

Step-7: Access Jenkins

1. Open your browser and navigate to
2. Retrieve the initial admin password
3. Copy the password and paste it into the Jenkins setup screen
4. Select Install suggested plugins during setup
5. Create an admin user

Step-8: Verify Jenkins Setup

SOURCECODE

- Step 1: Search AWS Free Tier Account on any browser and create an account. (If you already have an account, login)
- Step 2: After creating the account, login as ROOT user.
- Step 3: After login it will show your account > Click on EC2 option > Click on Launch Instance.
- Step 4: After clicking on Launch Instance, it will ask Name and other things > Write Instance Name as Jenkins > select application and OS Image as Ubuntu > Scroll down and come on Instance Type Option and select t2.Medium Now come in Key Pair (login) section and Click on Create New Key Pair > write your key pair name as Emp3 > Select .pem > Click on Create Key Pair.
- Step 5: After click on Create Key Pair it will download a .pem file > After that on the right side we have an option Number of Instances select 1 > Click on Launch Instance
- Step 6: After that refresh the page > Select the created instance > Click on Security.
- Step 7: After Clicking on Security > It will show a blue link name as Security Group > Click on the blue link it will open a page > Click on edit inbound rule > Click on Add Rule > Add one rule HTTP and source type Anywhere IPv4 > Add one more rule Custom TCP, port range 8080 and source Anywhere IPv4 > Click on Save Rule.
- Step 8: Now search Download Mobaxterm in your browser > Click on download or first link > Click on Home Edition or Free Edition > Click on MobaXtreme Portable Edition.

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Step 15

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Step 17

- Step 9: After downloading the Mobaxterm.zip file right click and Extract all and paste it in your DevOps folder or Anywhere.
- Step 10: Now Open Mobaxterm Extracted Folder and double click on .exe file of application type file > It will open Mobaxterm software.
- Step 11: Now Click on Session (left upper corner) > Click on SSH > It will ask remote host and specify username.
- Step 12: In the place of Remote Host Place the Public IP of your instance > Click on Advance SSH Setting > Select use Private Key > Browse the .pem file that you already downloaded during instance creation > After that click on OK > It will open a linux Command Prompt.
- Step 13: Now you have to setup Jenkins > Search Jenkins Document in any browser > Click on first jenkins link > Click on Debian/Ubuntu > After that it will show the linux Command.
- Step 14: Now come to your Mobaxterm Application > Type clear and Hit Enter key > It will clear your command screen > Now copy the long term support release code till /dev/null > Paste it in your linux terminal and hit the Enter key > It will download the Jenkins support file.
- ```
Code: sudo wget -O /usr/share/keyrings/jenkins-keyring-
src/https://pkg.jenkins.io/debian-stable/jenkins.io-2023-key
echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring-
src] https://pkg.jenkins.io/debian-stable binary/"
sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null
```
- Step 15: Clear your (screen) screen > Now update your project using given code. code: `sudo apt-get update`
- Step 16: Clear your screen and check java version using command: `java --version`
- Step 17: If it shows java Not found then it shows the option install java. So install java using the command. It will ask Y/N, just type Y and hit enter. It will take some time to download java.
- ```
Code: sudo apt install fontconfig openjdk-17-jre
```


Step 19: Now Enable the Jenkins Server using given command
 Command: `sudo systemctl enable jenkins`.

Step 20: After that enable the Jenkins Server start Jenkins
 server using the command: `sudo systemctl start jenkins`

Step 18: After downloading java, clear your screen using
 clear command > Once again update your project
 using update command (Step 14). Now install
 Jenkins using Jenkins command. It will ask Y/N,
 just type Y and hit Enter. After installing Jenkins
 once again update your project using update
 command. Check java and jenkins version using
 (`java --version` and `Jenkins --version`) commands
 Code: `sudo apt-get install jenkins`.

Step 21: After starting the Jenkins server, check Jenkins
 server status using given command. It will
 show the status active running and shows the
 status of memory, CPU, etc.

Command: `sudo systemctl status jenkins`.

Step 22: Now open any browser and search the Jenkins
 server using instance IP and Custom Port Number.
 (IP address followed by 8080).

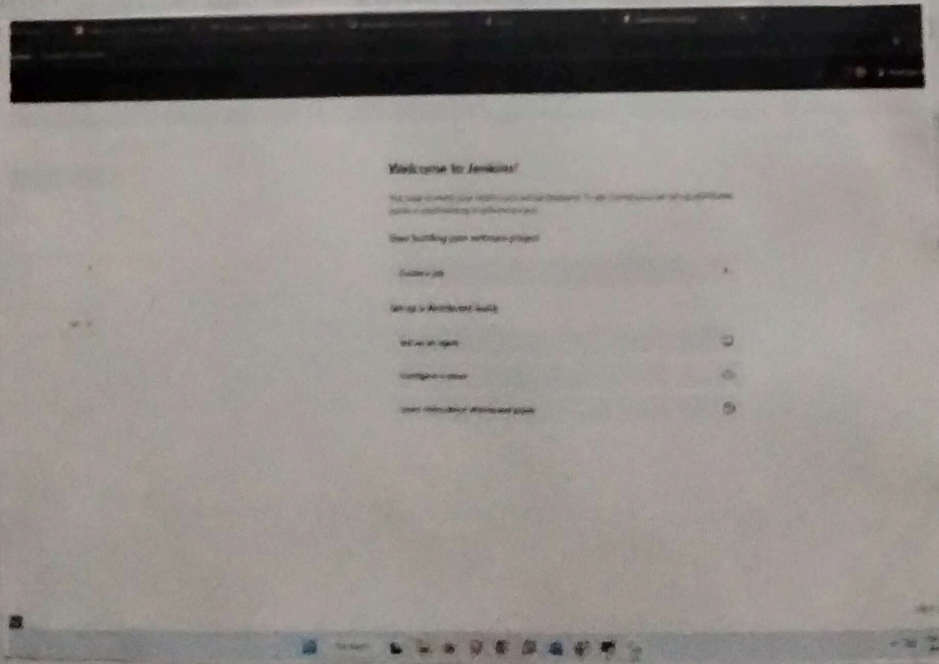
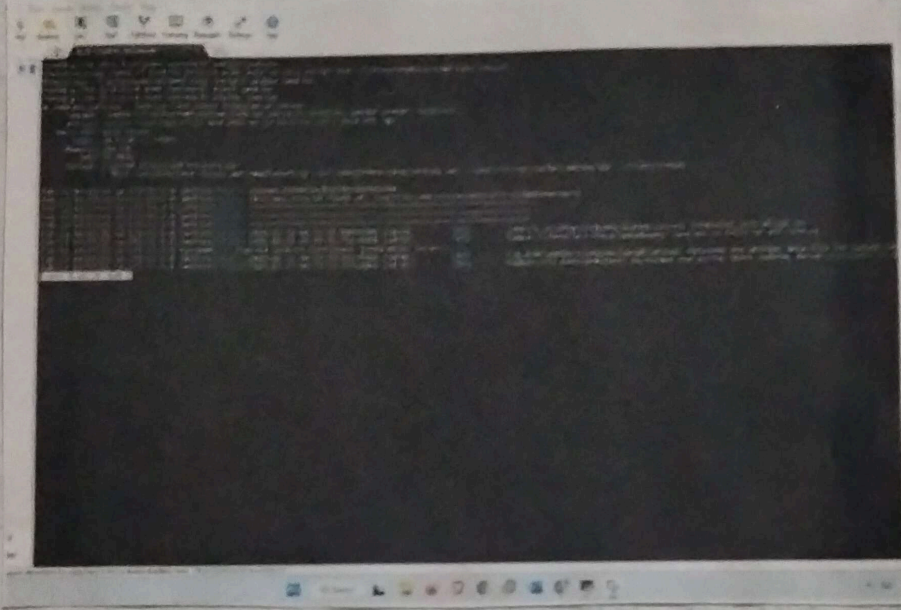
Step 23: It will start the Jenkins server, show some
 path with red colour and ask the administrator
 password.

Step 24: Copy the red colour path and paste it in your
 linux terminal followed by `sudo cat` command
 and hit the Enter key, It will show 64-bit
 alpha numeric code > Copy that code and paste in the
 place of password in your browser > Click on continue.

Step 25: After clicking on continue option, it will show
 2 options for installing the plugin, just click on
 install suggested plugin. After installing the plugin
 it will ask creating an account using user id and
 password. Click on Save and Continue.

OUTPUT

Step 26: After clicking on save and continue, it will show some links and show the option Save and Finish. Click on save and finish. After that it shows Jenkins is Ready and shows an option Start Using Jenkins. Just click on it. It will open a Jenkins dashboard.



VIVA QUESTIONS

1. What is an Amazon Machine Image (AMI), and how did you select the CentOS AMI?

Ans. An AMI is a preconfigured VM template. CentOS AMI selected based on version and compatibility.

2. How do you configure SSH access for an EC2 instance in MobaXterm or PuTTY?

Ans. Load the pem key in MobaXterm or convert it to .ppk for PuTTY, then connect using the instance's public IP address via SSH.

3. What is the difference between a private and a public IP address in an EC2 instance?

Ans. Public IP is internet-facing, allowing external access. Private IP is internal, enabling communication within the AWS network.

4. Why is setting the JAVA_HOME environment variable important?

Ans. It is important because it specifies the java installation path, ensuring tools like maven and IDE's locate the correct Java version.

5. How do you start and verify the Jenkins service on CentOS?

Ans. Start Jenkins with `systemctl start jenkins` and verify it with `systemctl status jenkins` or by accessing `http://11:8080` in a browser.