### Tomcat Installation Steps

### Step 1: Installing Java 8

**1.** Before installing **Tomcat** make sure you have the latest version of **Java Development Kit** (**JDK**) installed and configured on the system. It is preferred to use oracle Java.

To install latest **Oracle Java JDK** (**jdk-8u131**) on Linux, you may like to refer our recent posts on Oracle jdk/jre/jar installations here:

1. [Install Java 8 JDK on Linux](https://www.tecmint.com/install-java-jdk-jre-in-linux/)
2. [Install Java 8 JDK/JRE on RHEL/CentOS](https://www.tecmint.com/install-java-jdk-jre-on-rhel-centos-fedora/)

### Step 2: Download and Install Apache Tomcat 8

**2.** Once latest Java installed and configured correctly on the system, we will move forward to download and install latest stable version of **Tomcat 8** (i.e. **8.5.14**). If you want to cross check, if any newer version available, go to following Apache download page and cross check.

1. <http://tomcat.apache.org/download-80.cgi>

**3.** Next create a /opt/tomcat/ directory and download the latest version of Apache Tomcat 8 under this directory, also for cross checking the download file, we will be downloading hash file. The download will take some time depending upon your connection speed.

# mkdir /opt/tomcat/ && cd /opt/tomcat

# wget http://mirror.fibergrid.in/apache/tomcat/tomcat-8/v8.5.14/bin/apache-tomcat-8.5.14.zip

# wget https://www.apache.org/dist/tomcat/tomcat-8/v8.5.14/bin/apache-tomcat-8.5.14.zip.md5

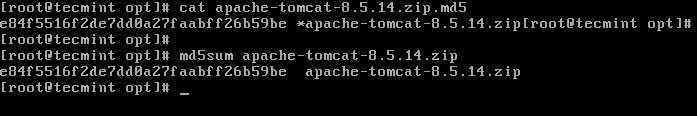
**Note**: Make sure to replace the version number in the above download link with the latest version available if it was different.

**4.** Now verify the **MD5 Checksum** against the key.

# cat apache-tomcat-8.5.14.zip.md5

# md5sum apache-tomcat-8.5.14.zip

Make sure that the output (**Hash Value**) matches, as shown below.

Verify Apache Tomcat MD5

**5.** Extract the Tomcat zip and cd to ‘**apache-tomcat-8.5.14/bin/**‘ directory.

# unzip apache-tomcat-8.5.14.zip

# cd apache-tomcat-8.5.14/bin/

**6.** Now make Linux scripts executable that is under ‘**apache-tomcat-8.5.14/bin/**‘ and then create symbolic link of **startup** and **shutdown** script for tomcat as:

Change all scripts \*.sh executable only for root as,

# chmod 700 /opt/tomcat/apache-tomcat-8.5.14/bin/\*.sh

Create Symbolic link for startup script as,

# ln -s /opt/tomcat/apache-tomcat-8.5.14/bin/startup.sh /usr/bin/tomcatup

Create Symbolic link for shutdown script as,

# ln -s /opt/tomcat/apache-tomcat-8.5.14/bin/shutdown.sh /usr/bin/tomcatdown

**7.** Now to start tomcat, you just need to fire the below command as root from anywhere in the shell.

# tomcatup

##### Sample Output

Using CATALINA\_BASE: /opt/tomcat/apache-tomcat-8.5.14

Using CATALINA\_HOME: /opt/tomcat/apache-tomcat-8.5.14

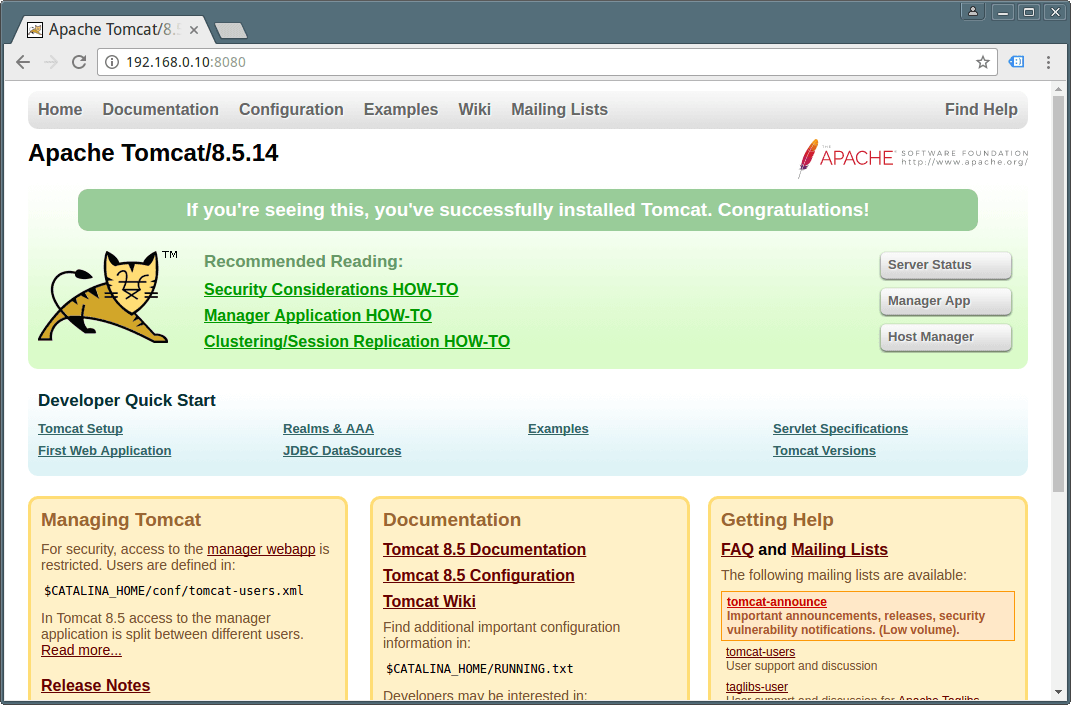
Using CATALINA\_TMPDIR: /opt/tomcat/apache-tomcat-8.5.14/temp

Using JRE\_HOME: /opt/java/jdk1.8.0\_131/jre/

Using CLASSPATH: /opt/tomcat/apache-tomcat-8.5.14/bin/bootstrap.jar:/opt/apache-tomcat-8.5.14/bin/tomcat-juli.jar

Tomcat started.

Once ‘**Tomcat Started**‘, you can point your browser to **http://127.0.0.1:8080** and you should see something as:

Default Apache Tomcat Page

**Step 3: Changing Apache Tomcat Port**

**8.** Do remember that **8080** is the default port tomcat usages. To change tomcat port from **8080** to any other unused port (say **137**), you may do as:

First shutdown tomcat server simply by typing the below command from anywhere in the shell.

# tomcatdown

Next, open ‘**/opt/tomcat/apache-tomcat-8.5.14/conf/server.xml**‘ file in your favorite editor (mine is **nano**) to edit. Change port **8080** to **137**, save and exit.

# nano /opt/tomcat/apache-tomcat-8.5.14/conf/server.xml

**Sample Output**

<Connector port="**137**" protocol="HTTP/1.1"

connectionTimeout="20000"

redirectPort="8443" />

After changing port to **137**, restart tomcat service again and point your browser to **http://127.0.0.1:137**.

# tomcatup

Similarly, you can use any port of your choice. Make sure the port you are using don’t conflict with any other application/resource.

**Step 4: Configuring Apache Tomcat 8**

**9.** By default the Tomcat page is accessed by you only due its security implementation so that unauthorized users don’t have access to it.

To access admin and other sections like Server Status, Manager App and Host Manager. You need to add user accounts for admins and managers.

To add a Tomcat user edit file ‘**/opt/tomcat/apache-tomcat-8.5.14/conf/tomcat-users.xml**‘, in your favorite editor.

# nano /opt/tomcat/apache-tomcat-8.5.14/conf/tomcat-users.xml

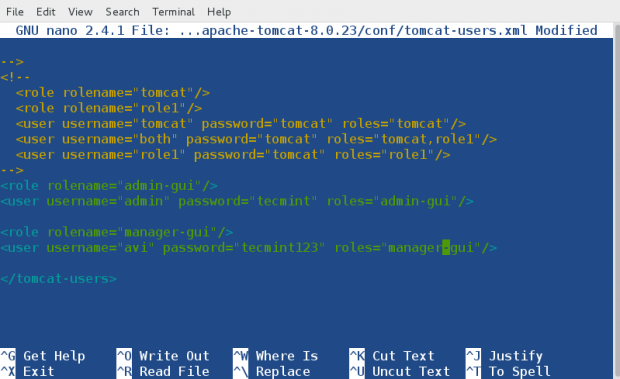
**10.** Add the following lines just before ‘</tomcat-users>‘.

<role rolename="admin-gui"/>

<user username="**admin**" password="**tecmint**" roles="admin-gui"/>

<role rolename="manager-gui"/>

<user username="**avi**" password="**tecmint123**" roles="manager-gui"/>

Add Tomcat Users

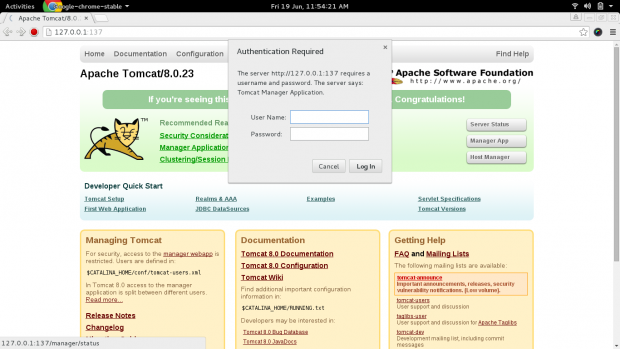
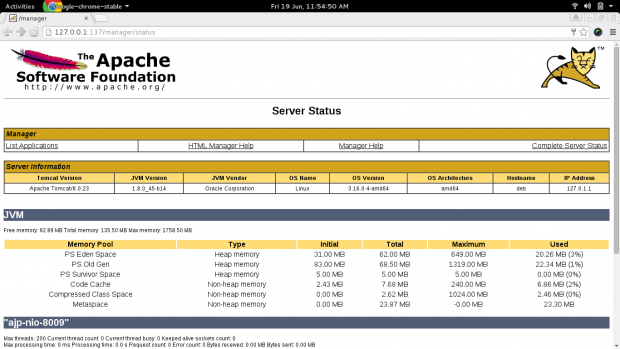
Again, you need to restart Tomcat to take new changes into effect.

# tomcatdown

# tomcatup

**11.** After restarting Tomcat, make sure to access the admin other sections like **Server Status**, etc at **http://127.0.0.1:137**.

It you will be asked to Enter **User\_name** and **Password**, you just created above, after login you will see something like the below interface.

Apache Tomcat User LoginApache Tomcat Server Status

Your all setting and basic configuration of Tomcat has finished now. Now we will see a simple example (beyond the scope of this article), a very basic program (**JSP Program**) to run in Tomcat. It would be dumb if we do not show it.

**12.** Create a file called tecmint.jsp under ‘**/opt/tomcat/apache-tomcat-8.5.14/webapps/ROOT**‘ directory.

# touch /opt/tomcat/apache-tomcat-8.5.14/webapps/ROOT/tecmint.jsp

**13.** Now put the below contents in the new file (**tecmint.jsp**), save and exit. You may edit it, if you know what you are doing.

<html>

<head>

<title>Tecmint post:TomcatServer</title>

</head>

<body>

<START OF JAVA CODES>

<%

out.println("Hello World! I am running my first JSP Application");

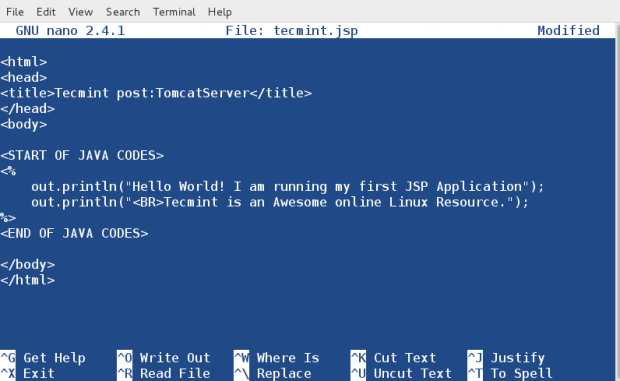
out.println("<BR>Tecmint is an Awesome online Linux Resource.");

%>

<END OF JAVA CODES>

</body>

</html>

Create JSP Program

Most of the things in the above codes are self explaining. We have put simple Java code to print two lines of output and embed it in between HTML codes, which can be accessed at **http://127.0.0.1:137/tecmint.jsp**.

JSP Page