

## DAY 6:

Tom Cat server Page with jenkins 3 jobs:

### Step 1: Launch an EC2 Instance

1. Go to AWS Console → EC2 → Launch Instance.
2. Select an **Ubuntu** or **Amazon Linux** AMI.
3. Choose instance type (e.g., t2.micro).
4. Configure security group:
  - Open port **22** for SSH.
  - Open port **8080** for Jenkins.
5. Launch the instance and connect via SSH.

### Step 2: Install Jenkins on EC2

Connect to your EC2 instance using SSH

Install Jenkins (Ubuntu example):

Commands:

```
sudo apt update
```

```
sudo apt install openjdk-11-jdk -y
```

```
wget -q -O - https://pkg.jenkins.io/debian/jenkins.io.key | sudo apt-key add -
```

```
sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
```

```
sudo apt update
```

```
sudo apt install jenkins -y
```

```
sudo systemctl start jenkins
```

```
sudo systemctl enable jenkins
```

3. Access Jenkins via <http://<public-ip>:8080>.

### Step 3: Unlock Jenkins & Install Plugins

Get the initial admin password:

command:`sudo cat /var/lib/jenkins/secrets/initialAdminPassword`

1. Paste it into the Jenkins UI and click “Continue.”
2. Choose **Install Suggested Plugins**.
3. Create admin user and save the configuration.

### Job 1: Simple Shell Build Job

#### Step 4: Create a Freestyle Job

1. Click "**New Item**" → Enter a nameJob 1) → Select **Freestyle project** → OK.
2. Under **Build**, click **Add build step** → Select "**Execute shell**".  
  
`echo "Hello, World!"`
3. Click **Save** → **Build Now**.
4. Verify output under **Console Output**: Should print `Hello, World!`.

### Job 2: Maven Build Job

#### Step 5: Install Maven Integration Plugin

1. Go to **Manage Jenkins** → **Manage Plugins** → Available.
2. Search for "**Maven Integration plugin**", install and restart Jenkins.

#### Step 6: Configure Maven

1. Go to **Manage Jenkins** → **Global Tool Configuration**.
2. Under **Maven**, click **Add Maven**, name it (e.g., `Maven3`), check “Install automatically” & save.

### Step 7: Create Maven Job

1. Click **New Item** → Name it(JOB 2)→ Select **Freestyle project**.
2. Under **Build Environment**, choose **"Invoke top-level Maven targets"**.(MAVEN\_HOME)
3. Maven Version:  
  
Maven3  
clean install
4. Click **Save** → **Build Now**.

### Job 3: Deploy to Apache Tomcat Server

### Step 8: Set Up Apache Tomcat (on EC2 or local)

#### Download Tomcat:

Command:

```
wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.102/bin/apache-tomcat-9.0.102.tar.gz
tar -xzf apache-tomcat-9.0.102.tar.gz
cd apache-tomcat-9.0.102/bin
./catalina.sh start
```

1. Verify Tomcat running: <http://<ip>:8080>

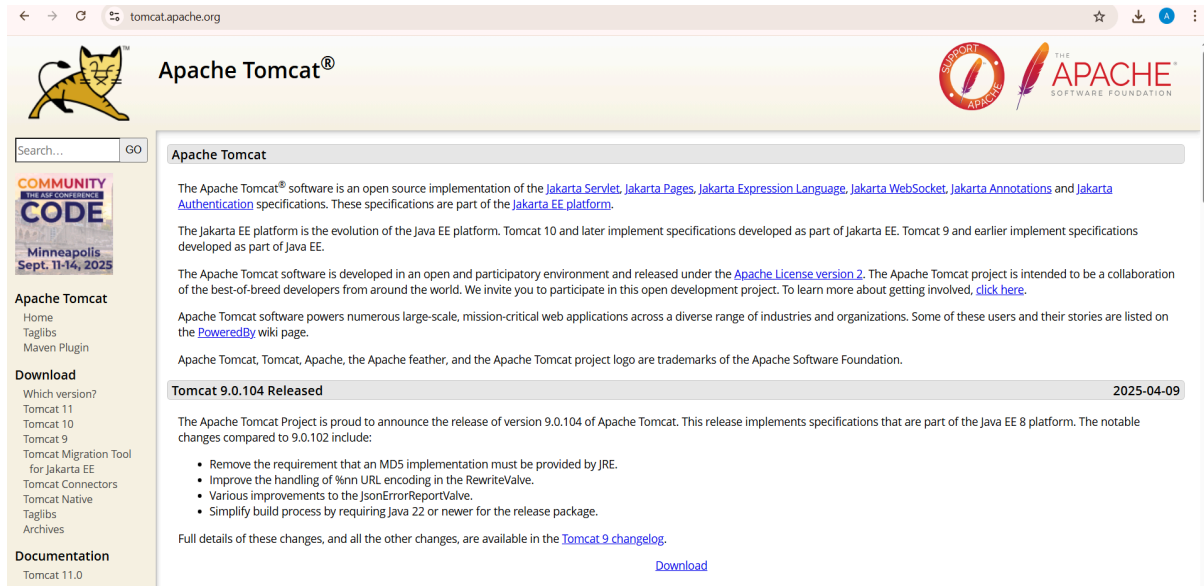
### Step 9: Install “Deploy to Container” Plugin in Jenkins

1. Go to **Manage Plugins** → **Available**.
2. Install **Deploy to Container Plugin**.

### Step 10: Configure Jenkins to Deploy WAR to Tomcat

1. Go to **New Item** → Freestyle project → Name it **Tomcat Deployment**.
2. In **Build**, generate a **.war** file (Maven build) or add existing one.(JAVA\_MAVEN\_HOME)
3. Add a **Post-build Action** → **Deploy war/ear to a container**.
4. WAR File: **\*\*/\*.war**

5. Container: **Tomcat 8+**
6. Manager URL: **http://<Tomcat\_IP>:8080/manager/text**
7. Give public ip address in web and we should get apache tomcat image.
8. Credentials: Jenkins login for Tomcat manager.



Commands image:

```
aws [Alt+S] Asia Pacific (Mumbai) user15 @ 1450-2312-9171
Using CATALINA_TMPDIR: /home/ubuntu/apache-tomcat-9.0.102-src/bin/test/apache-tomcat-9.0.102/temp
Using JRE_HOME: /usr
Using CLASSPATH: /home/ubuntu/apache-tomcat-9.0.102-src/bin/test/apache-tomcat-9.0.102/bin/bootstrap.jar:/home/ubuntu/apache-tomcat-9.0.102-src/bin/test/apache-
tomcat-9.0.102/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
root@ip-172-31-11-179:/home/ubuntu/apache-tomcat-9.0.102-src/bin/test/apache-tomcat-9.0.102/bin# history
1 sudo apt-get update
2 wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.102/src/apache-tomcat-9.0.102-src.tar.gz
3 ls
4 tar -xvf apache-tomcat-9.0.102-src.tar.gz
5 history
6 sudo apt install openjdk-17-jdk
7 sudo apt-get update
8 sudo apt install d
9 sudo apt install openjdk-17-jre
10 ls -l
11 cd apache-tomcat-9.0.102-src
12 ls -l
13 cd webapps/
14 ls
15 cd manager
16 ls
17 cd meta-inf
18 cd META-INF
19 ls -l
20 nano context.xml
21 cd ..
22 cd ../../
```

i-0e99b44738e3d30cb (tomcat-a5)

PublicIPs: 13.201.117.193 PrivateIPs: 172.31.11.179

```
aws [Alt+S] Asia Pacific (Mumbai) user15 @ 1450-2312-9171

28 cd bin
29 ls
30 bash startup.sh
31 ls -l
32 cd ..
33 mkdir logs
34 ls
35 cd bin/
36 chmod +x catalina.sh
37 chmod +x startup.sh
38 ./startup.sh
39 history
40 cd bin
41 ls
42 cd apache-tomcat-9.0.102-src
43 cd bin
44 mkdir test
45 cd test
46 mkdir test
47 cd test
48 wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.102/bin/apache-tomcat-9.0.102.tar.gz
49 tar -xzf apache-tomcat-9.0.102.tar.gz
50 cd apache-tomcat-9.0.102/bin
51 ./catalina.sh start
52 ls -l
53 cd ..
54 cd ../..
55 cd ../..
56 cd ../..

i-0e99b44738e3d30cb (tomcat-a5)
PublicIPs: 13.201.117.193 PrivateIPs: 172.31.11.179
```

```
aws [Alt+S] Asia Pacific (Mumbai) user15 @ 1450-2312-9171

44 mkdir test
45 cd test
46 mkdir test
47 cd test
48 wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.102/bin/apache-tomcat-9.0.102.tar.gz
49 tar -xzf apache-tomcat-9.0.102.tar.gz
50 cd apache-tomcat-9.0.102/bin
51 ./catalina.sh start
52 ls -l
53 cd ..
54 cd ../..
55 cd ../..
56 cd ../..
57 ls
58 cd ubuntu
59 ls
60 cd apache-tomcat-9.0.102-src
61 cd bin
62 mkdir test
63 cd test
64 wget wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.102/bin/apache-tomcat-9.0.102.tar.gz
65 tar -xzf apache-tomcat-9.0.102.tar.gz
66 cd apache-tomcat-9.0.102/bin
67 ./catalina.sh start
68 chmod +x catalina.sh
69 chmod +x startup.sh
70 ./startup.sh
71 history
root@ip-172-31-11-179: /home/ubuntu/apache-tomcat-9.0.102-src/bin/test/apache-tomcat-9.0.102/bin#

i-0e99b44738e3d30cb (tomcat-a5)
PublicIPs: 13.201.117.193 PrivateIPs: 172.31.11.179
```

## Final Check:

- All 3 jobs show **Build Success**.
- Console outputs show logs of build and deployment.
- We have demonstrated:
  - Jenkins setup on EC2.
  - Freestyle job.
  - Maven build.
  - Deployment to Tomcat.