

# **AWS MODULE**

**SUBMITTED BY- ADESH ARUN ADHAV**

**SUBMITTED TO- MR. VIKUL SIR**

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**L5 - Install Tomcat web application server in AWS EC2 Ubuntu Instance and access Tomcat using a web browser.**

## **Step 1: Launch an EC2 Instance**

1. Log in to your AWS Management Console.
2. Choose the Ubuntu Server
3. Configure the security group.
4. Download key pair.
5. Launch ec2 instance
6. Select security group then go to edit inbound rule and add new rule with configuration port no 8080 .

## **STEP 2: CONNECT THE INSTANCE**

1. Connect the instance
2. Update the package.(sudo apt update -y)

## **STEP 3: INSTALL JAVA**

1. Install java  
(sudo apt install openjdk-17-jdk -y)
2. Validate the java -version

## **STEP 4:INSTALL TOMCAT**

**1. Download the latest version of Tomcat:**

**(<https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.96/bin/apache-tomcat-9.0.96.tar.gz>)**

**2. Extract the Tomcat :**

**(tar -xvzf apache-tomcat-9.0.96.tar.gz)**

**3.Directory**

**4.Start the tomcat( sh startup.sh)**

### **STEP 5: CHECK TOMCAT SERVER**

**Copy the public ip and attach port no 8080 with it then search it.**

## LAUNCH THE INSTANCE

The screenshot displays the AWS Management Console interface for the EC2 service. The top navigation bar includes the AWS logo, a search bar, and user information for 'ADESH ADHAV' in 'Mumbai'. The left sidebar shows the 'Instances' section selected, with a list of navigation links including 'EC2 Dashboard', 'EC2 Global View', 'Events', 'Instances', 'Instance Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Capacity', 'Reservations', 'Images', and 'AMIs'. The main content area is titled 'Instances (1/1)' and shows a single instance named 'tomcat' with ID 'i-0c2b62a837f005c78'. The instance is in the 'Running' state, using the 't2.micro' instance type. The status check shows 'Initializing'. The instance details panel on the right provides further information: the public IPv4 address is '3.111.36.91', the private IPv4 address is '172.31.2.228', and the public IPv4 DNS is 'ec2-3-111-36-91.ap-south-1.compute.amazonaws.com'. The bottom of the console shows the 'CloudShell' button and the footer with copyright information for Amazon Web Services, Inc. or its affiliates.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
tomcat	i-0c2b62a837f005c78	Running	t2.micro	Initializing	View alarms

**i-0c2b62a837f005c78 (tomcat)**

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0c2b62a837f005c78	3.111.36.91   open address	172.31.2.228

Instance state: Running

Public IPv4 DNS: ec2-3-111-36-91.ap-south-1.compute.amazonaws.com | open address

- **INBOUND RULE**

aws

Services

Search

[Alt+S]

Mumbai

ADESH ADHAV

EC2

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

Inbound rules

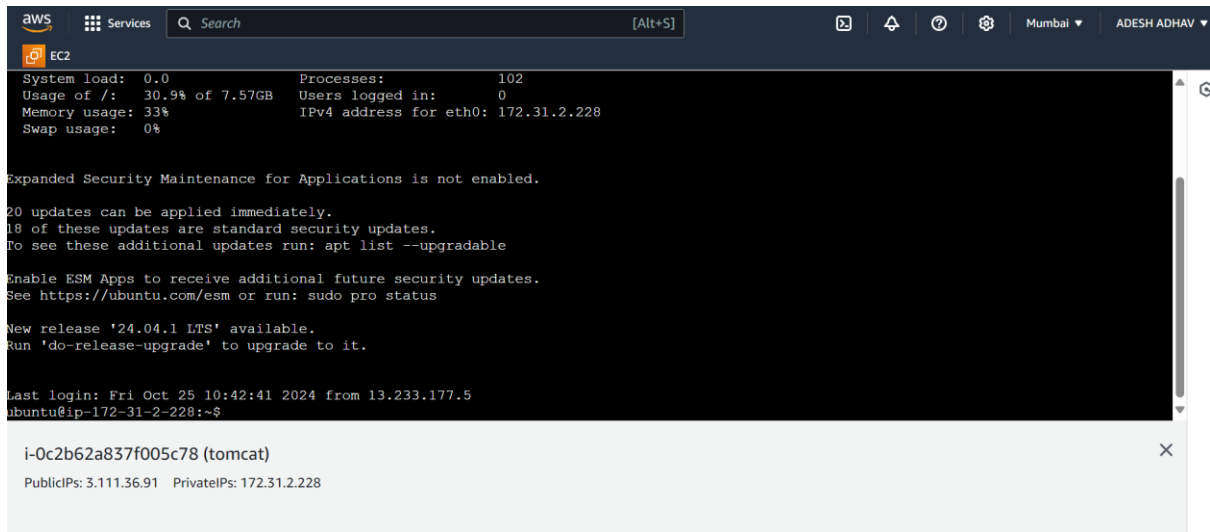
Info

Security group rule ID	Type	Info	Protocol	Info	Port range	Info	Source	Info	Description - optional	Info
sgr-07f56616697b7a8b4	SSH		TCP		22		An...			
							0.0.0.0/0			
-	Custom TCP		TCP		8080		An...			
							0.0.0.0/0			

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.

- **CONNECT TO INSTANCE**



The screenshot shows the AWS Management Console interface. At the top, there's a navigation bar with the AWS logo, 'Services' link, a search bar, and user information 'ADESH ADHAV' in Mumbai. Below this, the 'EC2' console is selected. The main area displays the details of an EC2 instance. The top section shows system metrics: System load: 0.0, Usage of /: 30.9% of 7.57GB, Memory usage: 33%, Swap usage: 0%, Processes: 102, Users logged in: 0, and IPv4 address for eth0: 172.31.2.228. Below this, a message states 'Expanded Security Maintenance for Applications is not enabled.' and lists updates that can be applied immediately. A terminal window is open at the bottom, showing the command prompt 'ubuntu@ip-172-31-2-228:~\$' and the output of the 'i-Oc2b62a837f005c78 (tomcat)' command, which lists PublicIPs and PrivateIPs.

```
System load: 0.0      Processes:      102
Usage of /:  30.9% of 7.57GB  Users logged in: 0
Memory usage: 33%      IPv4 address for eth0: 172.31.2.228
Swap usage:  0%

Expanded Security Maintenance for Applications is not enabled.

20 updates can be applied immediately.
18 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

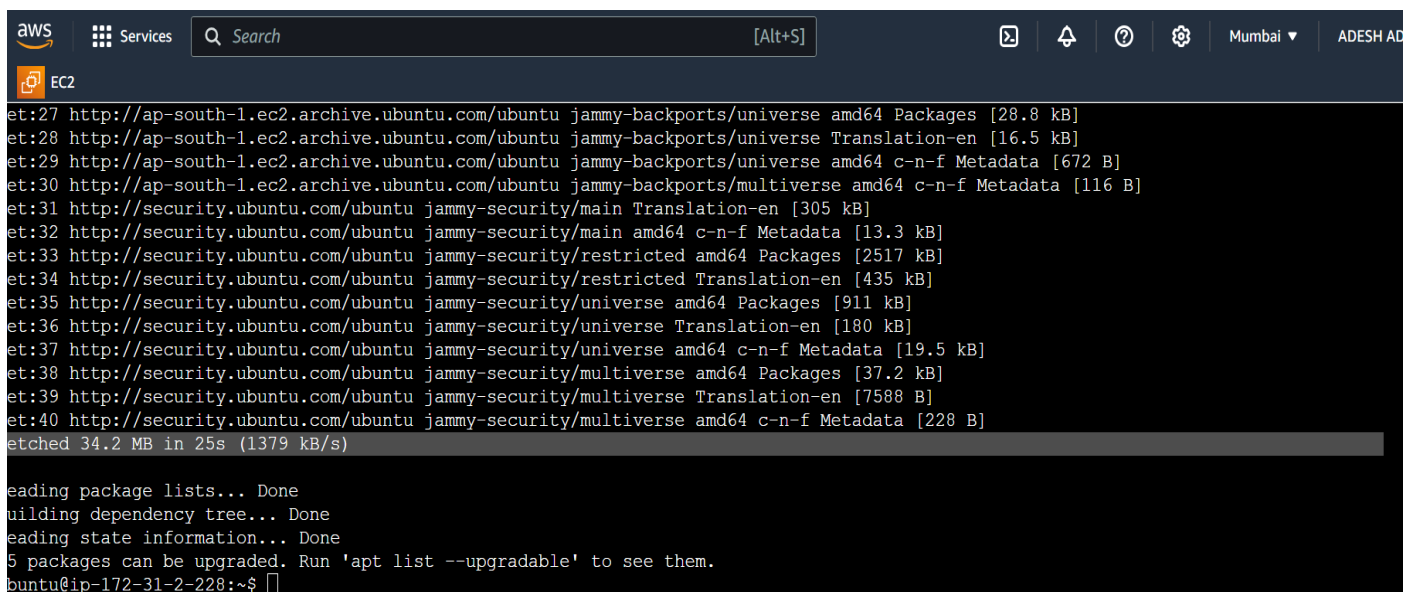
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

New release '24.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Fri Oct 25 10:42:41 2024 from 13.233.177.5
ubuntu@ip-172-31-2-228:~$

i-Oc2b62a837f005c78 (tomcat)
PublicIPs: 3.111.36.91  PrivateIPs: 172.31.2.228
```

- **UPDATE THE PACKAGE**



The screenshot shows the AWS Management Console interface, similar to the previous one. The terminal window is open, showing the output of the 'apt update' command. It lists various sources and the packages they provide, including jammy-backports/universe amd64 Packages, Translation-en, and Metadata, as well as jammy-security/main amd64 c-n-f Metadata, Translation-en, Packages, and Metadata. The total size of the update is 34.2 MB, and it took 25 seconds to fetch the data at a rate of 1379 kB/s. The terminal also shows the output of 'apt list --upgradable', which indicates that 5 packages can be upgraded.

```
et:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.8 kB]
et:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
et:29 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [672 B]
et:30 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
et:31 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [305 kB]
et:32 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [13.3 kB]
et:33 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [2517 kB]
et:34 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [435 kB]
et:35 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [911 kB]
et:36 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [180 kB]
et:37 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [19.5 kB]
et:38 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.2 kB]
et:39 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7588 B]
et:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [228 B]
etched 34.2 MB in 25s (1379 kB/s)

Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
5 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ip-172-31-2-228:~$
```

- **INSTALL THE JAVA**

```
EC2
ubuntu@ip-172-31-2-228:~$ sudo apt install openjdk-17-jdk
```

- **CHECKING THE JAVA VERSION**

```
aws Services Search [Alt+S] Mumbai ▼ ADESH
EC2
ubuntu@ip-172-31-2-228:~$ java --version
openjdk 17.0.12 2024-07-16
OpenJDK Runtime Environment (build 17.0.12+7-Ubuntu-lubuntu22.04)
OpenJDK 64-Bit Server VM (build 17.0.12+7-Ubuntu-lubuntu22.04, mixed mode, sharing)
ubuntu@ip-172-31-2-228:~$
```

- **TOMCAT FILE**

October 7-10, 2024

**Apache Tomcat**

Home  
Taglibs  
Maven Plugin

**Download**

Which version?  
Tomcat 11  
Tomcat 10  
Tomcat 9  
Tomcat Migration Tool for Jakarta EE  
Tomcat Connectors  
Tomcat Native  
Taglibs  
Archives

**Documentation**

Tomcat 11.0  
Tomcat 10.1  
Tomcat 9.0  
Upgrading  
Tomcat Connectors  
Tomcat Native 2  
Tomcat Native 1.3  
Wiki  
Migration Guide  
Presentations  
Specifications

[KEYS](#) | [9.0.96](#) | [Browse](#) | [Archives](#)

**Release Integrity**

You **must** [verify](#) the integrity of the downloaded files. We provide OpenPGP signatures for every release file. This signature should be matched against the [KEYS](#) file which contains the OpenPGP keys of Tomcat's Release Managers. We also provide **SHA-512** checksums for every release file. After you download the file, you should calculate a checksum for your download, and make sure it is the same as ours.

**Mirrors**

You are currently using <https://d1cdn.apache.org/>. If you encounter a problem with this mirror, please select another mirror. If all mirrors are failing, there are *backup* mirrors (at the end of the mirrors list) that should be available.

Other mirrors:

**9.0.96**

Please see the [README](#) file for packaging information. It explains what every distribution contains.

**Binary Distributions**

- Core:
  - [zip \(pgp, sha512\)](#)
  - [tar.gz \(pgp, sha512\)](#)
  - [32-bit Windows zip \(pgp, sha512\)](#)
  - [64-bit Windows zip \(pgp, sha512\)](#)
  - [32-bit/64-bit Windows Service Installer \(pgp, sha512\)](#)
- Full documentation:
  - [tar.gz \(pgp, sha512\)](#)
- Deployer:

- **INSTALLED ZIP FILE**

```
aws Services Search [Alt+S] Mumbai ▼ ADESH
EC2
ubuntu@ip-172-31-2-228:~$ ls
apache-tomcat-9.0.96.tar.gz
ubuntu@ip-172-31-2-228:~$
```

- **UNZIP THE TAR FILE**

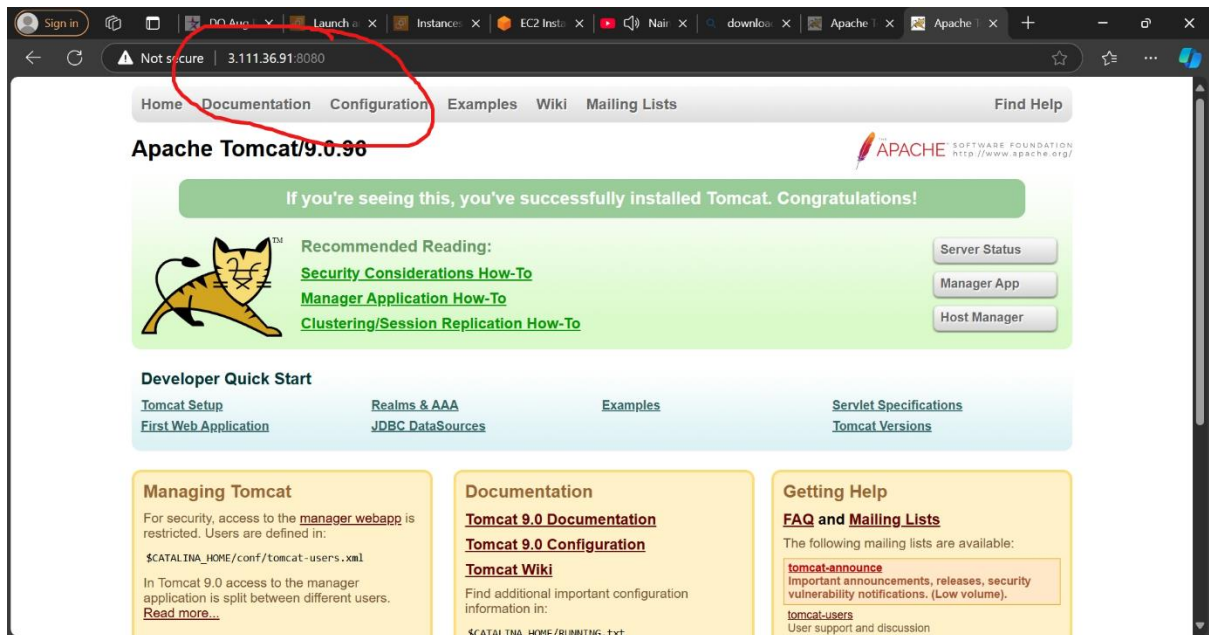
```
aws Services Search [Alt+S] Mumbai ADESH ADHAV
EC2
ubuntu@ip-172-31-2-228:~$ ls
apache-tomcat-9.0.96  apache-tomcat-9.0.96.tar.gz
ubuntu@ip-172-31-2-228:~$ rm -rf ^C
ubuntu@ip-172-31-2-228:~$ rm -rf apache-tomcat-9.0.96.tar.gz
ubuntu@ip-172-31-2-228:~$ ls
apache-tomcat-9.0.96
ubuntu@ip-172-31-2-228:~$
```

- **TOMCAT STARTED**

```
aws Services Search [Alt+S] Mumbai ADESH ADHAV
EC2
ubuntu@ip-172-31-2-228:~$ rm -rf ^C
ubuntu@ip-172-31-2-228:~$ rm -rf apache-tomcat-9.0.96.tar.gz
ubuntu@ip-172-31-2-228:~$ ls
apache-tomcat-9.0.96
ubuntu@ip-172-31-2-228:~$ cd apache-tomcat-9.0.96
ubuntu@ip-172-31-2-228:~/apache-tomcat-9.0.96$ ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
ubuntu@ip-172-31-2-228:~/apache-tomcat-9.0.96$ cd bin
ubuntu@ip-172-31-2-228:~/apache-tomcat-9.0.96/bin$ ls
bootstrap.jar  ciphers.sh  daemon.sh  setclasspath.bat  startup.sh  version.bat
atalina-tasks.xml  commons-daemon-native.tar.gz  digest.bat  setclasspath.sh  tomcat-juli.jar  version.sh
atalina.bat  commons-daemon.jar  digest.sh  shutdown.bat  tomcat-native.tar.gz
atalina.sh  configtest.bat  makebase.bat  shutdown.sh  tool-wrapper.bat
ciphers.bat  configtest.sh  makebase.sh  startup.bat  tool-wrapper.sh
ubuntu@ip-172-31-2-228:~/apache-tomcat-9.0.96/bin$ sh startup.sh
sing CATALINA_BASE: /home/ubuntu/apache-tomcat-9.0.96
sing CATALINA_HOME: /home/ubuntu/apache-tomcat-9.0.96
sing CATALINA_TMPDIR: /home/ubuntu/apache-tomcat-9.0.96/temp
sing JRE_HOME: /usr
sing CLASSPATH: /home/ubuntu/apache-tomcat-9.0.96/bin/bootstrap.jar:/home/ubuntu/apache-tomcat-9.0.96/bin/tomcat-juli.jar
sing CATALINA_OPTS:
omcat started.
ubuntu@ip-172-31-2-228:~/apache-tomcat-9.0.96/bin$
```

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- **CHECKING THE TOMCAT IN ANOTHER BROWSER**



**THANK YOU**