Shell Scripting

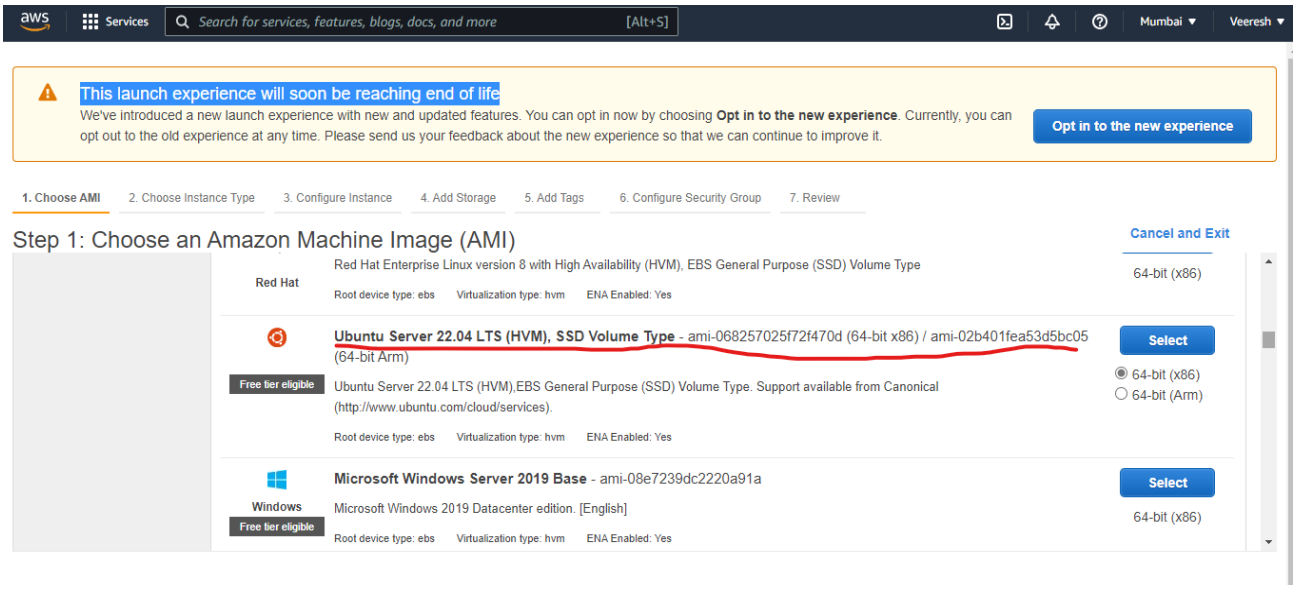
Shell scripting: A shell script is a computer program designed to be run by the Unix/Linux shell which could be one of the following:

- The Bourne Shell
- The C Shell
- The Korn Shell
- The GNU Bourne-Again Shell

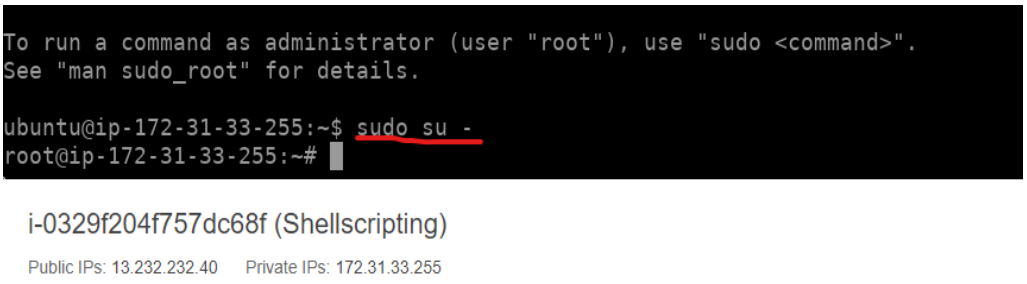
A shell is a command-line interpreter and typical operations performed by shell scripts include file manipulation, program execution, and printing text.

Practical Installation process of Java, Maven, Jenkins, Mysql and Nginx by shell scripting :

Step 1) Into the AWS console go to the EC2 service, and launch the Ubuntu Linux machine.



Step 2) After 2/2 checks pass connect the instance from the browser. Use " sudo su -" for switch the root user for super user do permission access.



Step 3) create a file with extension of .sh by using **touch** command and after creating the file to add the shell script data into the file use **vim filename .**

```
ubuntu@ip-172-31-33-255:~$ sudo su -
root@ip-172-31-33-255:~# ls
snap
root@ip-172-31-33-255:~# touch file1.sh
root@ip-172-31-33-255:~# ls
file1.sh  snap
root@ip-172-31-33-255:~# vim file1.sh
```

i-0329f204f757dc68f (Shellscripting)

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Step 4) Into the file add the scripting data as

#!/bin/bash

sudo apt-get update

sleep 30

sudo apt-get install –y openjdk-11-jdk

sleep 30

Then, Save and quit.

```
#!/bin/bash
sudo apt-get update
sleep 30
sudo apt-get install -y openjdk-11-jdk
sleep 30
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-- INSERT --                                                    5,9           All
```

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Step 5) use **chmod +x file1.sh** for the executing permission to file, and **./file1.sh** for Run and install the application.

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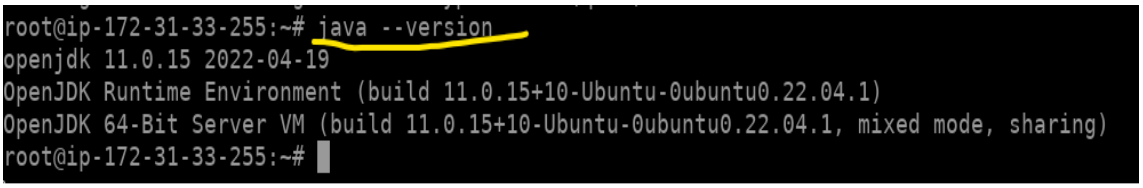
Step 6) after installation checking the java version by **java --version**



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Step 7) AS per previous process create one file for Maven installation, execute and run It,

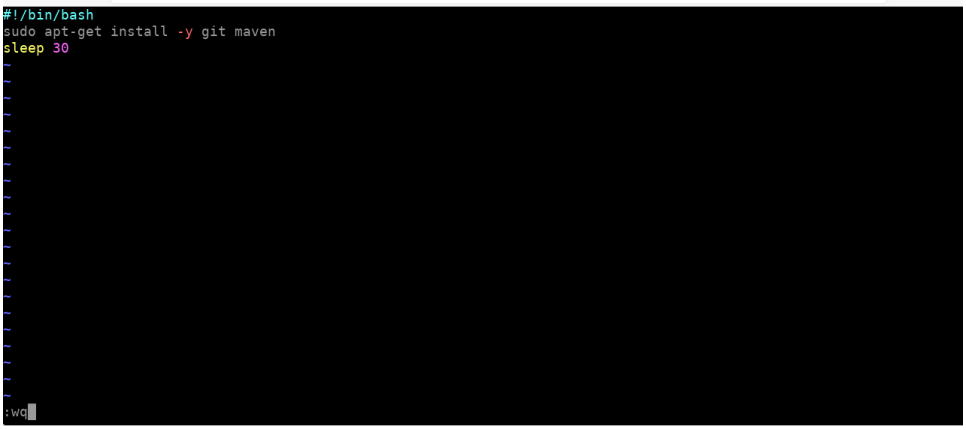
File data is,

#!/bin/bash

sudo apt-get install –y git maven

Sleep 30

Check the maven version , **mvn --version**



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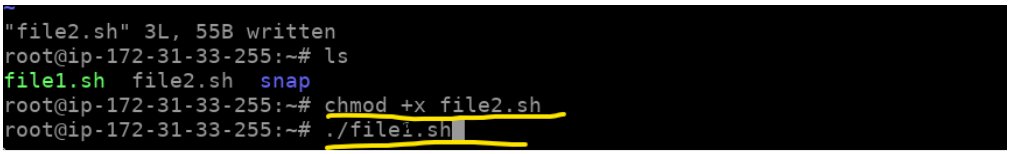

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Step 8) create a file for jenkins installation , execute and run it ,

File data as,

#!/bin/bash
wget https://updates.jenkins-ci.org/latest/jenkins.war
sleep 30
java -jar jenkins.war
sleep 30

i-0329f204f757dc68f (Shellscripting)

Public IPs: 13.232.232.40 Private IPs: 172.31.33.255

```
#!/bin/bash
wget https://updates.jenkins-ci.org/latest/jenkins.war
sleep 30
java -jar jenkins.war
sleep 30
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-- INSERT --
```

i-0329f204f757dc68f (Shellscripting)

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```
root@ip-172-31-33-255:~# chmod +x file3.sh
root@ip-172-31-33-255:~# ls
file1.sh  file2.sh  file3.sh  snap
root@ip-172-31-33-255:~# ./file3.sh
```

i-0329f204f757dc68f (Shellscripting)

Public IPs: 13.232.232.40 Private IPs: 172.31.33.255

```
root@ip-172-31-33-255:~# ls
file1.sh  file2.sh  file3.sh  snap
root@ip-172-31-33-255:~# ./file3.sh
--2022-07-26 10:12:45--  https://updates.jenkins-ci.org/latest/jenkins.war
Resolving updates.jenkins-ci.org (updates.jenkins-ci.org)... 52.202.51.185
Connecting to updates.jenkins-ci.org (updates.jenkins-ci.org)|52.202.51.185|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://updates.jenkins-ci.org/download/war/2.360/jenkins.war [following]
--2022-07-26 10:12:46--  https://updates.jenkins-ci.org/download/war/2.360/jenkins.war
Reusing existing connection to updates.jenkins-ci.org:443.
HTTP request sent, awaiting response... 302 Found
Location: https://get.jenkins.io/war/2.360/jenkins.war [following]
--2022-07-26 10:12:46--  https://get.jenkins.io/war/2.360/jenkins.war
Resolving get.jenkins.io (get.jenkins.io)... 52.167.253.43
Connecting to get.jenkins.io (get.jenkins.io)|52.167.253.43|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://mirrors.tuna.tsinghua.edu.cn/jenkins/war/2.360/jenkins.war [following]
--2022-07-26 10:12:47--  https://mirrors.tuna.tsinghua.edu.cn/jenkins/war/2.360/jenkins.war
Resolving mirrors.tuna.tsinghua.edu.cn (mirrors.tuna.tsinghua.edu.cn)... 101.6.15.130, 2402:f000:1:400::2
Connecting to mirrors.tuna.tsinghua.edu.cn (mirrors.tuna.tsinghua.edu.cn)|101.6.15.130|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 93427972 (89M) [application/java-archive]
Saving to: 'jenkins.war'

jenkins.war                  46%[=====================>                        ]  41.48M   134KB/s    eta 5m 36s
```

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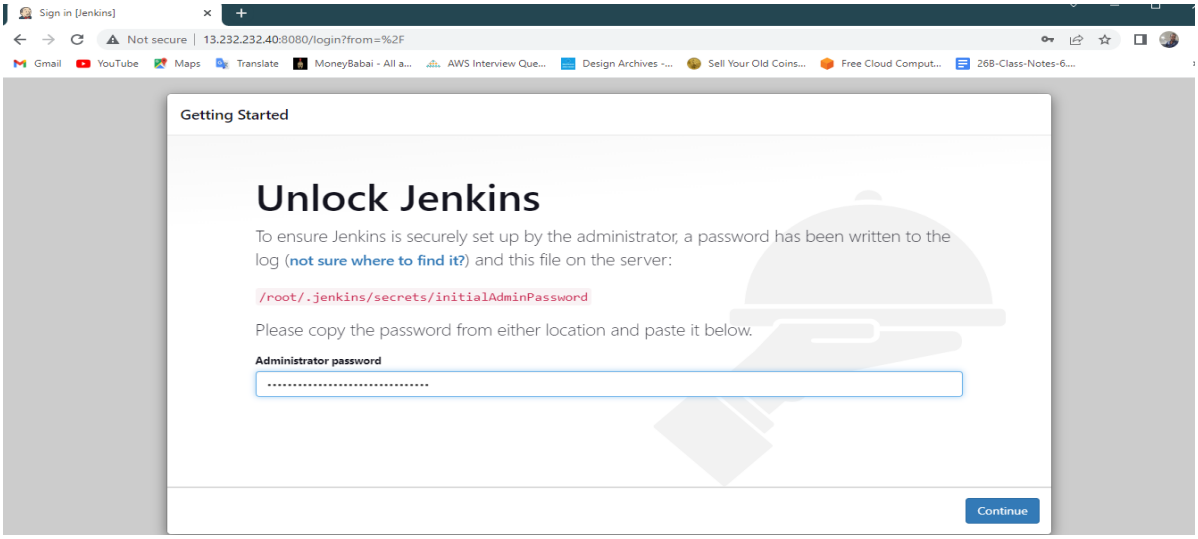
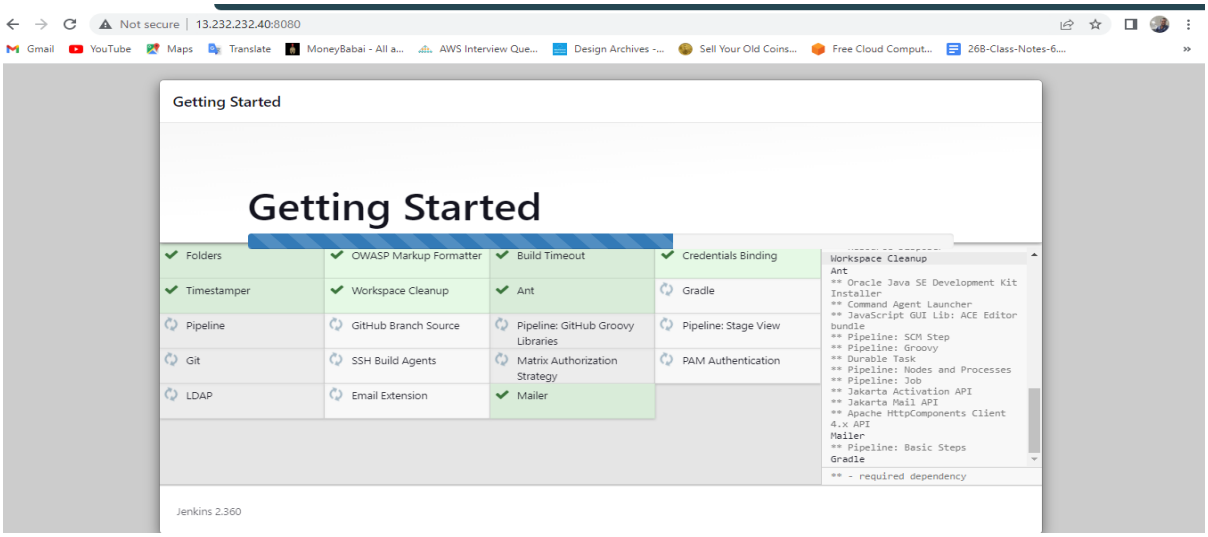
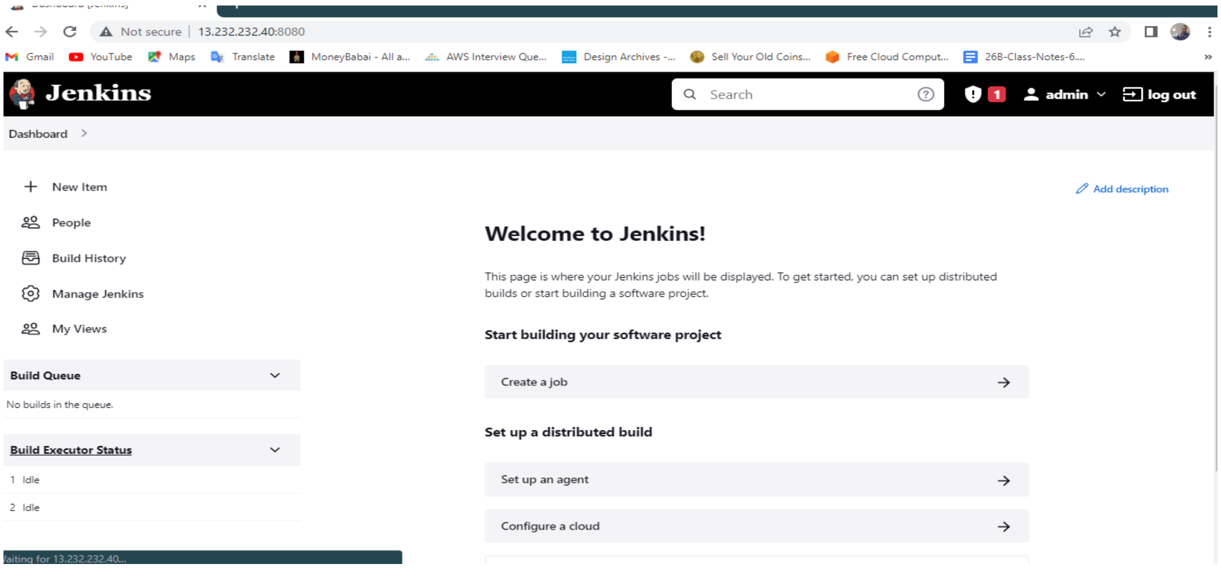
```
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.codehaus.groovy.vmplugin.v7.Java7$1 (file:/root/.jenkins/war/WEB-INF/lib/gr
all-2.4.21.jar) to constructor java.lang.invoke.MethodHandles$Lookup(java.lang.Class,int)
WARNING: Please consider reporting this to the maintainers of org.codehaus.groovy.vmplugin.v7.Java7$1
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
2022-07-26 10:23:12.607+0000 [id=29]    INFO    jenkins.install.SetupWizard#init:

*************************************************************
*************************************************************
*************************************************************

Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:

325ed10728e047d88933f4a806d18d9a

This may also be found at: /root/.jenkins/secrets/initialAdminPassword

*************************************************************
*************************************************************
*************************************************************
```

After getting the password , go to the local browser take publicip:8080 and search it we will get interface as shown below



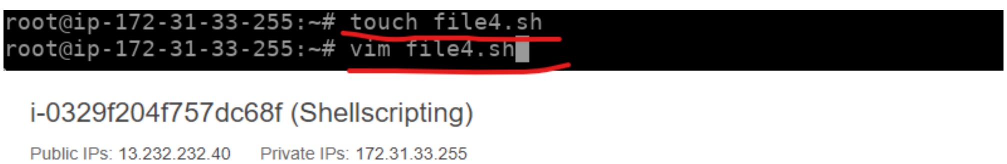


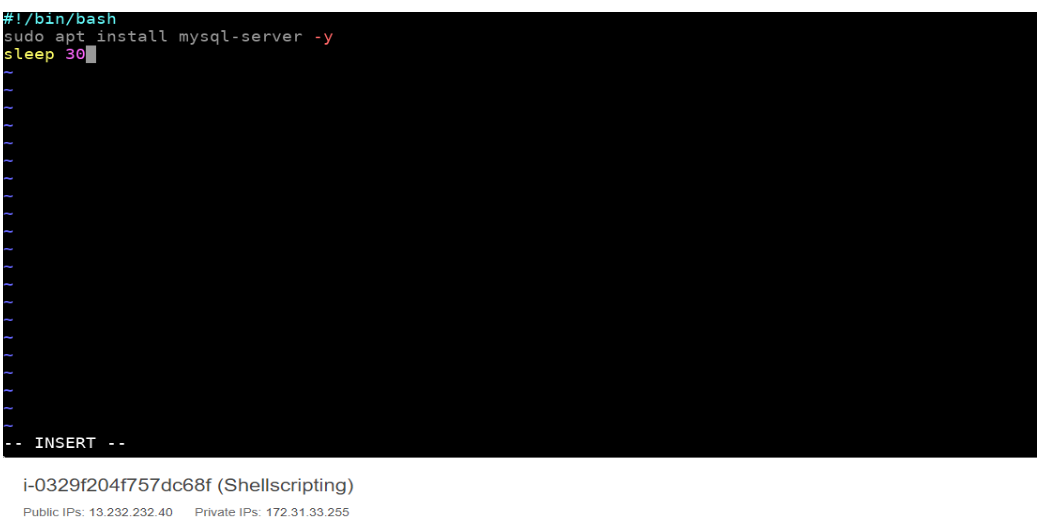


Step 9) create a file for mysql installation , execute and run it ,

File data as,

#!/bin/bash
sudo apt install mysql-server -y
sleep 30





```
root@ip-172-31-33-255:~# chmod +x file4.sh
root@ip-172-31-33-255:~# ls
file1.sh  file2.sh  file3.sh  file4.sh  jenkins.war  jenkins.war.1  snap
root@ip-172-31-33-255:~# ./file4.sh
```

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```
root@ip-172-31-33-255:~# mysql -v
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.29-0ubuntu0.22.04.2 (Ubuntu)

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owners.

Reading history-file /root/.mysql_history
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

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After installation, Check the mysql version , **mysql –v**

Step 10) create a file for nginx installation , execute and run it ,

File data as,

#!/bin/bash

sudo apt install nginx -y
sleep 30

```
root@ip-172-31-33-255:~# touch file5.sh
root@ip-172-31-33-255:~# vim file5.sh
```

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Public IPs: 13.232.232.40 Private IPs: 172.31.33.255

```
#!/bin/bash
sudo apt install nginx -y
sleep 30
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-- INSERT --                                                    3,9
```

i-0329f204f757dc68f (Shellscripting)

Public IPs: 13.232.232.40 Private IPs: 172.31.33.255

```
root@ip-172-31-33-255:~# chmod +x file5.sh
root@ip-172-31-33-255:~# ls
file1.sh  file2.sh  file3.sh  file4.sh  file5.sh  jenkins.war  jenkins.war.1  snap
root@ip-172-31-33-255:~# ./file5.sh
```

i-0329f204f757dc68f (Shellscripting)

Public IPs: 13.232.232.40 Private IPs: 172.31.33.255

After installation go to browser take public ip into the url bar and search it. Then we will get the page as shown below.