

Developers write the pom.xml file and handover to the DevOps team.

Launch 2 ec2 instances.

1. Maven server
2. Tomcat server

1. Maven Server

Install the git, java and maven.

Clone the repository

Navigate to the pom.xml folder and try to build the package.

mvn clean package

It will create a target folder and inside the target folder it will create the web package with name as "myweb-1.0.war".

2. Tomcat Server

Install the java

And follow the tomcat installation steps in git repo

Try to start the tomcat server

```
To start/stop the tomcat server Navigate to below directory
/home/ec2-user/apache-tomcat-X.X.X/bin
./startup.sh          => It will start the tomcat server
./shutdown.sh         => It will stop the tomcat server
```

3. Send the maven build package from maven machine to tomcat machine.

In maven machine, Copy the tomcat server pem file.

```
nano /tmp/tomcatserver.pem
chmod 700 /tmp/tomcatserver.pem
```

Update the file permissions in tomcat to receive the package from maven machine.

```
chmod 777 webapps
```

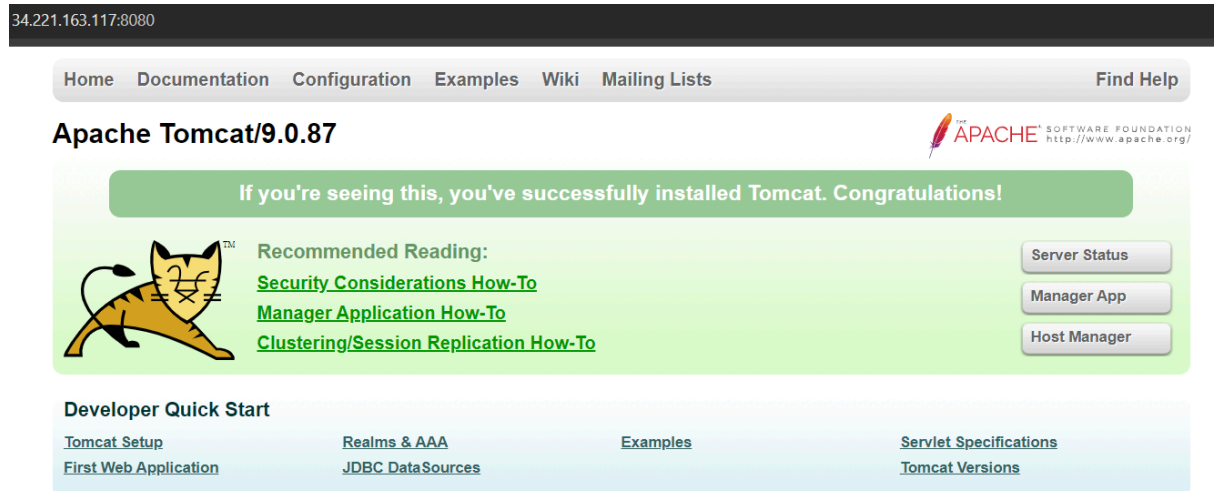
Once the permissions are done then try to send the file from maven to tomcat.

```
scp -i /tmp/tomcatserver.pem <webpackage name>
ec2-user@<ec2-machine public ip>:/<tomcatlocation>/webapps
```

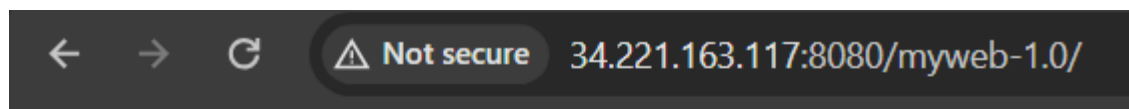
EX:

```
scp -i /tmp/tomcatserver.pem myweb-1.0  
ec2-user@34.221.163.117:/home/ec2-user/apache-tomcat-9.0.87/webapps
```

Open any browser, mention the tomcat server ip address and tomcat server port number(8080). It will show the default tomcat page.



If you want to see the maven build web server page, mention the build package name with extension.



Welcome to my JSP Page!

This is a simple example of a JSP page.

Hello, world!

If you want to build a secure web page like (internet banking/ user login credentials)

1. Shutdown the tomcat server

```
/home/ec2-user/apache-tomcat-9.0.87/bin  
./shutdown.sh
```

2. Add an user to login

```
/home/ec2-user/apache-tomcat-9.0.87/conf
```

```
[ec2-user@sonar conf]$ ls -al
total 264
drwx-----. 3 ec2-user ec2-user 16384 Apr  9 06:06 .
drwxr-xr-x.  9 ec2-user ec2-user 16384 Apr  9 06:06 ..
drwxr-x---.  3 ec2-user ec2-user   23 Apr  9 06:06 Catalina
-rw-----.  1 ec2-user ec2-user 12953 Mar 11 10:12 catalina.policy
-rw-----.  1 ec2-user ec2-user  7630 Mar 11 10:12 catalina.properties
-rw-----.  1 ec2-user ec2-user  1400 Mar 11 10:12 context.xml
-rw-----.  1 ec2-user ec2-user  1149 Mar 11 10:12 jaspic-providers.xml
-rw-----.  1 ec2-user ec2-user  2313 Mar 11 10:12 jaspic-providers.xsd
-rw-----.  1 ec2-user ec2-user  4144 Mar 11 10:12 logging.properties
-rw-----.  1 ec2-user ec2-user  7856 Mar 11 10:12 server.xml
-rw-----.  1 ec2-user ec2-user  2909 Apr  9 06:36 tomcat-users.xml
-rw-----.  1 ec2-user ec2-user  2558 Mar 11 10:12 tomcat-users.xsd
-rw-----.  1 ec2-user ec2-user 172951 Mar 11 10:12 web.xml
```

nano tomcat-users.xml

Attach the below 3 lines

```
<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<user username="admin" password="admin"
roles="manager-gui,manager-script"/>
```

Note:

Indentation is mandatory

```
<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<user username="admin" password="admin" roles="manager-gui,manager-script"/>
```

3. Remove the lookback URL

```
[ec2-user@sonar META-INF]$ pwd
/home/ec2-user/apache-tomcat-9.0.87/webapps/manager/META-INF
[ec2-user@sonar META-INF]$ ls
context.xml
[ec2-user@sonar META-INF]$
```

/home/ec2-user/apache-tomcat-9.0.87/webapps/manager/META-INF

nano context.xml

```
<Valve className="org.apache.catalina.valves.RemoteAddrValve"
allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />
```

4. Now start the tomcat server


```
/home/ec2-user/apache-tomcat-9.0.87/bin
./startup.sh
```

Any Browser, and enter the tomcat server ip address with port number.


34.221.163.117:8080

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Apache Tomcat/9.0.87



If you're seeing this, you've successfully installed Tomcat. Congratulations!



Recommended Reading:
[Security Considerations How-To](#)
[Manager Application How-To](#)
[Clustering/Session Replication How-To](#)

[Server Status](#)
[Manager App](#)
[Host Manager](#)

34.221.163.117:8080/manager/html

Sign in

http://34.221.163.117:8080

Your connection to this site is not private

Username

Password

[Sign in](#) [Cancel](#)

Mention the username and password which was created in step-2

← → ↻ Not secure 34.221.163.117:8080/manager/html ☆ ⓘ ⚙

Tomcat Web Application Manager

Message: OK

Manager
[List Applications](#)
[HTML Manager Help](#)
[Manager Help](#)
[Server Status](#)

Applications					
Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/manager	None specified	Tomcat Manager Application	true	2	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/myweb-1.0	None specified	Created Web Application	true	1	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

Deploy

We need to click on myweb-1.0. It will navigate us to the welcome page.

← → ↻ ⚠ Not secure 34.221.163.117:8080/myweb-1.0/

Welcome to my JSP Page!

This is a simple example of a JSP page.

Hello, world!

How to change the tomcat server port number?

```
[ec2-user@sonar conf]$ pwd
/home/ec2-user/apache-tomcat-9.0.87/conf
[ec2-user@sonar conf]$ ls -al
total 264
drwx-----. 3 ec2-user ec2-user 16384 Apr  9 06:06 .
drwxr-xr-x. 9 ec2-user ec2-user 16384 Apr  9 06:06 ..
drwxr-x---. 3 ec2-user ec2-user   23 Apr  9 06:06 Catalina
-rw-----. 1 ec2-user ec2-user 12953 Mar 11 10:12 catalina.policy
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-rw-----. 1 ec2-user ec2-user  1149 Mar 11 10:12 jaspic-providers.xml
-rw-----. 1 ec2-user ec2-user  2313 Mar 11 10:12 jaspic-providers.xsd
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-rw-----. 1 ec2-user ec2-user  7856 Mar 11 10:12 server.xml
-rw-----. 1 ec2-user ec2-user  2909 Apr  9 06:36 tomcat-users.xml
-rw-----. 1 ec2-user ec2-user  2558 Mar 11 10:12 tomcat-users.xsd
-rw-----. 1 ec2-user ec2-user 172951 Mar 11 10:12 web.xml
[ec2-user@sonar conf]$
```

Open the server.xml in vi editor and search for 8080. (For searching it will be easy)

```
<Connector port="8080" protocol="HTTP/1.1"
    connectionTimeout="20000"
    redirectPort="8443"
    maxParameterCount="1000"
/>

<!-- A "Connector" using the shared thread pool-->
<!--
<Connector executor="tomcatThreadPool"
    port="8080" protocol="HTTP/1.1"
    connectionTimeout="20000"
    redirectPort="8443"
    maxParameterCount="1000"
/>

-->
<!-- Define an SSL/TLS HTTP/1.1 Connector on port 8443
This connector uses the NIO implementation. The default
SSLImplementation will depend on the presence of the APR/native
library and the useOpenSSL attribute of the AprLifecycleListener.
/8080
```

Change the number and restart the tomcat server.

```
<Connector port="4321" protocol="HTTP/1.1"
            connectionTimeout="20000"
            redirectPort="8443"
            maxParameterCount="1000"
            />
<!-- A "Connector" using the shared thread pool-->
```

Shutdown and start the tomcat server

```
/home/ec2-user/apache-tomcat-9.0.87/bin
./shutdown.sh
./start.sh
```

Open the browser and check it

34.221.163.117:4321

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Apache Tomcat/9.0.87

 **APACHE** SOFTWARE FOUNDATION
<http://www.apache.org/>

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Recommended Reading:

[Security Considerations How-To](#)

[Manager Application How-To](#)

[Clustering/Session Replication How-To](#)

[Server Status](#)

[Manager App](#)

[Host Manager](#)

34.221.163.117:8080



This site can't be reached

34.221.163.117 refused to connect.

Try:

- Checking the connection
- [Checking the proxy and the firewall](#)

ERR_CONNECTION_REFUSED

How to upgrade Tomcat 9 version to Tomcat 10 version (AWS)

1. Launch a new EC2 instance and install the tomcat 10 version.
2. Take the EC2 Instance backup(Snapshots).

A screenshot of the AWS Management Console. The top section shows a table of EC2 instances with columns for Name, Instance ID, Instance state, Instance type, Status check, and Alarm status. Three instances are listed: 'tomcat8', 'tomcat-10', and 'tomcat-9', all in a 'Running' state. The 'tomcat8' instance is selected. Below the table, a context menu is open, showing options like 'Create image', 'Create template from instance', and 'Launch more like this'. The 'Create image' option is highlighted. To the right of the table, there is a sidebar with various actions like 'Connect', 'View details', 'Manage instance state', 'Instance settings', 'Networking', 'Security', 'Image and templates', and 'Monitor and troubleshoot'. The 'Image and templates' option is also highlighted.

3. Copy all the files from Tomcat 9 version **webapps** folder to Tomcat 10 version webapps via SCP.
4. Copy library files
5. Reboot apache-tomcat-10.X.X
6. Delete the old instance(apache-tomcat-9.X.X)

Where to attach the SSL Certificate in tomcat server?

Inside the server.xml