# Project - 6

## Project Title: Installing and Configuring Apache tomcat server on Linux

1. Install java

yum install java-1.8*

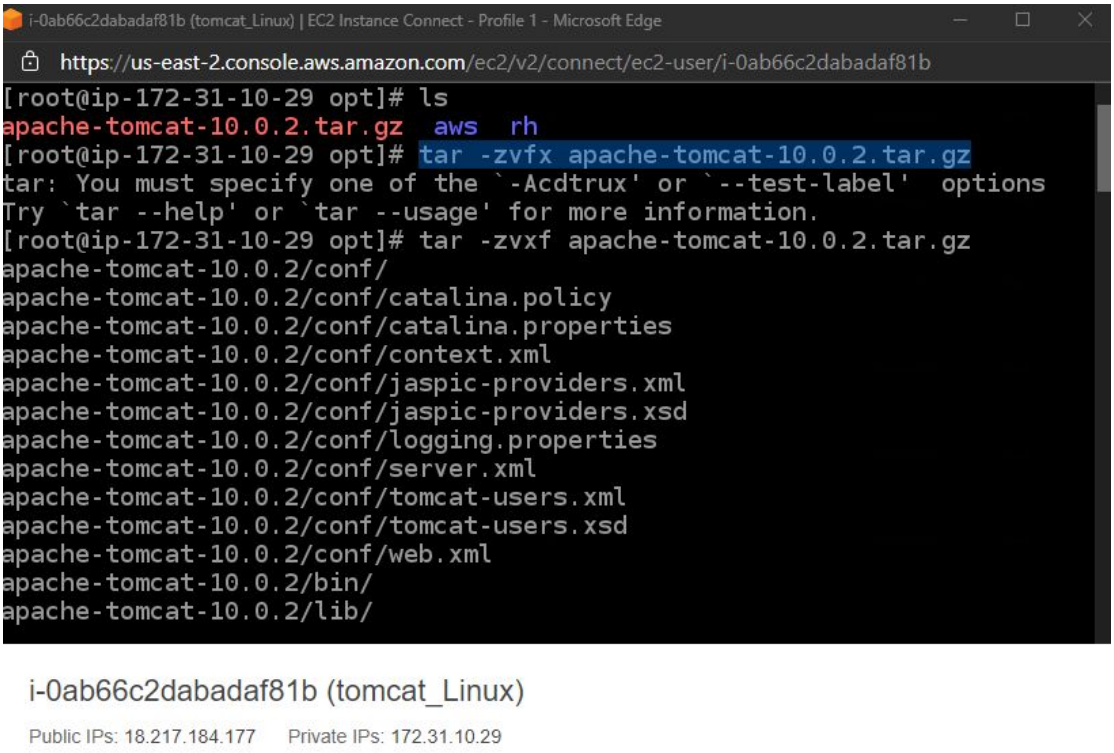
2. Install tomcat

cd /opt
wget
https://mirrors.estointernet.in/apache/tomcat/tomcat-10/v10.0.2/bin/apache-tomcat-10.0.2.tar.gz

Here **wget** command, is a computer tool created by the GNU Project. You can use it to retrieve content and files from various web servers. The name is a combination of World Wide Web and the word get. It supports downloads via FTP, SFTP, HTTP, and HTTPS. Wget is created in portable C and usable on any Unix system.

3. Untar Single file from tar.gz File

tar -zvxf apache-tomcat-10.0.2.**tar.gz**




Here **tar** command, used to **rip a collection of files and directories into a highly compressed archive file commonly called tarball** or tar, gzip and bzip in Linux.

cd **apache-tomcat-10.0.2**
cd bin/
ps -ef | grep tomcat

This command searches the process by pattern matching **grep** command.

```
[root@ip-172-31-10-29 opt]# cd apache-tomcat-10.0.2/bin/
[root@ip-172-31-10-29 bin]# ps -ef | grep tomcat
root      3876  3242  0 18:55 pts/1    00:00:00 grep --color=auto tomcat
[root@ip-172-31-10-29 bin]# ls
bootstrap.jar                configtest.sh     shutdown.sh
catalina.bat                 daemon.sh         startup.bat
catalina.sh                  digest.bat        startup.sh
catalina-tasks.xml           digest.sh         tomcat-juli.jar
ciphers.bat                  makebase.bat      tomcat-native.tar.gz
ciphers.sh                   makebase.sh       tool-wrapper.bat
commons-daemon.jar           setclasspath.bat  tool-wrapper.sh
commons-daemon-native.tar.gz setclasspath.sh   version.bat
configtest.bat               shutdown.bat      version.sh
[root@ip-172-31-10-29 bin]#
```

i-0ab66c2dabadaf81b (tomcat_Linux)

Public IPs: 18.217.184.177 Private IPs: 172.31.10.29

4. Modify permissions for startup.sh and shutdown.sh

Listing both the files with their file permissions
ls -ltr **startup.sh shutdown.sh**

Modifying their permission,
chmod +x **startup.sh shutdown.sh**

```
[root@ip-172-31-10-29 bin]# ls -ltr startup.sh shutdown.sh
-rwxr-x--- 1 root root 1904 Jan 28 18:51 startup.sh
-rwxr-x--- 1 root root 1902 Jan 28 18:51 shutdown.sh
[root@ip-172-31-10-29 bin]# chmod +x startup.sh shutdown.sh
[root@ip-172-31-10-29 bin]# ls -ltr startup.sh shutdown.sh
-rwxr-x--x 1 root root 1904 Jan 28 18:51 startup.sh
-rwxr-x--x 1 root root 1902 Jan 28 18:51 shutdown.sh
```

5. Creating a **softlink**

find / -name startup.sh
ln -s **/opt/apache-tomcat-10.0.2/bin/startup.sh** /usr/bin/**tomcatup**

find / -name shutdown.sh
ln -s **/opt/apache-tomcat-10.0.2/bin/shutdown.sh** /usr/bin/**tomcatdown**

```
[root@ip-172-31-10-29 bin]# echo $PATH
/sbin:/bin:/usr/sbin:/usr/bin
[root@ip-172-31-10-29 bin]# find / -name startup.sh
/opt/apache-tomcat-10.0.2/bin/startup.sh
[root@ip-172-31-10-29 bin]# find / -name shutdown.sh
/usr/lib/dracut/modules.d/99shutdown/shutdown.sh
/opt/apache-tomcat-10.0.2/bin/shutdown.sh
[root@ip-172-31-10-29 bin]# ln -s /opt/apache-tomcat-10.0.2/bin/startup.s
h /usr/bin/tomcatup
[root@ip-172-31-10-29 bin]# ln -s /opt/apache-tomcat-10.0.2/bin/shutdown.
sh /usr/bin/tomcatdown
[root@ip-172-31-10-29 bin]# ps -ef | grep tomcat
root      4627  3242  0 19:09 pts/1    00:00:00 grep --color=auto tomcat
```

```
[root@ip-172-31-10-29 conf]# tomcatup
Using CATALINA_BASE:   /opt/apache-tomcat-10.0.2
Using CATALINA_HOME:   /opt/apache-tomcat-10.0.2
Using CATALINA_TMPDIR: /opt/apache-tomcat-10.0.2/temp
Using JRE_HOME:        /
Using CLASSPATH:       /opt/apache-tomcat-10.0.2/bin/bootstrap.jar:/opt/apac
cat-10.0.2/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
[root@ip-172-31-10-29 conf]#
```

i-0ab66c2dabadaf81b (tomcat_Linux)

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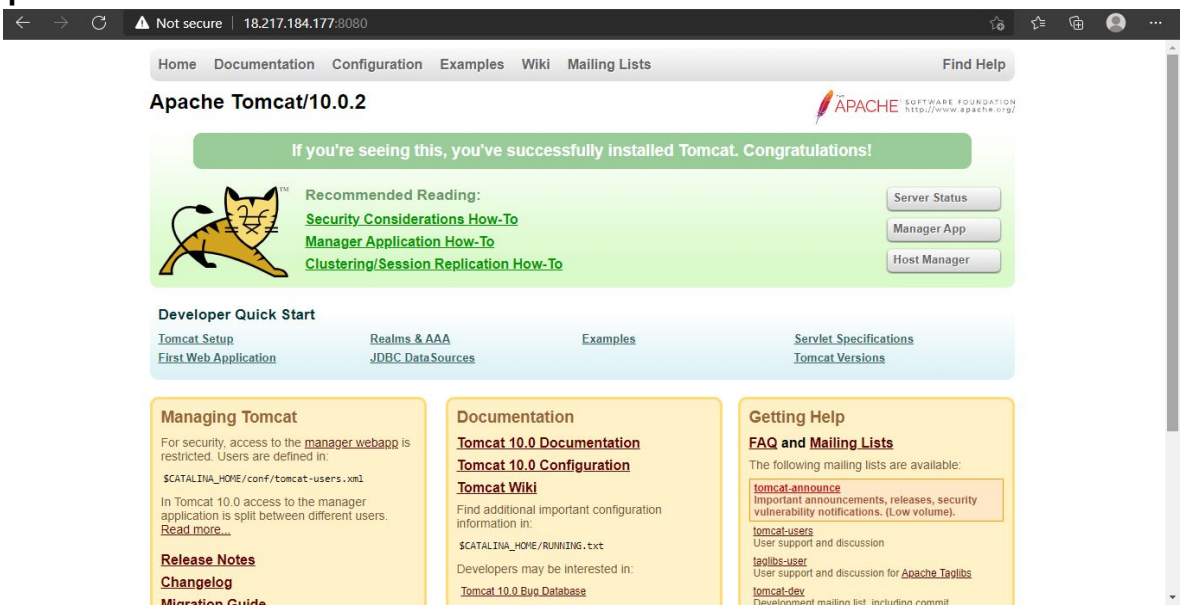
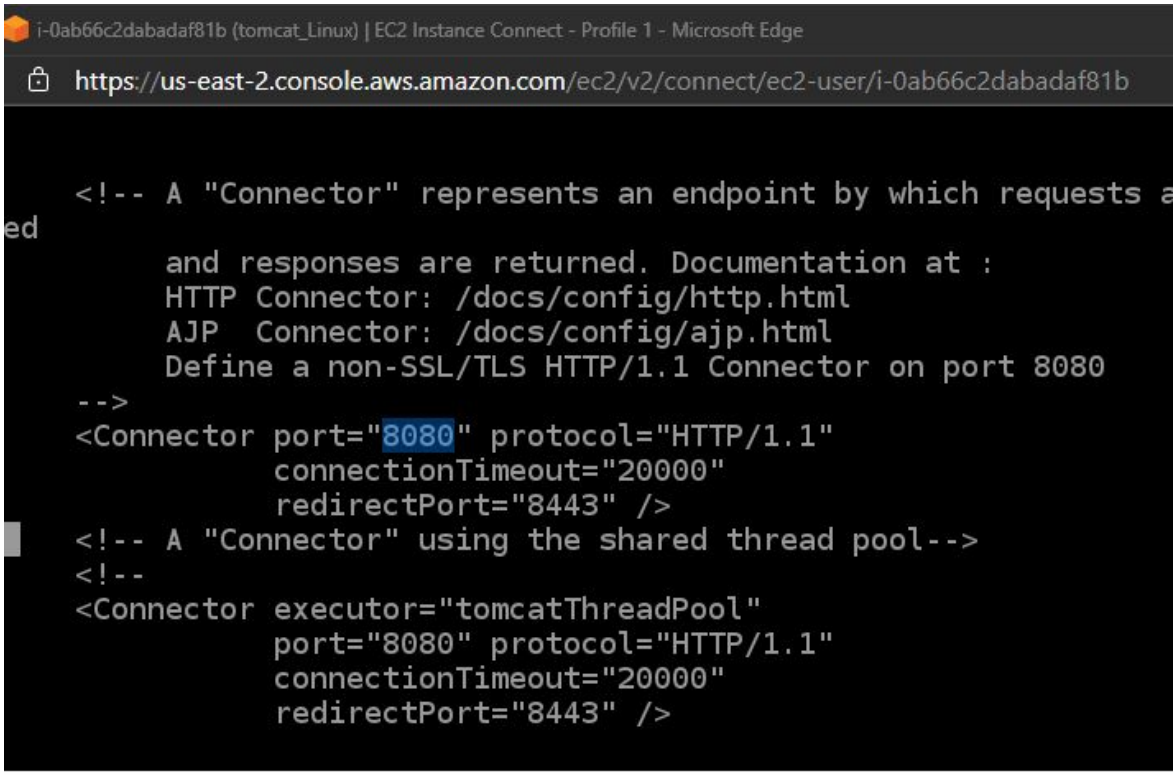
Now if we start the **apache server** by running **tomcat**, at the browser with following url **http://18.217.184.177:8080/**

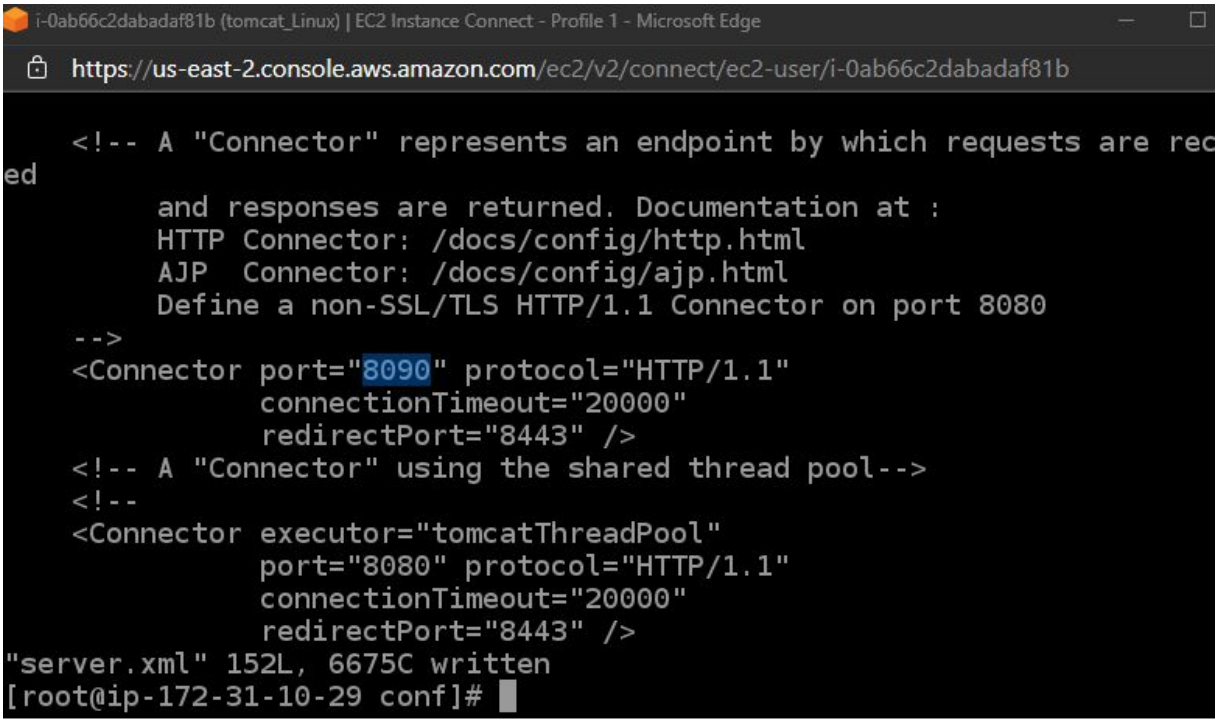



6. Changing the port from **8080** to **8090** editing **conf/server.xml,** vi server.xml
From **8080**


i-0ab66c2dabadaf81b (tomcat_Linux) | EC2 Instance Connect - Profile 1 - Microsoft Edge
https://us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0ab66c2dabadaf81b
<!-- A "Connector" represents an endpoint by which requests a
ed
and responses are returned. Documentation at :
HTTP Connector: /docs/config/http.html
AJP Connector: /docs/config/ajp.html
Define a non-SSL/TLS HTTP/1.1 Connector on port 8080
-->
<Connector port="8080" protocol="HTTP/1.1"
connectionTimeout="20000"
redirectPort="8443" />
<!-- A "Connector" using the shared thread pool-->
<!--
<Connector executor="tomcatThreadPool"
port="8080" protocol="HTTP/1.1"
connectionTimeout="20000"
redirectPort="8443" />

i-0ab66c2dabadaf81b (tomcat_Linux)
Public IPs: 18.217.184.177 Private IPs: 172.31.10.29

To **8090**


i-0ab66c2dabadaf81b (tomcat_Linux) | EC2 Instance Connect - Profile 1 - Microsoft Edge
https://us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0ab66c2dabadaf81b
<!-- A "Connector" represents an endpoint by which requests are rec
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and responses are returned. Documentation at :
HTTP Connector: /docs/config/http.html
AJP Connector: /docs/config/ajp.html
Define a non-SSL/TLS HTTP/1.1 Connector on port 8080
-->
<Connector port="8090" protocol="HTTP/1.1"
connectionTimeout="20000"
redirectPort="8443" />
<!-- A "Connector" using the shared thread pool-->
<!--
<Connector executor="tomcatThreadPool"
port="8080" protocol="HTTP/1.1"
connectionTimeout="20000"
redirectPort="8443" />
"server.xml" 152L, 6675C written
[root@ip-172-31-10-29 conf]#

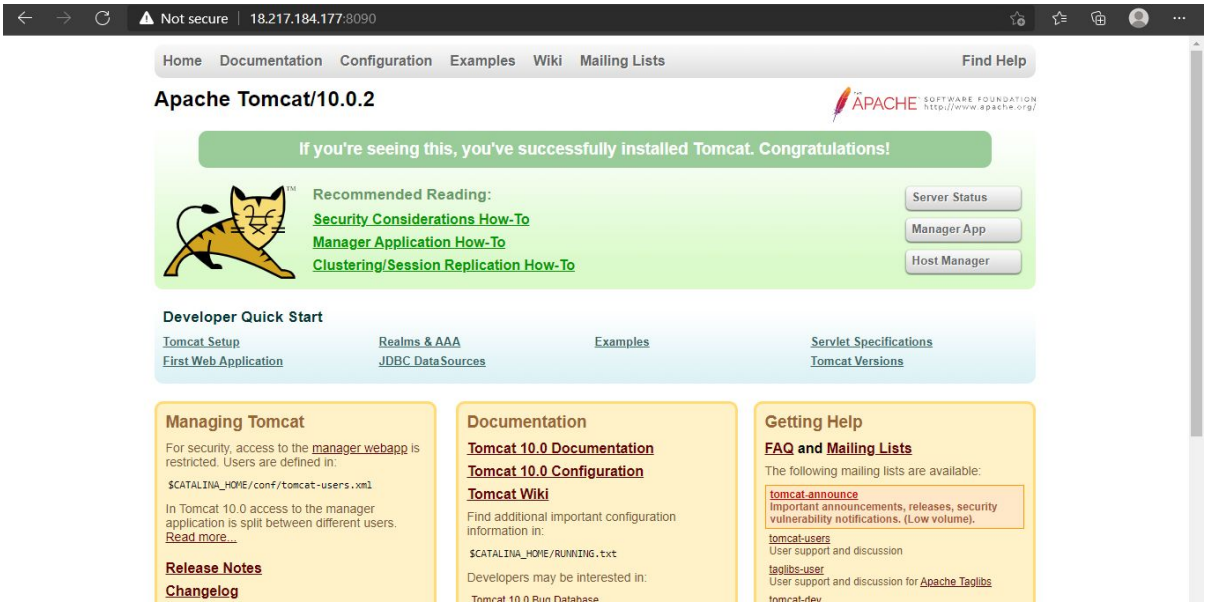
After restarting the **tomcat server**

```
[root@ip-172-31-10-29 conf]# tomcatdown
Using CATALINA_BASE:   /opt/apache-tomcat-10.0.2
Using CATALINA_HOME:   /opt/apache-tomcat-10.0.2
Using CATALINA_TMPDIR: /opt/apache-tomcat-10.0.2/temp
Using JRE_HOME:        /
Using CLASSPATH:       /opt/apache-tomcat-10.0.2/bin/bootstrap.jar:/opt/apach
cat-10.0.2/bin/tomcat-juli.jar
Using CATALINA_OPTS:
[root@ip-172-31-10-29 conf]# tomcatup
Using CATALINA_BASE:   /opt/apache-tomcat-10.0.2
Using CATALINA_HOME:   /opt/apache-tomcat-10.0.2
Using CATALINA_TMPDIR: /opt/apache-tomcat-10.0.2/temp
Using JRE_HOME:        /
Using CLASSPATH:       /opt/apache-tomcat-10.0.2/bin/bootstrap.jar:/opt/apach
cat-10.0.2/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
[root@ip-172-31-10-29 conf]#
```

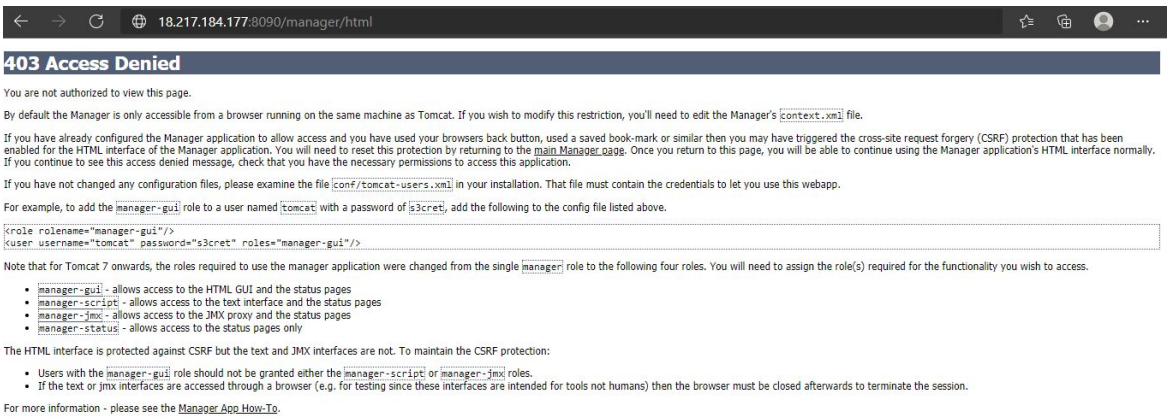
i-0ab66c2dabadaf81b (tomcat_Linux)

Public IPs: 18.217.184.177 Private IPs: 172.31.10.29

check configuration in **8090** at the browser
http://18.217.184.177:**8090**/

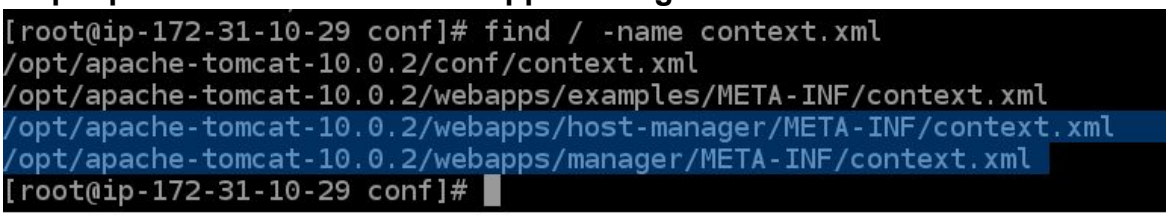



But unable to access **manager apps**

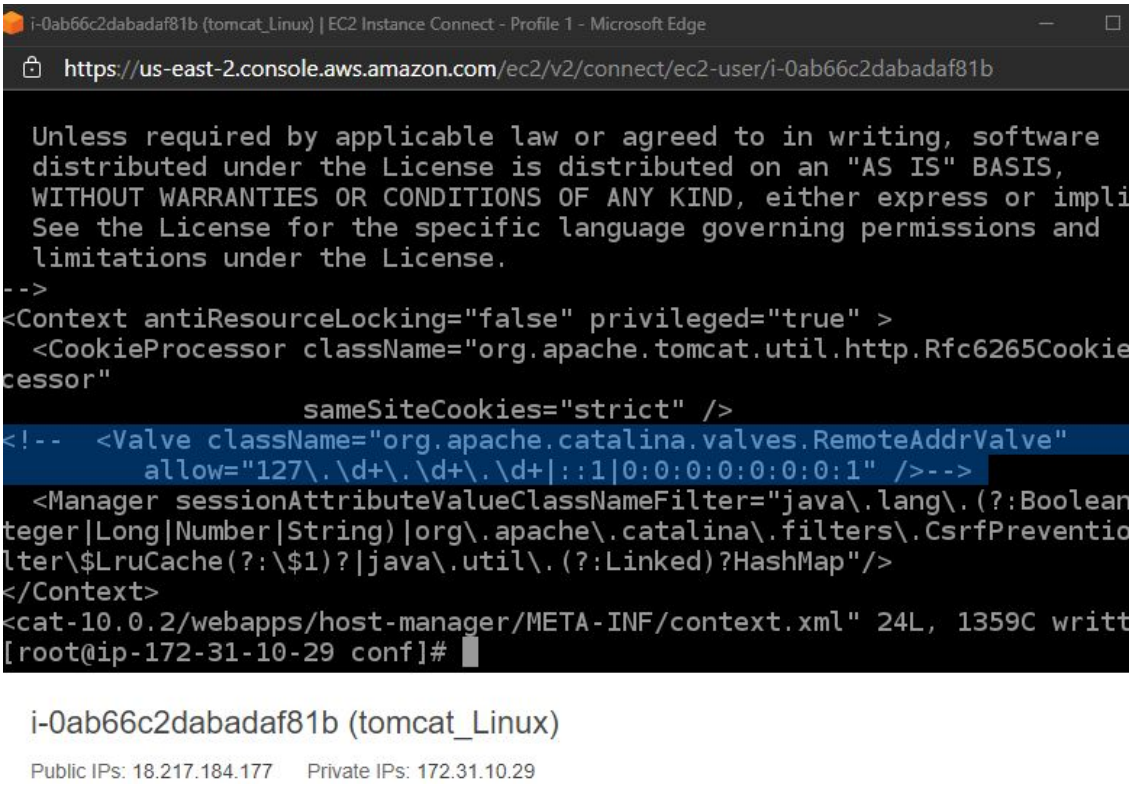



7. Editing **conf/context.xml** to allow **manager apps** access

From **/opt/apache-tomcat-10.0.2/webapps/host-manager/META-INF/context.xml** and **/opt/apache-tomcat-10.0.2/webapps/manager/META-INF/context.xml**



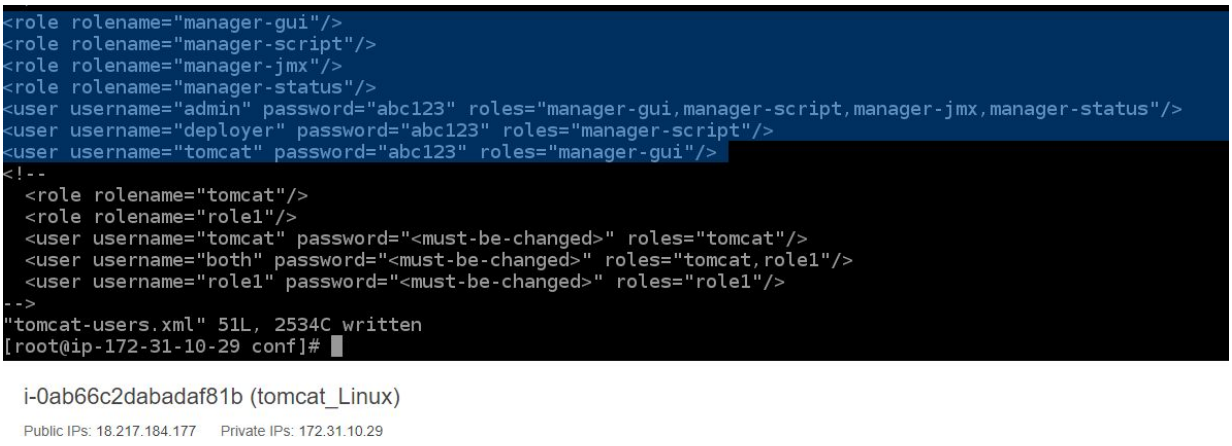
commented **Value tag**




8. Add users and roles to **conf/tomcat-users.xml**

vi tomcat-users.xml and Add the following roles

<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<role rolename="manager-jmx"/>
<role rolename="manager-status"/>
<user username="admin" password="abc123"
roles="manager-gui,manager-script,manager-jmx,manager-status"/>
<user username="deployer" password="abc123" roles="manager-script"/>
<user username="tomcat" password="abc123" roles="manager-gui"/>




9. Give a restart and check for web application manager

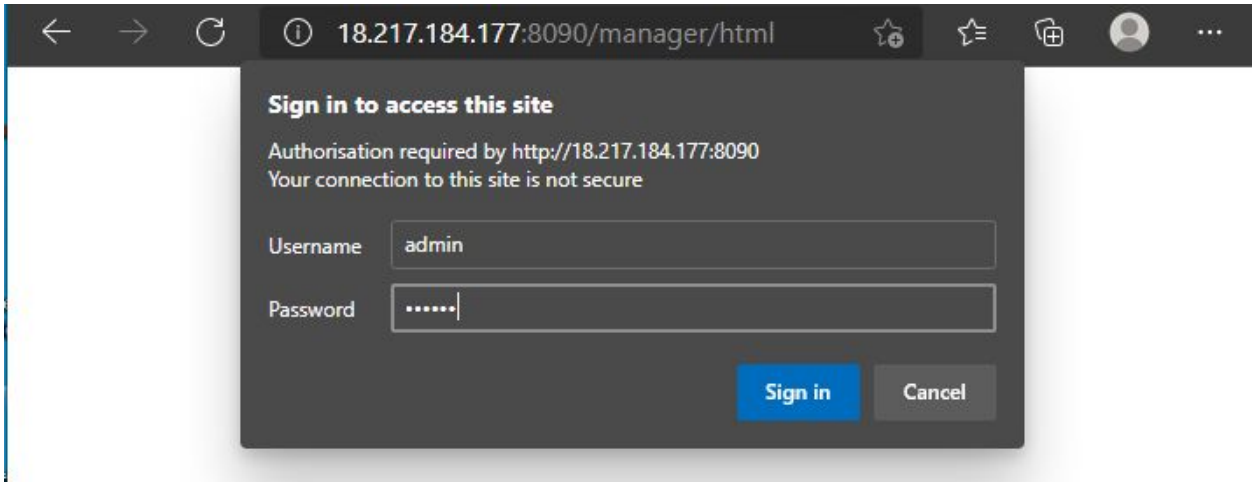
Given following command **tomcatdown** and **tomcatup**

```
[root@ip-172-31-10-29 conf]# tomcatdown
Using CATALINA_BASE:   /opt/apache-tomcat-10.0.2
Using CATALINA_HOME:   /opt/apache-tomcat-10.0.2
Using CATALINA_TMPDIR: /opt/apache-tomcat-10.0.2/temp
Using JRE_HOME:        /
Using CLASSPATH:       /opt/apache-tomcat-10.0.2/bin/bootstrap.jar:/opt/apach
cat-10.0.2/bin/tomcat-juli.jar
Using CATALINA_OPTS:
[root@ip-172-31-10-29 conf]# tomcatup
Using CATALINA_BASE:   /opt/apache-tomcat-10.0.2
Using CATALINA_HOME:   /opt/apache-tomcat-10.0.2
Using CATALINA_TMPDIR: /opt/apache-tomcat-10.0.2/temp
Using JRE_HOME:        /
Using CLASSPATH:       /opt/apache-tomcat-10.0.2/bin/bootstrap.jar:/opt/apach
cat-10.0.2/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
[root@ip-172-31-10-29 conf]#
```

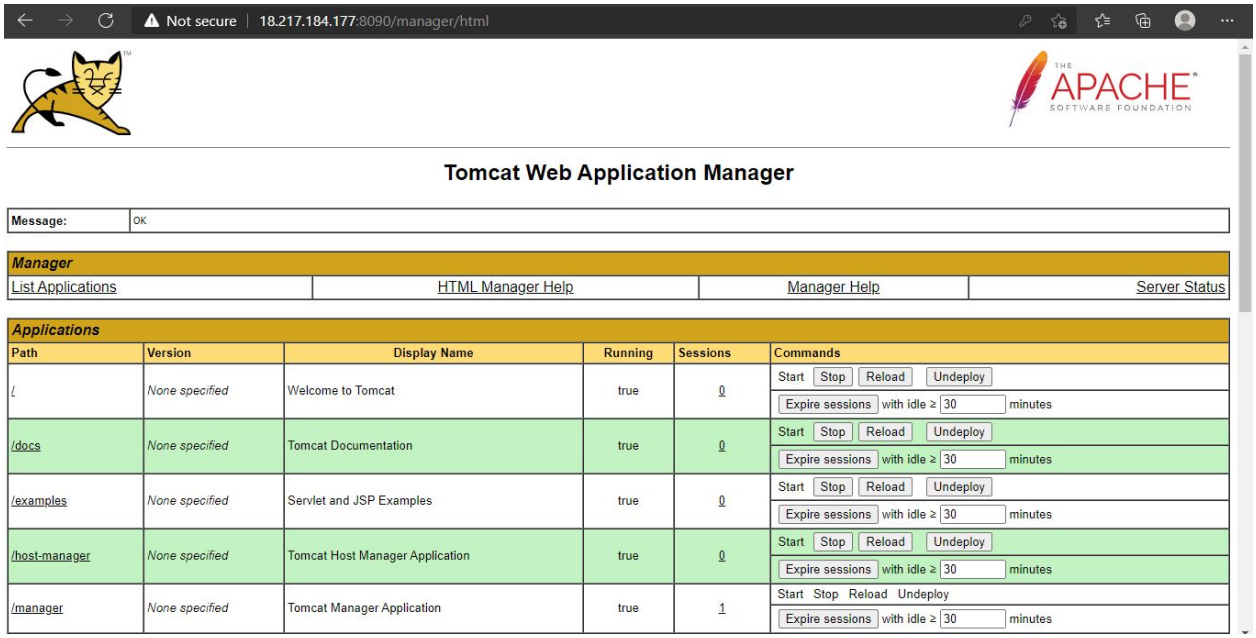
i-0ab66c2dabadaf81b (tomcat_Linux)

Public IPs: 18.217.184.177 Private IPs: 172.31.10.29

Now we are getting provision to provide the **username** & **password**. Provided for admin.




Now able to access the **web app manager.**


Not secure | 18.217.184.177:8090/manager/html
THE APACHE SOFTWARE FOUNDATION
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 | 1 | Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes