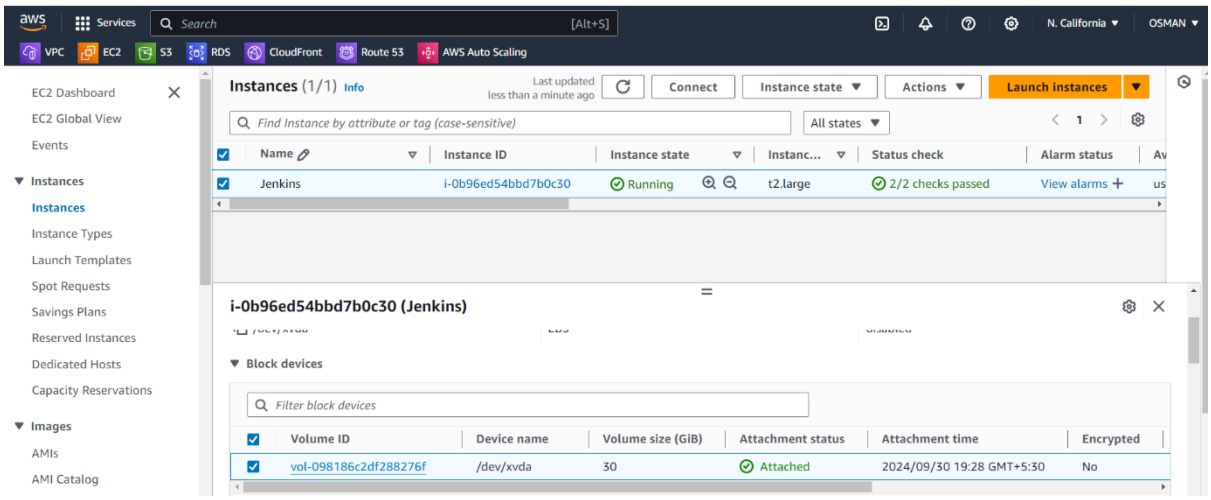
Jenkins task for Day-01

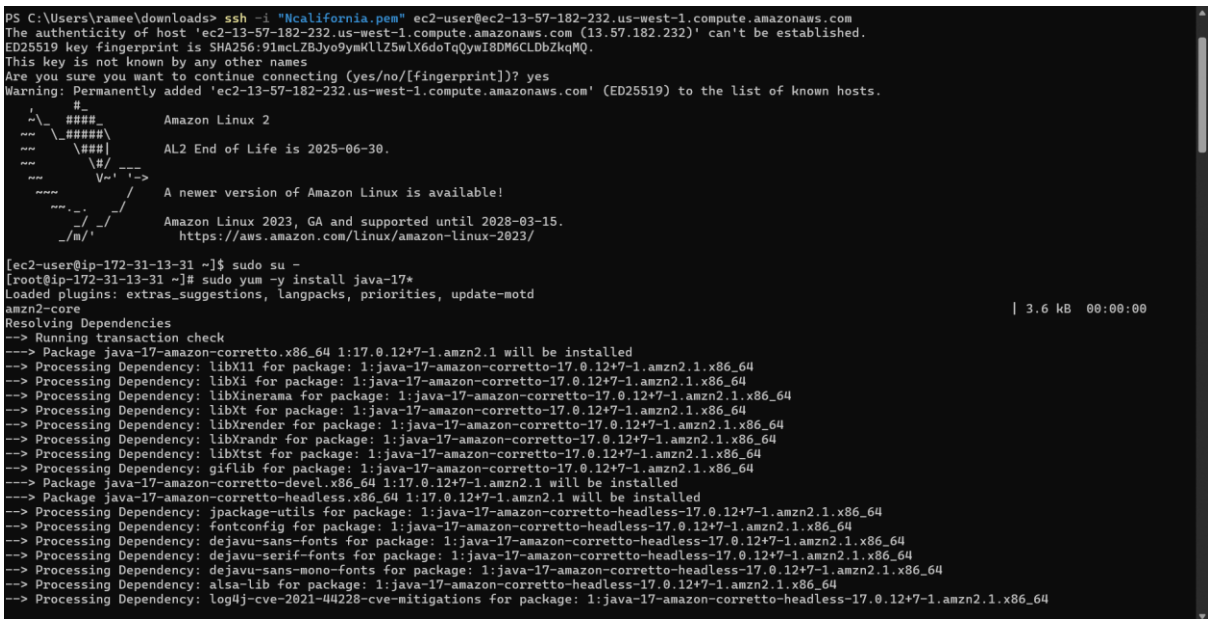
==========

1) Install jenkins and run jenkins on port number 8081.

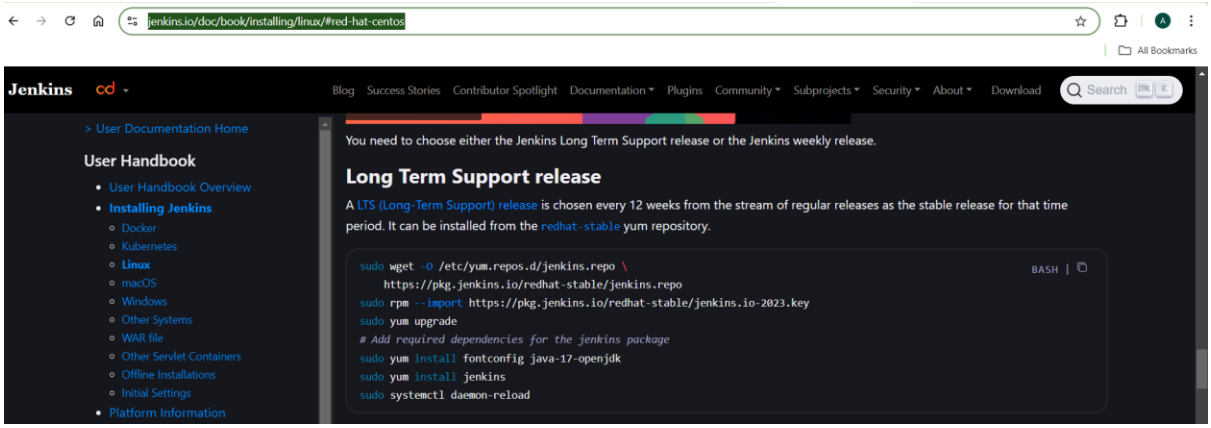
- To install Jenkins first we want Ec2 instance.
- So first you can launch EC2 instance with t2 medium (or) t2 large with 30 GB.
- Here I am launched one server with t2 large with 30 GB.



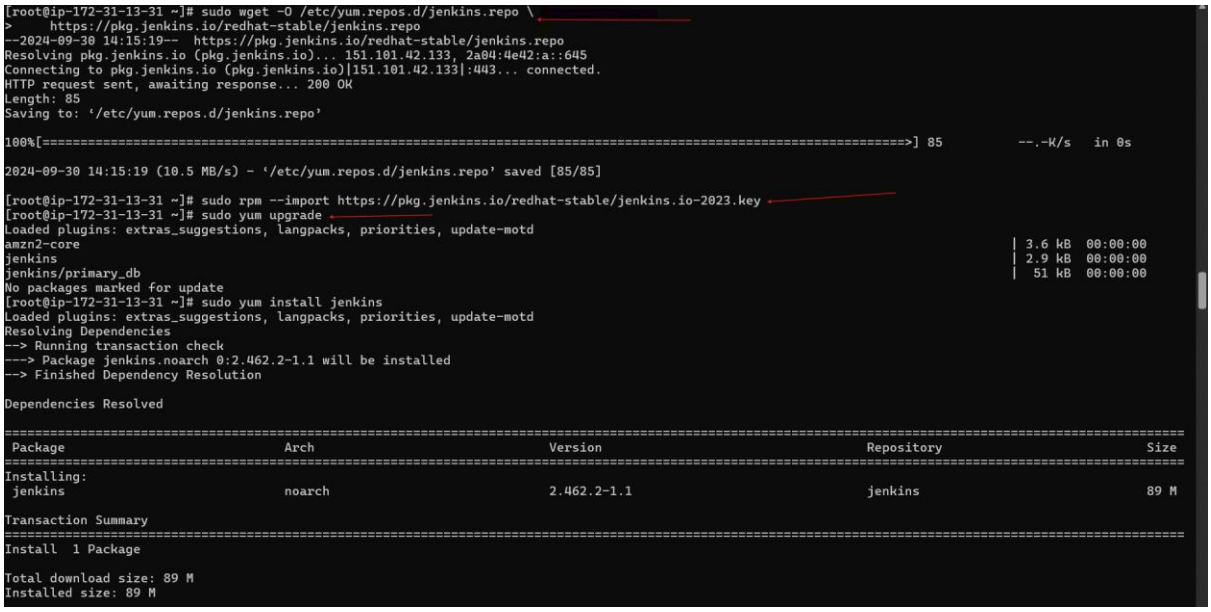
- Now I want to connect the server and install the Jenkins server.
- Here first I am installing the java because this is prerequisite.
- yum –y install java-17*



- Now I want install Jenkins.
- So clink on the link – https://www.jenkins.io/doc/book/installing/linux/#red-hat-centos
- You see the below script and Run.



These all command don't Run at a time.



CMD ---- sudo systemctl daemon-reload

---- The command sudo systemctl daemon-reload reloads **systemd**'s configuration files to apply changes made to service unit files without restarting the system.

CMD--- systemctl enable jenkins

The command systemctl enable jenkins configures Jenkins to start automatically at system boot by creating the necessary symlink in the system's boot process.

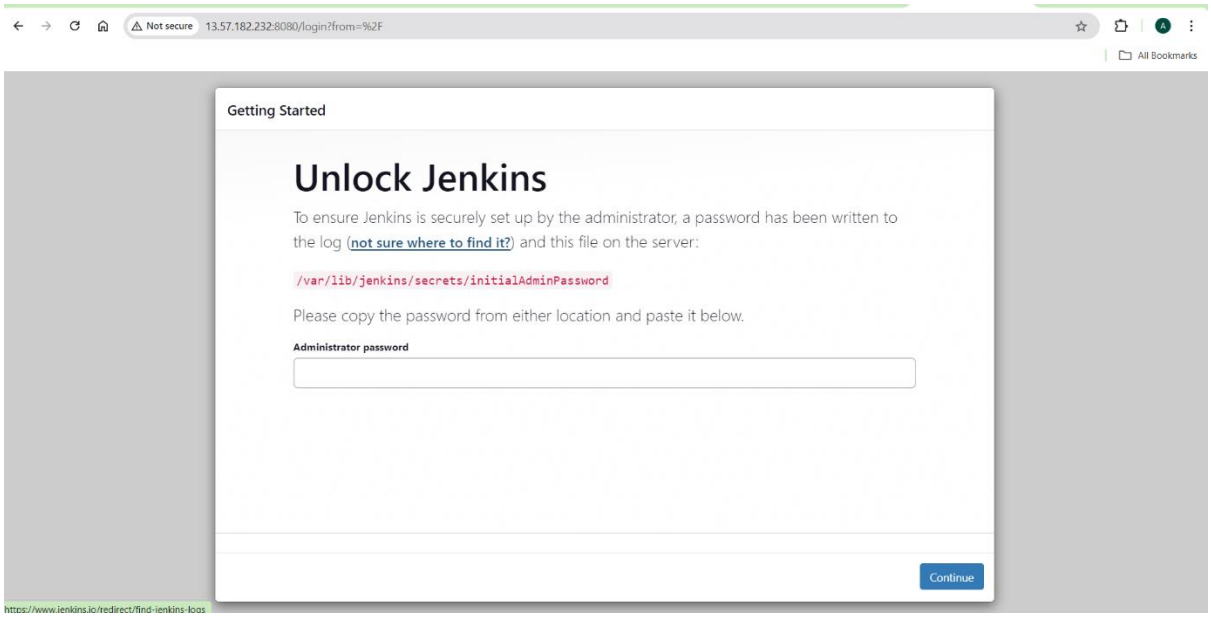
To change the port number I am not find the file where I want to change the port number at the point off time using these below command I found the path Here

CMD --- The command sudo grep -R "8080" /etc recursively searches for occurrences of the string "8080" in all files and subdirectories within the /etc directory, using superuser privileges.

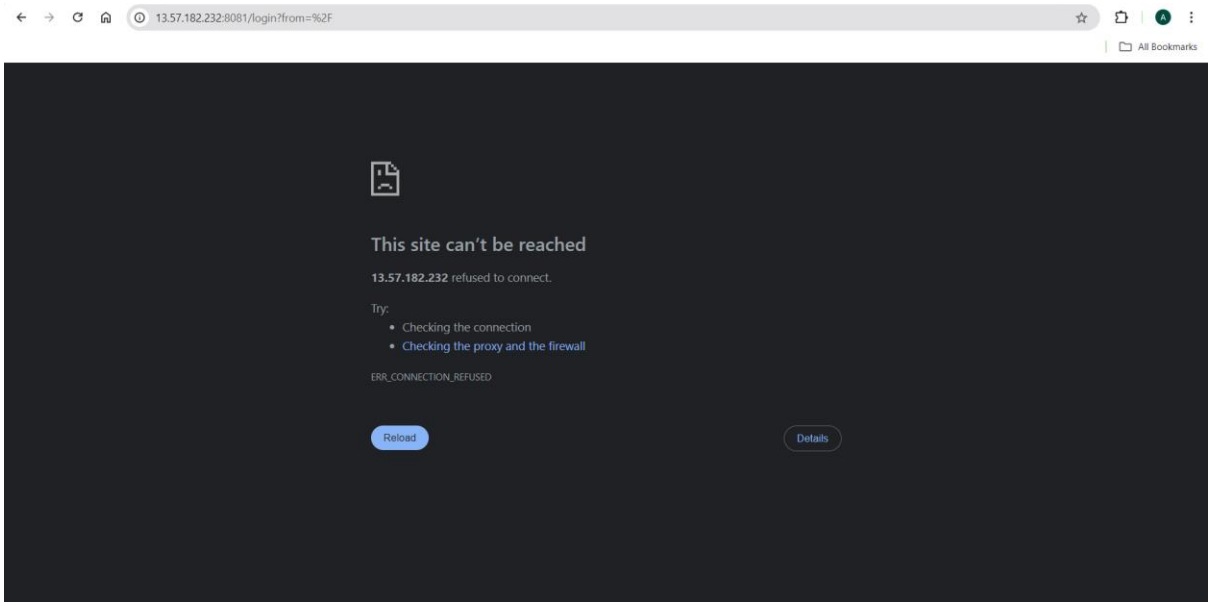
```
[root@ip-172-31-13-31 ~]# sudo grep -R "8080" /etc/
Binary file /etc/pki/ca-trust/extracted/java/cacerts matches
Binary file /etc/pki/java/cacerts matches
/etc/systemd/system/multi-user.target.wants/jenkins.service:Environment="JENKINS_PORT=8080"
Binary file /etc/udev/hwdb.bin matches
/etc/services:webcache        8080/tcp        http-alt        # WWW caching service
/etc/services:webcache        8080/udp        http-alt        # WWW caching service
Binary file /etc/alternatives/java-17-amazon-corretto/lib/modules matches
Binary file /etc/alternatives/java-17-amazon-corretto/lib/security/cacerts matches
Binary file /etc/alternatives/java-17-amazon-corretto/lib/server/classes.jsa matches
Binary file /etc/alternatives/java-17-amazon-corretto/jmods/java.desktop.jmod matches
Binary file /etc/alternatives/jre/lib/modules matches
Binary file /etc/alternatives/jre/lib/security/cacerts matches
Binary file /etc/alternatives/jre/lib/server/classes.jsa matches
Binary file /etc/alternatives/jre/jmods/java.desktop.jmod matches
Binary file /etc/alternatives/jre_openjdk/lib/modules matches
Binary file /etc/alternatives/jre_openjdk/lib/security/cacerts matches
Binary file /etc/alternatives/jre_openjdk/lib/server/classes.jsa matches
Binary file /etc/alternatives/jre_openjdk/jmods/java.desktop.jmod matches
Binary file /etc/alternatives/jre_17/lib/modules matches
Binary file /etc/alternatives/jre_17/lib/security/cacerts matches
Binary file /etc/alternatives/jre_17/lib/server/classes.jsa matches
Binary file /etc/alternatives/jre_17/jmods/java.desktop.jmod matches
Binary file /etc/alternatives/jre_17_openjdk/lib/modules matches
Binary file /etc/alternatives/jre_17_openjdk/lib/security/cacerts matches
Binary file /etc/alternatives/jre_17_openjdk/lib/server/classes.jsa matches
Binary file /etc/alternatives/jre_17_openjdk/jmods/java.desktop.jmod matches
Binary file /etc/alternatives/java_sdk/lib/modules matches
Binary file /etc/alternatives/java_sdk/lib/security/cacerts matches
```

Here first I have to check the Jenkins.

Here I am open with port number 8080--- it will worked.

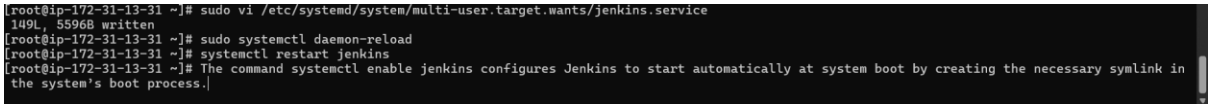


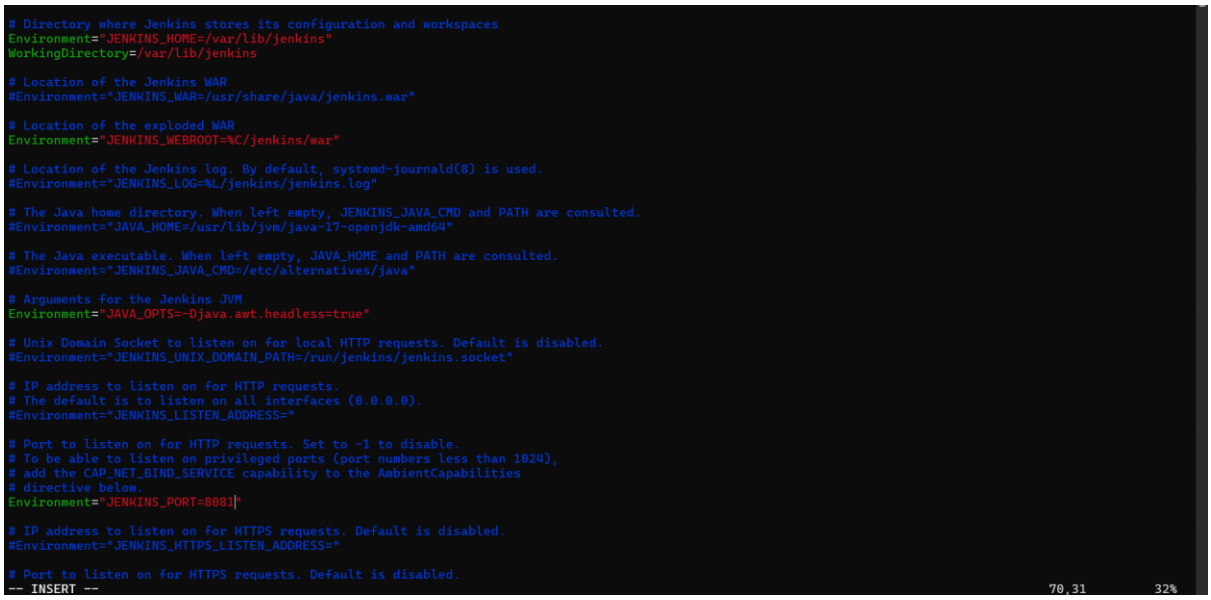
After I am using the port 8081—not working this port.



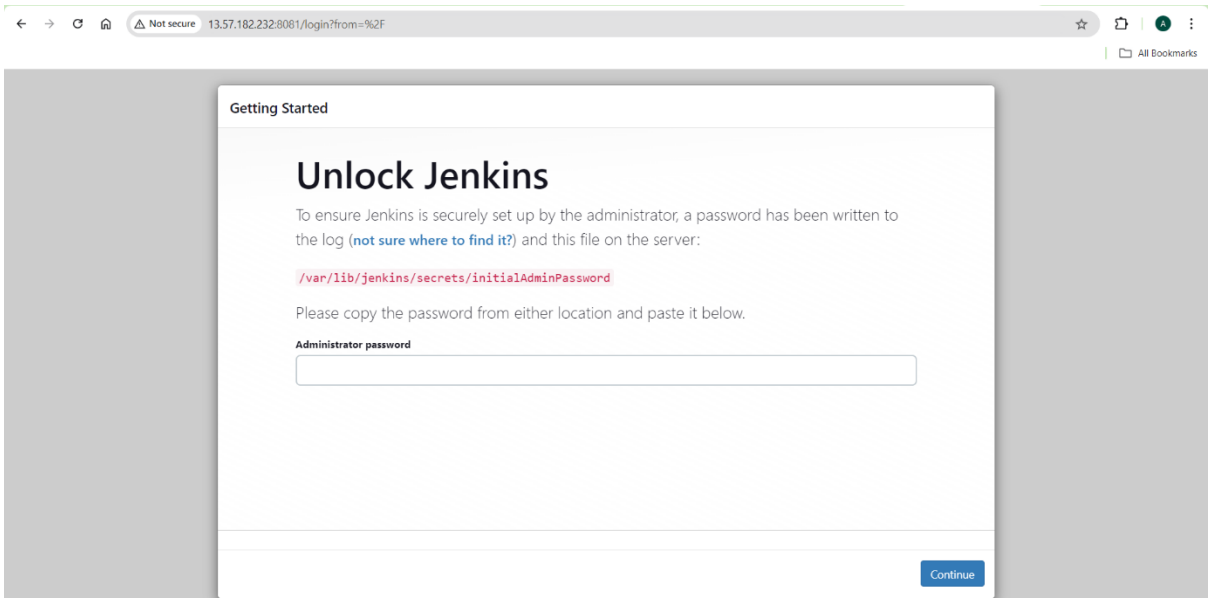
Now I am changing the port number 8081 in these below file it will be work.

After changing the port number you need to enter the below two commands.





Now it’s work’s



############Task is Done###########

2) Secure Jenkins server

There are methods to secure Jenkins servers.

1. Delete the initial password
2. To secure the Jenkins server we have to give User name and password.

Delete the initial password:

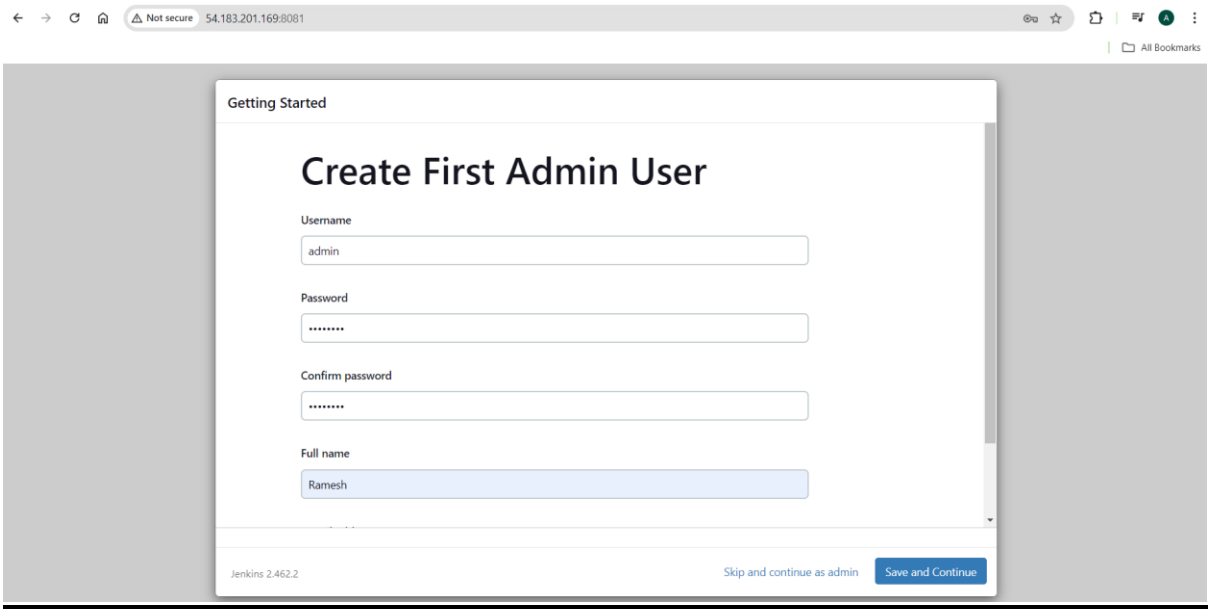
- While Login Jenkins you can give initial password.
- That password you need to delete to secure Jenkins server.
- Go to this location ---- cd /var/lib/Jenkins/secrets/
- Delete the password--- rm –rf initialAdminpassword

```
[root@ip-172-31-13-31 ~]# cat /var/lib/jenkins/secrets/initialAdminPassword
2a575c2b3d154bf68e2c9e86bf9607de
```

User name and password

While Login time you can give.

User Name and Password.



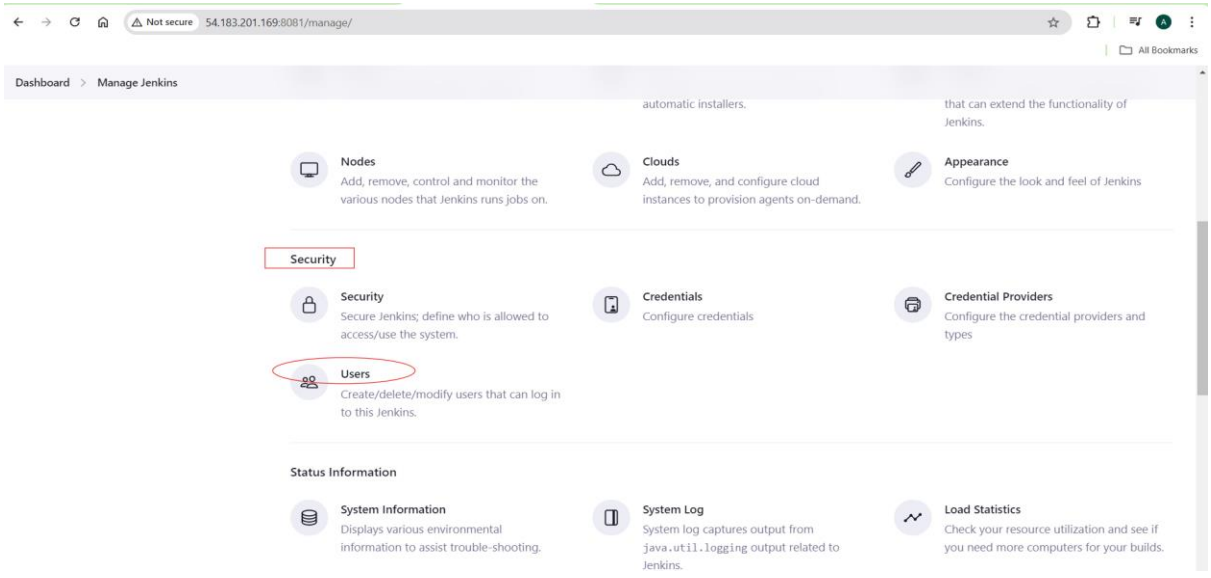
Using these two Methods your Jenkins Server is Secure.

##########Task Is Done ########

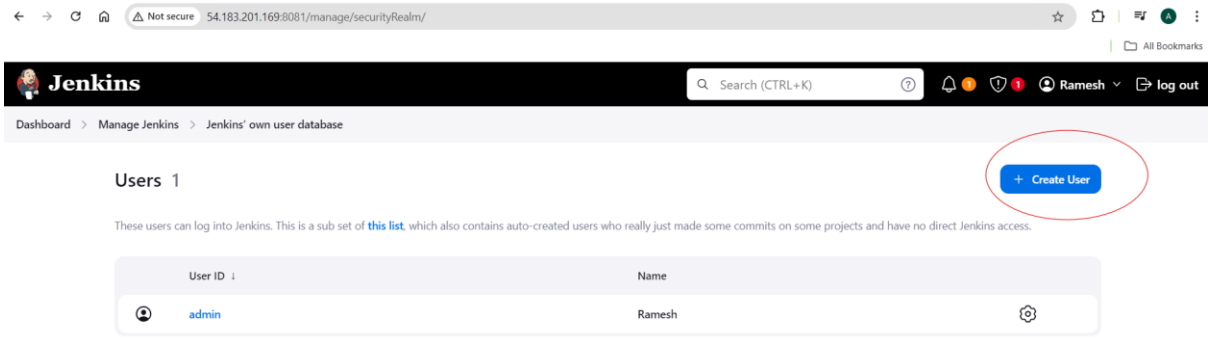
3) Create users called Devops, Testing in Jenkins with Limited access.

To create user follow the bellow steps.

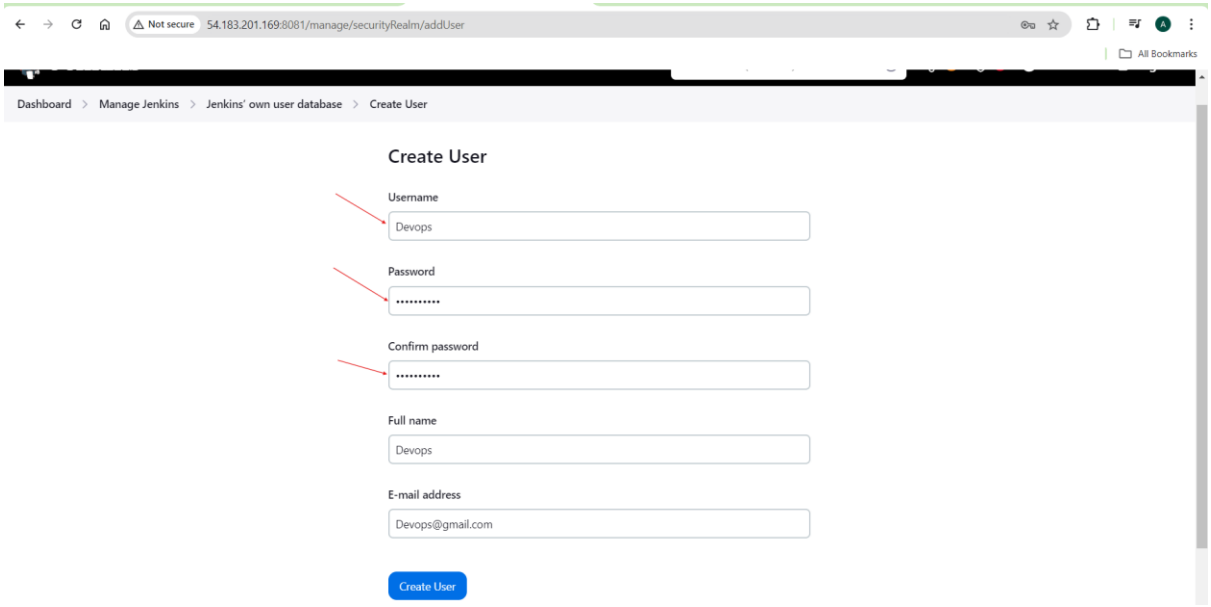
- Go to the manage Jenkins.
- There under the security you see User and click on users



Click on create User.

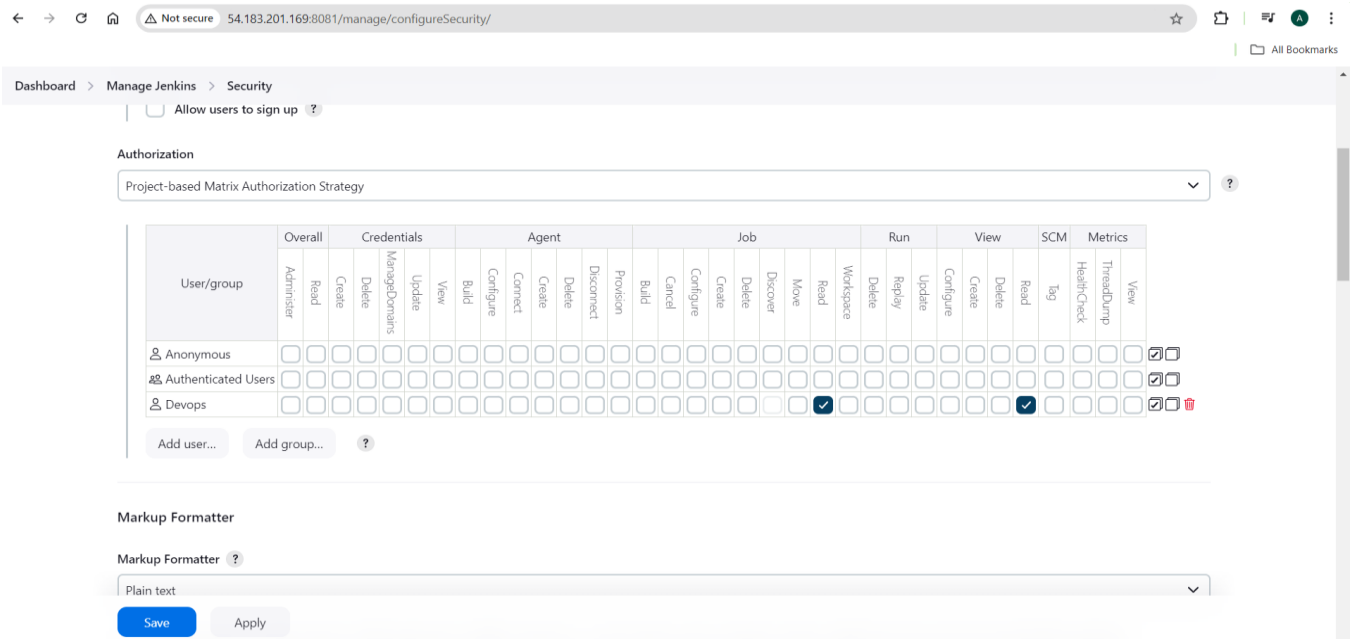


- Here give user Name, Password, Name, and Gmail.
- Now Just click on User.

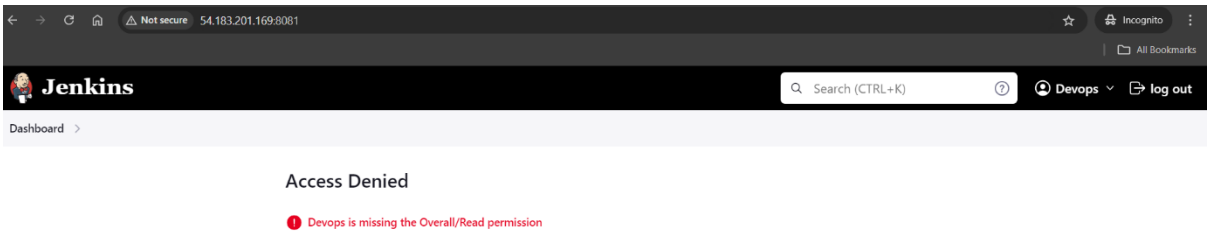


Now I am assigning the limited accesess.

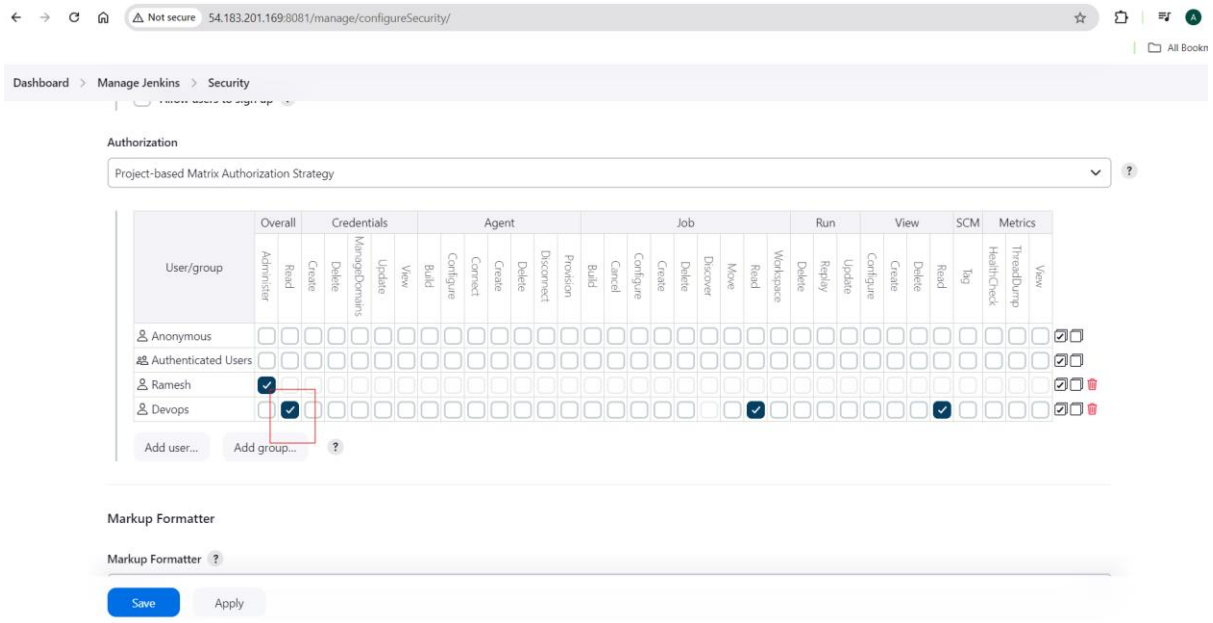
- Go Manage Jenkins, Security.
- There you see the option is Authorization.
- Authorization under you need to select Project-based matrix Authorization Strategy.
- And click on save and Login as Devops user.



- Here I am just given only job read option and view read option only.
- I am not given Overall Read permission that's I am getting Error.



- Now I am change the permission over all read permission then we will see what happened.



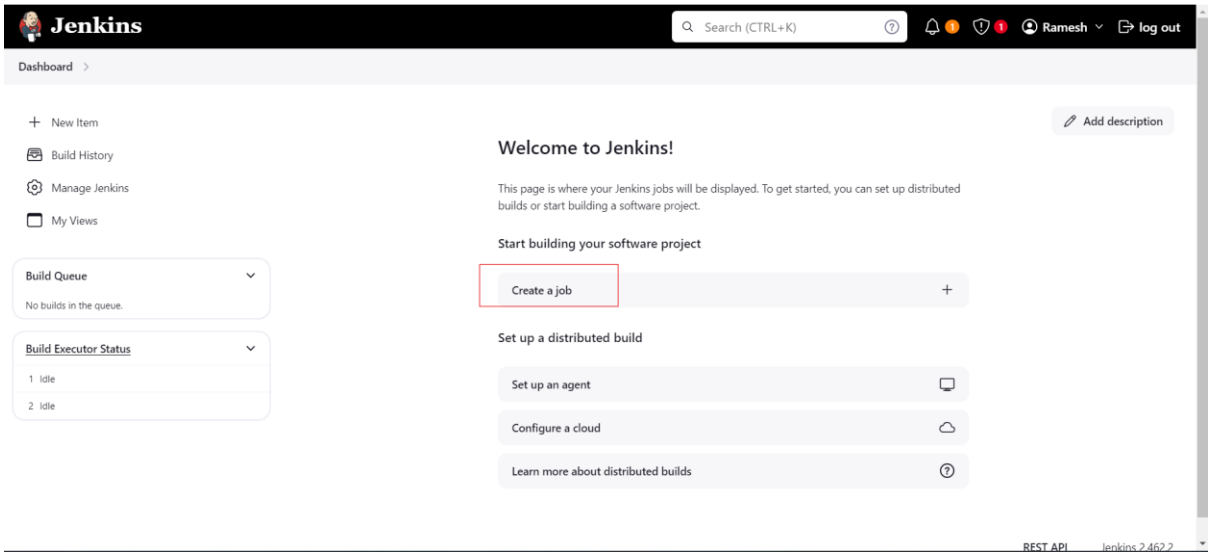
- Now we see the some option here.

- These way you can assign limit accesses any user.

######Task is Done##########

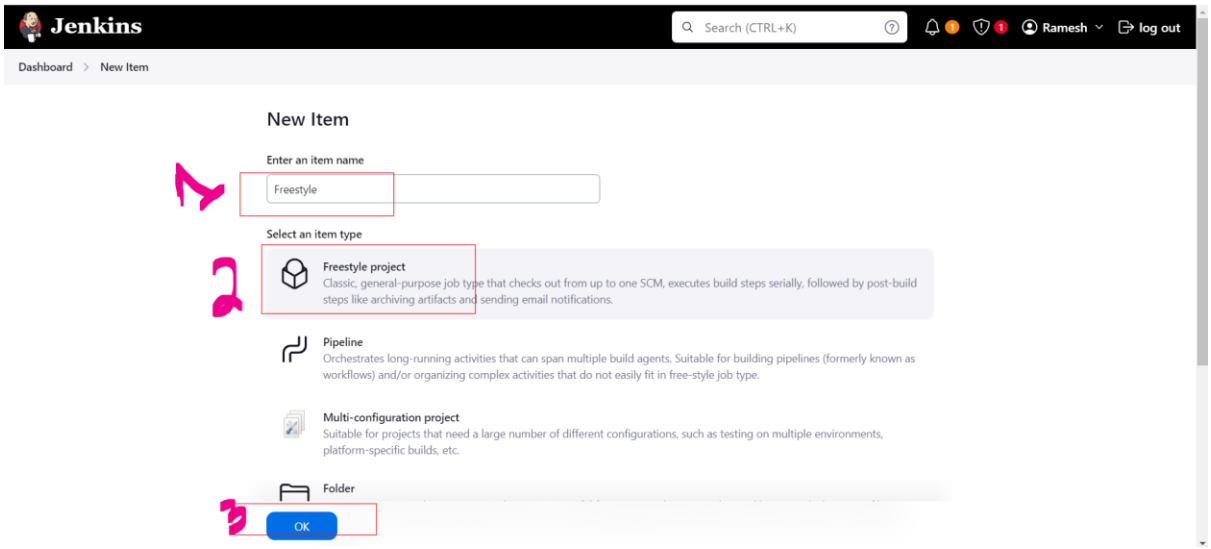
4) Configure labels and restrict the jobs to execute based on label only.

- To do that first I am creating the two Jobs through free style.
- To create job click on create Job.

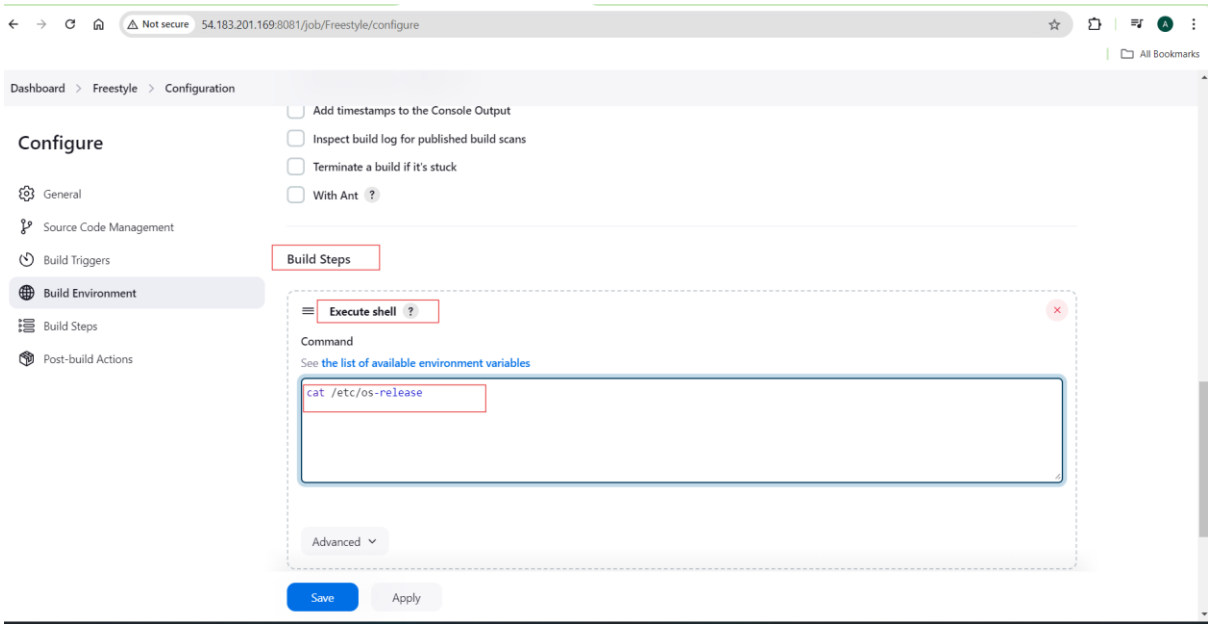


Give name --- what you want.

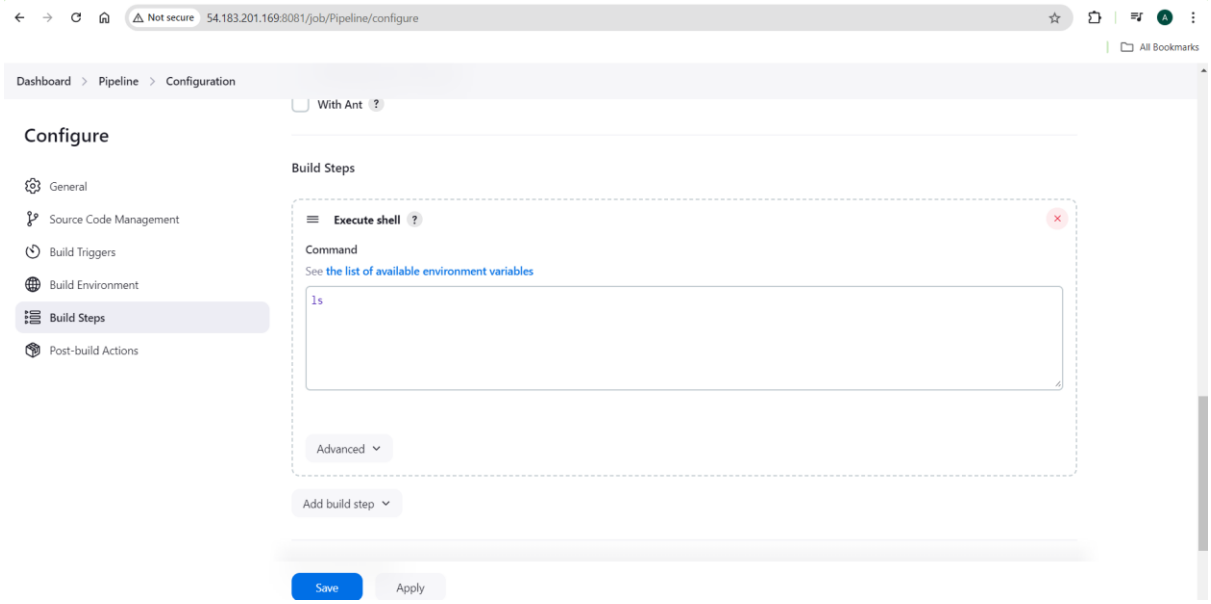
Select Freestyle Project and click on ok.



- Go to the Build Steps and select Execute shell.
- There write any Commands what you want.
- Here I am just given these command ----- cat /etc/os-release and click on save.

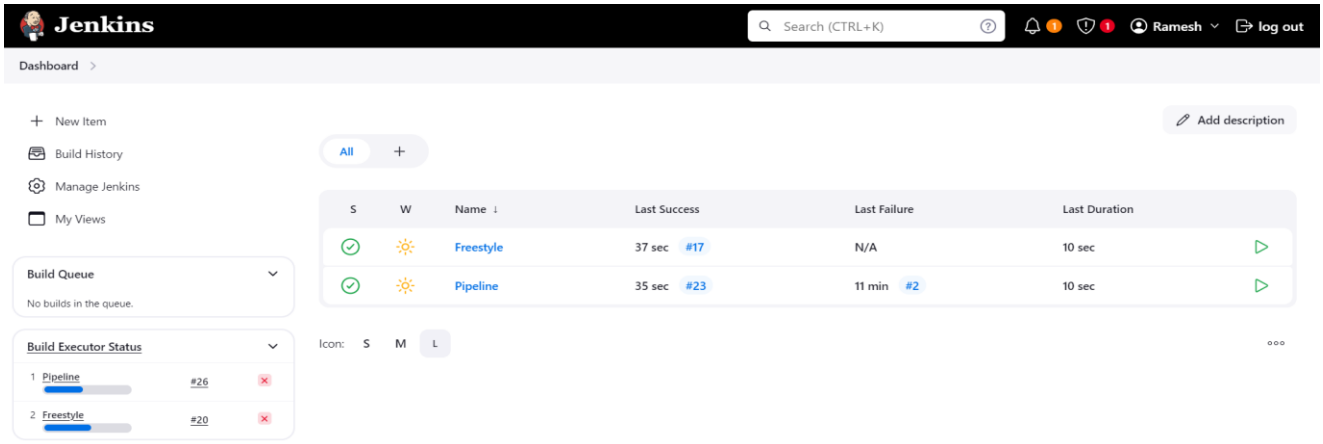


- Here I am create job name with Pipeline.
- in execute shell just ls.

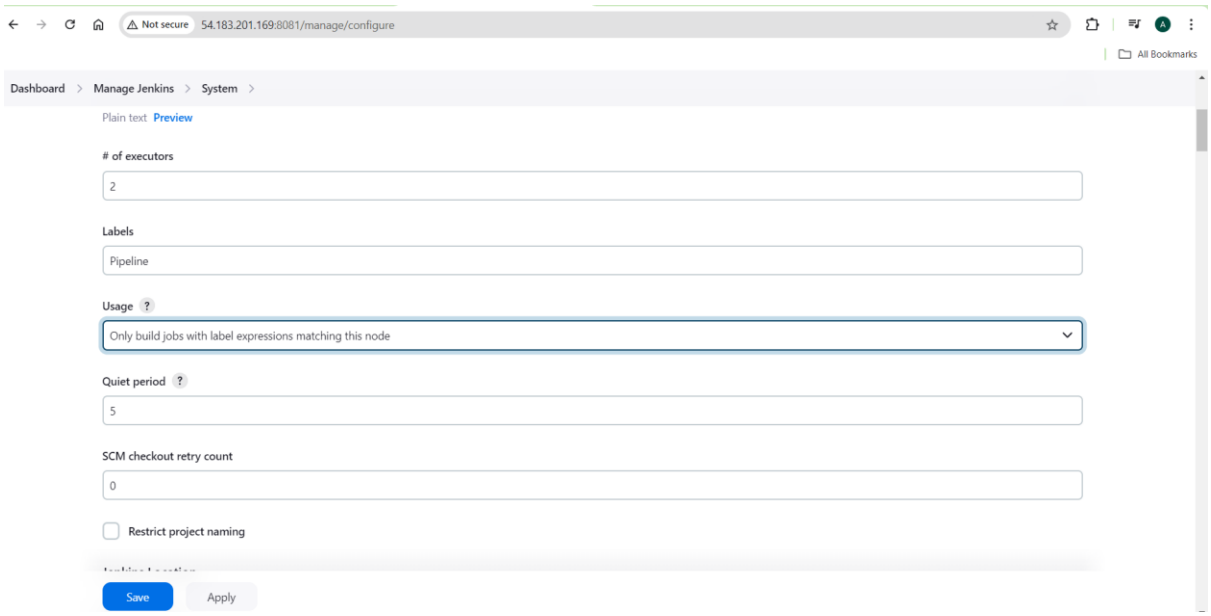


- Click on save and build the job.

- Here I am try to build these jobs.

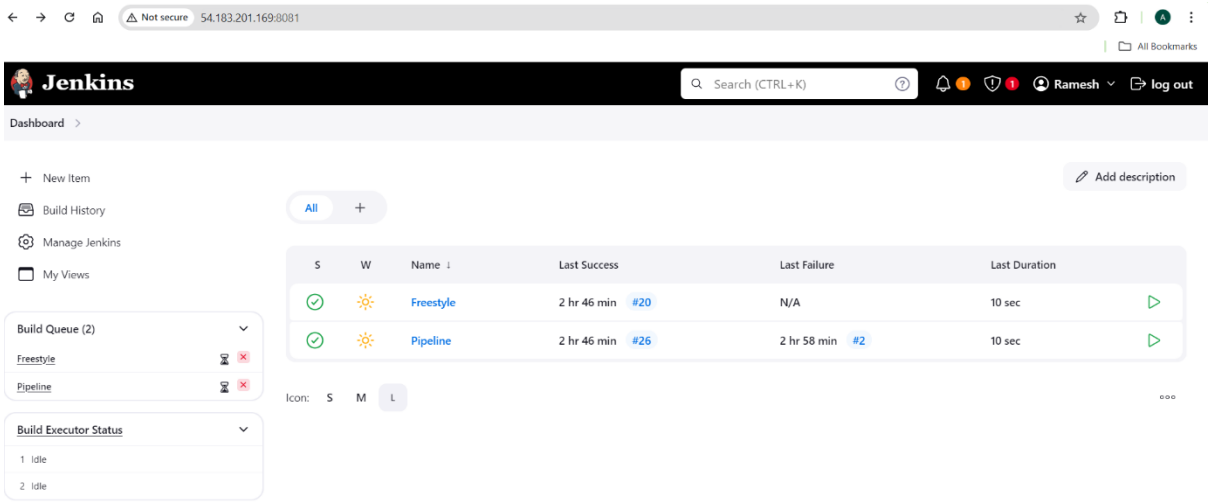


- These time these jobs are executed.
- To create Label go to the manage Jenkins and System.
- There you find the labels—there give label Name and Select only build job with label.

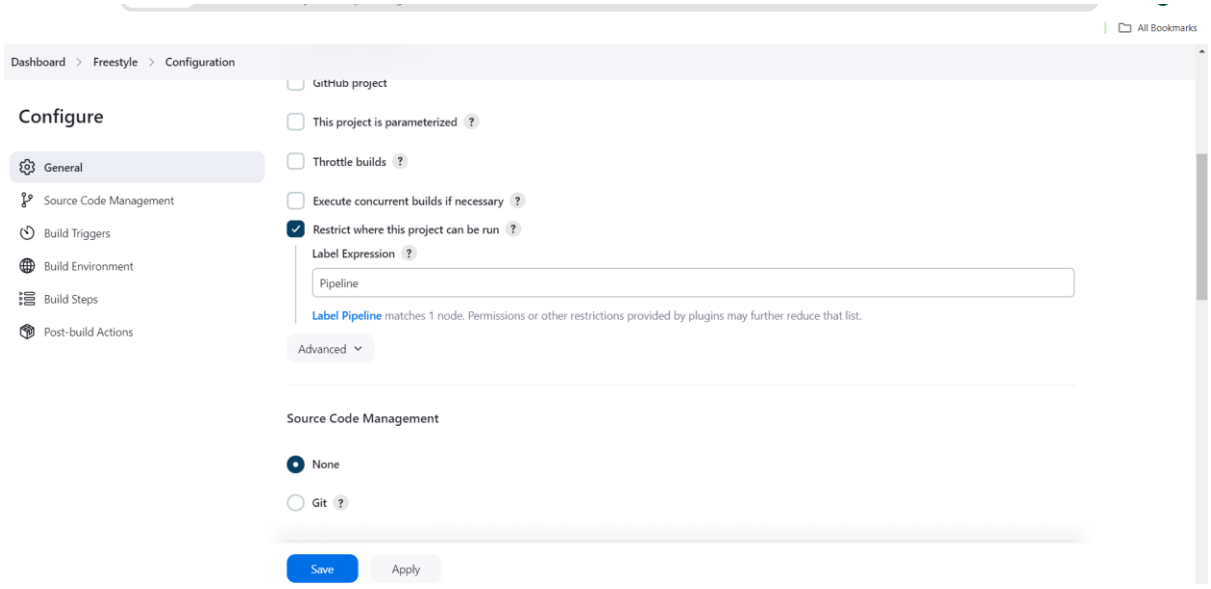


After that click on save.

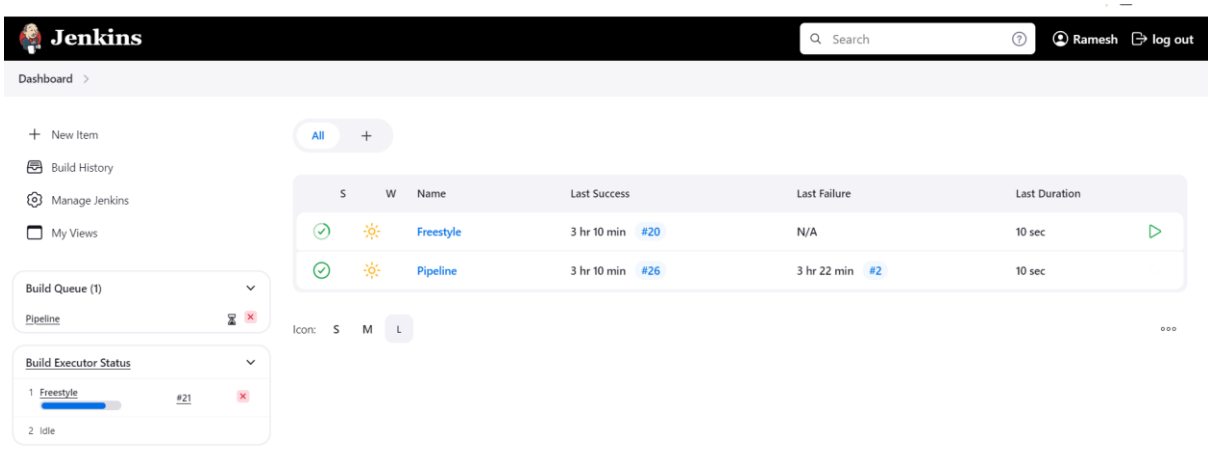
- Now try to build these two jobs.
- These jobs are in build queue but not executed.



- Now I went to freestyle job.
- Select option is ---- Restrict where this Project can be run?
- Label expression --- Pipeline.



Now the freestyle job is executed.



########Task is Done ##############

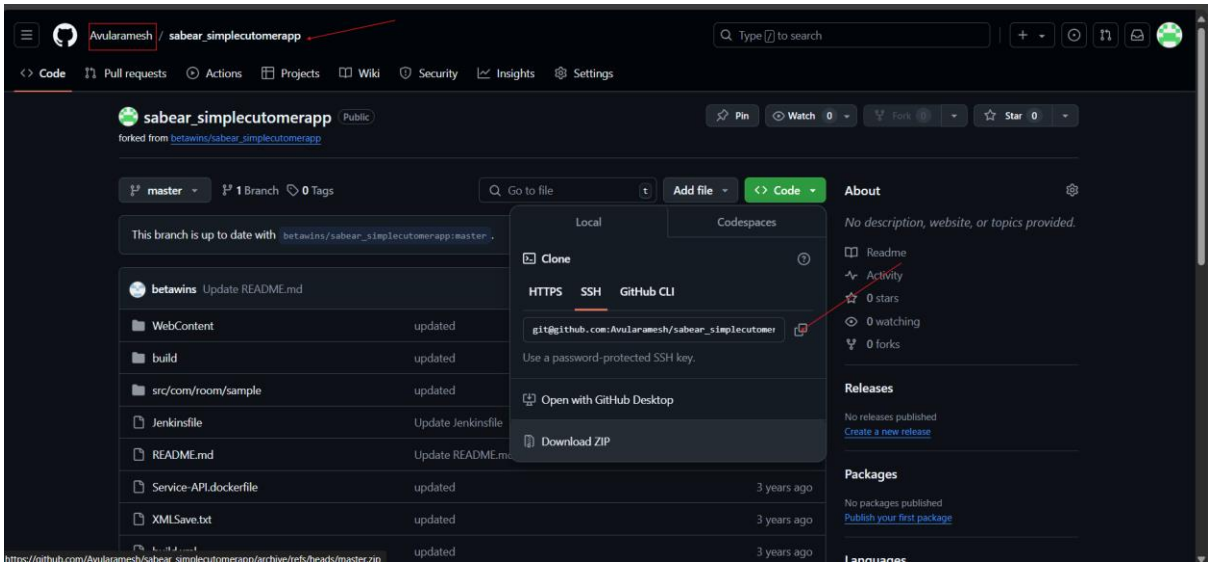
5) Create Three sample jobs using the below URL.

https://github.com/betawins/sabear_simplecutomerapp.git

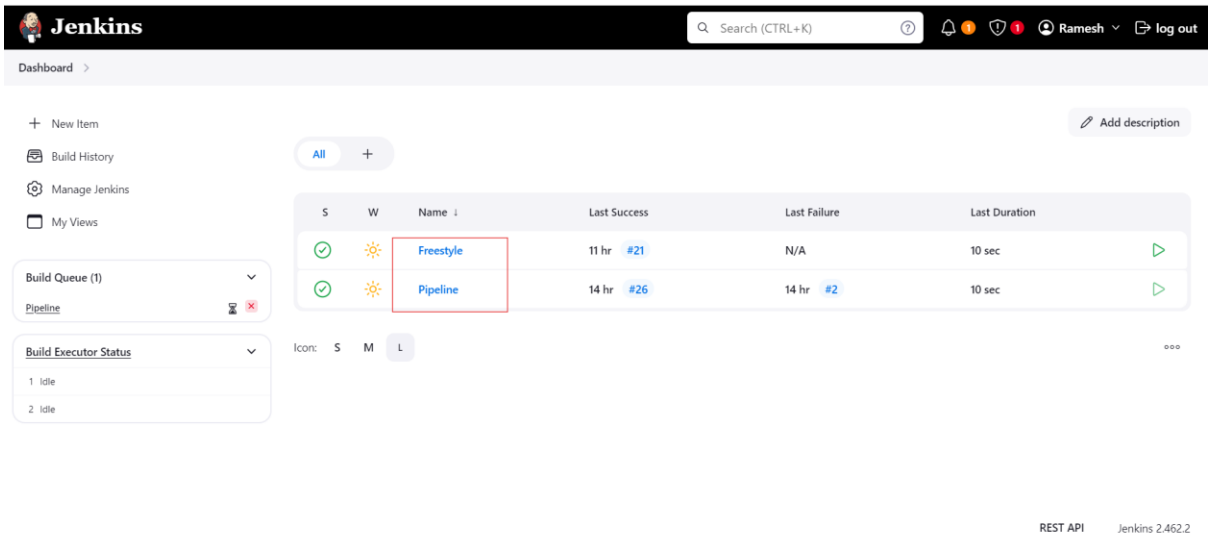
To Create Three sample jobs.

Now first I am fork to my GitHub account.

Here I am copy the my code.



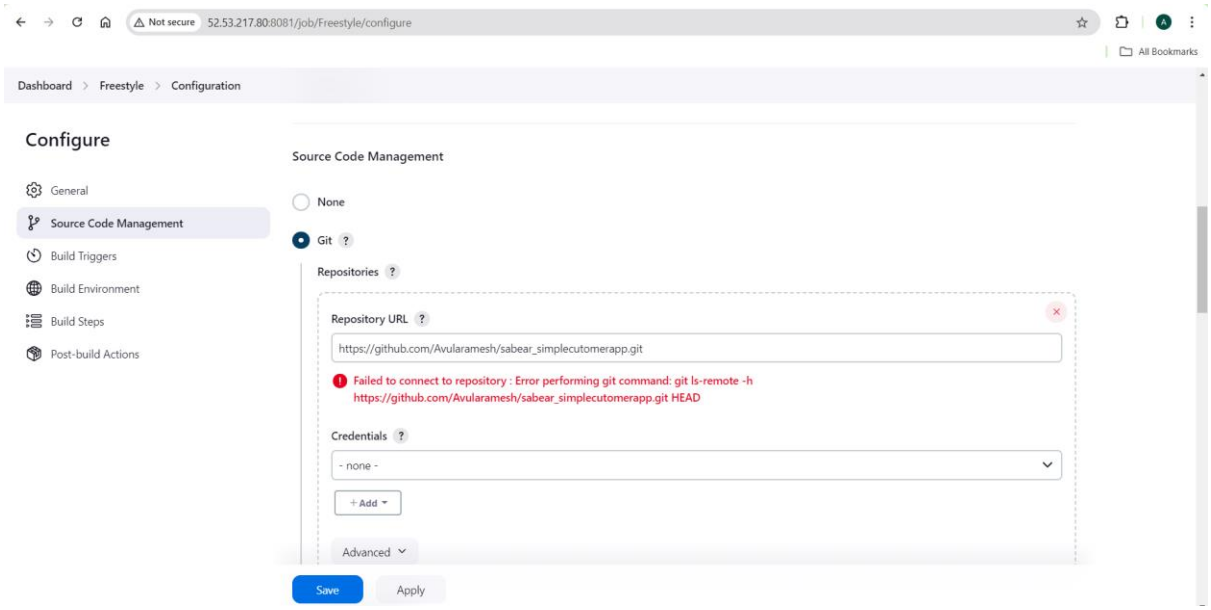
Here I have already two Jobs.



Just went to these two jobs.

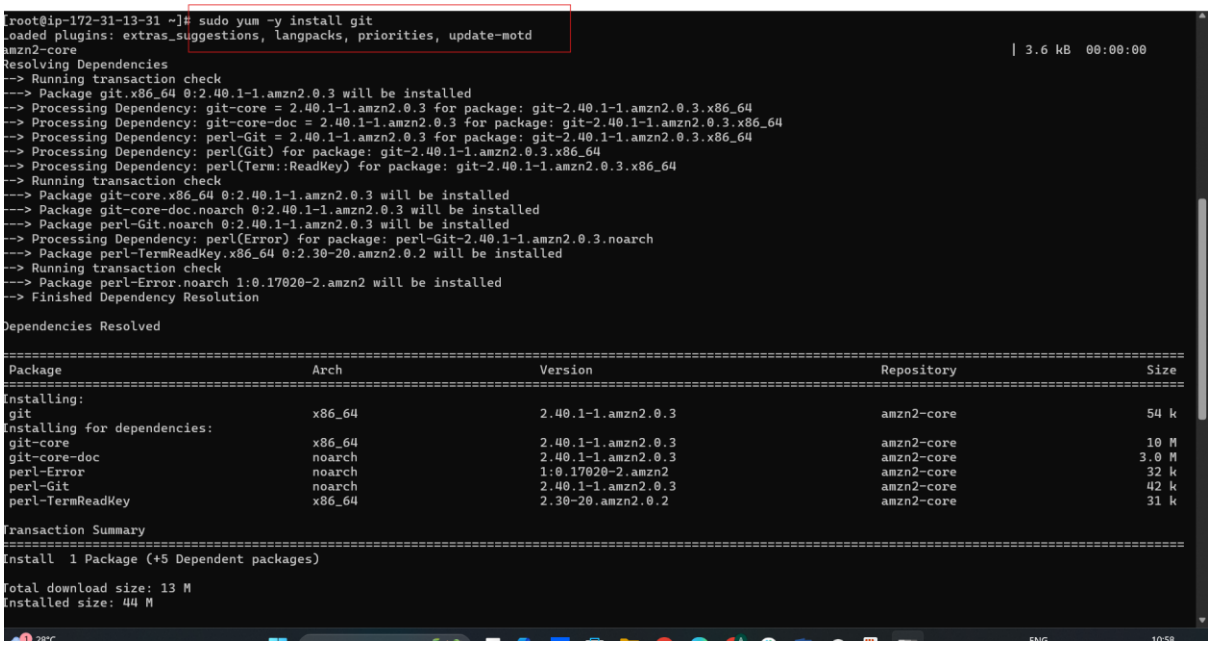
In repositories URL --- Give github repo link---

https://github.com/Avularamesh/sabear_simplecutomerapp.git

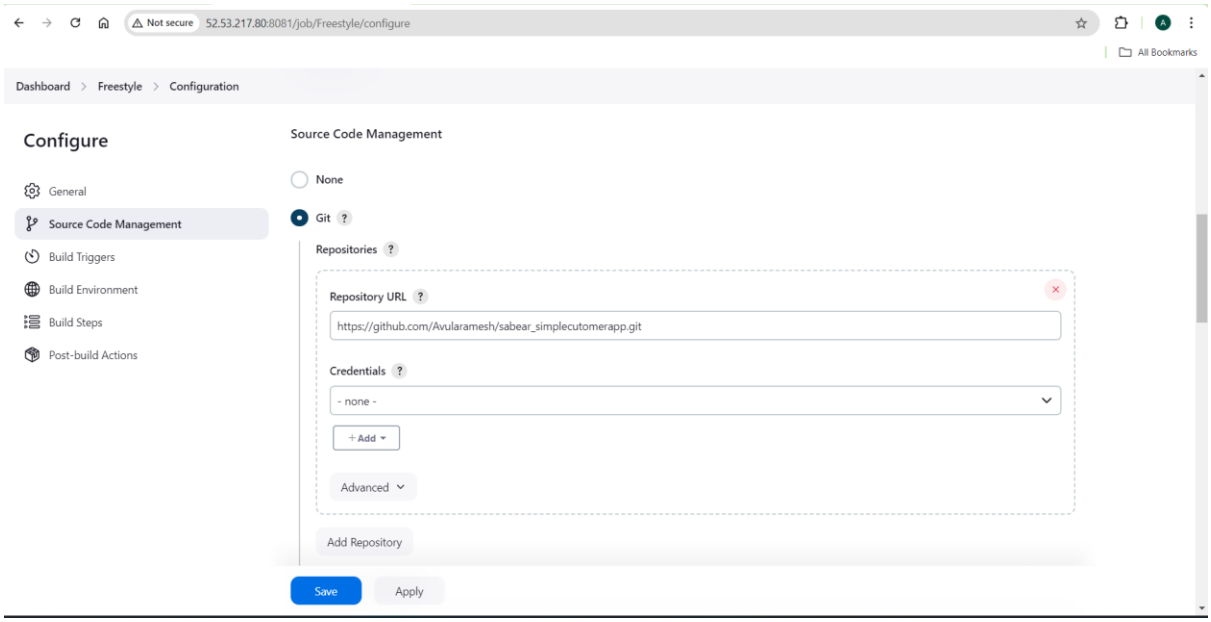


Here I am facing the issue.

To solve that we need install git in the server.

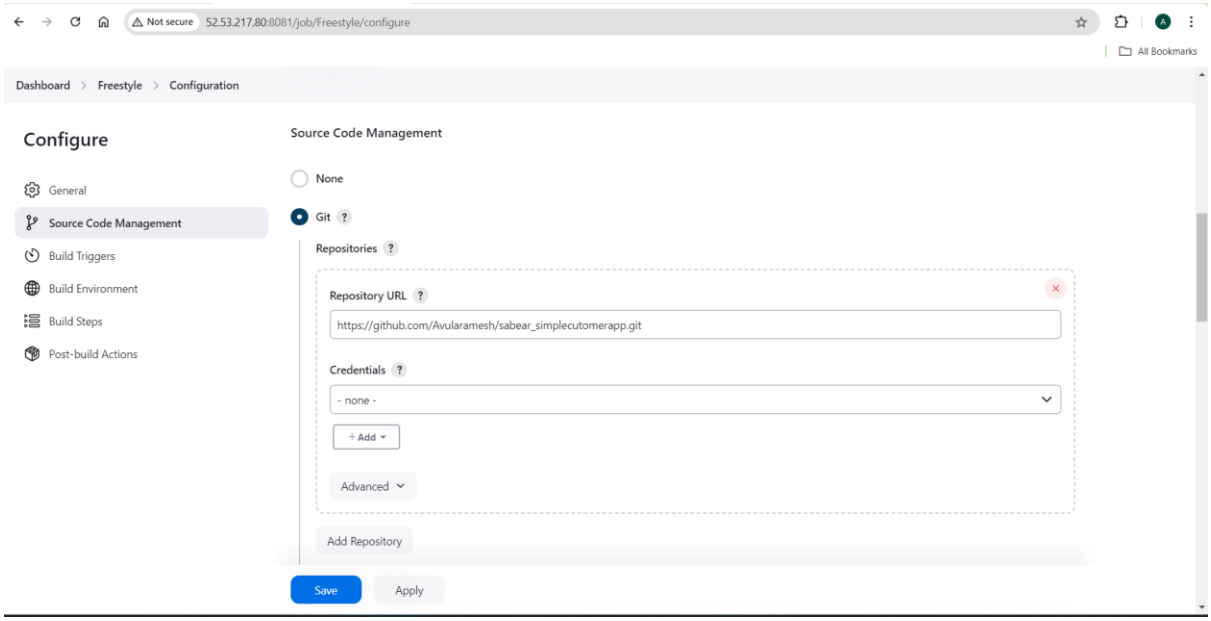


Now go to the Jenkins see there error is there or not. Just refresher.



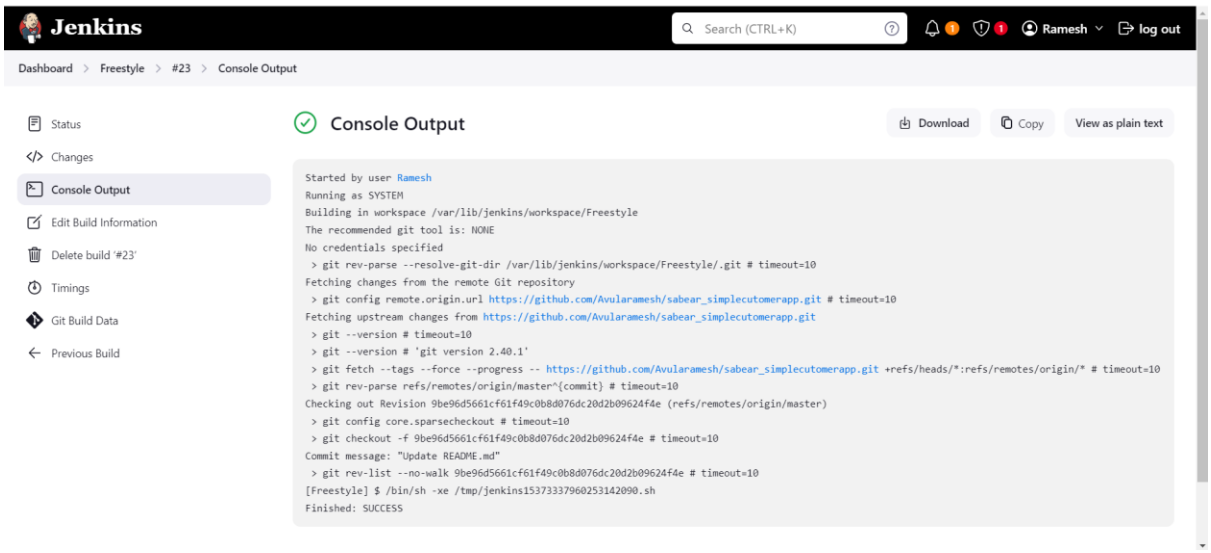
Click on save.

Now go to these another job and do same what we done in the previous Job.

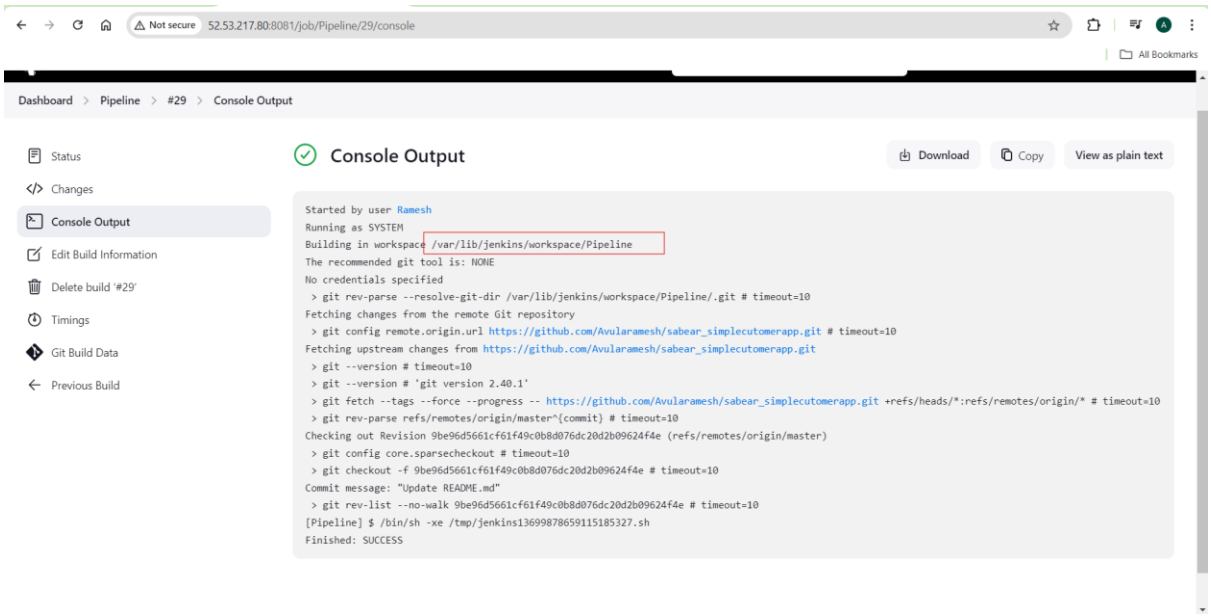


Now try to build these two jobs.

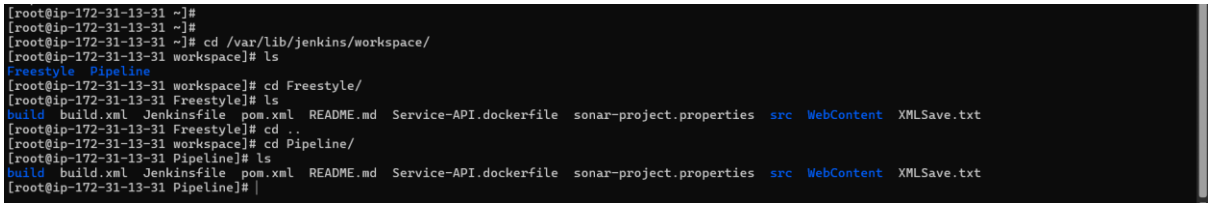
Build is success freestyle.



- Now Build the Another Job.
- These job also build is success.
- If you want see these code --- Go to this dir---/var/lib/jenkins/workspace/



Here our code is Avalable.

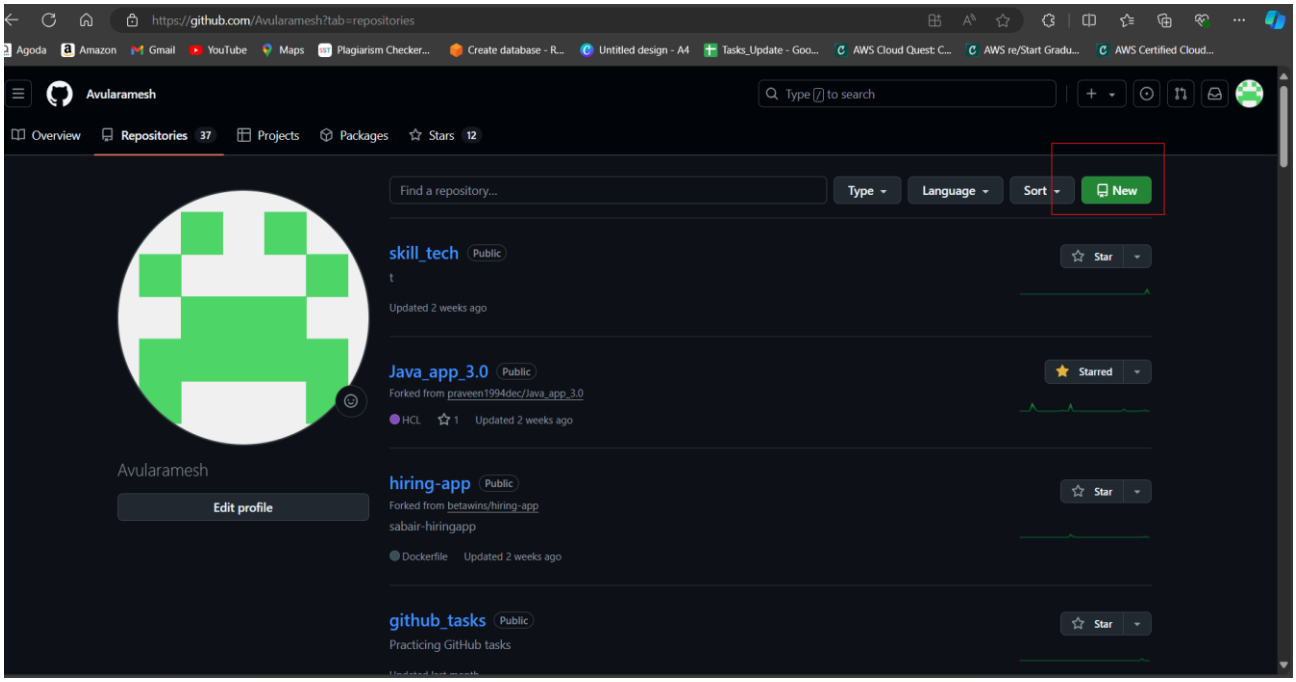


##############Task is Done##############

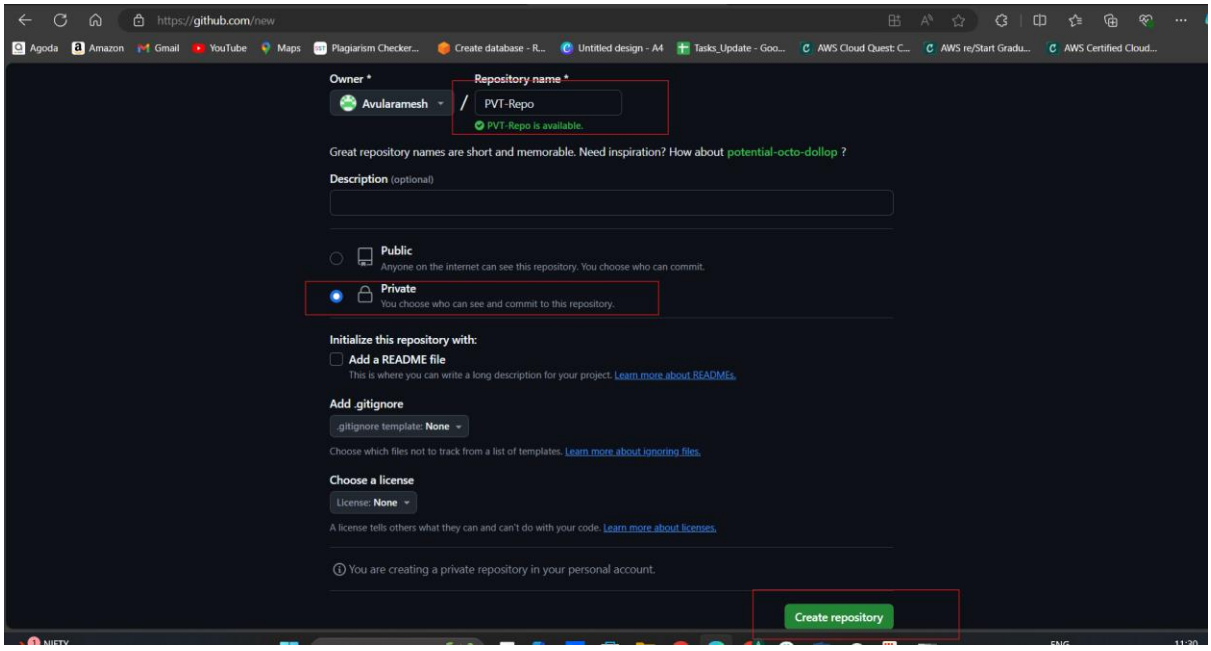
6) Create one jenkins job using git hub Private repository.

To do this Task we have to create Pvt git hub repo.

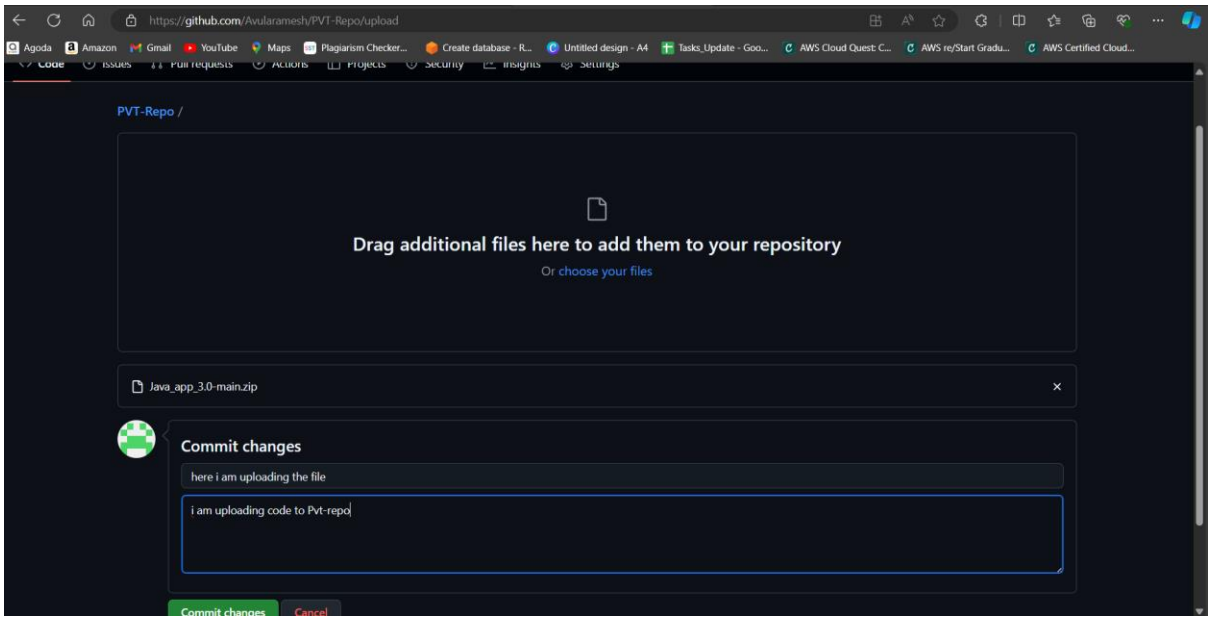
Click on New.



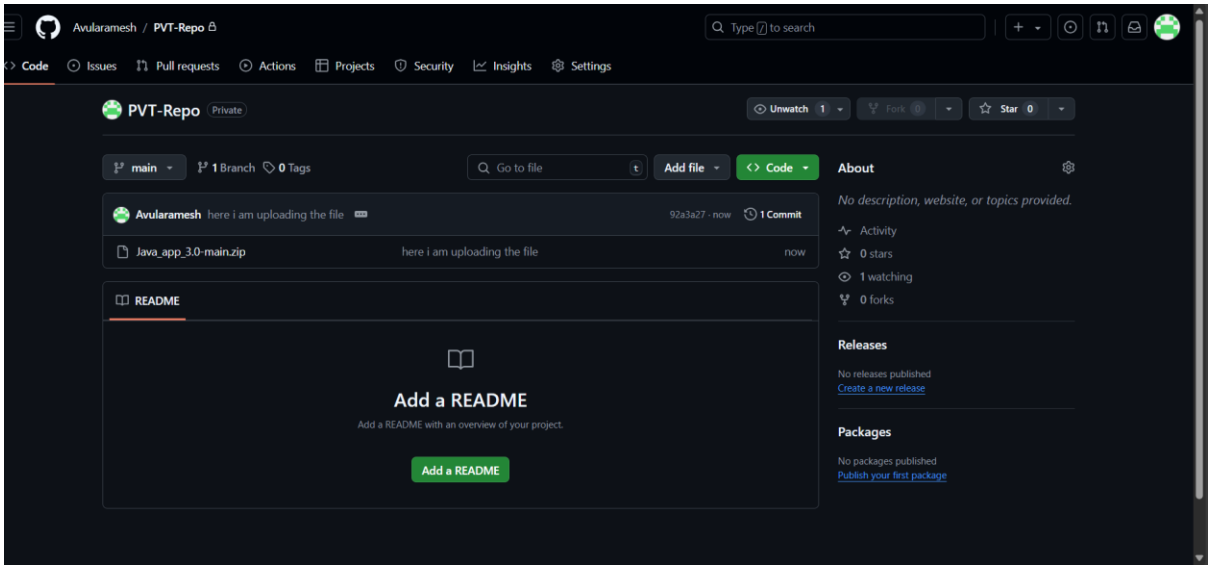
Here give repo name, select as PVT and click on create Repo



Her I am committing and click on commit changes.

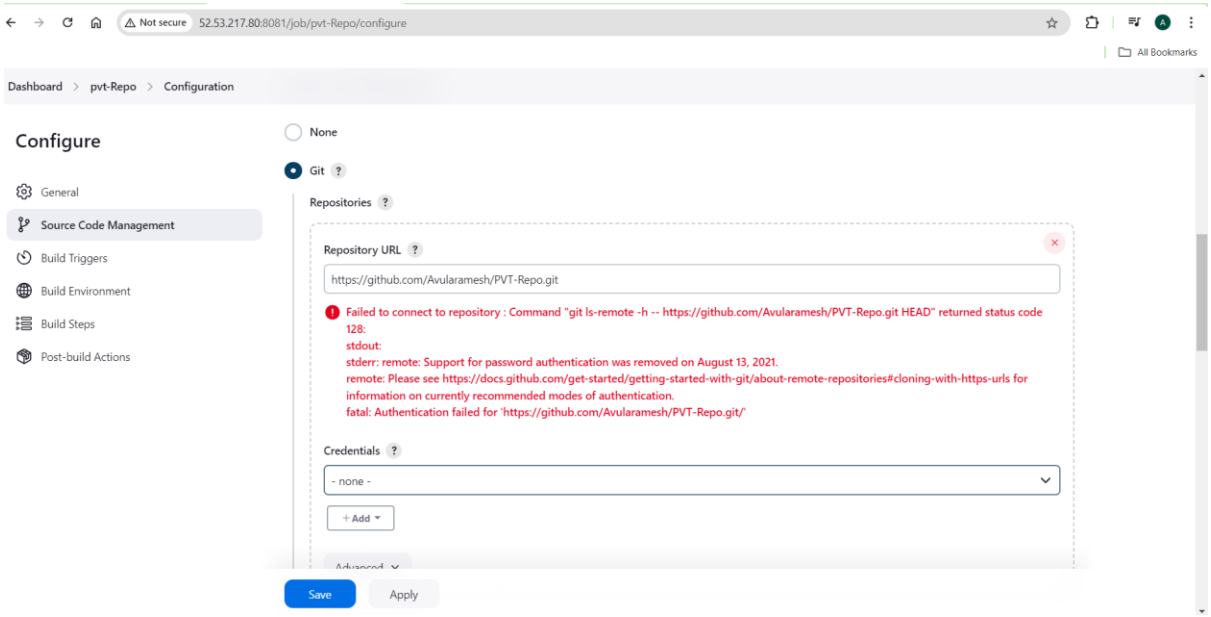


The file is uploaded in github Pvt-Repo

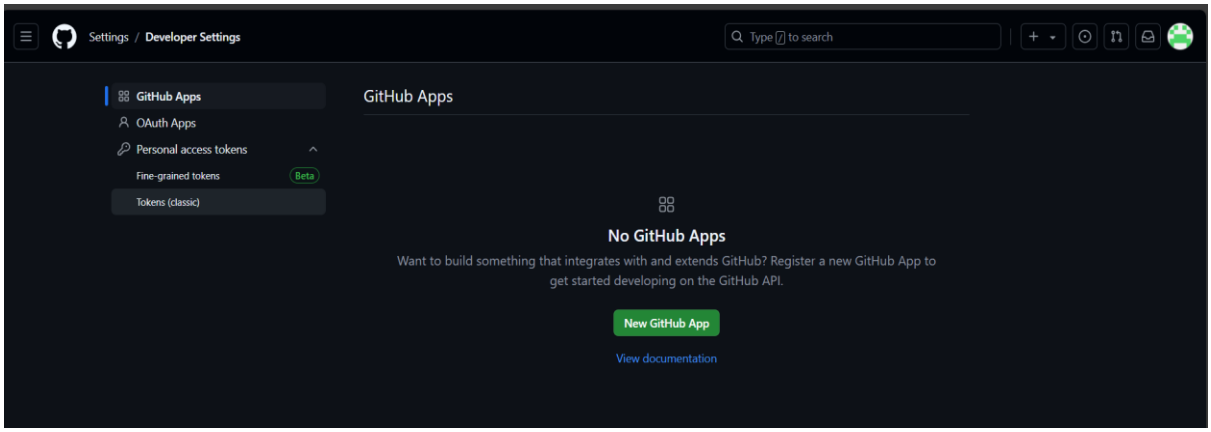


Now the code copy in the Job.

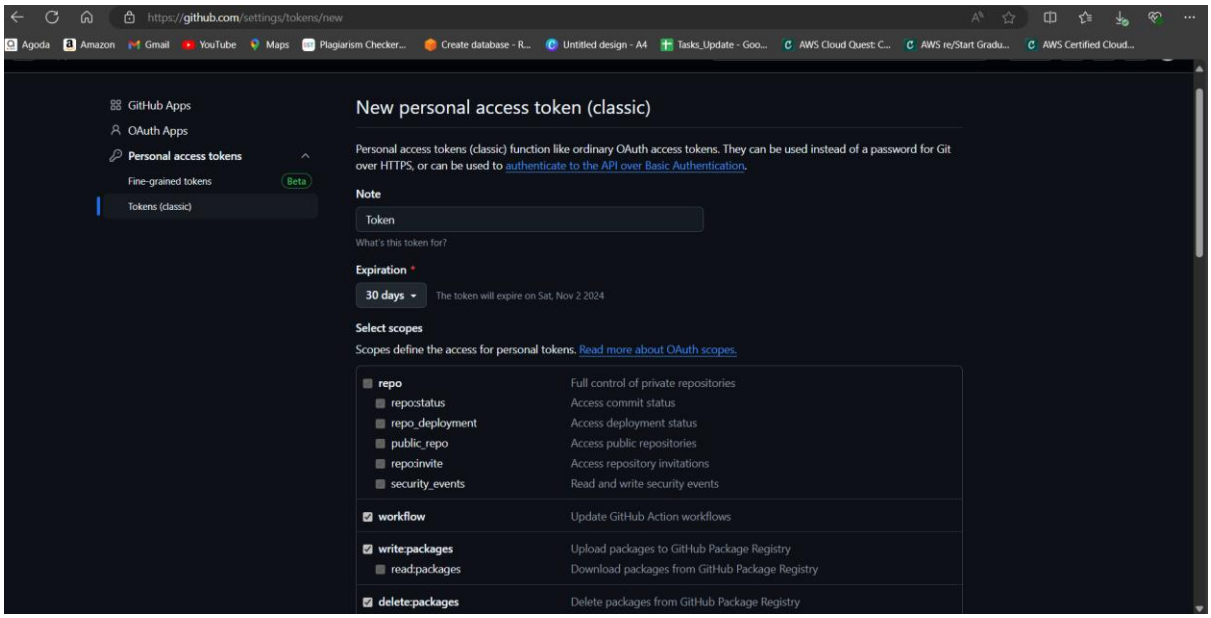
After giving the repo url we are facing these issue because the repo will be Pvt.



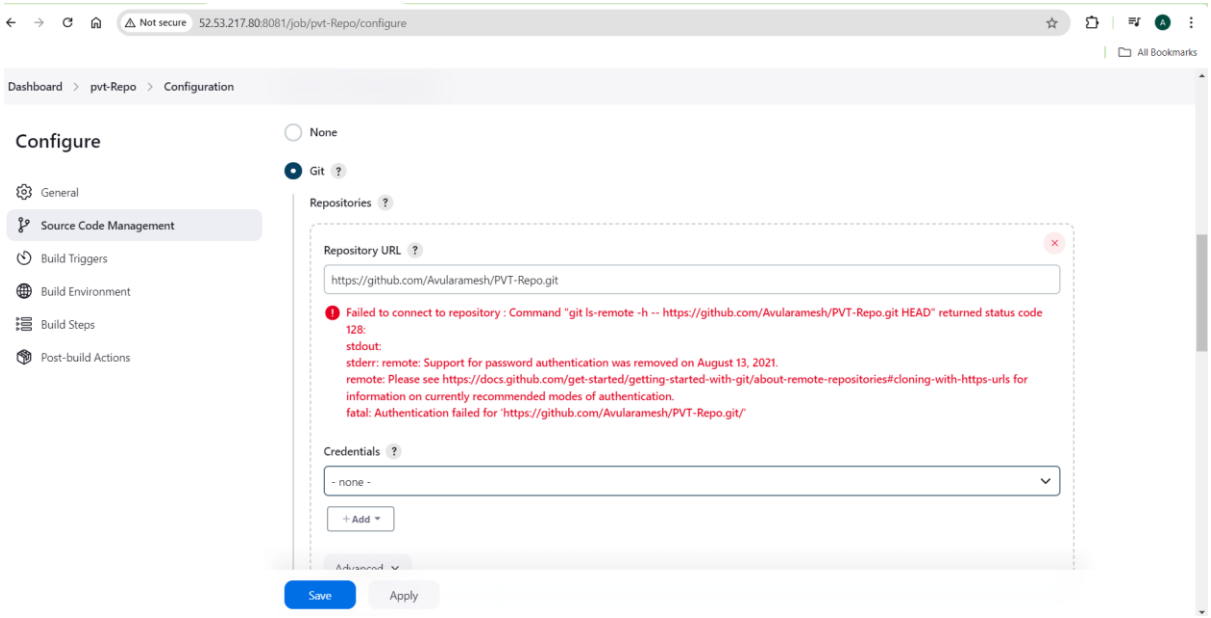
- So first we need to create Token for Github and add the credentials in github.
- Go to the github.
- Go to github repo and create github Token .
- To create Token go to the Setting.
- Go Developer Setting, Click on Token classic and click on create Token



Now select the what are the option do you want and click on generate Token.

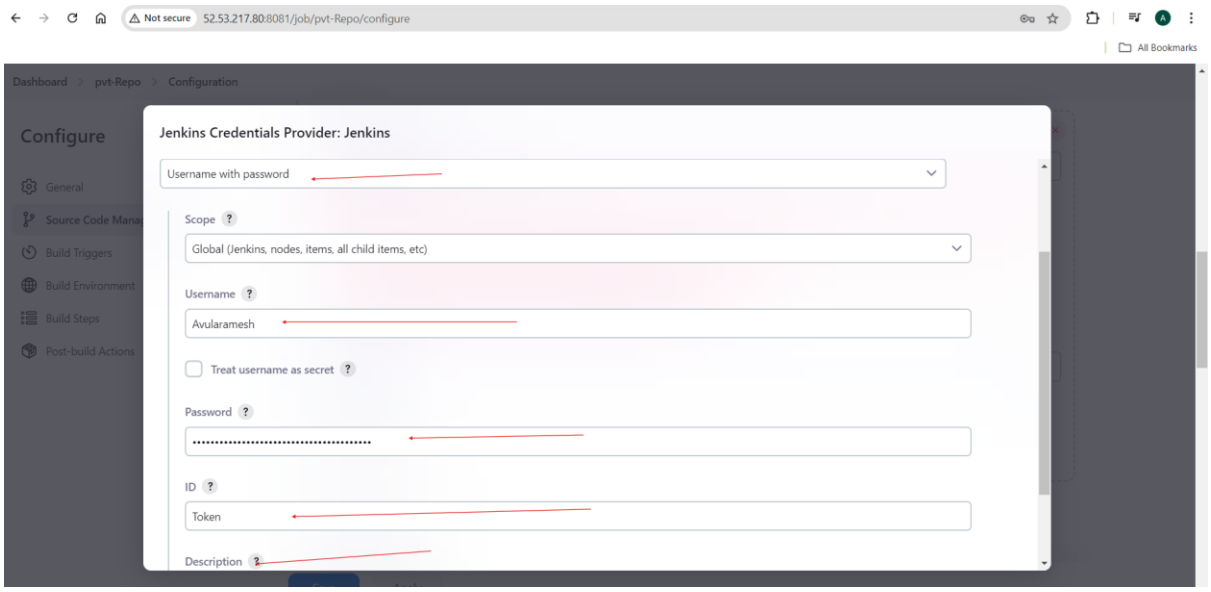


Now back to Jenkins and under the credentials click on Add.

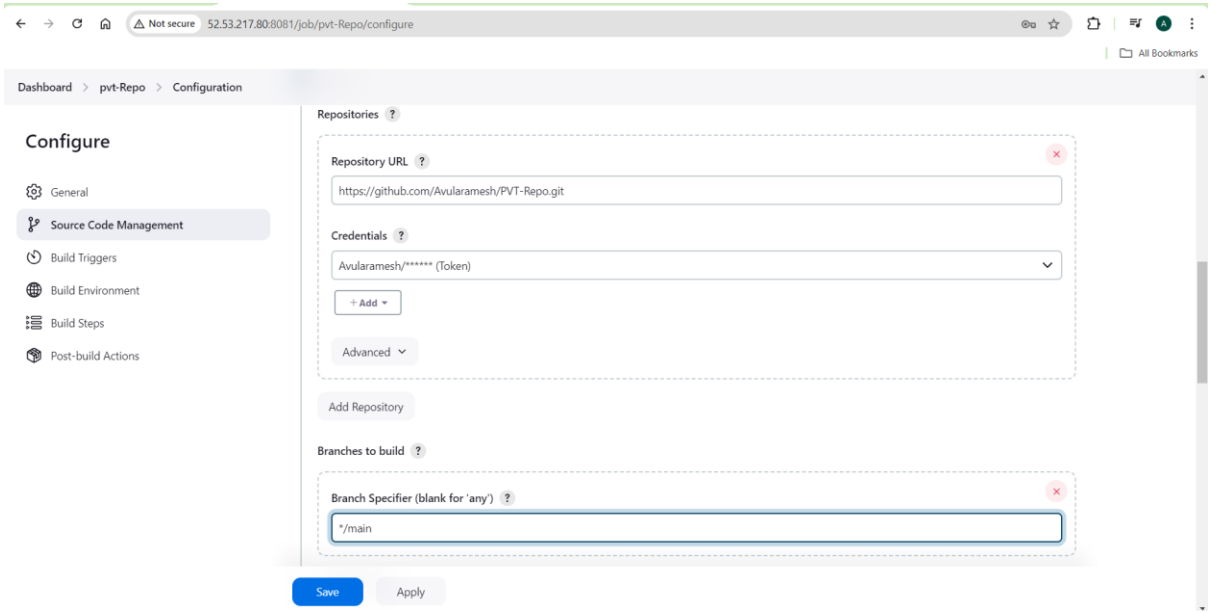


The below you will see the below interface and fill all.

User name, Password, ID, give description also.

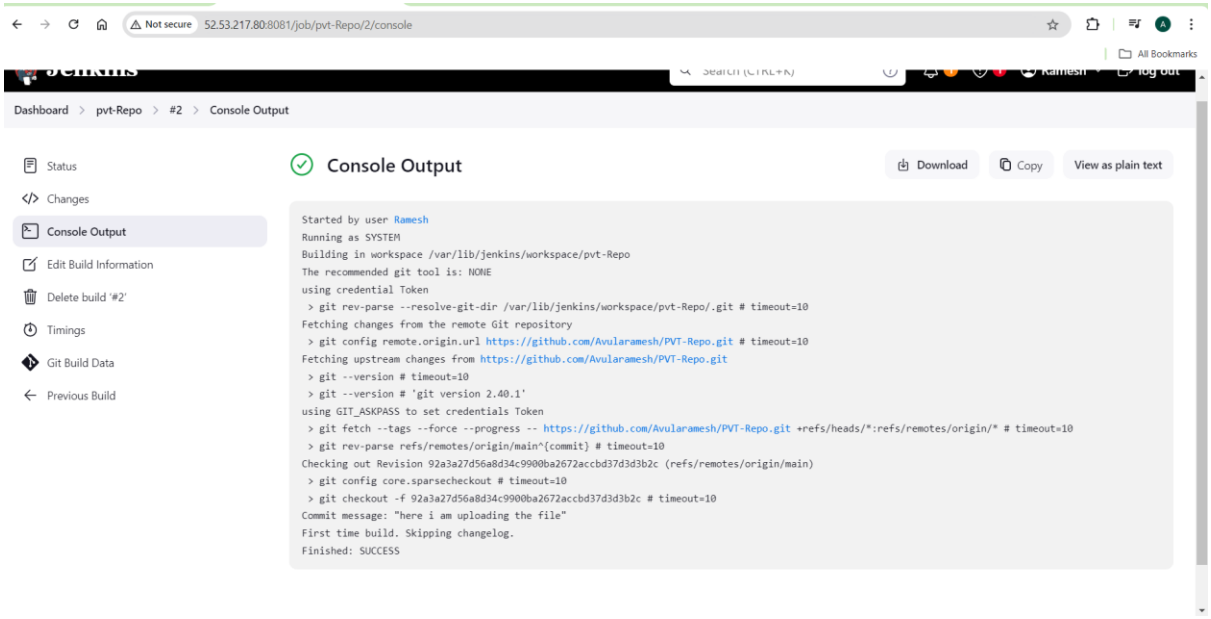


- Just click on add.
- Just select the credential and add.
- After adding clear the issue.
- Give main branch.



Now try to build the job.

Build is success.



In Workspace you will see the our file.

```
[root@ip-172-31-13-31 jenkins]# cd workspace/
[root@ip-172-31-13-31 workspace]# ls
Freestyle  Pipeline  pvt-Repo  pvt-Repo@tmp
[root@ip-172-31-13-31 workspace]# cd pvt-Repo
[root@ip-172-31-13-31 pvt-Repo]# ls
Java_app_3.0-main.zip
[root@ip-172-31-13-31 pvt-Repo]#
```

##########Task is Done######