursor is at line 65, column 29.

15. Edit the tomcat-users.xml file. Note the comments notes around the users and roles. Within the file, below the close comment and above the </tomcat-users> line, insert two new lines reading:
 <role rolename="manager-gui"/>
 <user username="manager" password="xxxx" roles="manager-gui"/> then save the file.

```

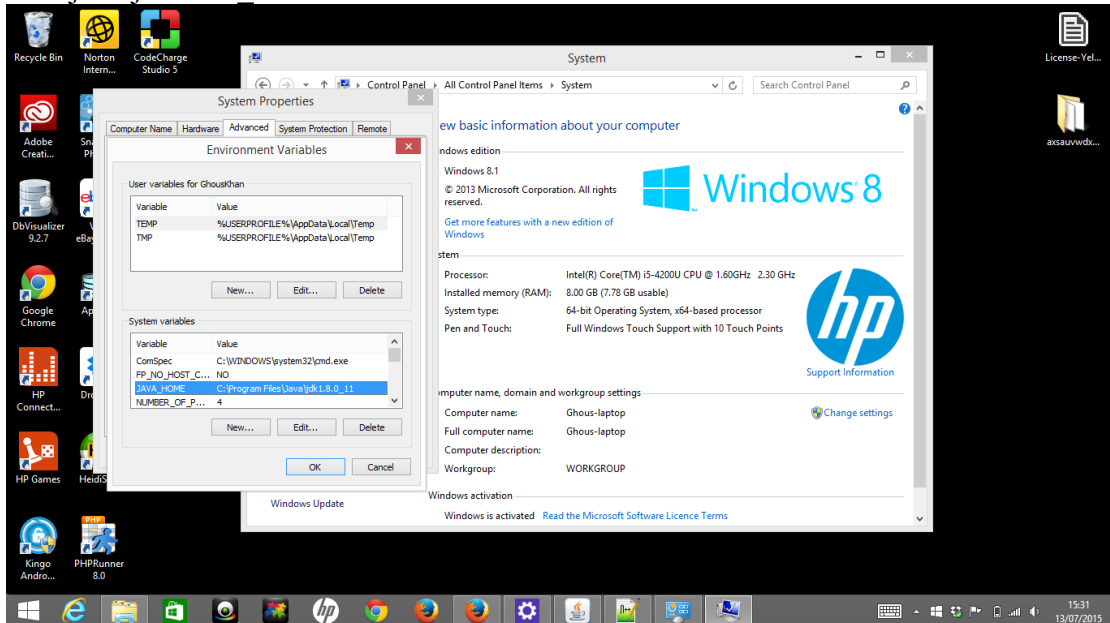
18 <tomcat-users xmlns="http://tomcat.apache.org/xml"
19             xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
20             xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-users.xsd"
21             version="1.0">
22 <!--
23 NOTE: By default, no user is included in the "manager-gui" role required
24 to operate the "/manager/html" web application. If you wish to use this app,
25 you must define such a user - the username and password are arbitrary.
26 -->
27 <!--
28 NOTE: The sample user and role entries below are wrapped in a comment
29 and thus are ignored when reading this file. Do not forget to remove
30 <!-- ...> that surrounds them.
31 -->
32 <!--
33 <role rolename="tomcat"/>
34 <role rolename="role1"/>
35 <user username="tomcat" password="tomcat" roles="tomcat"/>
36 <user username="both" password="tomcat" roles="tomcat,role1"/>
37 <user username="role1" password="tomcat" roles="role1"/>
38 -->
39 <role rolename="manager-gui"/>
40 <user username="manager" password="xxxx" roles="manager-gui"/>
41
42 </tomcat-users>
43
  
```

16. Edit the web.xml file and find the <param-value>>false</param-value> on or around line 111. Change the parameter to true, save the file.

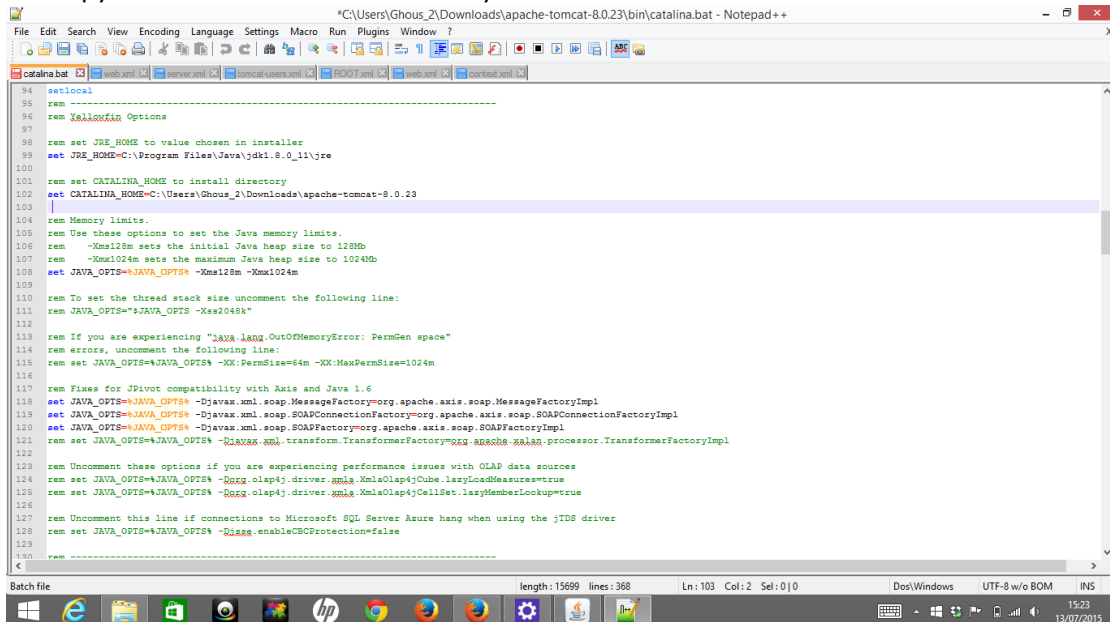
```

93 <!-- $CATALINA_BASE/conf or $CATALINA_HOME/conf -->
94 <!-- path that points to a location below either -->
95 <!-- $CATALINA_BASE/conf (checked first) or -->
96 <!-- $CATALINA_HOME/conf (checked second).[null] -->
97 <!-- -->
98 <!-- showServerInfo Should server information be presented in the -->
99 <!-- response sent to clients when directory -->
100 <!-- listings is enabled? [true] -->
101
102 <servlet>
103   <servlet-name>default</servlet-name>
104   <servlet-class>org.apache.catalina.servlets.DefaultServlet</servlet-class>
105   <init-param>
106     <param-name>debug</param-name>
107     <param-value>0</param-value>
108   </init-param>
109   <init-param>
110     <param-name>listings</param-name>
111     <param-value>true</param-value>
112   </init-param>
113   <load-on-startup>1</load-on-startup>
114 </servlet>
115
116 <!-- The JSP page compiler and execution servlet, which is the mechanism -->
117 <!-- used by Tomcat to support JSP pages. Traditionally, this servlet -->
118
  
```

- Ensure you have a system variable set to point to the Java home directory, get this parameter by looking for your to do this enter your control panel, system then Advanced system settings and then the environment variables button.
Set or edit either the user variable or a system variable to be: JAVA_HOME with a value of the directory your java jdk is installed. Typically this would be c:\program files\java\jdk1.8.0_11



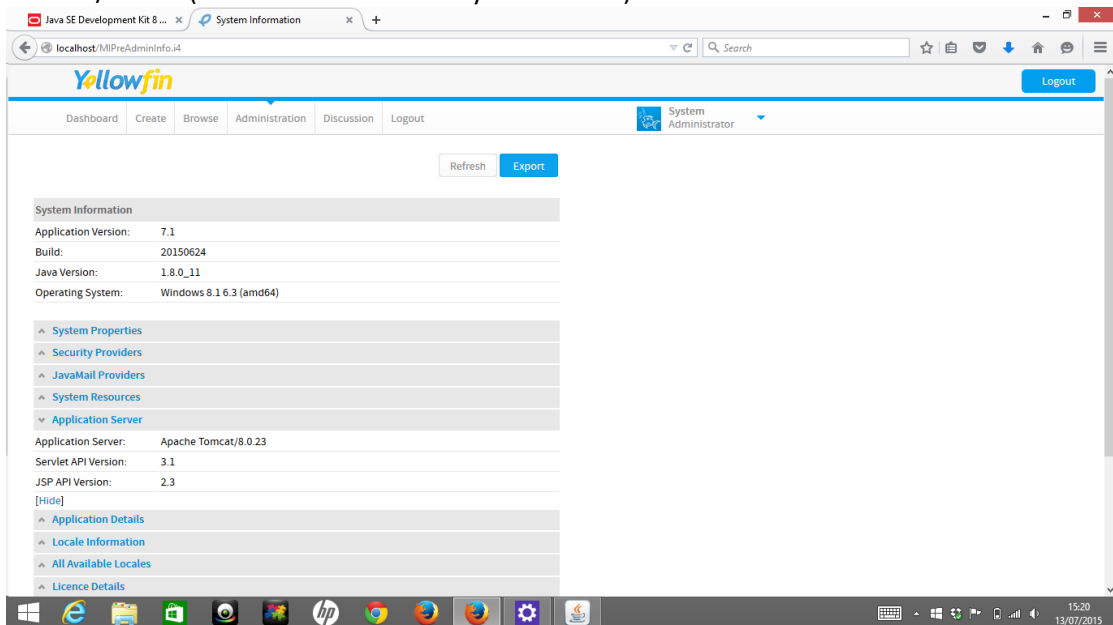
- Edit the catalina.bat within your old Yellowfin install, within the bin folder. Copy the section from setlocal (around line 94) through to around line 129 (just above the rem Suppress Terminate batch job on CTRL+C. Open the catalina.bat file in the bin directory of your new Tomcat install and paste the copy lines in below the setlocal entry at around line 94.



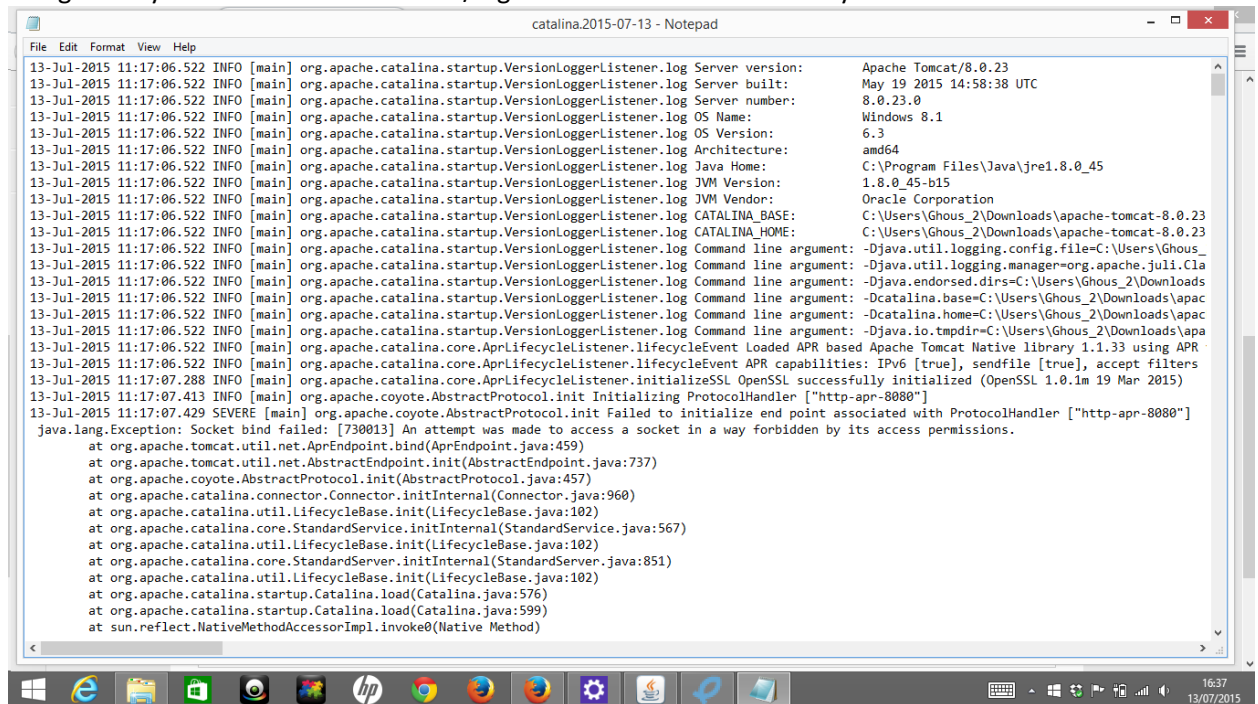
19. Navigate to your new Tomcat 8 directory /webapps/ROOT and edit the web.xml you find in that folder. Ensure to modify the Entity JSPs parameter on line 6 to your new install folder, for reference.

```
1 <?xml version="1.0" encoding="UTF-8" ?>
2
3
4 <!DOCTYPE web-app
5 PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"
6 "http://java.sun.com/dtd/web-app_2_3.dtd" [
7 <ENTITY jsp SYSTEM "file:/C:/Users/Ghous_2/Downloads/apache-tomcat-8.0.23/webapps/ROOT/WEB-INF/web-jsp.xml" ?
8 ]>
9
10 <web-app>
11
12 <!-- System Event and Debug classes -->
13
14 <listener>
15 <listener-class>com.hof.servlet.SysSessionListener</listener-class>
16 </listener>
17
18 <listener>
19 <listener-class>com.hof.util.RequestListener</listener-class>
20 </listener>
21
22 <!-- Action Servlet Configuration -->
23
24 <servlet>
25 <servlet-name>action</servlet-name>
26 <servlet-class>org.apache.struts.action.ActionServlet</servlet-class>
27 <init-param>
28 <param-name>application</param-name>
29 <param-value>com.hof.ApplicationResources</param-value>
30 </init-param>
31 <init-param>
32 <param-name>config</param-name>
33 <param-value>
34 /WEB-INF/struts-config.xml,
35 /WEB-INF/struts-config-ip.xml,
36 /WEB-INF/struts-config-ml.xml,
37 /WEB-INF/struts-config-mobile.xml
38 </param-value>
39 </init-param>
40 </servlet>
```

20. Re-Start your PC for the variables to take hold.
21. Launch Tomcat 8 from the startup.bat file within your new Tomcat 8 bin directory.
22. Once loaded, open a browser and move to the URL localhost:<port> (i.e. the port you entered at point 14). You should see the Yellowfin login page.
23. To confirm Tomcat 8 is running, move to Administration, Admin Console and select the System Information from the right hand menu. Select Application server and you should see Apache Tomcat/8.0.23 (or the version number you installed)



24. You can also reference the Tomcat log files to see the version currently running. To do this navigate to your new Tomcat 8 folder /logs and look at catalina.<today's date>



```
catalina.2015-07-13 - Notepad
File Edit Format View Help
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server version: Apache Tomcat/8.0.23
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server built: May 19 2015 14:58:38 UTC
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server number: 8.0.23.0
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Name: Windows 8.1
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log OS Version: 6.3
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Architecture: amd64
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Java Home: C:\Program Files\Java\jre1.8.0_45
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Version: 1.8.0_45-b15
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log JVM Vendor: Oracle Corporation
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_BASE: C:\Users\Ghous_2\Downloads\apache-tomcat-8.0.23
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log CATALINA_HOME: C:\Users\Ghous_2\Downloads\apache-tomcat-8.0.23
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.util.logging.config.file=C:\Users\Ghous_
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.util.logging.manager=org.apache.juli.Cla
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.endorsed.dirs=C:\Users\Ghous_2\Downloads
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.base=C:\Users\Ghous_2\Downloads\apac
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Dcatalina.home=C:\Users\Ghous_2\Downloads\apa
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Command line argument: -Djava.io.tmpdir=C:\Users\Ghous_2\Downloads\apa
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent Loaded APR based Apache Tomcat Native library 1.1.33 using APR
13-Jul-2015 11:17:06.522 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent APR capabilities: IPv6 [true], sendfile [true], accept filters
13-Jul-2015 11:17:07.288 INFO [main] org.apache.catalina.core.AprLifecycleListener.initializeSSL OpenSSL successfully initialized (OpenSSL 1.0.1m 19 Mar 2015)
13-Jul-2015 11:17:07.413 INFO [main] org.apache.coyote.AbstractProtocol.init Initializing ProtocolHandler ["http-apr-8080"]
13-Jul-2015 11:17:07.429 SEVERE [main] org.apache.coyote.AbstractProtocol.init Failed to initialize end point associated with ProtocolHandler ["http-apr-8080"]
java.lang.Exception: Socket bind failed: [730013] An attempt was made to access a socket in a way forbidden by its access permissions.
    at org.apache.tomcat.util.net.AprEndpoint.bind(AprEndpoint.java:459)
    at org.apache.tomcat.util.net.AbstractEndpoint.init(AbstractEndpoint.java:737)
    at org.apache.coyote.AbstractProtocol.init(AbstractProtocol.java:457)
    at org.apache.catalina.connector.Connector.initInternal(Connector.java:960)
    at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
    at org.apache.catalina.core.StandardService.initInternal(StandardService.java:567)
    at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
    at org.apache.catalina.core.StandardServer.initInternal(StandardServer.java:851)
    at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
    at org.apache.catalina.startup.Catalina.load(Catalina.java:576)
    at org.apache.catalina.startup.Catalina.load(Catalina.java:599)
    at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
```