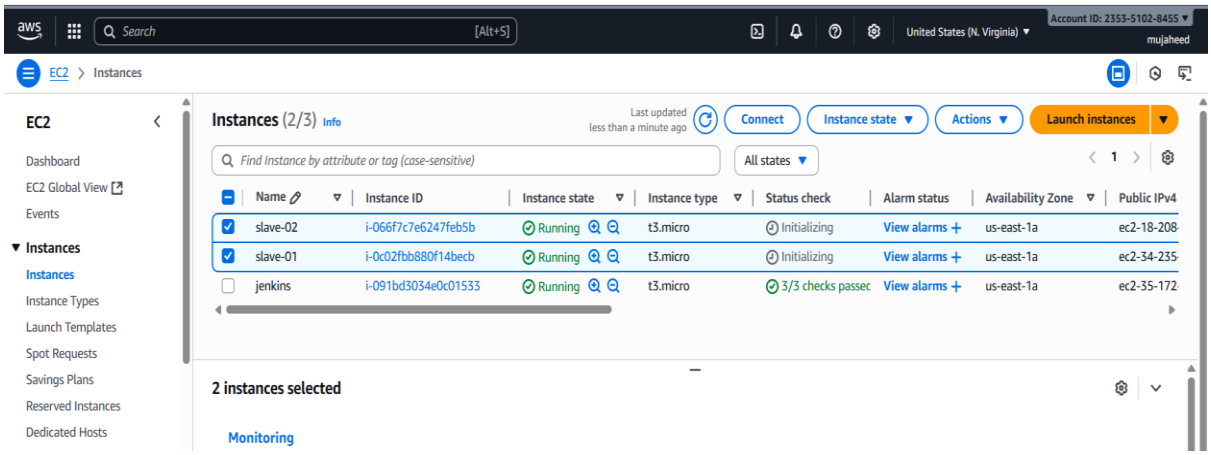
1. Configure 2 slave machines in Jenkins master.

Go to ec2 and create 2 ec2 instances named as slave1, slave2.



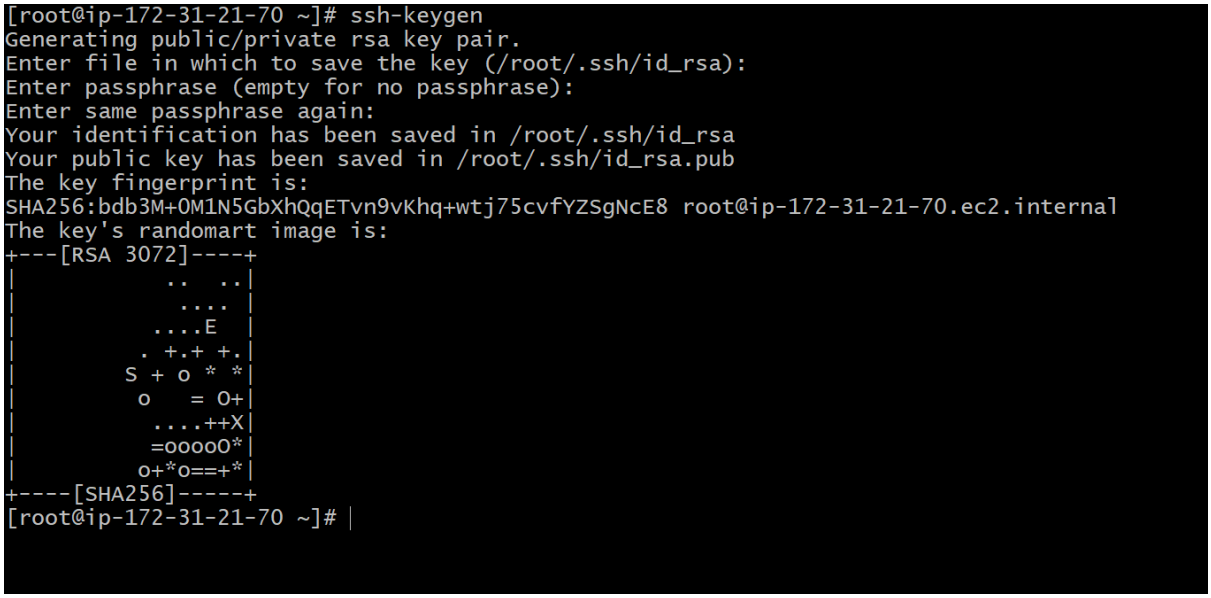
Steps to do in slave machine:

- Login to slave machine
- Switch to root user
- Install java
- Create ssh-keygen
- Cat id_rsa.pub > authorized_keys
- Chmod 700 authorized_key

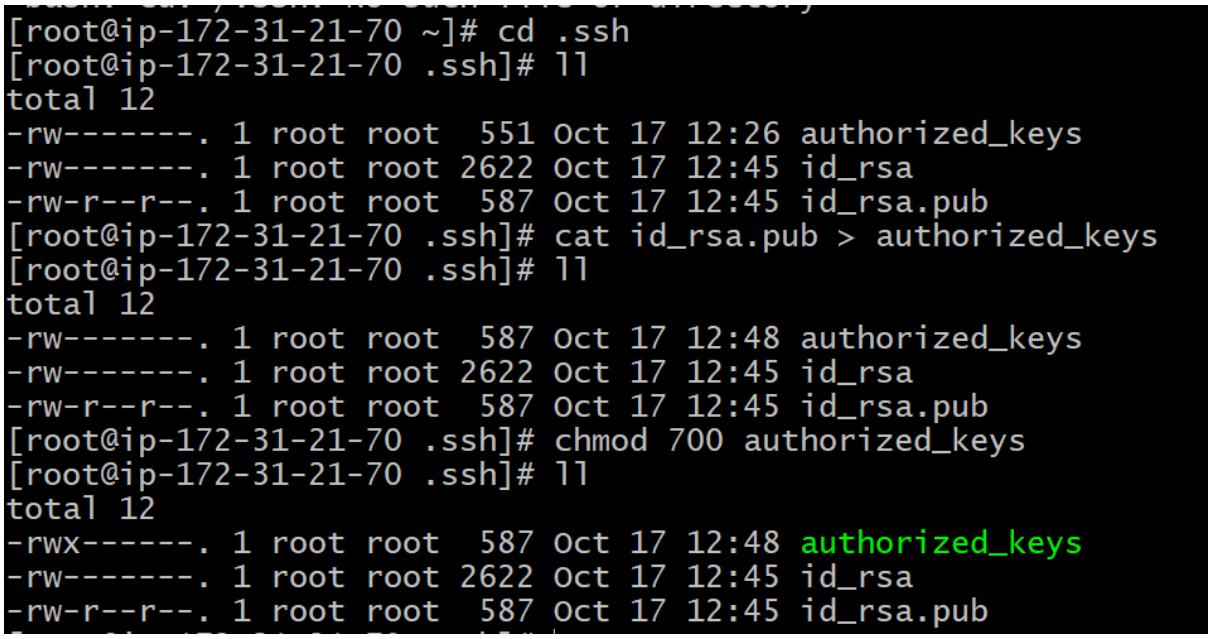
Login with slave-01 and switch to root user and install java.

```
[root@ip-172-31-21-70 ~]# yum install java-21
Amazon Linux 2023 Kernel Livepatch repository                238 kB/s |  26 kB     00:00
Dependencies resolved.
================================================================================================================
 Package                          Architecture     Version                          Repository              Size
================================================================================================================
Installing:
 java-21-amazon-corretto          x86_64           1:21.0.8+9-1.amzn2023.1          amazonlinux            213 k
Installing dependencies:
 alsa-lib                         x86_64           1.2.7.2-1.amzn2023.0.2           amazonlinux            504 k
 cairo                            x86_64           1.18.0-4.amzn2023.0.3            amazonlinux            717 k
 dejavu-sans-fonts                noarch           2.37-16.amzn2023.0.2             amazonlinux            1.3 M
 dejavu-sans-mono-fonts           noarch           2.37-16.amzn2023.0.2             amazonlinux            467 k
 dejavu-serif-fonts               noarch           2.37-16.amzn2023.0.2             amazonlinux            1.0 M
 fontconfig                       x86_64           2.13.94-2.amzn2023.0.2           amazonlinux            273 k
 fonts-filesystem                 noarch           1:2.0.5-12.amzn2023.0.2          amazonlinux            9.5 k
 freetype                         x86_64           2.13.2-5.amzn2023.0.1            amazonlinux            423 k
 giflib                           x86_64           5.2.1-9.amzn2023.0.2             amazonlinux             48 k
 google-noto-fonts-common         noarch           20240401-1.amzn2023.0.2          amazonlinux             17 k
 google-noto-sans-vf-fonts        noarch           20240401-1.amzn2023.0.2          amazonlinux            593 k
 graphite2                        x86_64           1.3.14-7.amzn2023.0.2            amazonlinux             97 k
 harfbuzz                         x86_64           7.0.0-2.amzn2023.0.2             amazonlinux            873 k
```

Create a key-gen by using ssh-keygen.



- Change the directory cd .ssh
- Cat id_rsa.pub > authorized_keys
- Chmod 700 authorized_key



Go to master account and follow this steps:

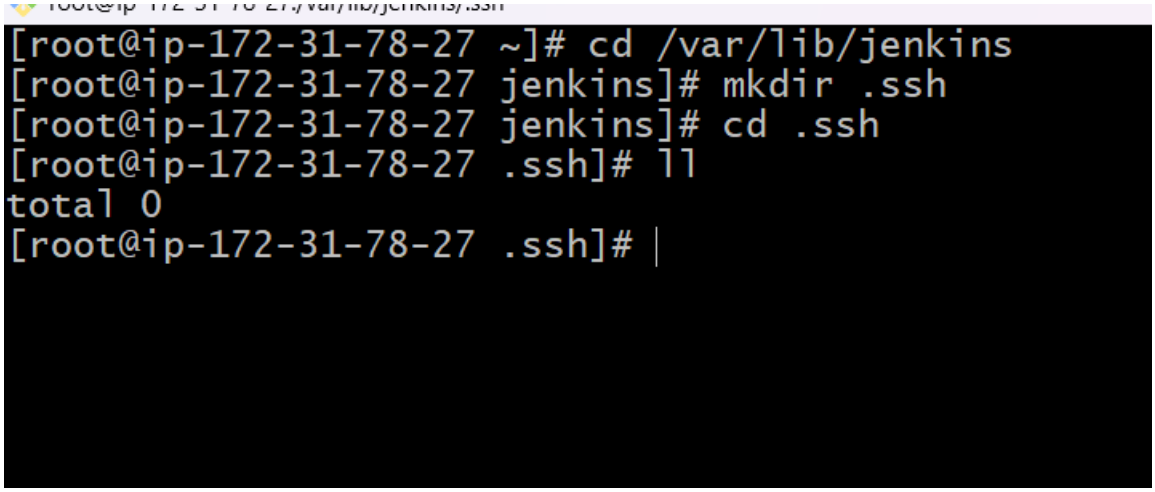
- Switch to root user
- mkdir -p/var/lib/Jenkins/.ssh

- ssh-keyscan -H ip address of slave >> /var/lib/Jenkins/.ssh/known_hosts
- chown Jenkins:jenkins known_hosts
- chmod 700 known_hosts

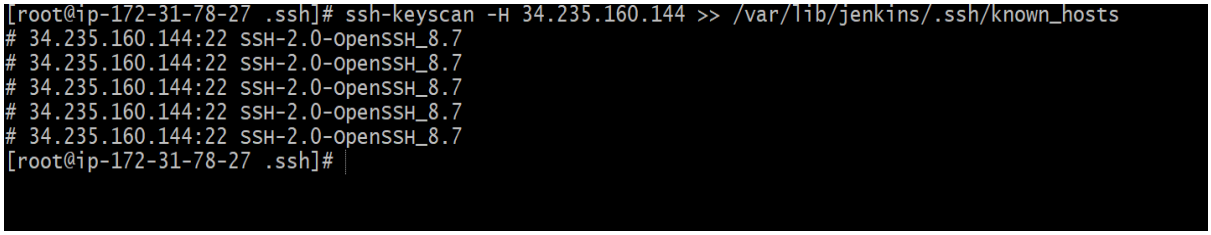
Login into master account :

Create a directory by using

- Go to cd /var/lib/Jenkins
- Mkdir .ssh change to that ssh directory



Execute ssh-keyscan -H ip of slave >> /var/lib/jenkins/.ssh/known_hosts



Execute command to change ownership:

- Chown Jenkins:jenkins known_hosts

```
[root@ip-172-31-78-27 .ssh]# chown jenkins:jenkins known_hosts
[root@ip-172-31-78-27 .ssh]# ll
total 4
-rw-r--r--. 1 jenkins jenkins 364 Oct 17 13:01 known_hosts
[root@ip-172-31-78-27 .ssh]#
```

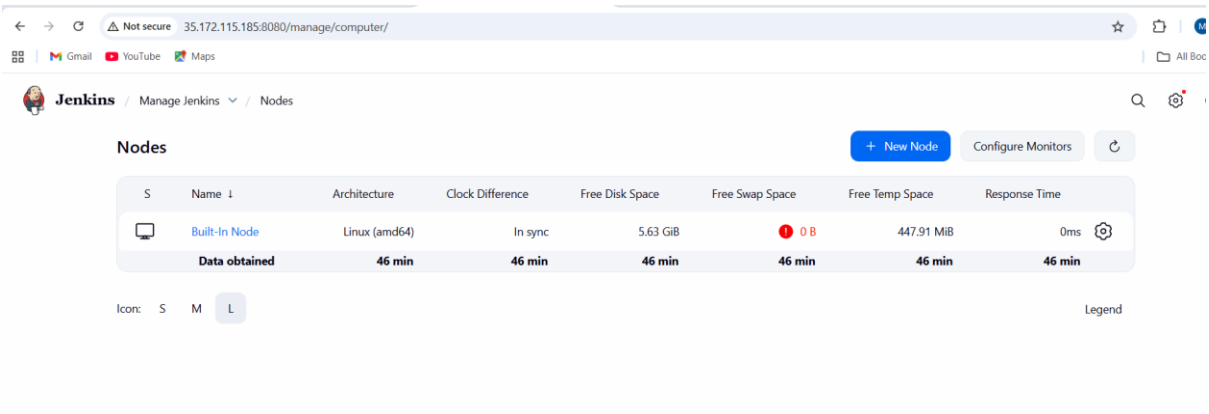
Change permissions

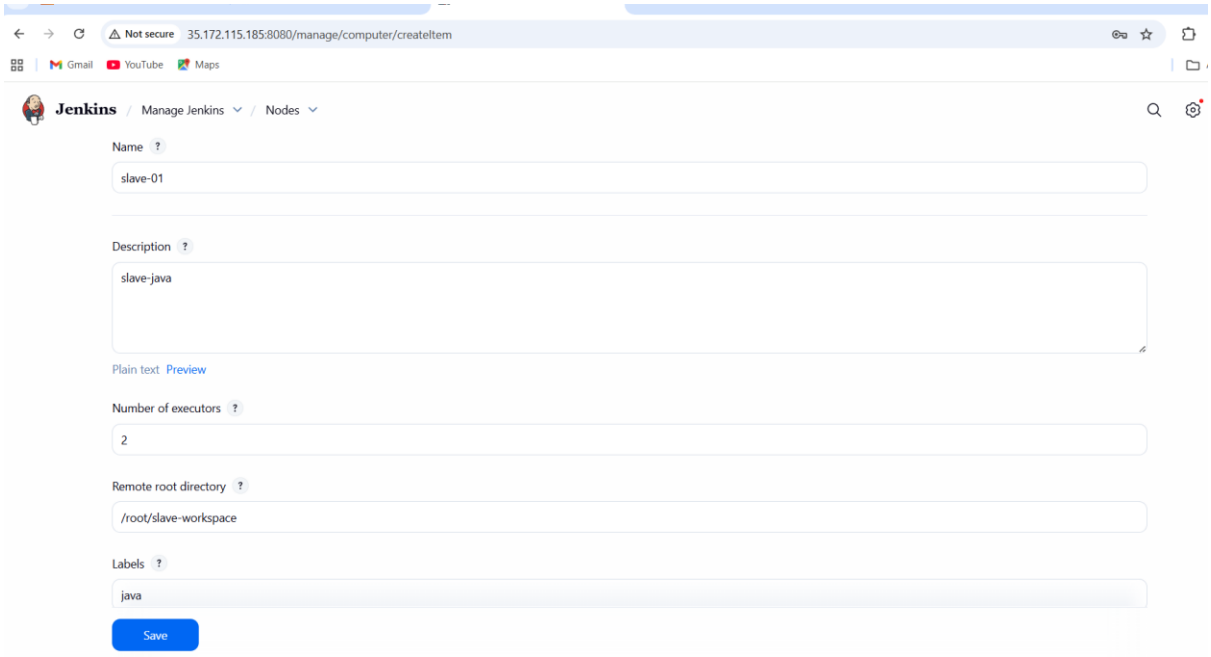
```
[root@ip-172-31-78-27 .ssh]# chmod 700 known_hosts
[root@ip-172-31-78-27 .ssh]# ll
total 4
-rwx------. 1 jenkins jenkins 364 Oct 17 13:01 known_hosts
[root@ip-172-31-78-27 .ssh]#
```

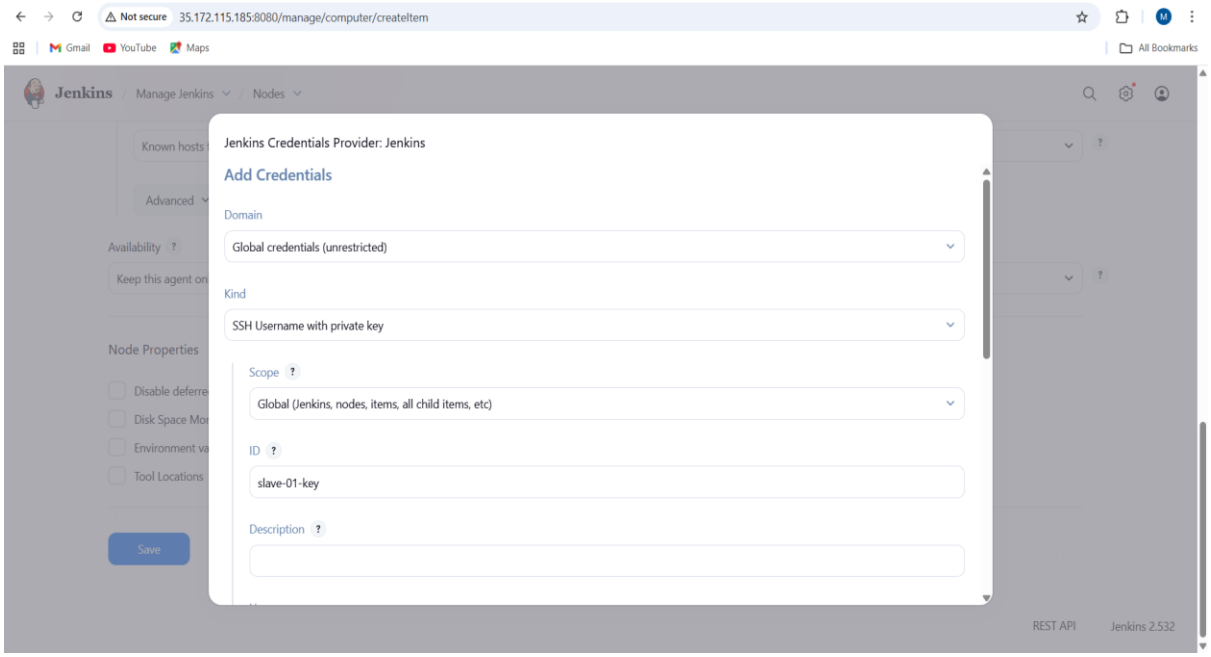
Steps to do in jenkins gui:

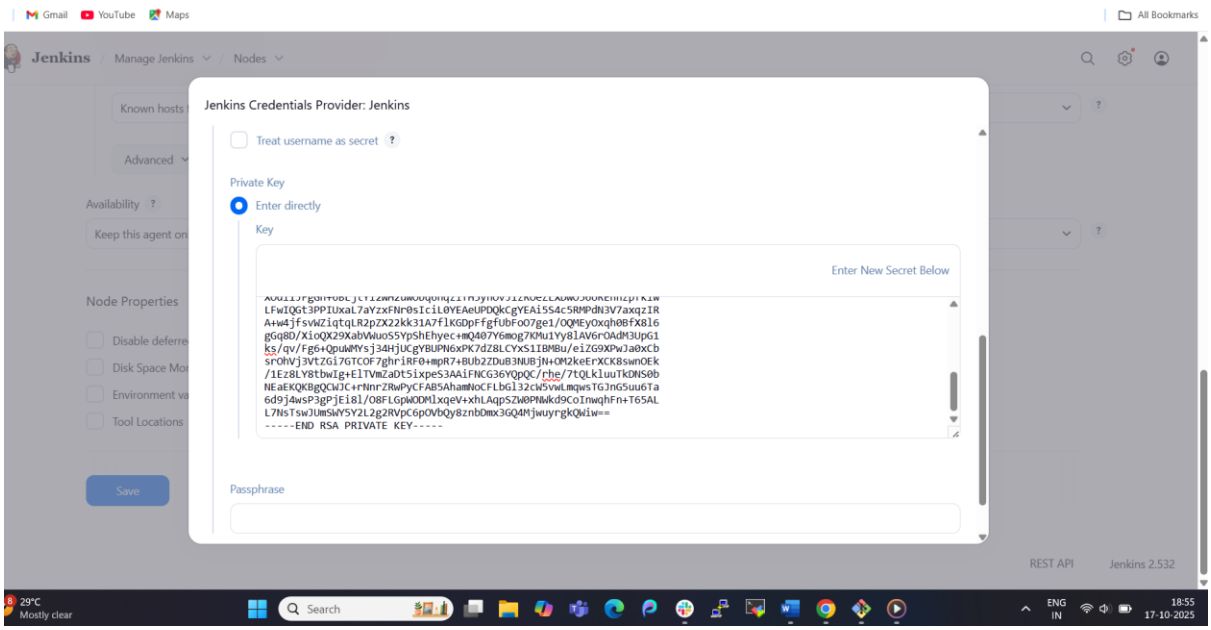
- Open manage Jenkins
- Under launch method select “launch via ssh”
- Host public ip of slave
- Credentials:select user with private key
- Enter ec2-user as name and paste the pem key
- Host key verification strategy to be selected
- save

Go to Jenkins gui and click on managed Jenkins and click on node create node.

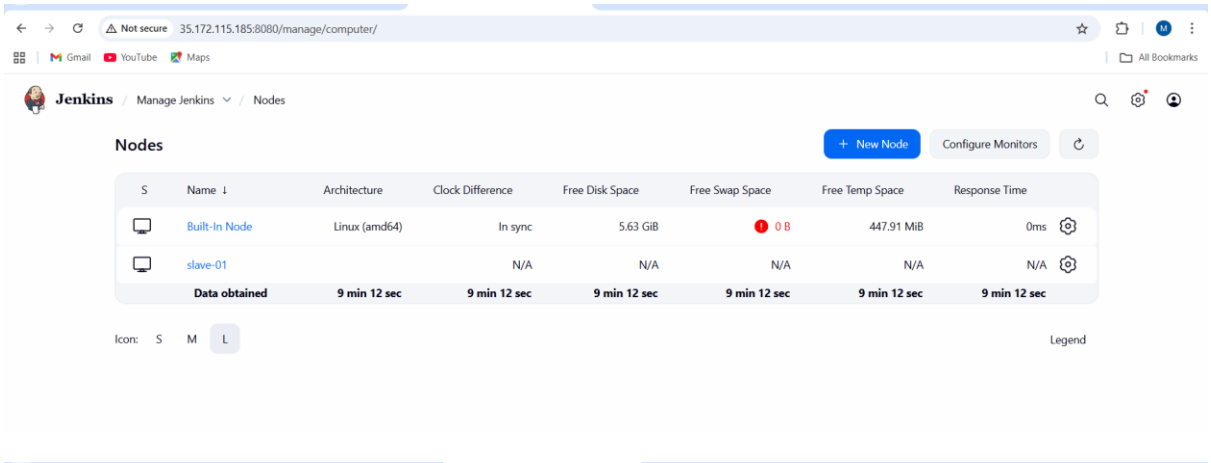


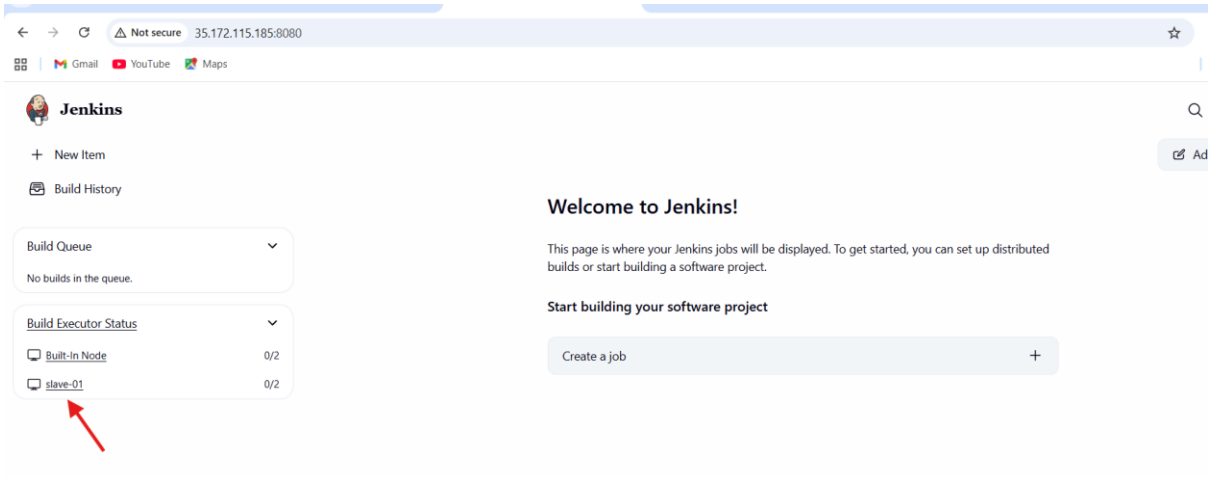

Not secure 35.172.115.185:8080/manage/computer/createItem
Gmail YouTube Maps
Jenkins / Manage Jenkins / Nodes
Name ?
slave-01
Description ?
slave-java
Plain text Preview
Number of executors ?
2
Remote root directory ?
/root/slave-workspace
Labels ?
java
Save


Not secure 35.172.115.185:8080/manage/computer/createItem
Gmail YouTube Maps
All Bookmarks
Jenkins / Manage Jenkins / Nodes
Jenkins Credentials Provider: Jenkins
Add Credentials
Domain
Global credentials (unrestricted)
Kind
SSH Username with private key
Scope ?
Global (Jenkins, nodes, items, all child items, etc)
ID ?
slave-01-key
Description ?
Node Properties
Save
REST API
Jenkins 2.532

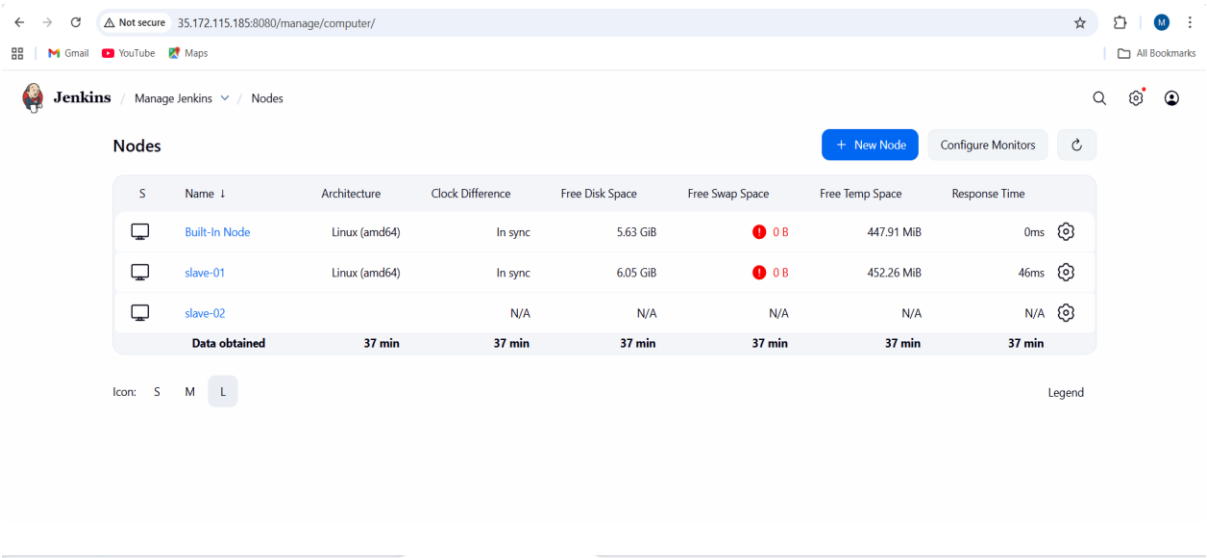


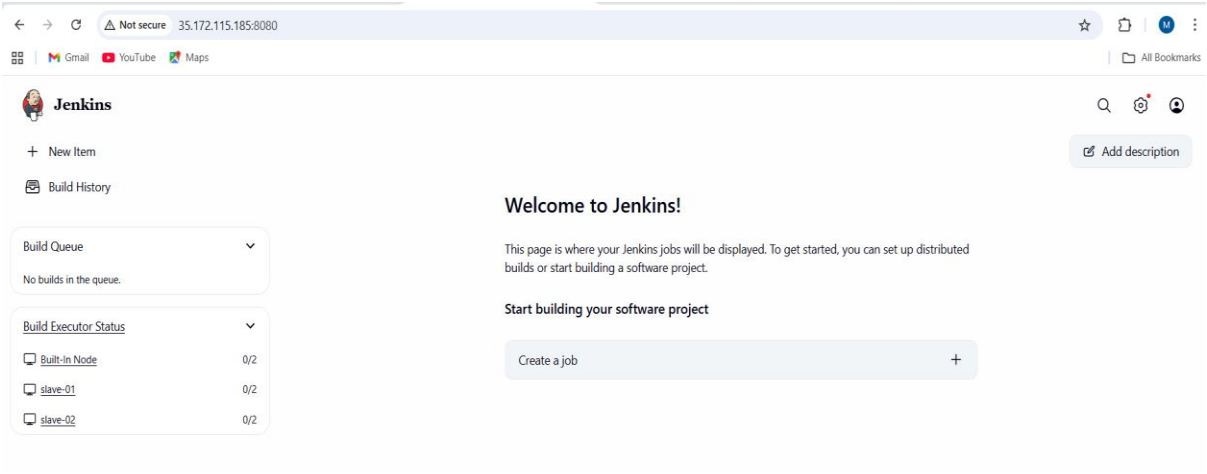
Then the slave will be created.





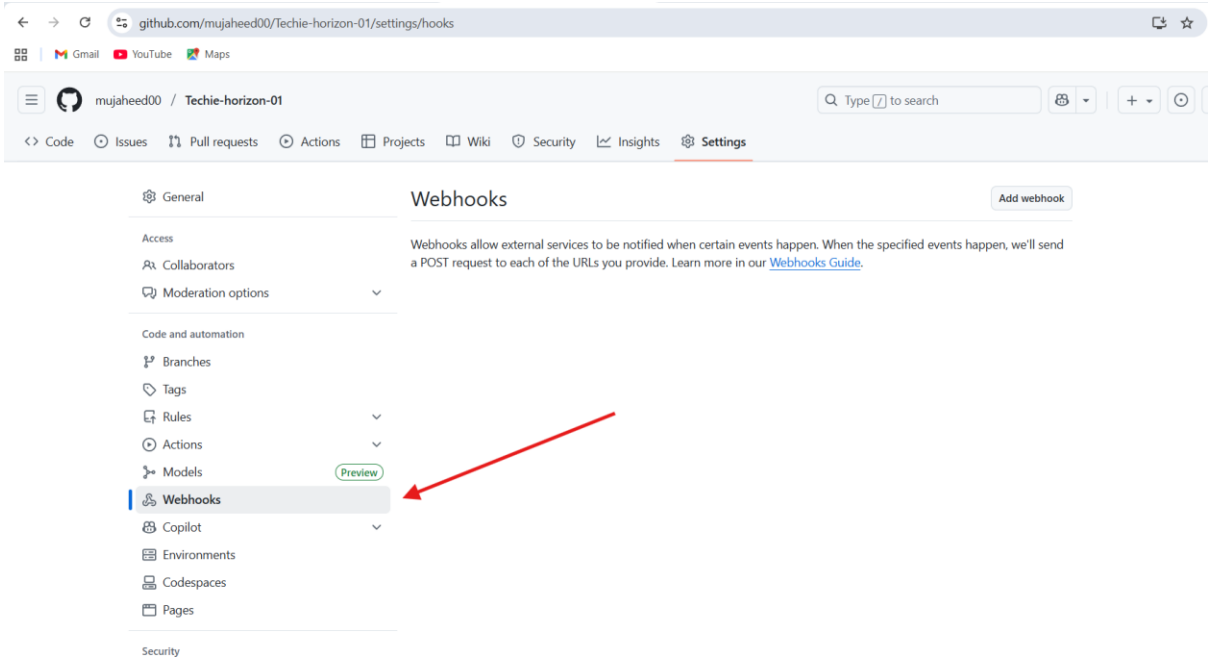
Do the same process to second slave.





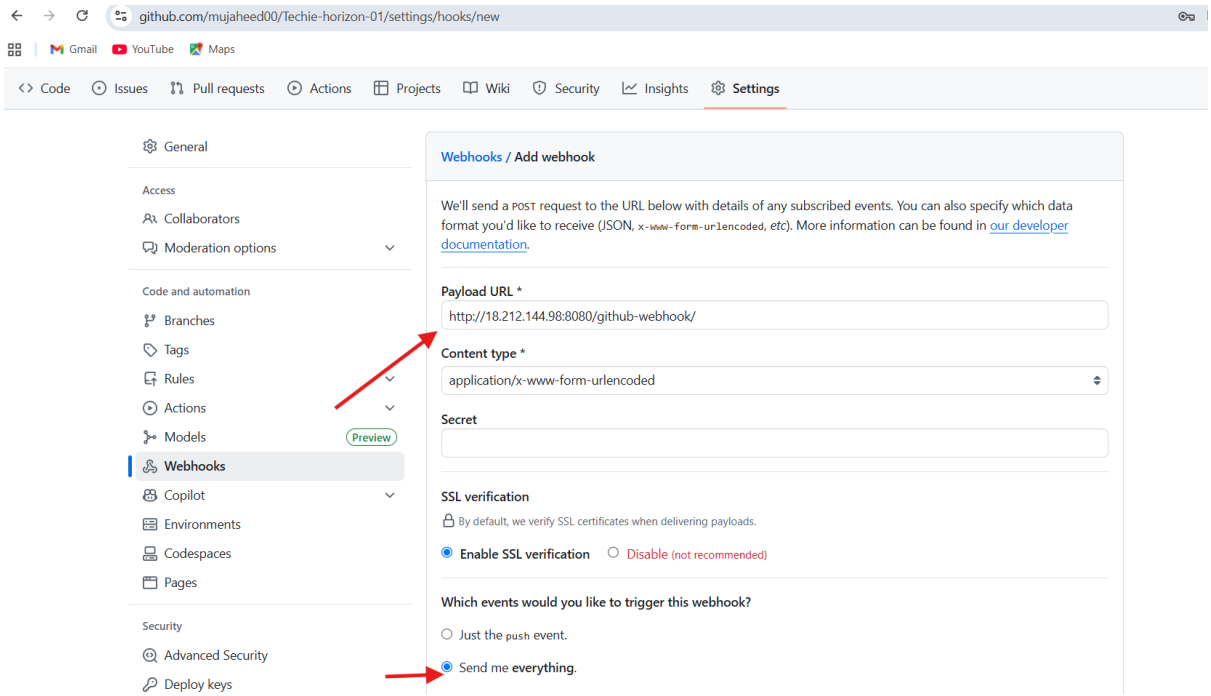
2. Configure webhooks to Jenkins job.

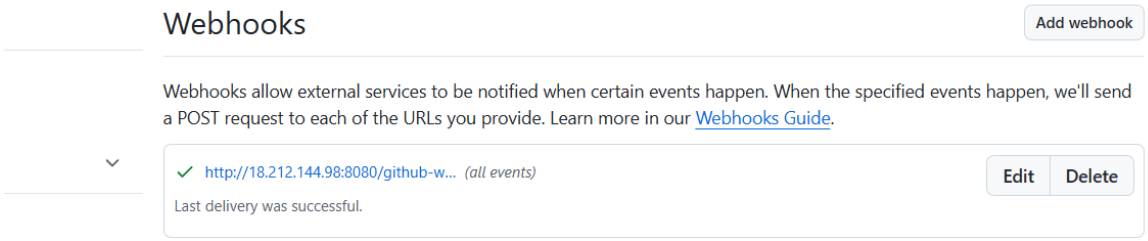
Go to git hub and select your repository and click on settings select webhooks.



Click on add webhook.

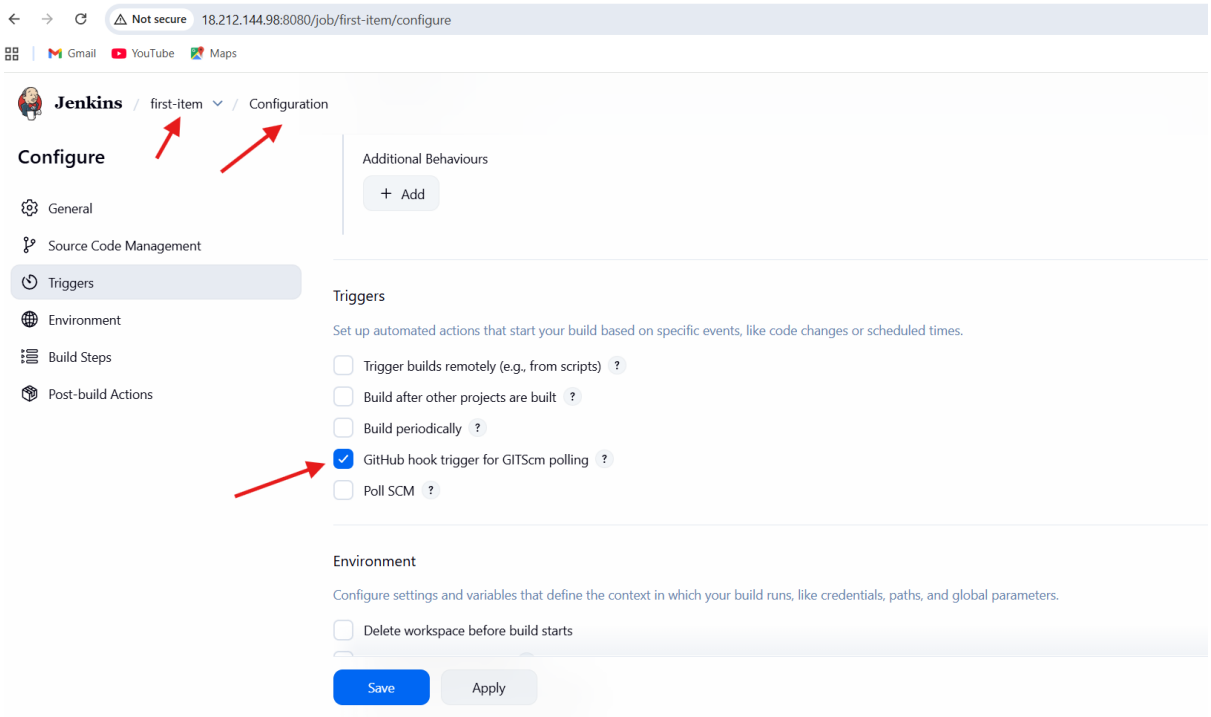
Give the url where you need to add the webhook.. copy the Jenkins url and add extension url/github-webhook/ and save it.

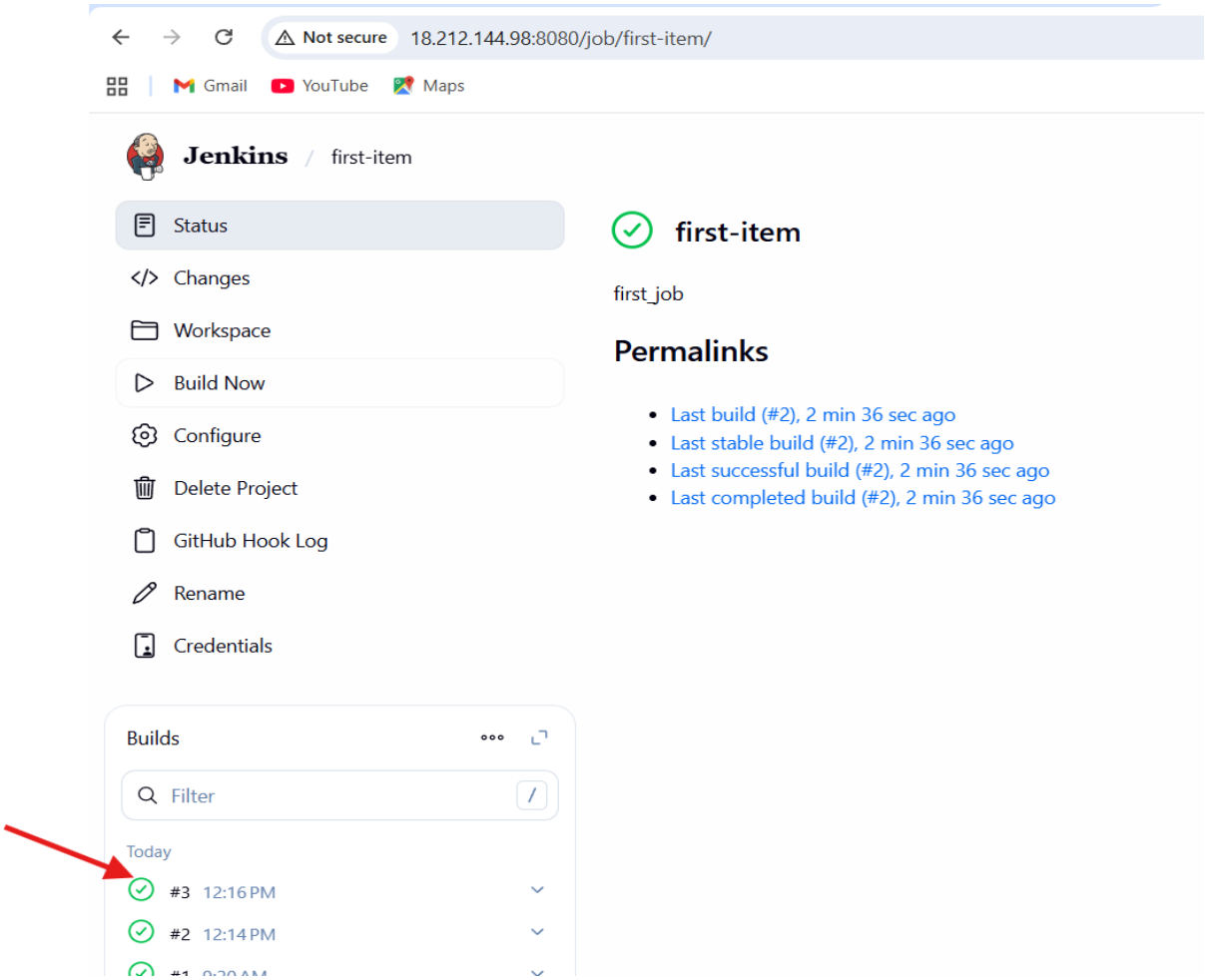




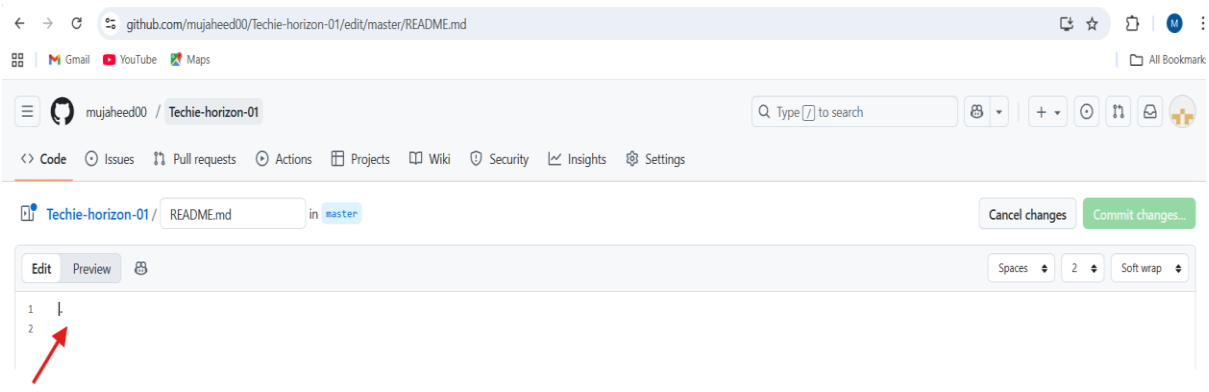
After that select a job which you need to configure webhooks.

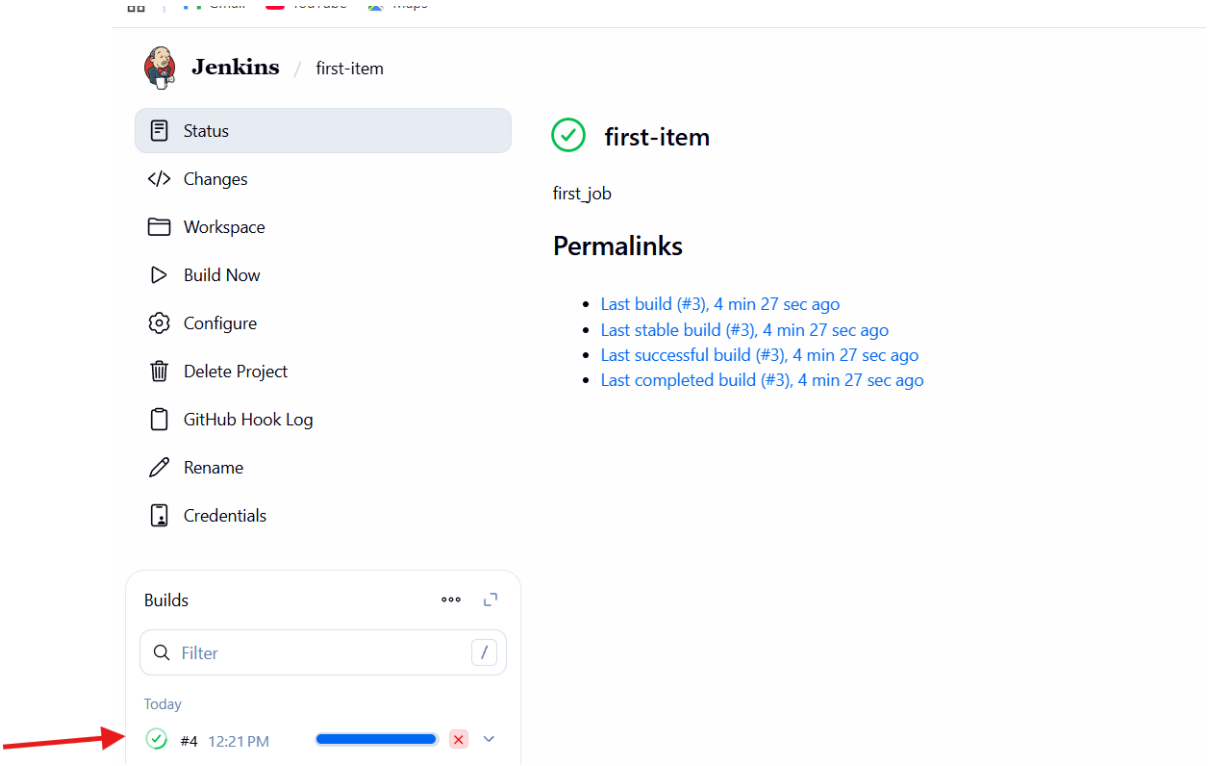
Go to configure and in that in triggers we are having git hub hook trigger then you need to enable that option and save it.





If you go to git hub and make any changes in the source code it will automatically triggers in the Jenkins.

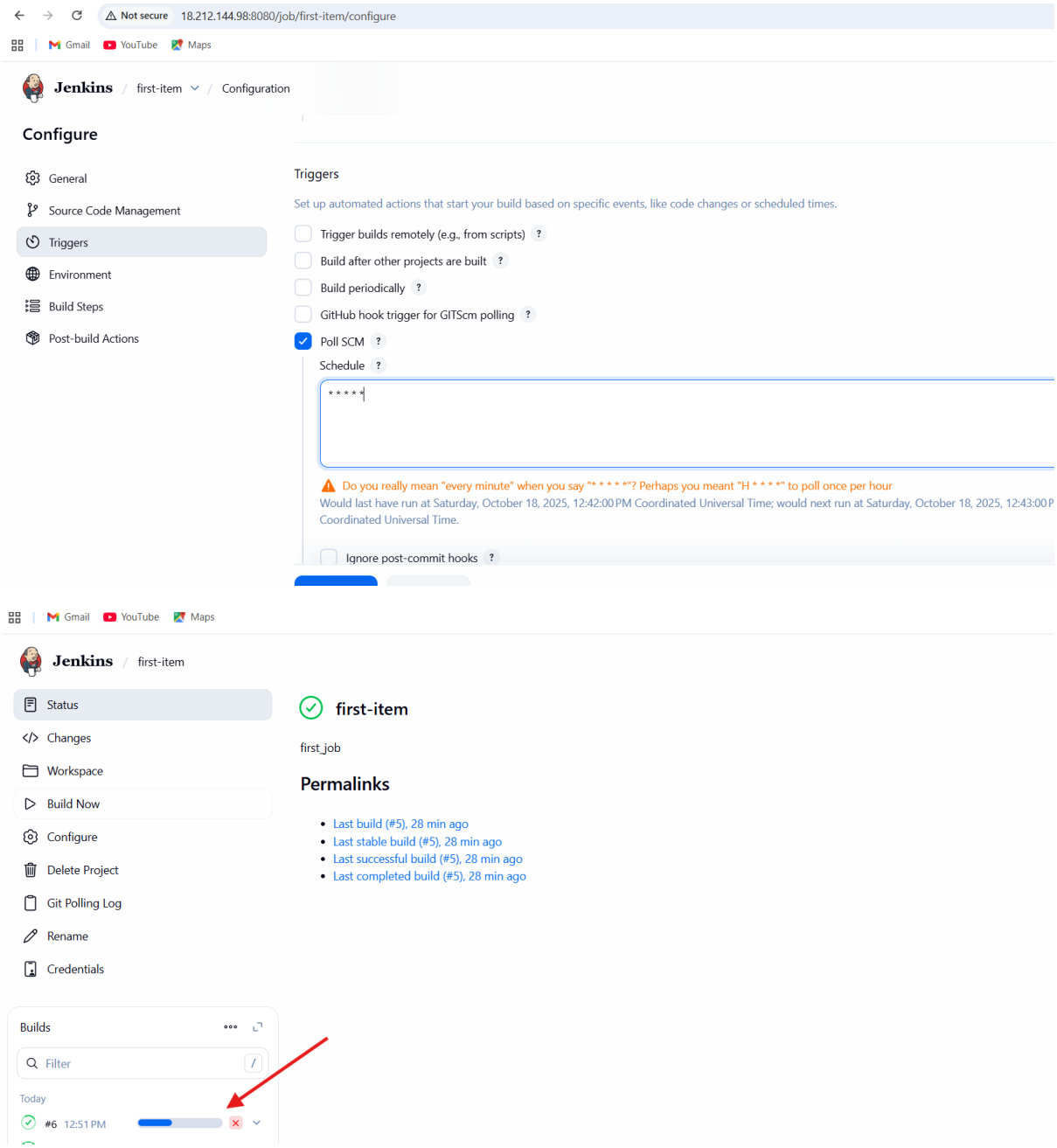




3. Configure poll scm and build periodical options in Jenkins job.

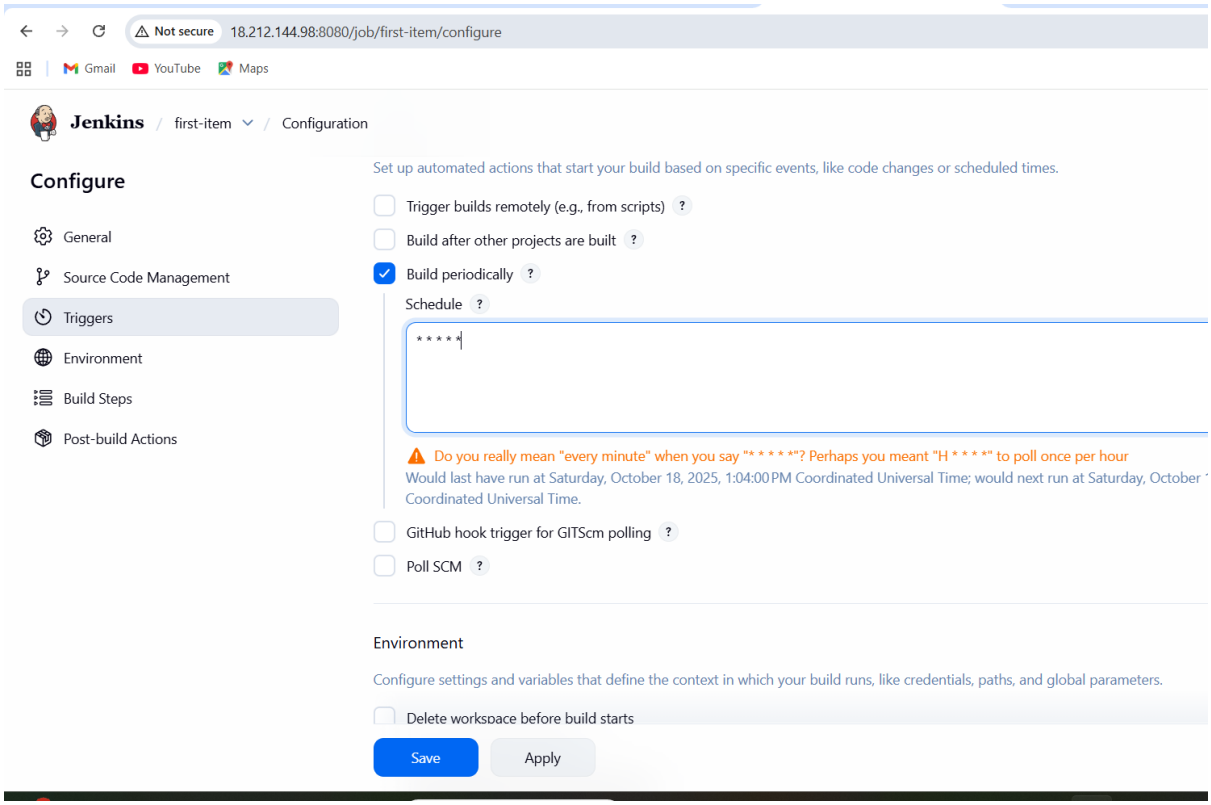
Poll scm:

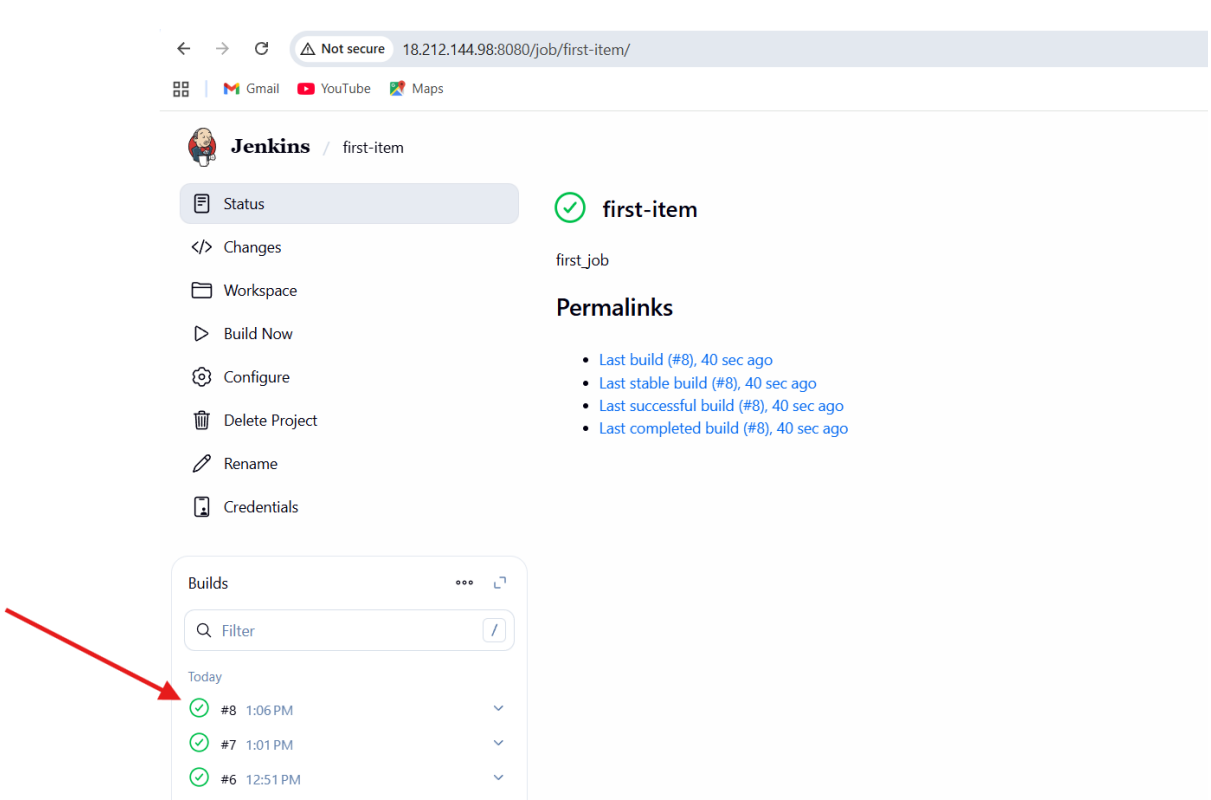
Select your job and go to configure and enable poll scm and give 5 stars. Then it will go github every minute and check whether there is a change in source code then it will trigger otherwise not.



Build periodical:

Select your job and go to configure and enable option build periodically.it will trigger based on timing we set if there is change or not in the code it will trigger to that particular time.





4. Take backup of Jenkins server by using bash script.

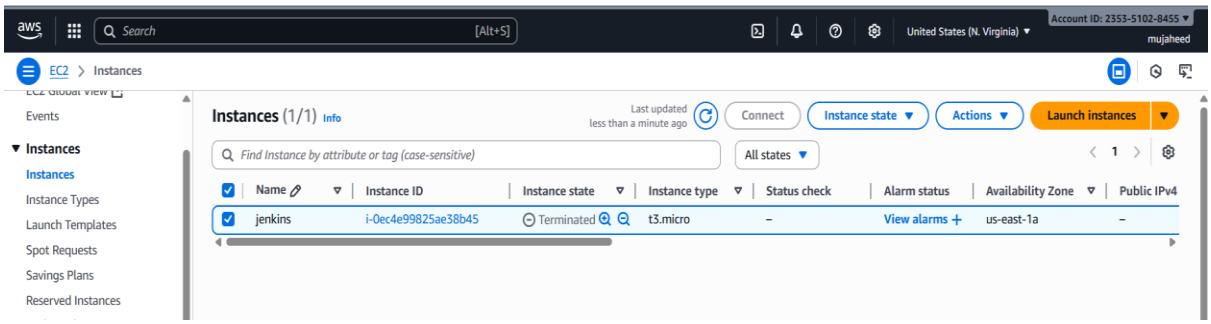
```
#!/bin/bash
# Variables
JENKINS_HOME="/var/lib/jenkins"
BACKUP_DIR="/backup/jenkins"
DATE=$(date +'%Y-%m-%d_%H-%M-%S')
BACKUP_FILE="$BACKUP_DIR/jenkins_backup_$DATE.tar.gz"
# Create backup directory if not exists
mkdir -p "$BACKUP_DIR"
# Stop Jenkins service (optional but safer)
echo "Stopping Jenkins service..."
systemctl stop jenkins
# Take backup
echo "Taking backup of Jenkins directory..."
tar -czvf "$BACKUP_FILE" "$JENKINS_HOME"
# Start Jenkins service back
echo "Starting Jenkins service..."
systemctl start jenkins
echo "Backup completed successfully!"
echo "Backup file stored at: $BACKUP_FILE"
```

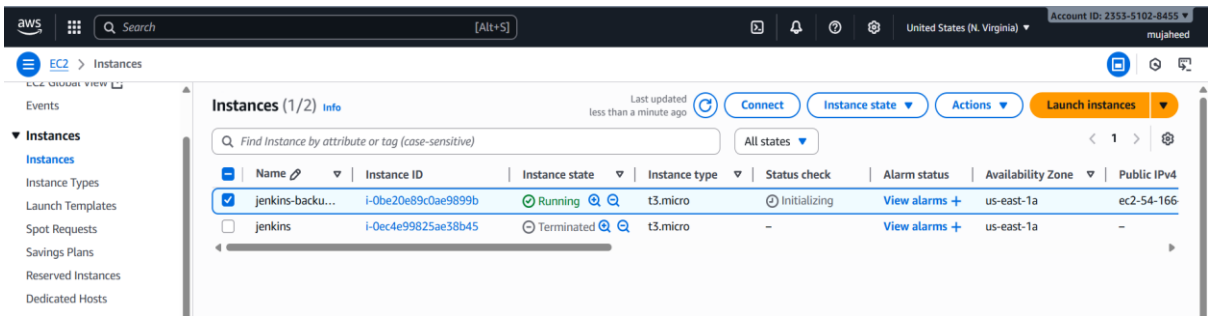
- Write and save the script
- Give permissions : chmod +x Jenkins_backup.sh
- Run the script : ./ Jenkins_backup.sh

```
[root@ip-172-31-82-250 jenkins]# tar -cvf backup.tar jenkins/
tar: jenkins: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
[root@ip-172-31-82-250 jenkins]# cd ..
[root@ip-172-31-82-250 lib]# tar -cvf backup.tar jenkins
jenkins/
jenkins/.java/
jenkins/.java/fonts/
jenkins/.java/fonts/21.0.8/
jenkins/.java/fonts/21.0.8/fcinfo-1-ip-172-31-82-250.ec2.internal-amzn-2023-en-.properties
jenkins/secret.key
jenkins/secret.key.not-so-secret
jenkins/plugins/
jenkins/plugins/commons-lang3-api.jpi
jenkins/plugins/commons-lang3-api/
jenkins/plugins/commons-lang3-api/META-INF/
jenkins/plugins/commons-lang3-api/META-INF/MANIFEST.MF
jenkins/plugins/commons-lang3-api/META-INF/maven/
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/commons-lang3-api/
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/commons-lang3-api/pom.xml
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/commons-lang3-api/pom.prop
jenkins/plugins/commons-lang3-api/WEB-INF/
```

```
jenkins/backup.tar
[root@ip-172-31-82-250 lib]# ll
total 235596
drwxr-xr-x.  2 root    root          136 Oct 18 09:12 alternatives
drwxr-xr-x.  3 root    root           17 Oct  8 23:55 amazon
-rw-r--r--.  1 root    root    241233920 Oct 18 13:35 backup.tar
drwxr-x---.  2 chrony  chrony         19 Oct 18 13:08 chrony
drwxr-xr-x.  8 root    root          105 Oct 18 09:08 cloud
drwxr-xr-x.  2 root    root           80 Oct 18 09:13 dnf
drwxr-xr-x.  2 root    root            6 Jan 30  2023 games
```

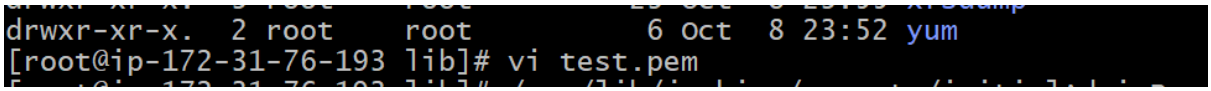
If anything happens to the Jenkins server than this is used for this I will delete this server and create new Jenkins server.

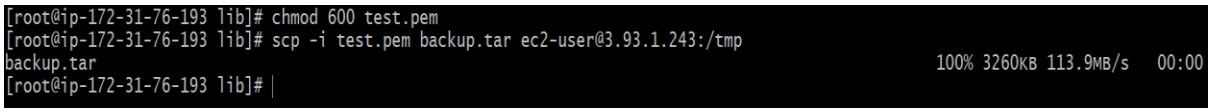


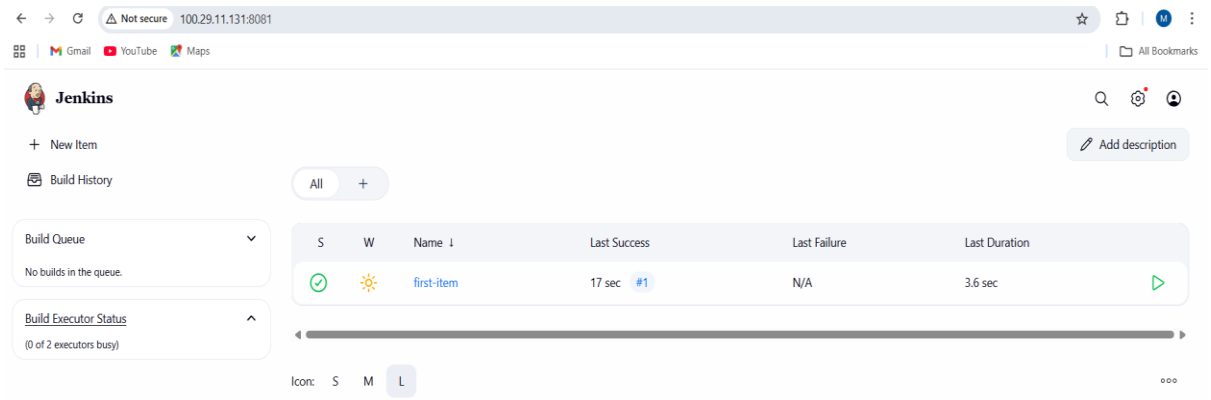


You will do vi test.pem in old server and change mod to 600.

And scp -i test.pem backup.tarec2-user@and newserverip :/tmp then it will backedup you will extract that file and you can copy that and can paste in cd/var/lib/jenkins directory in new server. Restart Jenkins.then backup file will be available.

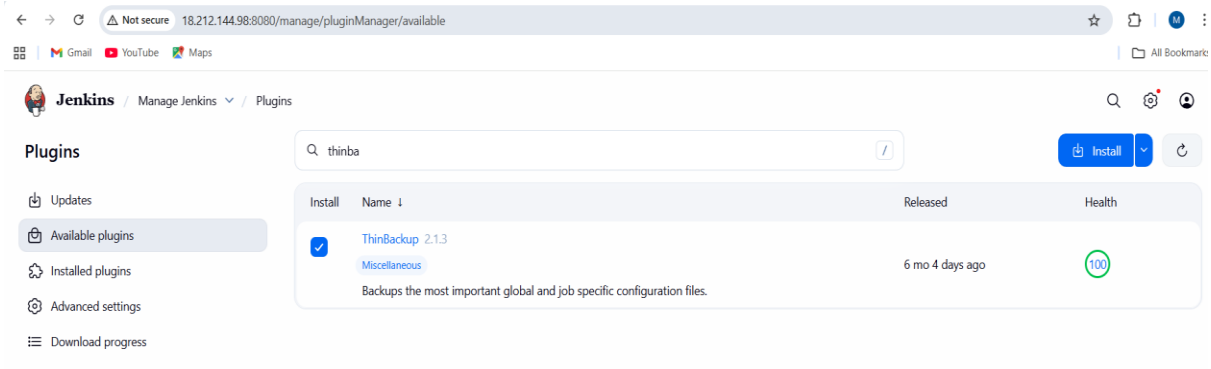


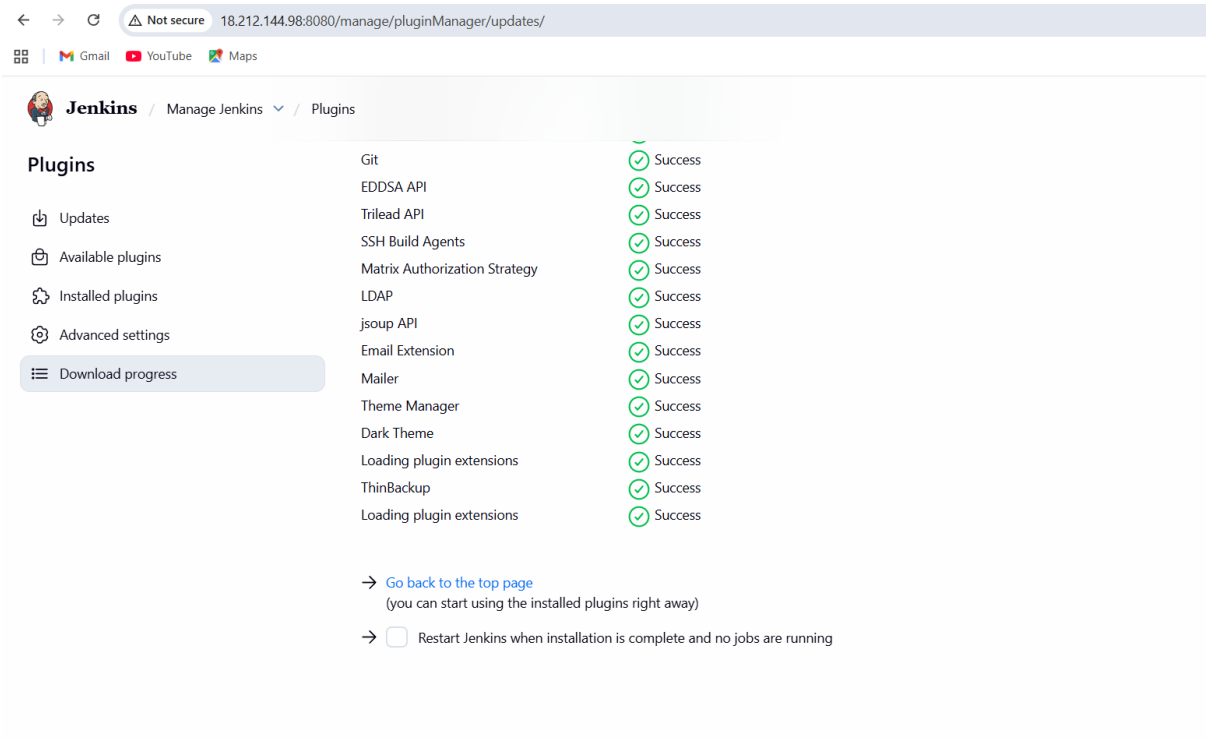




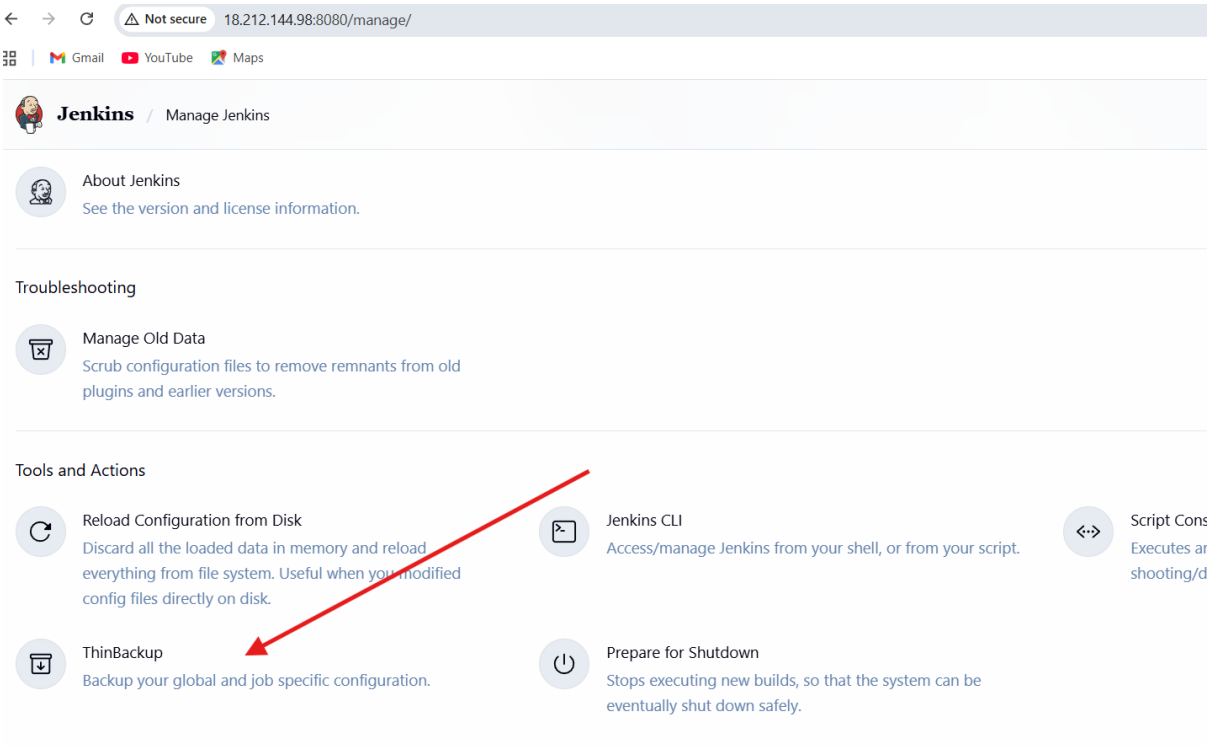
5. Take backup of Jenkins using rethin backup plugin.

Go to managed Jenkins and click on plugins and search for thinbackup and install plugin.

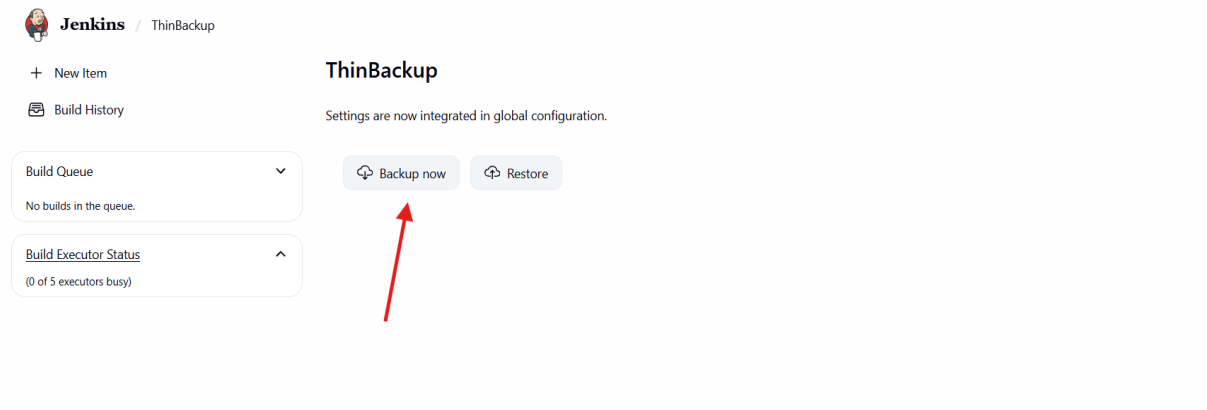




Again go to managed Jenkins and click on thinbackup.

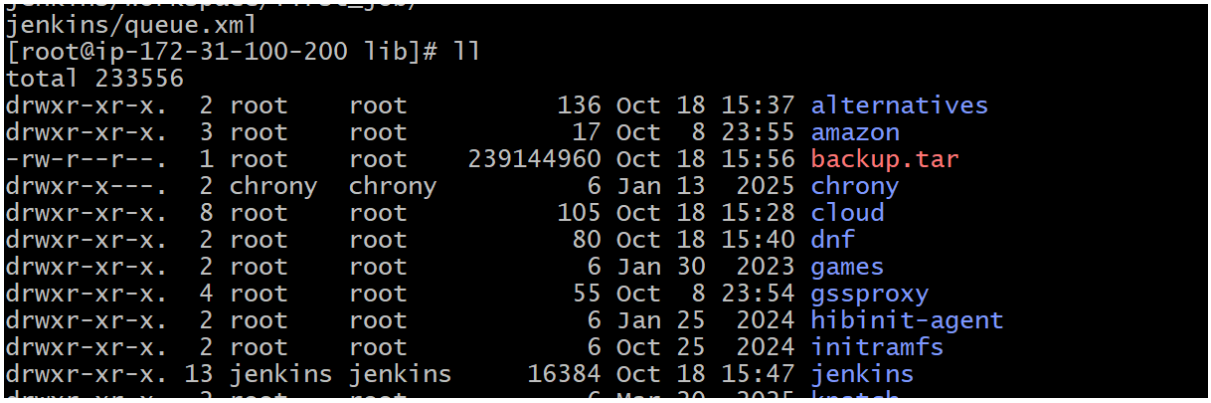


Click on backup now.

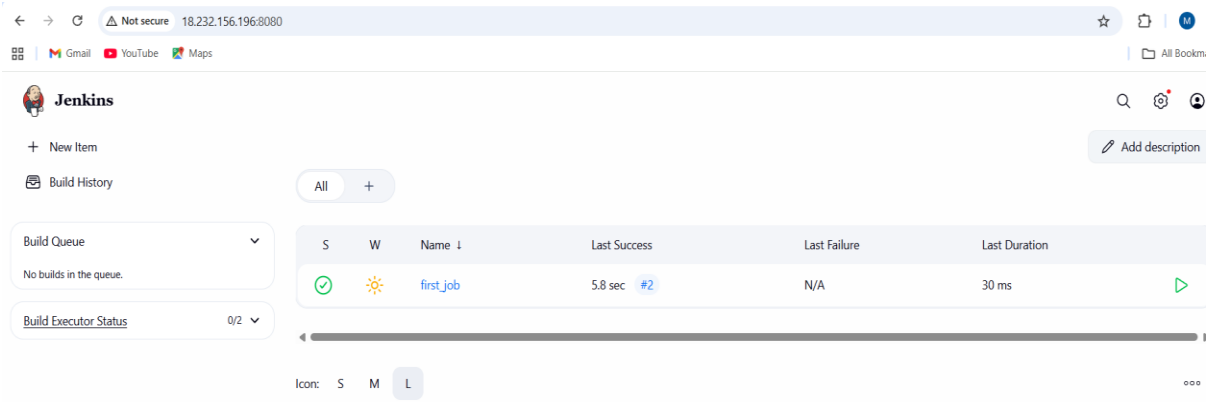


6.Setup a new Jenkins server and dump the backup taken in task4.

We are having backup file.



We are having this job in old server.



install java and Jenkins in server 2

```
MUJJU SK@DESKTOP-LU541U4 MINGW64 ~/Downloads
$ ssh -i red.pem ec2-user@13.221.176.71
The authenticity of host '13.221.176.71 (13.221.176.71)' can't be established.
ED25519 key fingerprint is SHA256:CxNzAhuemFeJfWn39Jy+qgZS4l9DS5qOCxGfO7pYOXE.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '13.221.176.71' (ED25519) to the list of known hosts.
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-172-31-112-125 ~]$ sudo su -
[root@ip-172-31-112-125 ~]# yum install java-21 -y
Amazon Linux 2023 Kernel Livepatch repository
Dependencies resolved.
================================================================================
 Package                                Architecture          Version
================================================================================
Installing:
 java-21-amazon-corretto                x86_64                1:21.0.8+9-1.amzn2023.1
Installing dependencies:
 alsa-lib                               x86_64                1.2.7.2-1.amzn2023.0.2
 cairo                                  x86_64                1.18.0-4.amzn2023.0.3
 dejavu-sans-fonts                      noarch                2.37-16.amzn2023.0.2
 dejavu-sans-mono-fonts                 noarch                2.37-16.amzn2023.0.2
 dejavu-serif-fonts                     noarch                2.37-16.amzn2023.0.2
 fontconfig                             x86_64                2.13.94-2.amzn2023.0.2
 fonts-filesystem                       noarch                1:2.0.5-12.amzn2023.0.2
```

- In old server copy the pem key by using vi test.pem.
- Change permissions to 600.
- Do scp-i test.pem backup.tar ec2-user@ipofnew server:/tmp

```
[root@ip-172-31-64-7 lib]# vi test.pem
[root@ip-172-31-64-7 lib]# chmod 600 test.pem
[root@ip-172-31-64-7 lib]# scp -i test.pem backup.tar ec2-user@54.157.30.123:/tmp
The authenticity of host '54.157.30.123 (54.157.30.123)' can't be established.
ED25519 key fingerprint is SHA256:GmxUR+XK+pmKL6vU31h9zxTyb0vX30eVtW/jZkxioJw.
This host key is known by the following other names/addresses:
    ~/.ssh/known_hosts:1: 54.198.141.192
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '54.157.30.123' (ED25519) to the list of known hosts.
backup.tar                                    100%  228MB 189.4MB/s   00:01
[root@ip-172-31-64-7 lib]#
```

Go to the tmp file in backup server and copy it and paste to lib directory.

- Cd /tmp/
- cp backup.tar /var/lib

```
[root@ip-172-31-0-60 ~]# cd /tmp/
[root@ip-172-31-0-60 tmp]# ll
total 233540
-rw-r--r--. 1 ec2-user ec2-user 239144960 Oct 19 04:55 backup.tar
drwx------. 3 root     root           60 Oct 19 04:54 systemd-private-5a717f399fad43
drwx------. 3 root     root           60 Oct 19 04:54 systemd-private-5a717f399fad43
drwx------. 3 root     root           60 Oct 19 04:54 systemd-private-5a717f399fad43
Ko
drwx------. 3 root     root           60 Oct 19 04:54 systemd-private-5a717f399fad43
drwx------. 3 root     root           60 Oct 19 04:54 systemd-private-5a717f399fad43
[root@ip-172-31-0-60 tmp]#
```

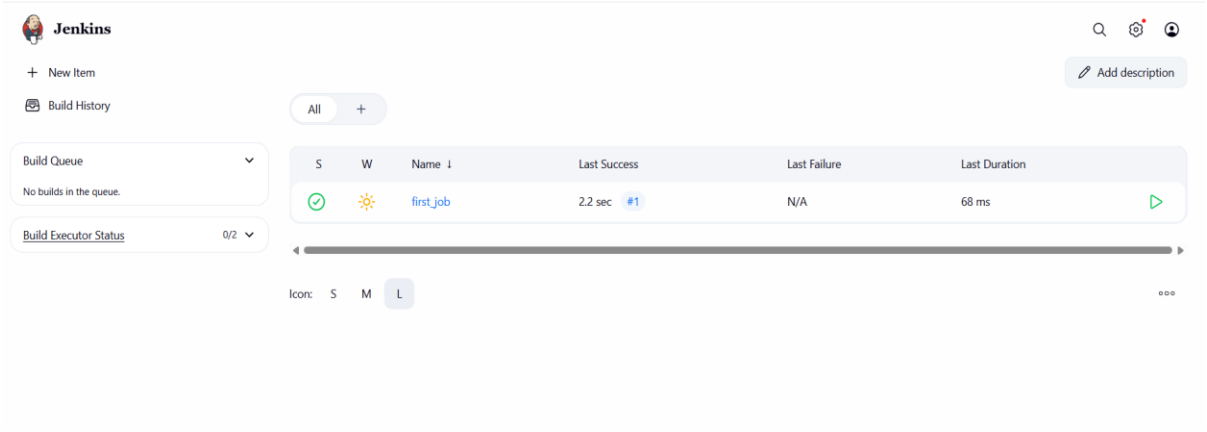
then go to lib directory and extract the file.

- cd var/lib
- tar -xvf backup.tar

```
[root@ip-172-31-0-60 tmp]# cp backup.tar /var/lib
[root@ip-172-31-0-60 tmp]# cd /var/lib
[root@ip-172-31-0-60 lib]# ll
total 233556
drwxr-xr-x.  2 root    root          136 Oct 19 03:54 alternatives
drwxr-xr-x.  3 root    root           17 Oct  8 23:55 amazon
-rw-r--r--.  1 root    root    239144960 Oct 19 05:01 backup.tar
drwxr-x---.  2 chrony  chrony          6 Jan 13  2025 chrony
drwxr-xr-x.  8 root    root          105 Oct 19 04:54 cloud
drwxr-xr-x.  2 root    root           80 Oct 19 03:55 dnf
drwxr-xr-x.  2 root    root            6 Jan 30  2023 games
drwxr-xr-x.  4 root    root           55 Oct  8 23:54 gssproxy
drwxr-xr-x.  2 root    root            6 Jan 25  2024 hibinit-agent
drwxr-xr-x.  2 root    root            6 Oct 25  2024 initramfs
```

```
[root@ip-172-31-0-60 lib]# tar -xvf backup.tar
jenkins/
jenkins/.java/
jenkins/.java/fonts/
jenkins/.java/fonts/21.0.8/
jenkins/.java/fonts/21.0.8/fcinfo-1-ip-172-31-64-7.ec2.internal-amzn-2023-en-.properties
jenkins/secret.key
jenkins/secret.key.not-so-secret
jenkins/plugins/
jenkins/plugins/commons-lang3-api.jpi
jenkins/plugins/commons-lang3-api/
jenkins/plugins/commons-lang3-api/META-INF/
jenkins/plugins/commons-lang3-api/META-INF/MANIFEST.MF
jenkins/plugins/commons-lang3-api/META-INF/maven/
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/commons-lang3-api/
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/commons-lang3-api/pom.xml
jenkins/plugins/commons-lang3-api/META-INF/maven/io.jenkins.plugins/commons-lang3-api/pom.prope
jenkins/plugins/commons-lang3-api/WEB-INF/
jenkins/plugins/commons-lang3-api/WEB-INF/lib/
jenkins/plugins/commons-lang3-api/WEB-INF/lib/commons-lang3-3.19.0.jar
jenkins/plugins/commons-lang3-api/WEB-INF/lib/commons-lang3-api.jar
```

Restart the Jenkins server.


Jenkins
New Item
Build History
Add description
All
Build Queue
No builds in the queue.
Build Executor Status
0/2
S
W
Name
Last Success
Last Failure
Last Duration
first_job
2.2 sec
#1
N/A
68 ms
Icon:
S
M
L