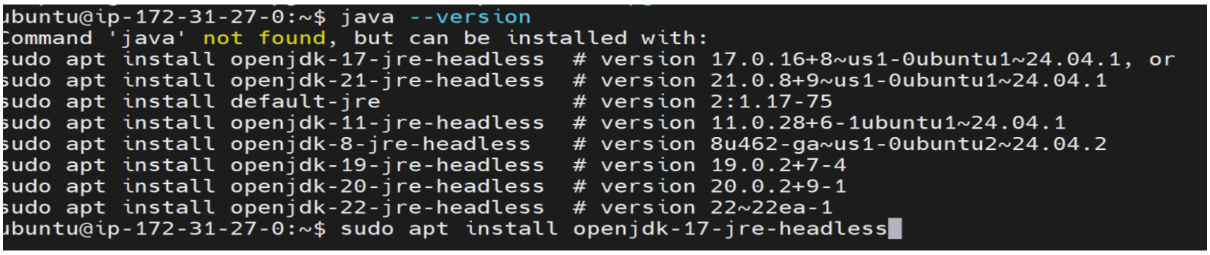
Application Deployment

Step:1

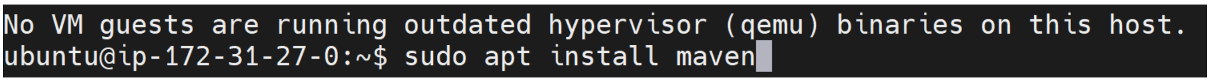
*Launch 2 instances and name it as Build and Deploy.

*Install java



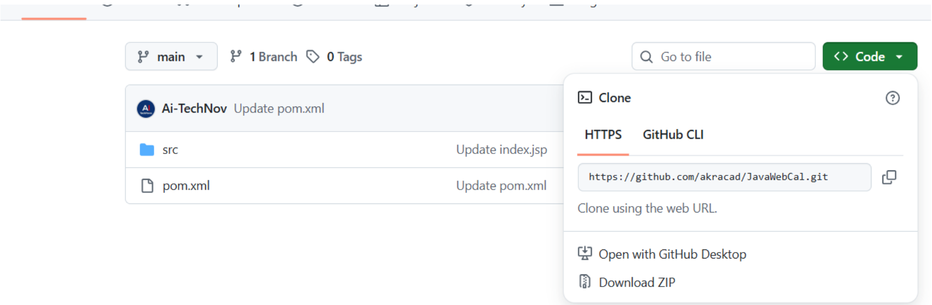
```
ubuntu@ip-172-31-27-0:~$ java --version
Command 'java' not found, but can be installed with:
sudo apt install openjdk-17-jre-headless  # version 17.0.16+8~us1-0ubuntu1~24.04.1, or
sudo apt install openjdk-21-jre-headless  # version 21.0.8+9~us1-0ubuntu1~24.04.1
sudo apt install default-jre              # version 2:1.17-75
sudo apt install openjdk-11-jre-headless  # version 11.0.28+6-1ubuntu1~24.04.1
sudo apt install openjdk-8-jre-headless   # version 8u462-ga~us1-0ubuntu2~24.04.2
sudo apt install openjdk-19-jre-headless  # version 19.0.2+7-4
sudo apt install openjdk-20-jre-headless  # version 20.0.2+9-1
sudo apt install openjdk-22-jre-headless  # version 22~22ea-1
ubuntu@ip-172-31-27-0:~$ sudo apt install openjdk-17-jre-headless
```

*Install maven



```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-27-0:~$ sudo apt install maven
```

*Clone the code from github.



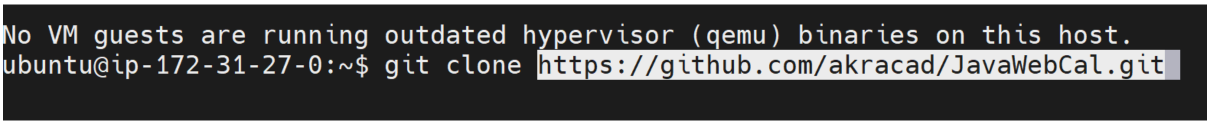
Ai-TechNov Update pom.xml

src Update index.jsp

pom.xml Update pom.xml

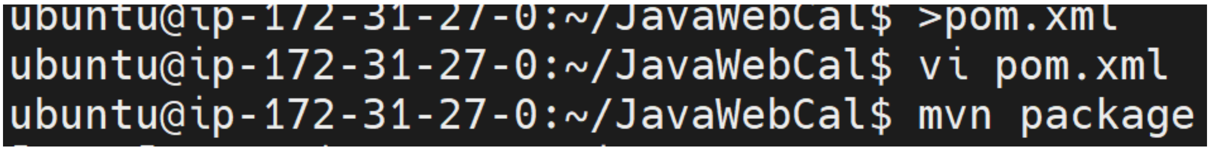
https://github.com/akracad/JavaWebCal.git

Clone using the web URL.



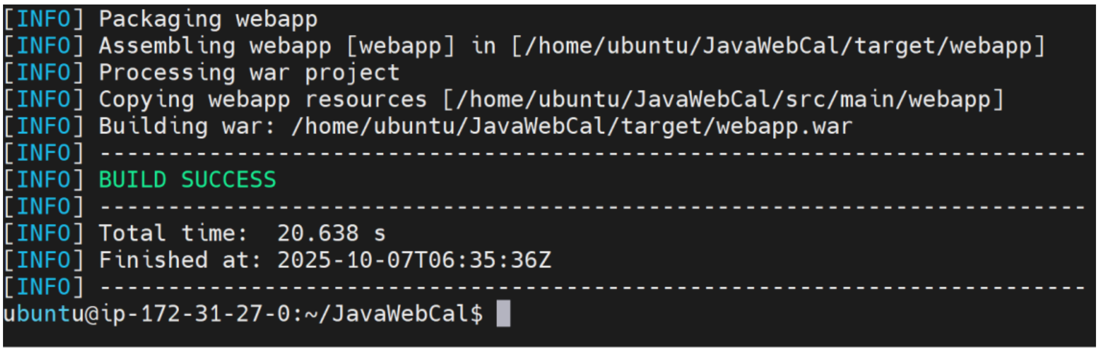
```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-27-0:~$ git clone https://github.com/akracad/JavaWebCal.git
```

*mvn package



```
ubuntu@ip-172-31-27-0:~/JavaWebCal$ >pom.xml
ubuntu@ip-172-31-27-0:~/JavaWebCal$ vi pom.xml
ubuntu@ip-172-31-27-0:~/JavaWebCal$ mvn package
```

*Here the build will be Success.



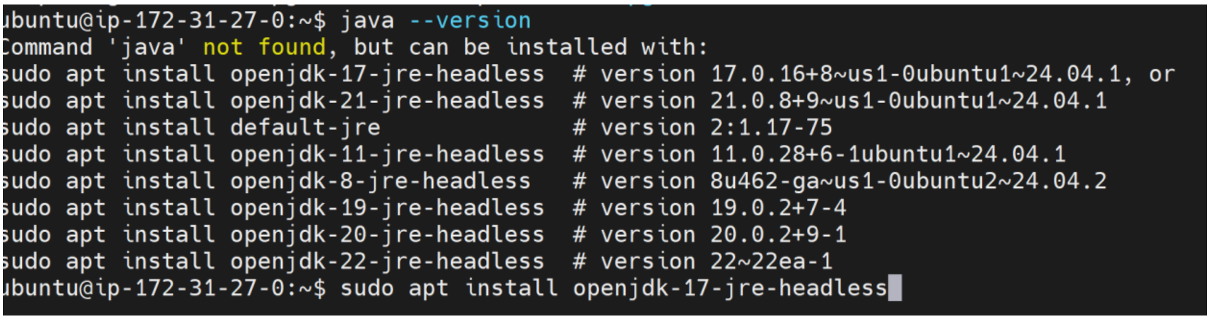
```
[INFO] Packaging webapp
[INFO] Assembling webapp [webapp] in [/home/ubuntu/JavaWebCal/target/webapp]
[INFO] Processing war project
[INFO] Copying webapp resources [/home/ubuntu/JavaWebCal/src/main/webapp]
[INFO] Building war: /home/ubuntu/JavaWebCal/target/webapp.war
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  20.638 s
[INFO] Finished at: 2025-10-07T06:35:36Z
[INFO] ------------------------------------------------------------------------
ubuntu@ip-172-31-27-0:~/JavaWebCal$
```

Step :2

Take another server named as (Deploy).

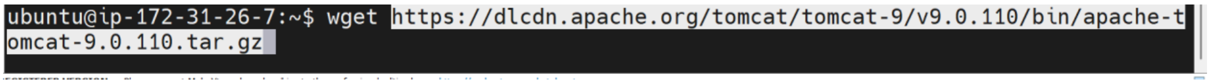
*Here we need to install Java and Tomcat.

*Install java.



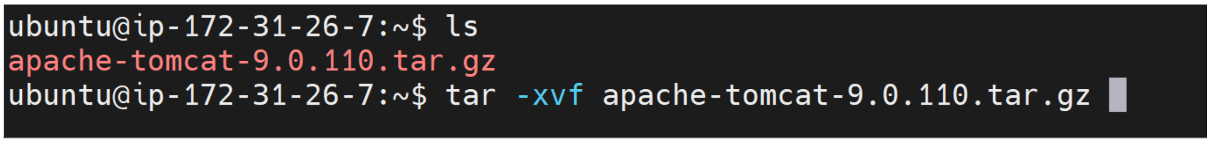
```
ubuntu@ip-172-31-27-0:~$ java --version
ommand 'java' not found, but can be installed with:
sudo apt install openjdk-17-jre-headless  # version 17.0.16+8~us1-0ubuntu1~24.04.1, or
sudo apt install openjdk-21-jre-headless  # version 21.0.8+9~us1-0ubuntu1~24.04.1
sudo apt install default-jre              # version 2:1.17-75
sudo apt install openjdk-11-jre-headless  # version 11.0.28+6-1ubuntu1~24.04.1
sudo apt install openjdk-8-jre-headless   # version 8u462-ga~us1-0ubuntu2~24.04.2
sudo apt install openjdk-19-jre-headless  # version 19.0.2+7-4
sudo apt install openjdk-20-jre-headless  # version 20.0.2+9-1
sudo apt install openjdk-22-jre-headless  # version 22~22ea-1
ubuntu@ip-172-31-27-0:~$ sudo apt install openjdk-17-jre-headless
```

*Install Tomcat.



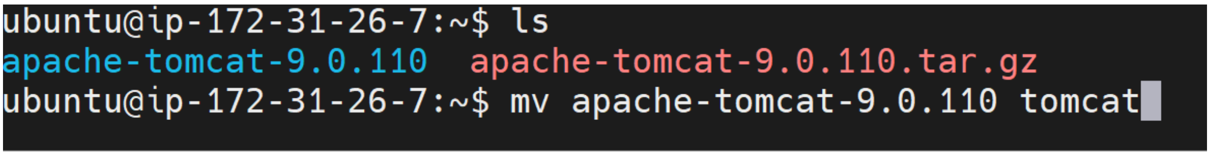
```
ubuntu@ip-172-31-26-7:~$ wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.110/bin/apache-t
omcat-9.0.110.tar.gz
```

→untar the tomcat.



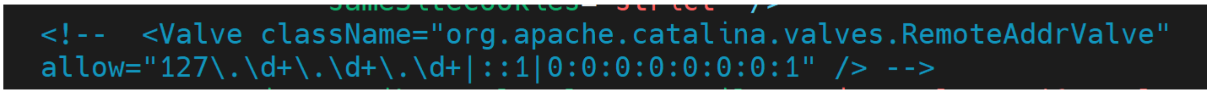
```
ubuntu@ip-172-31-26-7:~$ ls
apache-tomcat-9.0.110.tar.gz
ubuntu@ip-172-31-26-7:~$ tar -xvf apache-tomcat-9.0.110.tar.gz
```

→Rename it.

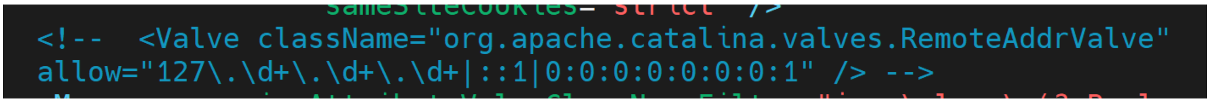


```
ubuntu@ip-172-31-26-7:~$ ls
apache-tomcat-9.0.110  apache-tomcat-9.0.110.tar.gz
ubuntu@ip-172-31-26-7:~$ mv apache-tomcat-9.0.110 tomcat
```

→Comment in webapps/host manager and manager /META/context.xml

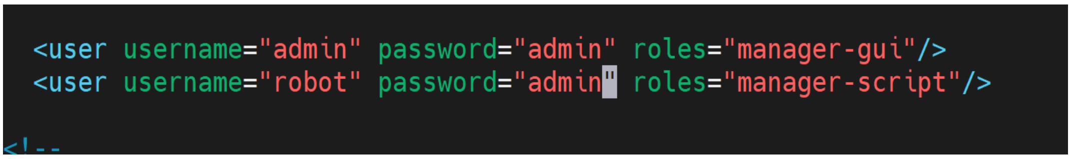


```
sameSiteCookies="strict" />
<!--  <Valve className="org.apache.catalina.valves.RemoteAddrValve"
allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" /> -->
```



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

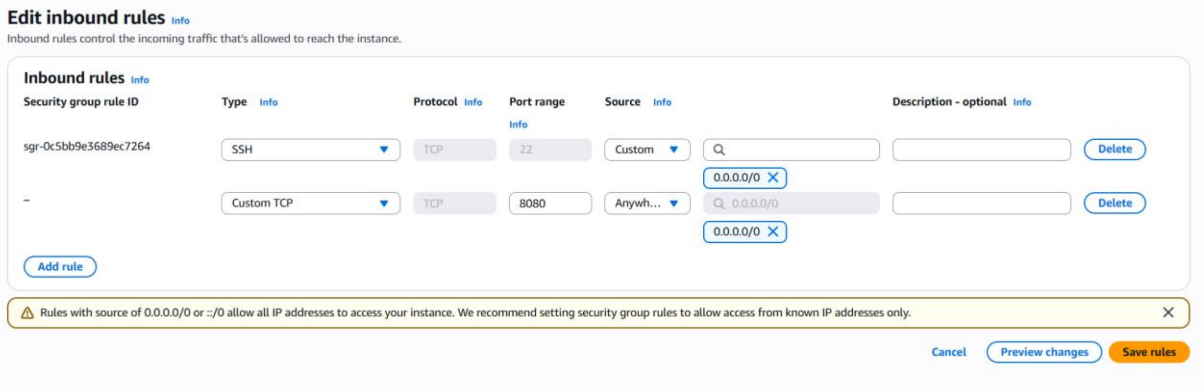
➔Change the password in conf/tomcat-user.xml



```
<user username="admin" password="admin" roles="manager-gui"/>
<user username="robot" password="admin" roles="manager-script"/>

<!--
```

→Give port number in Security group as 8080



Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

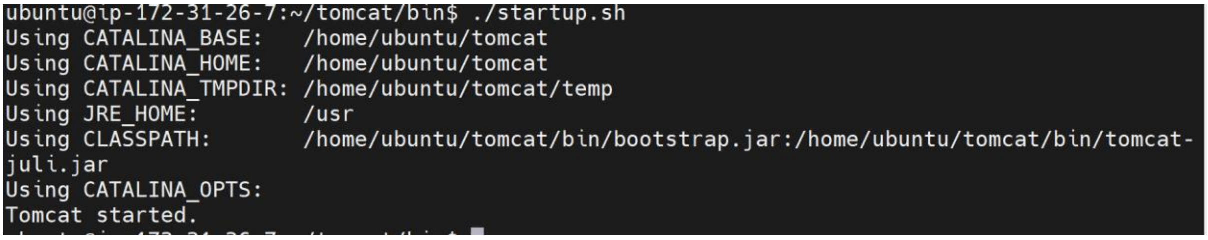
Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info		Description - optional Info	
sgr-0c5bb9e3689ec7264	SSH	TCP	22	Custom	0.0.0.0/0		Delete
-	Custom TCP	TCP	8080	Anywh...	0.0.0.0/0		Delete

Add rule

⚠ Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

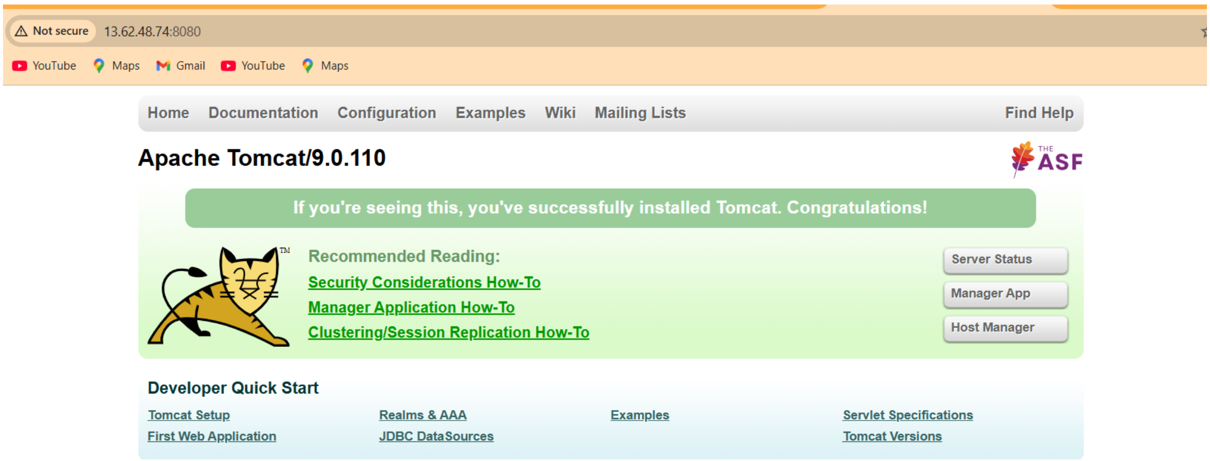
→Start tomcat

./start.sh



```
ubuntu@ip-172-31-26-7:~/tomcat/bin$ ./startup.sh
Using CATALINA_BASE:   /home/ubuntu/tomcat
Using CATALINA_HOME:   /home/ubuntu/tomcat
Using CATALINA_TMPDIR: /home/ubuntu/tomcat/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /home/ubuntu/tomcat/bin/bootstrap.jar:/home/ubuntu/tomcat/bin/tomcat-
juli.jar
Using CATALINA_OPTS:
Tomcat started.
ubuntu@ip-172-31-26-7:~/tomcat/bin$
```

→Access Tomcat in web browser with public ip and port number.



Apache Tomcat/9.0.110

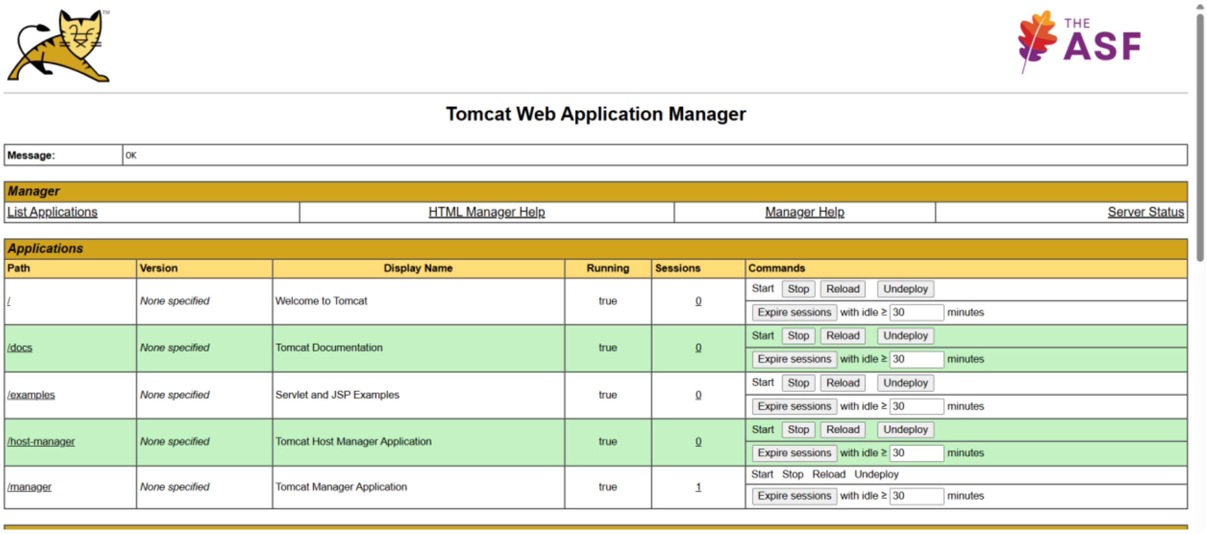
If you're seeing this, you've successfully installed Tomcat. Congratulations!

Recommended Reading:
Security Considerations How-To
Manager Application How-To
Clustering/Session Replication How-To

Developer Quick Start

Tomcat Setup
First Web Application
Realms & AAA
JDBC DataSources
Examples
Servlet Specifications
Tomcat Versions

→Login to Manager with username and password(admin)



Tomcat Web Application Manager

Message:	OK

Manager

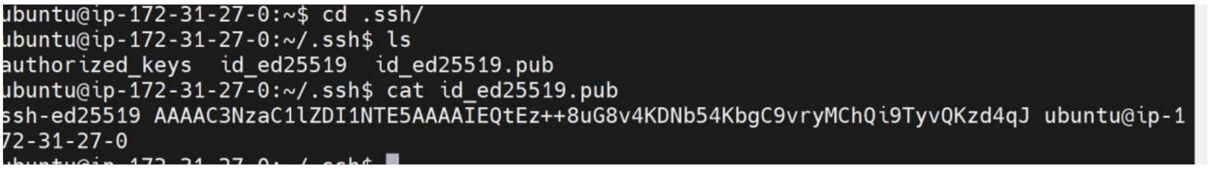
List Applications	HTML Manager Help	Manager Help	Server Status

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

Step :3(Build server).

- Create ssh-keygen
- Cat public id generated
- Copy the public key and paste it in Deploy server (Authorized keys.



```
ubuntu@ip-172-31-27-0:~$ cd .ssh/
ubuntu@ip-172-31-27-0:~/.ssh$ ls
authorized_keys  id_ed25519  id_ed25519.pub
ubuntu@ip-172-31-27-0:~/.ssh$ cat id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIEQtEz++8uG8v4KDNb54KbgC9vryMChQi9TyvQKzd4qJ ubuntu@ip-1
72-31-27-0
ubuntu@ip-172-31-27-0:~/.ssh$
```

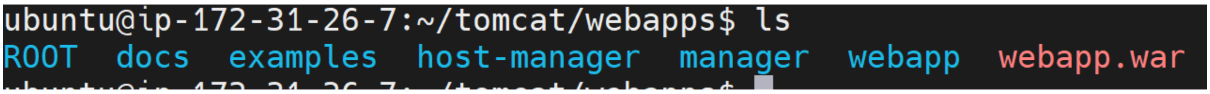
Step:4(Deploy server)

*Go to .ssh

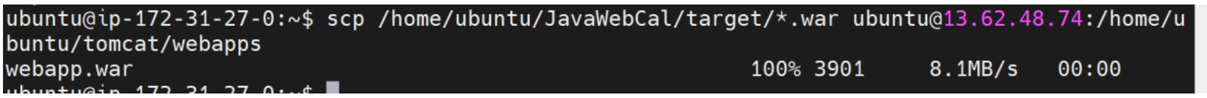
*vi authorized keys paste the keys generated in Bulid server.

Step:5

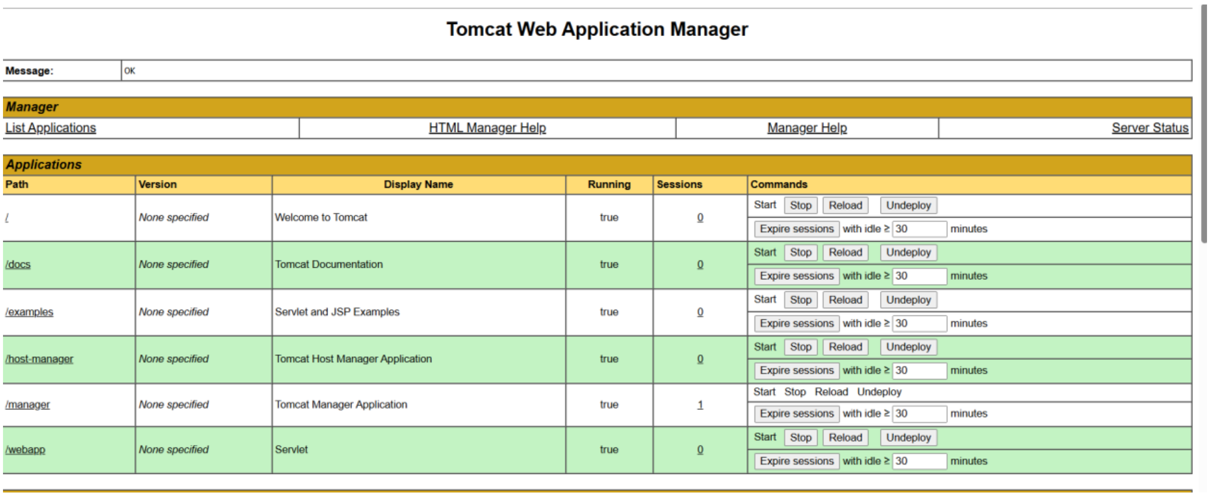
Copying the War file from Build server to Deploy server. (scp /home/ubuntu/Javawebcal/target/.war ubuntu@deploy-public-ip:/home/ubuntu/tomcat/webapps).



```
ubuntu@ip-172-31-26-7:~/tomcat/webapps$ ls
ROOT  docs  examples  host-manager  manager  webapp  webapp.war
ubuntu@ip-172-31-26-7:~/tomcat/webapps$
```



```
ubuntu@ip-172-31-27-0:~$ scp /home/ubuntu/JavaWebCal/target/*.war ubuntu@13.62.48.74:/home/u
buntu/tomcat/webapps
webapp.war                                           100% 3901     8.1MB/s   00:00
ubuntu@ip-172-31-27-0:~$
```

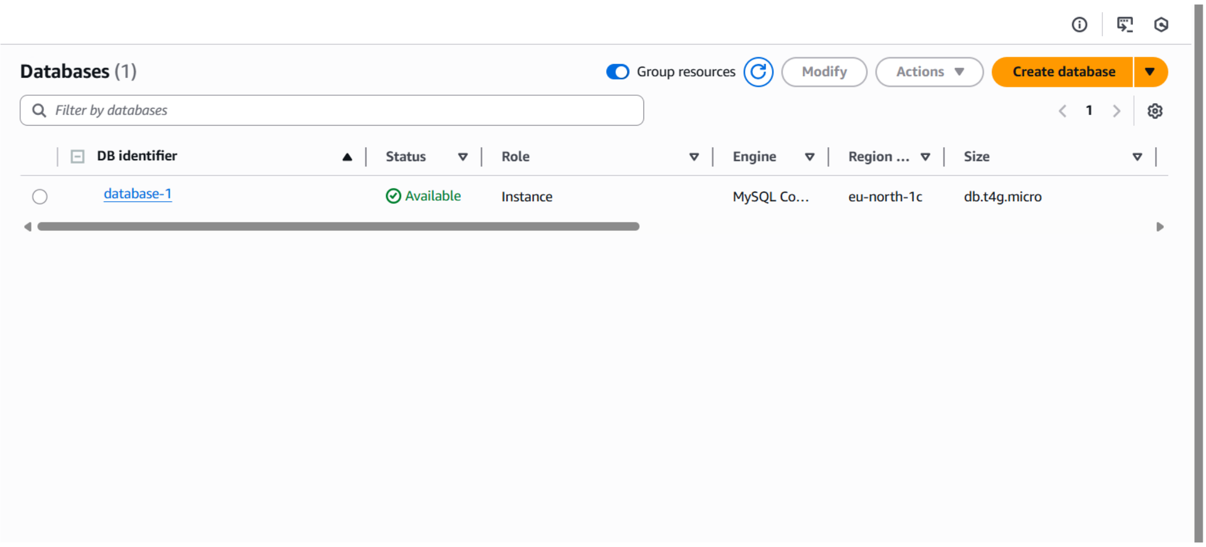


Tomcat Web Application Manager

Message:	OK

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
/webapp	None specified	Servlet	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

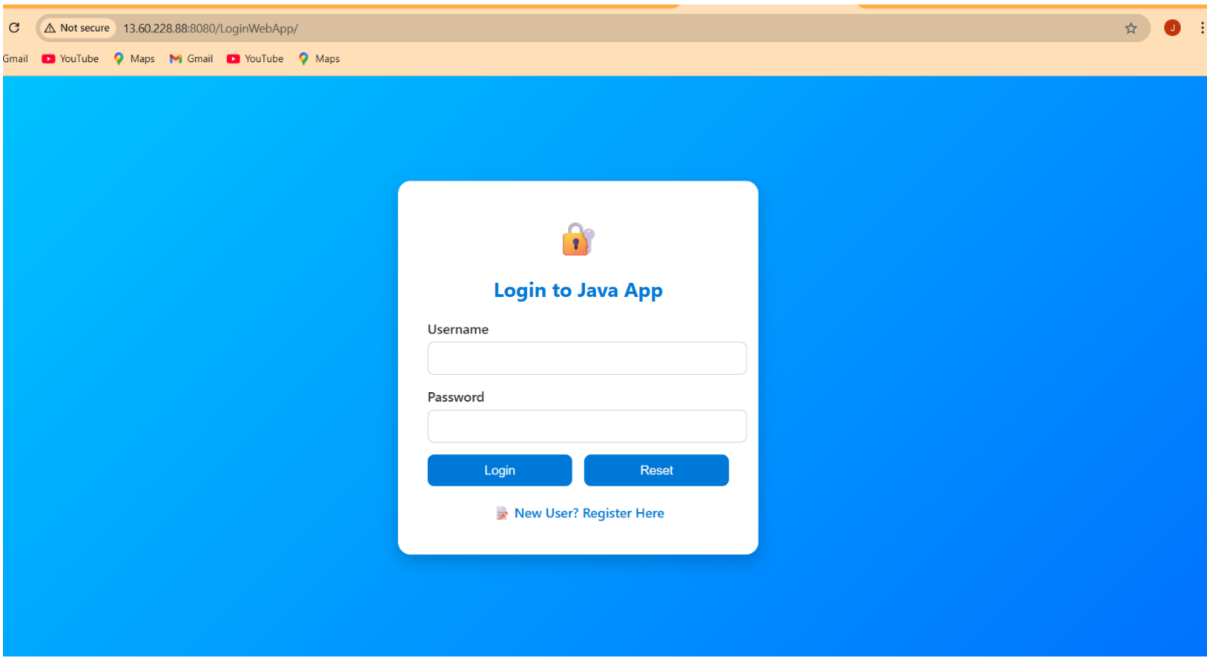
Create data base:



Databases (1)

DB identifier	Status	Role	Engine	Region ...	Size
database-1	Available	Instance	MySQL Co...	eu-north-1c	db.t4g.micro

We will get app login page

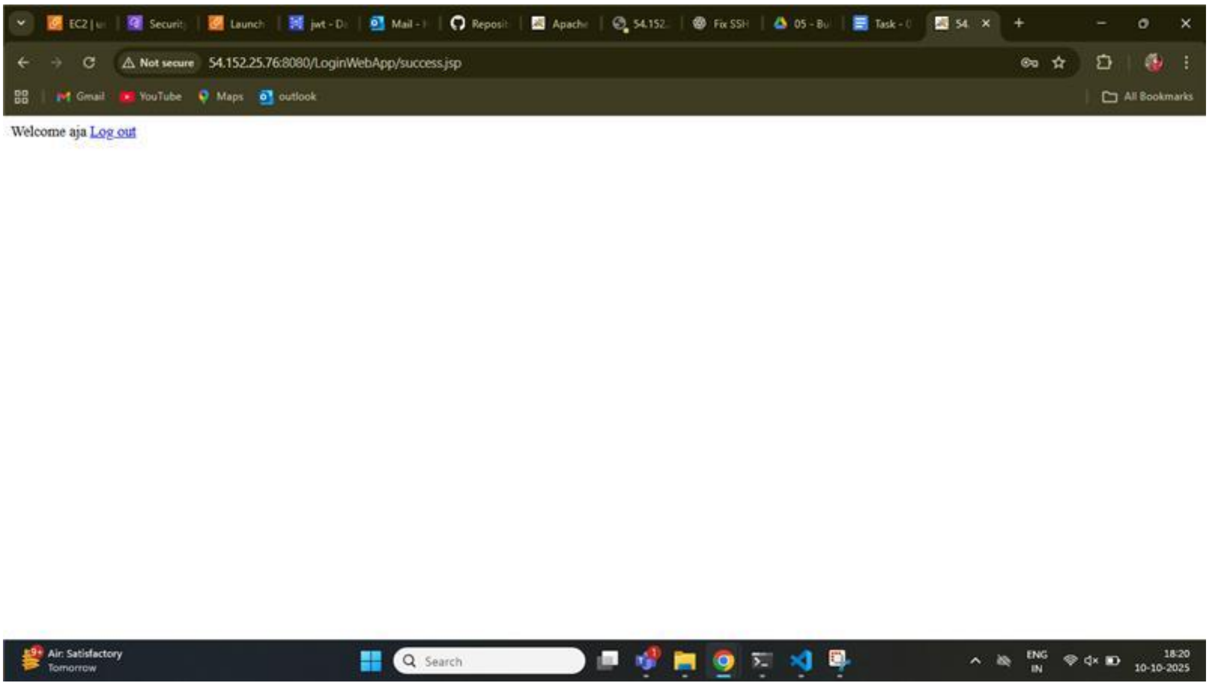


Login to Java App

Username

Password

Final output



54.152.25.76:8080/LoginWebApp/success.jsp

Welcome aja Log out