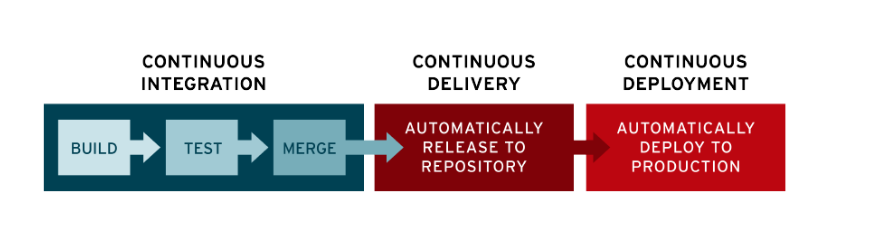
**Ci/Cd Pipeline (**continuous integration and continuous deployment)

****

**practical**

**Server 3- Git**

# apt-get install git -y

# mkdir website

# cd website/

* Create a repo in github

Copy the code link from https

On server vm-

# git clone <https://github.com/DivyaC69/jen_lab1.git>

# ls

# cd jen\_lab1/

# nano index.html

cat index.html

git add -A

git commit -m "committed successfully"

git config --global user.email "divyachaudhary078@gmail.com"

# git commit -m "committed successfully"

# git push

Username- github username

Passwd- ghp\_0leZH7ghT7Y0OlIUtts5R8vW29GgEa1snzCQ

**Server 1- git, docker, jenkins**

# apt-get install git

#apt-get install docker\*

<https://www.theserverside.com/blog/Coffee-Talk-Java-News-Stories-and-Opinions/jenkins-ubuntu-20-install-git-jdk-java-ci-cd> -- for jenkins

#apt-get update

# apt-get install openjdk-11-jdk

* For package installation we need repo and for that we need a key, elow command gives us that key-

# wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add - (key will be downloaded)

* Downloading the repo-

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

# apt-get update (if we get error while upating, then jenkins will not be installed- solution-🡪

# apt install ca-certificates

#apt-get update

#apt-get install jenkins -y)

# apt-get install jenkins -y

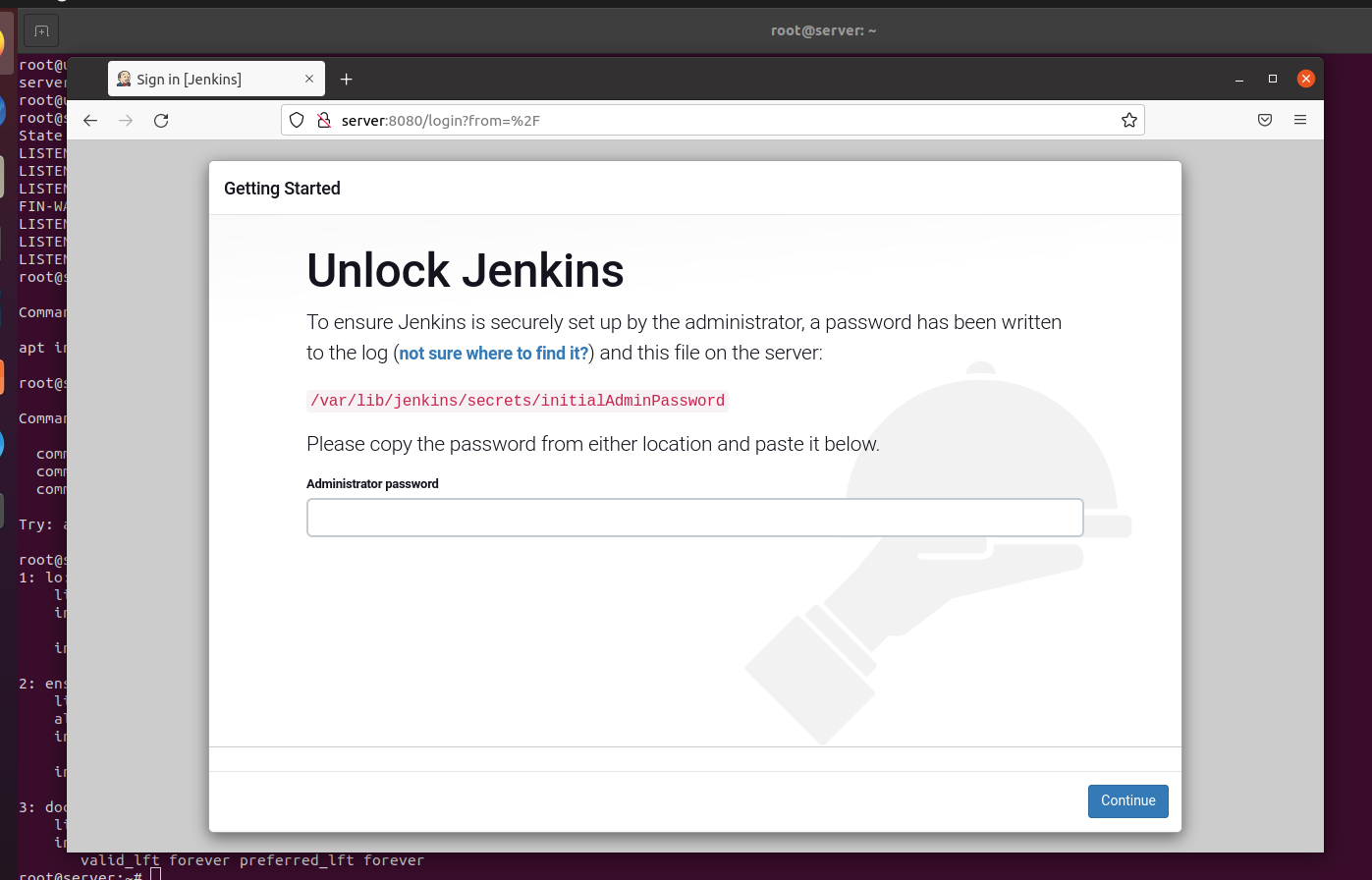
# systemctl start jenkins

# systemctl enable jenkins

# systemctl status jenkins

# ss -ant (to check ports)

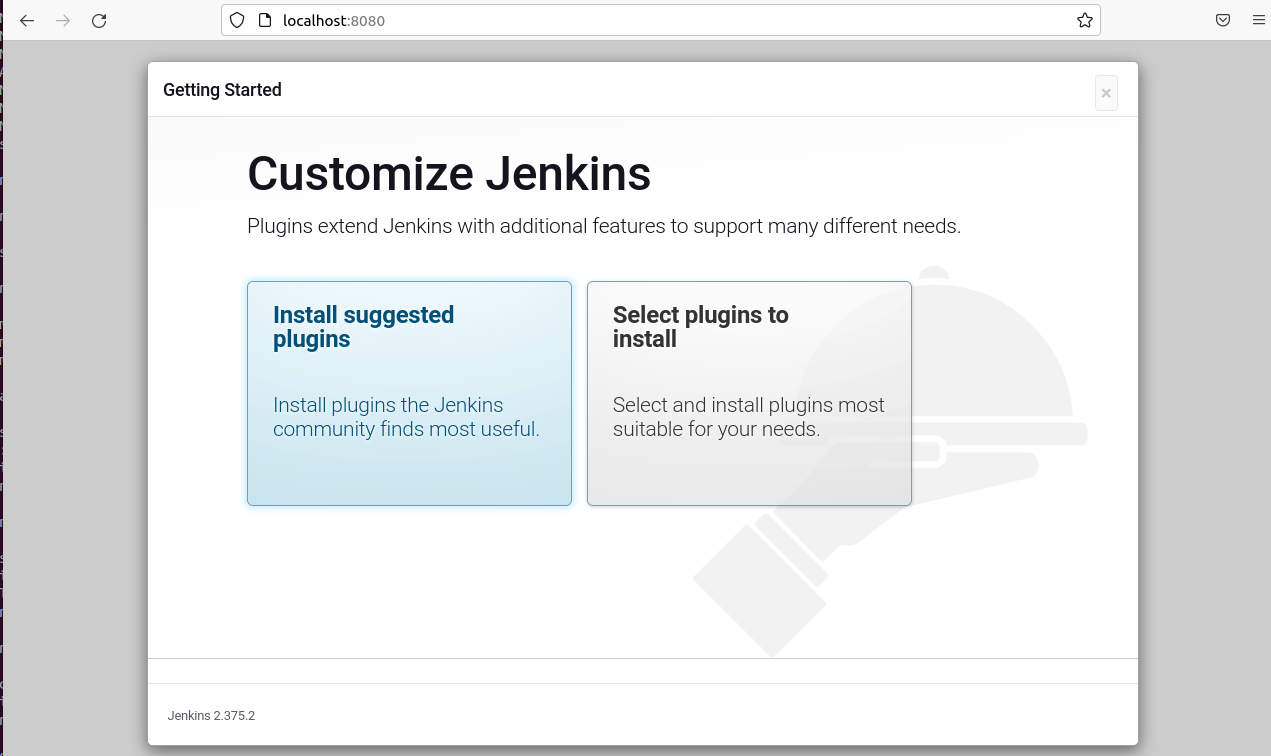
Go on browser of vm and type--- localhost:8080



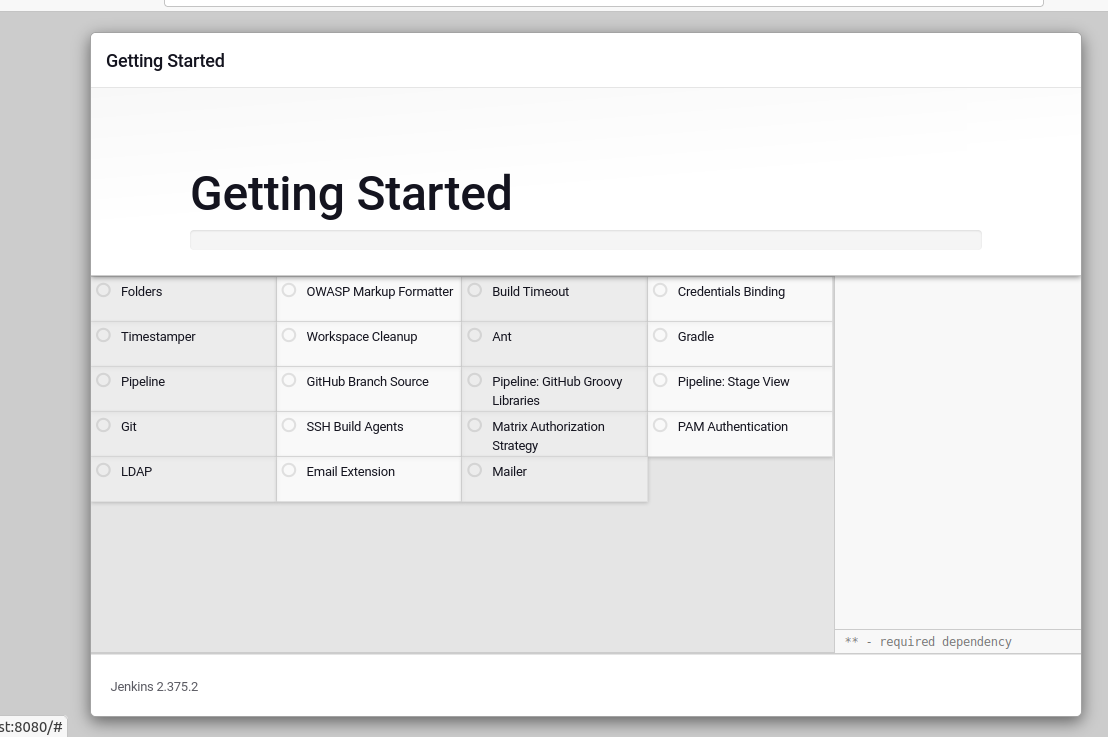
Copy the path in cli



Copy the password and paste it console (this password is one time)



* Install suggested plugnis



Theory

* Let the above step be completed.
* Create first admin user-

Username- jenkins

Password- jenkins

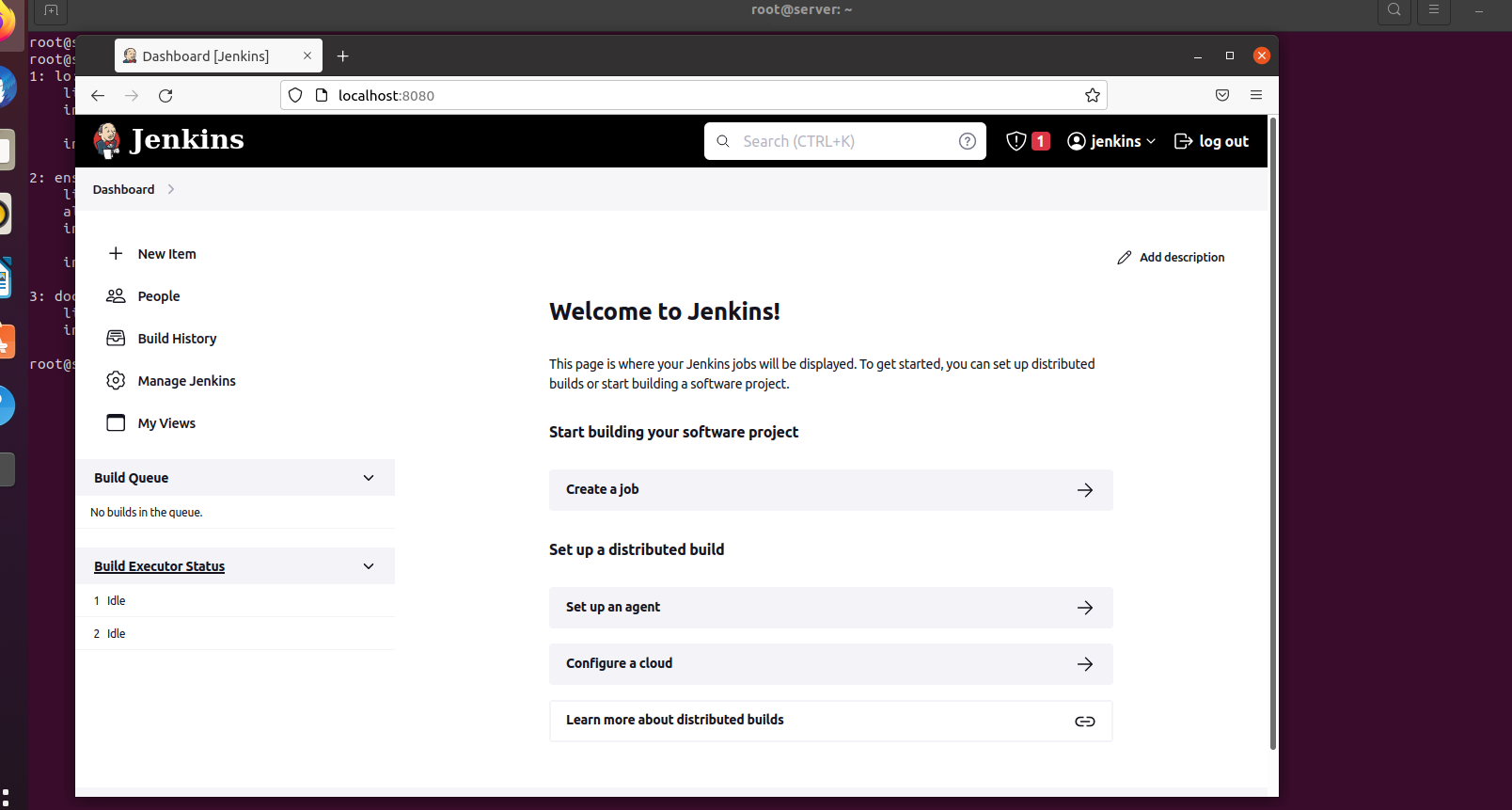
Full name- jenkins

Email- [jenkins@gmail.com](mailto:jenkins@gmail.com)

* Save and continue
* Jenkins url -
* Save and ready
* Start using jenkins
* Interfce of jenkins is provided.
* People will have info of users
* Manage jenkins- can install plugins 🡪 manage plugins -🡪available🡪 seslect and install

1. Job to fetch application

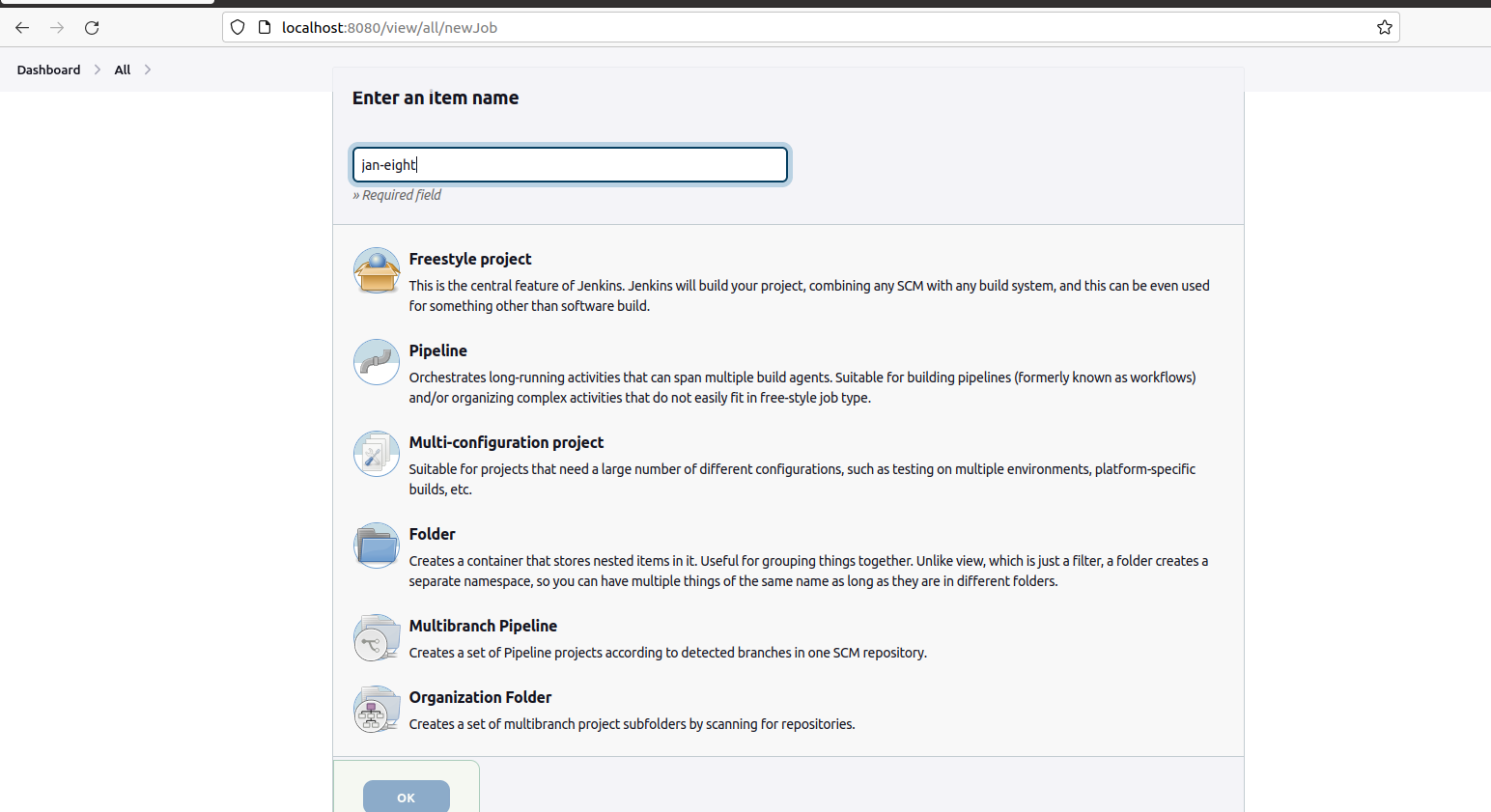
Manage jenkin🡪 manage plugins🡪in downloaded plugins cross verify with the photo provided on watsapp , if the package is not available🡪 go to available packages and and install without restart.



Dashboard is created.

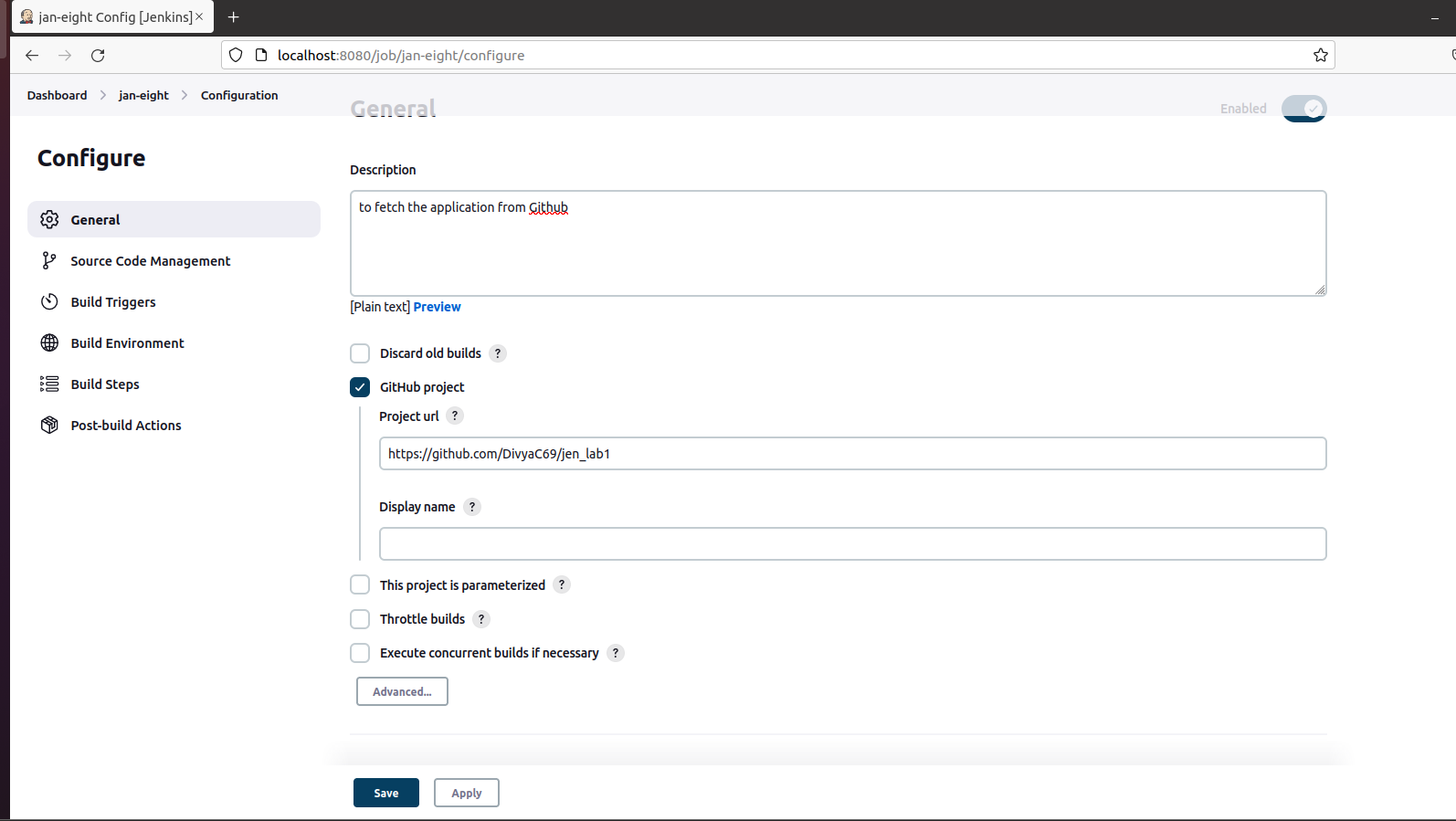
Go to new item🡪 give name, don’t use space

Select freetyle🡪ok

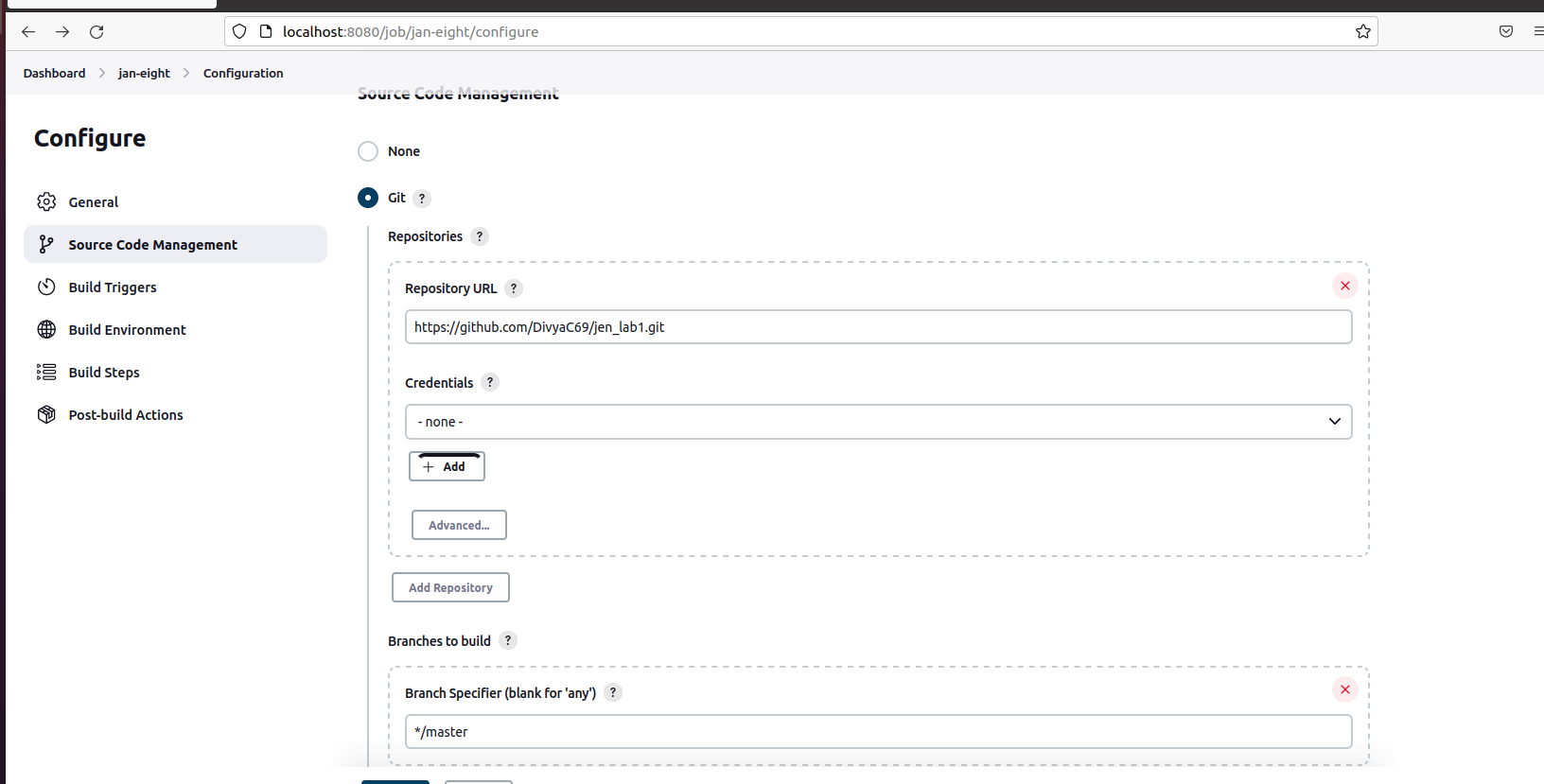


Do the config as below--

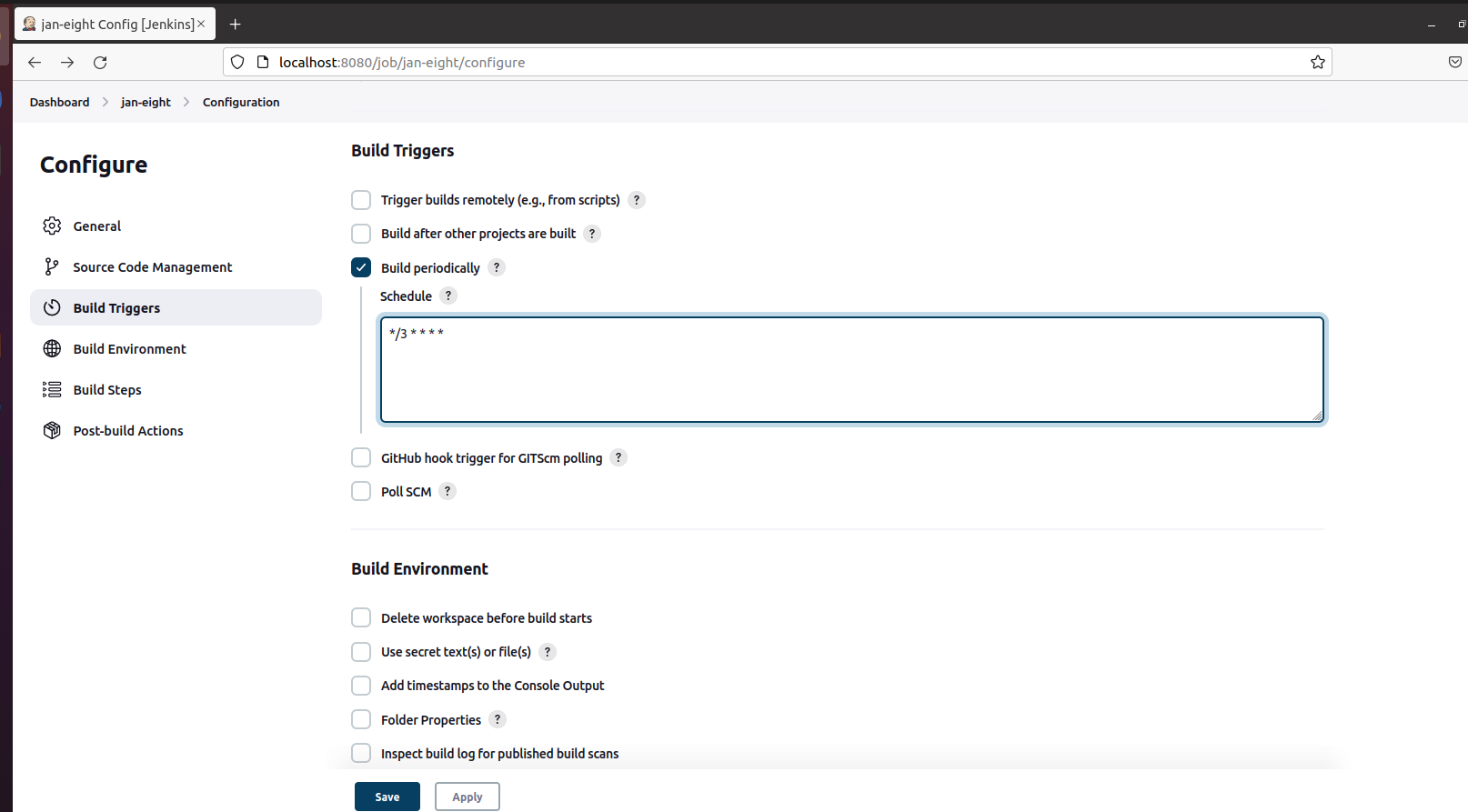
In url remove.git extension



In below url paste all the url with.git ext.

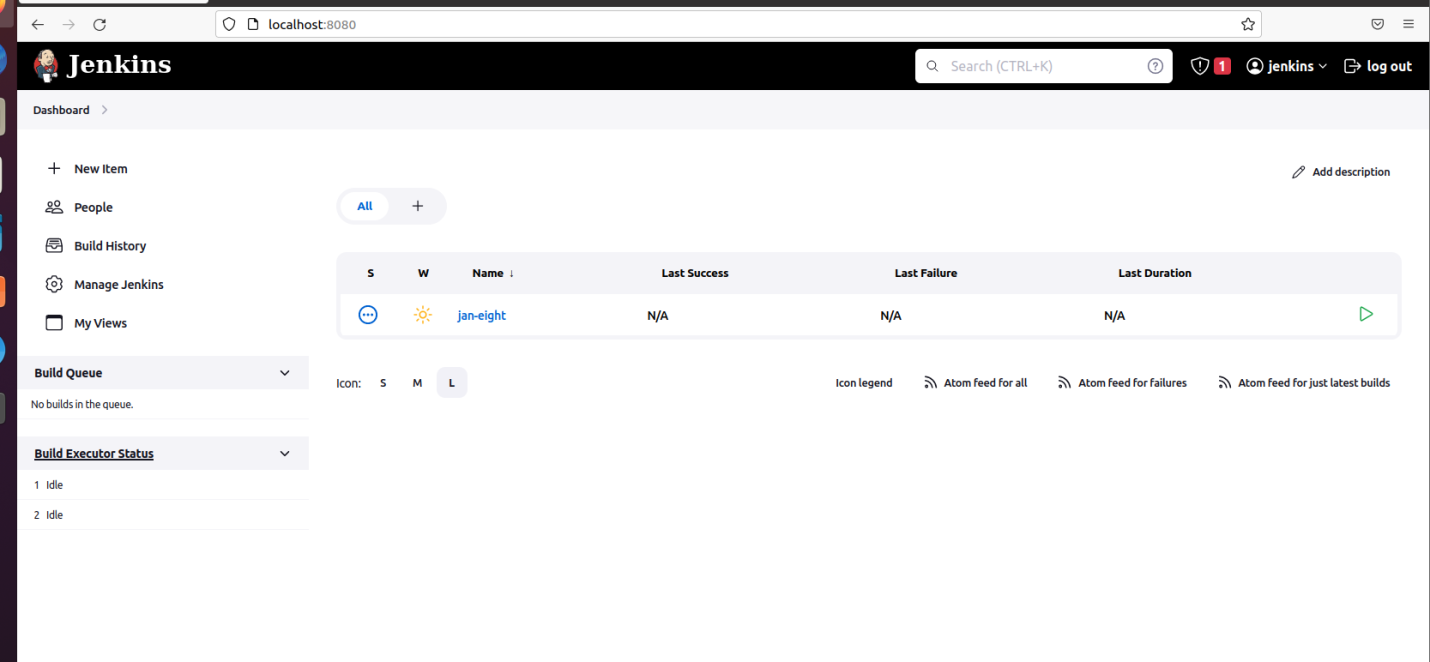


In below, build will execute in every 3 min(cron job)

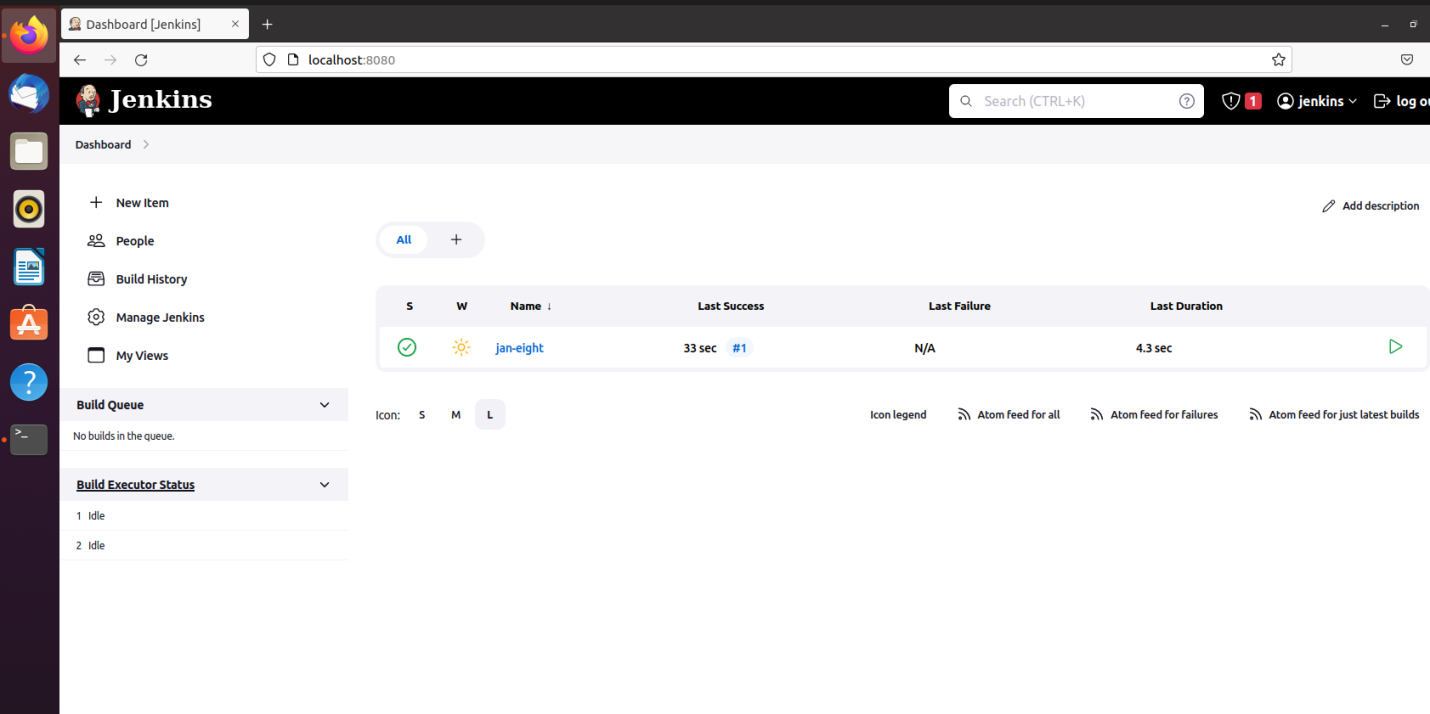


Apply 🡪 save

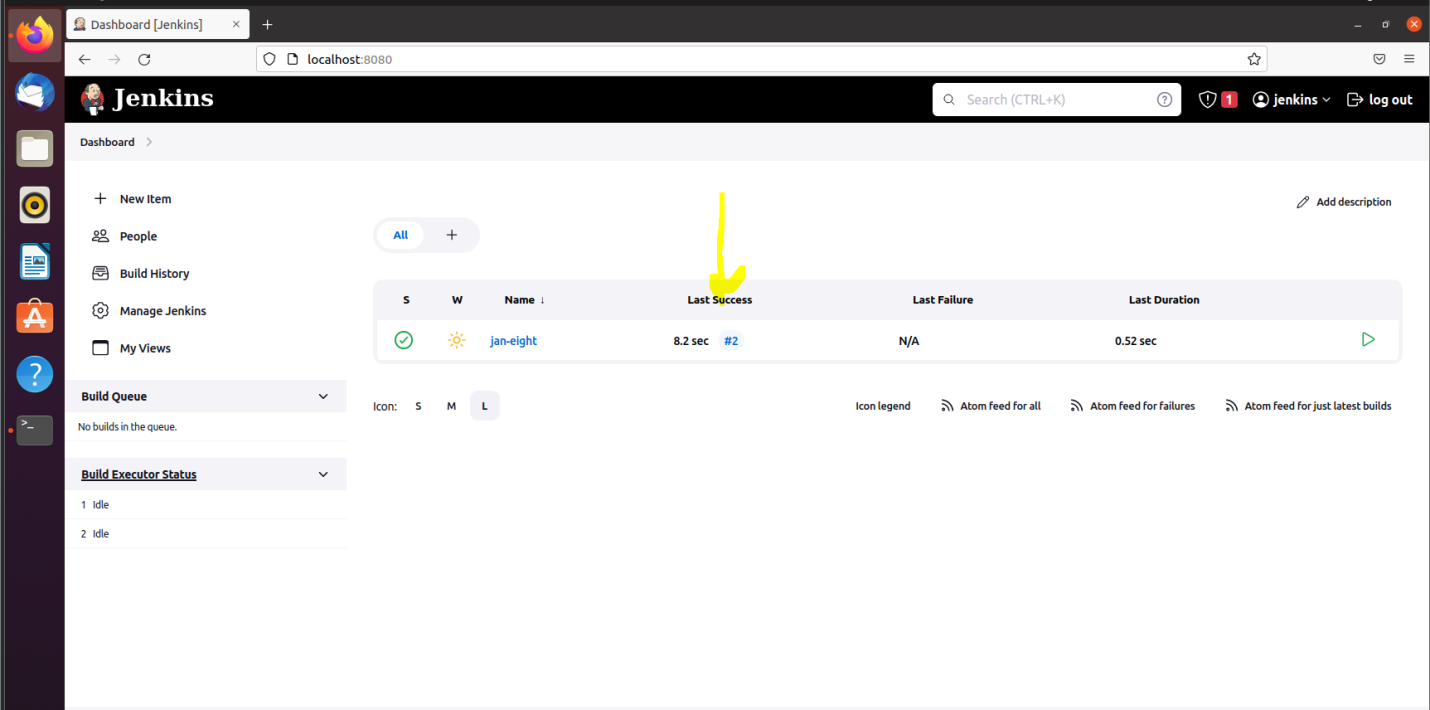
Go to dashboad

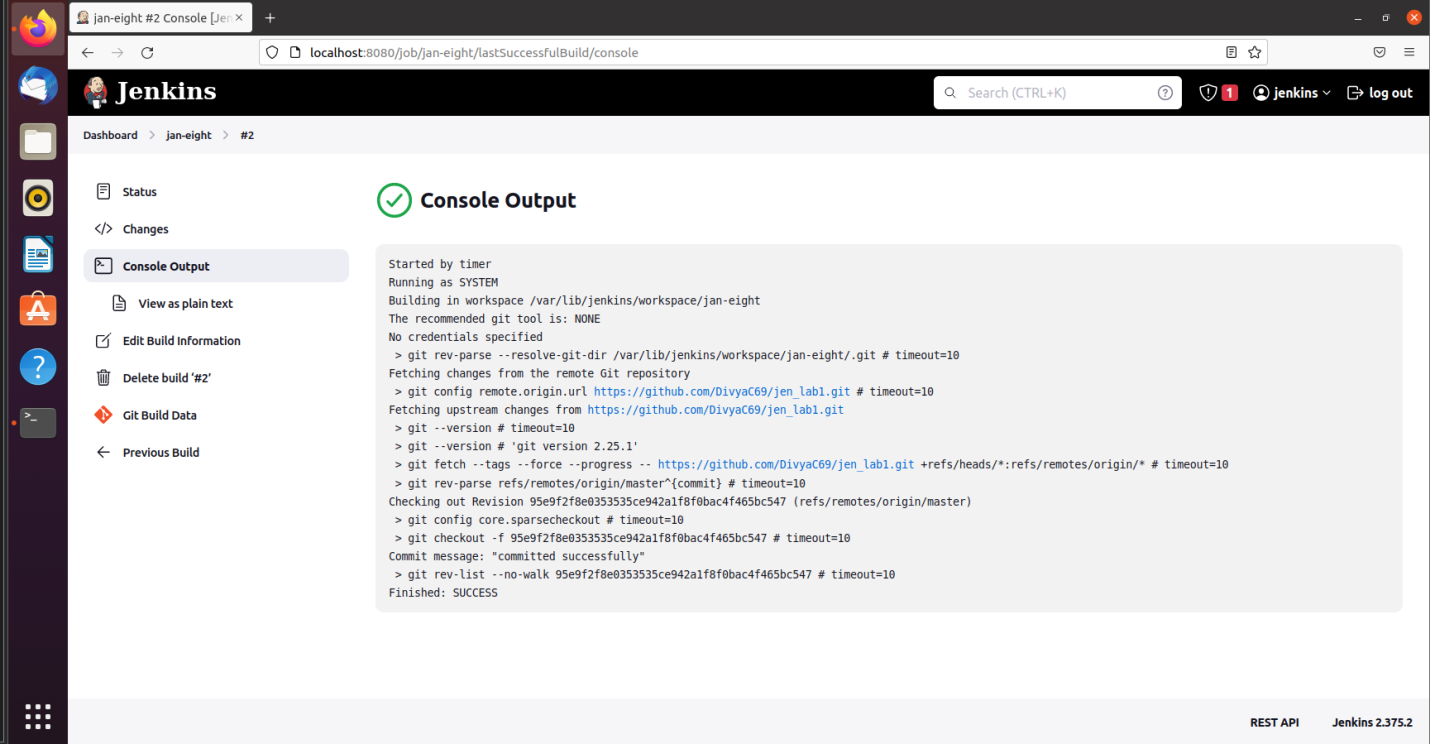


Refresh the page it will go green



Below click on 2 to check logs🡪 console output

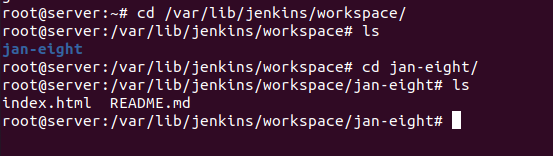




The logs are generated at-

All the repo files in the git repo will be available here as we build it on jenkins

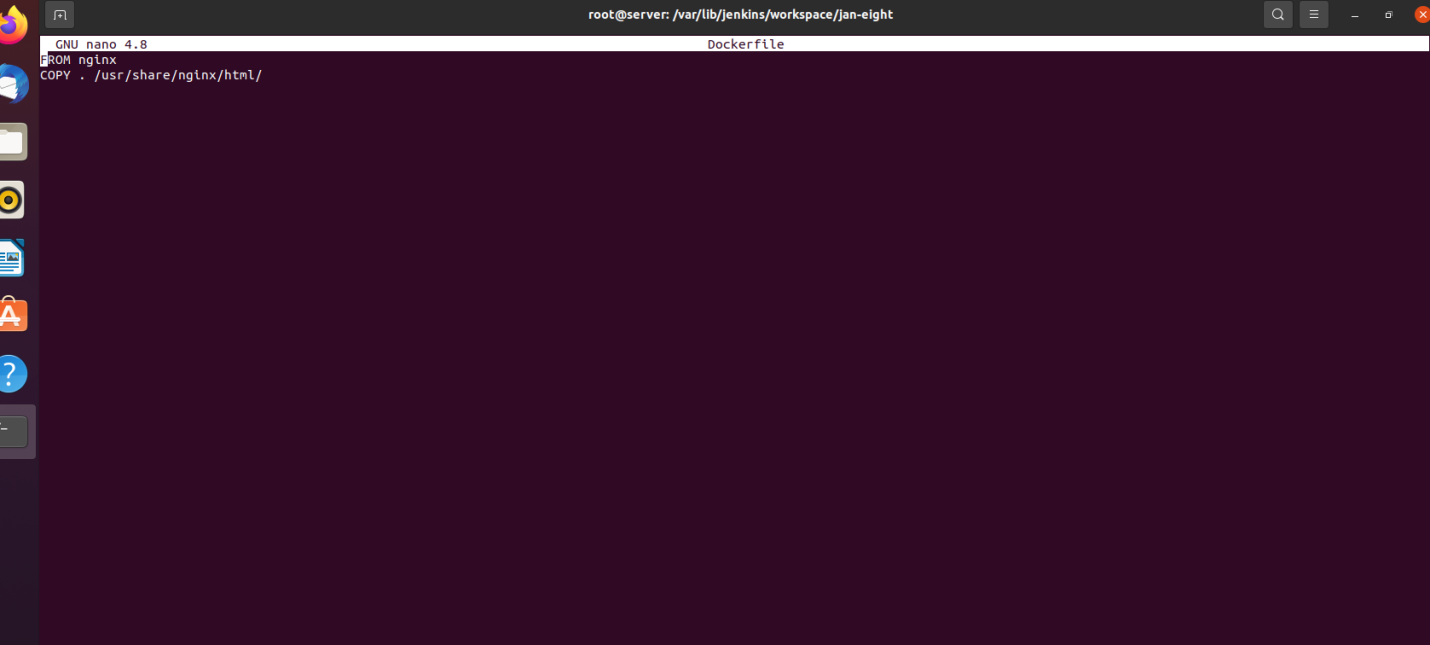
All the changes made to the file s in repo will be automatically build in the repo



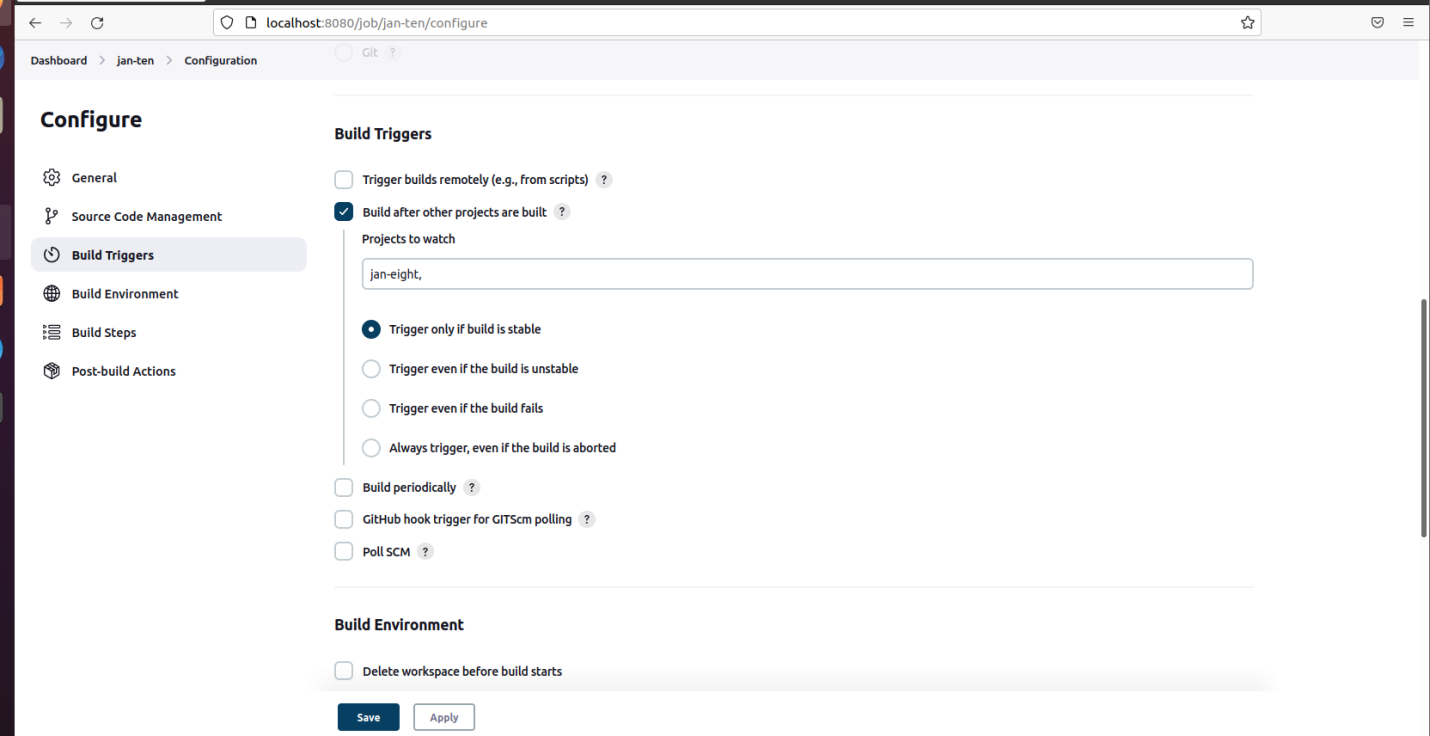
1. Job Create for deployment

# cd /var/lib/jenkins/workspace/jan-eight

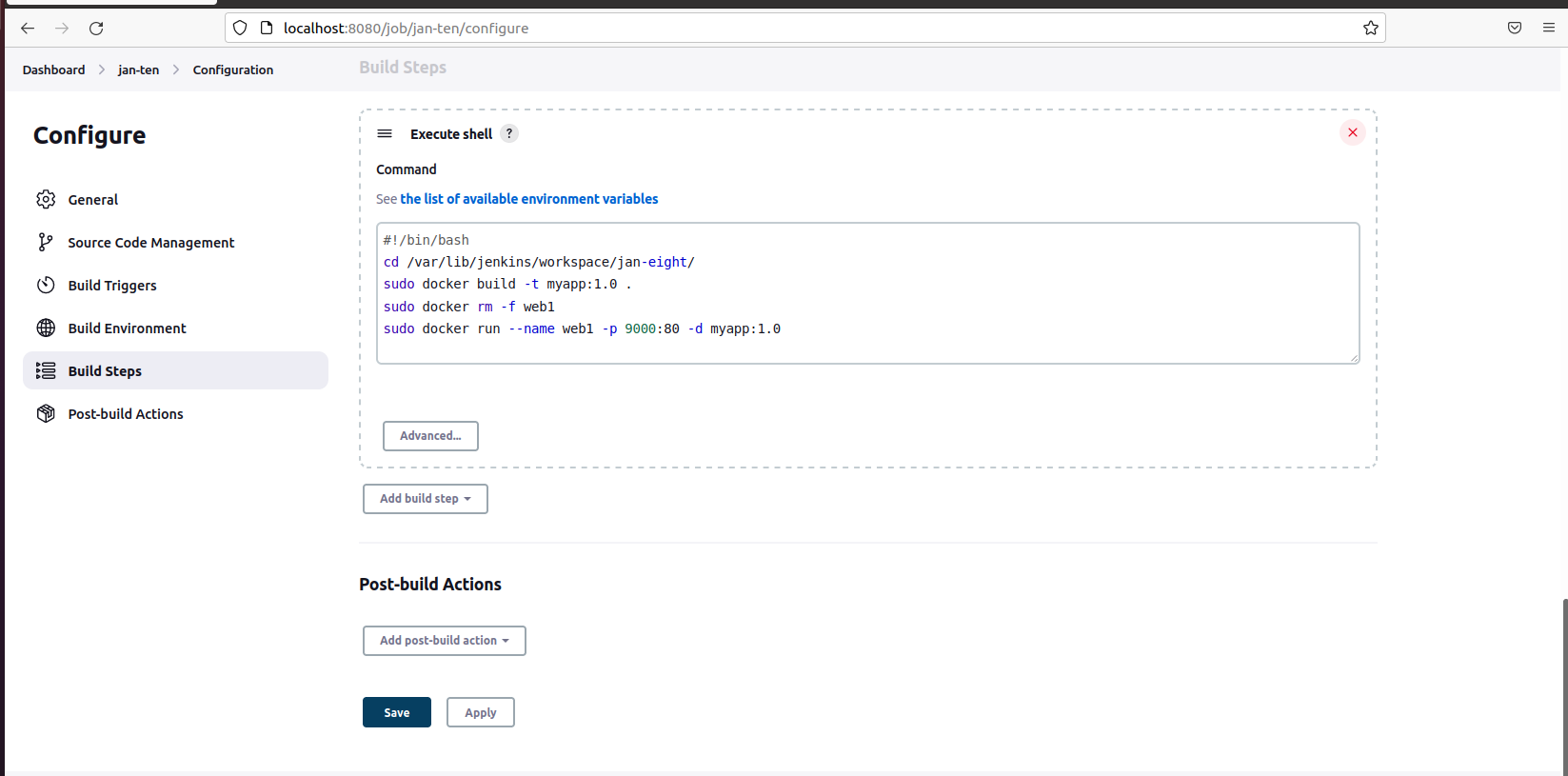
#nano Dockerfile



New build-🡪 give name🡪freestyle build

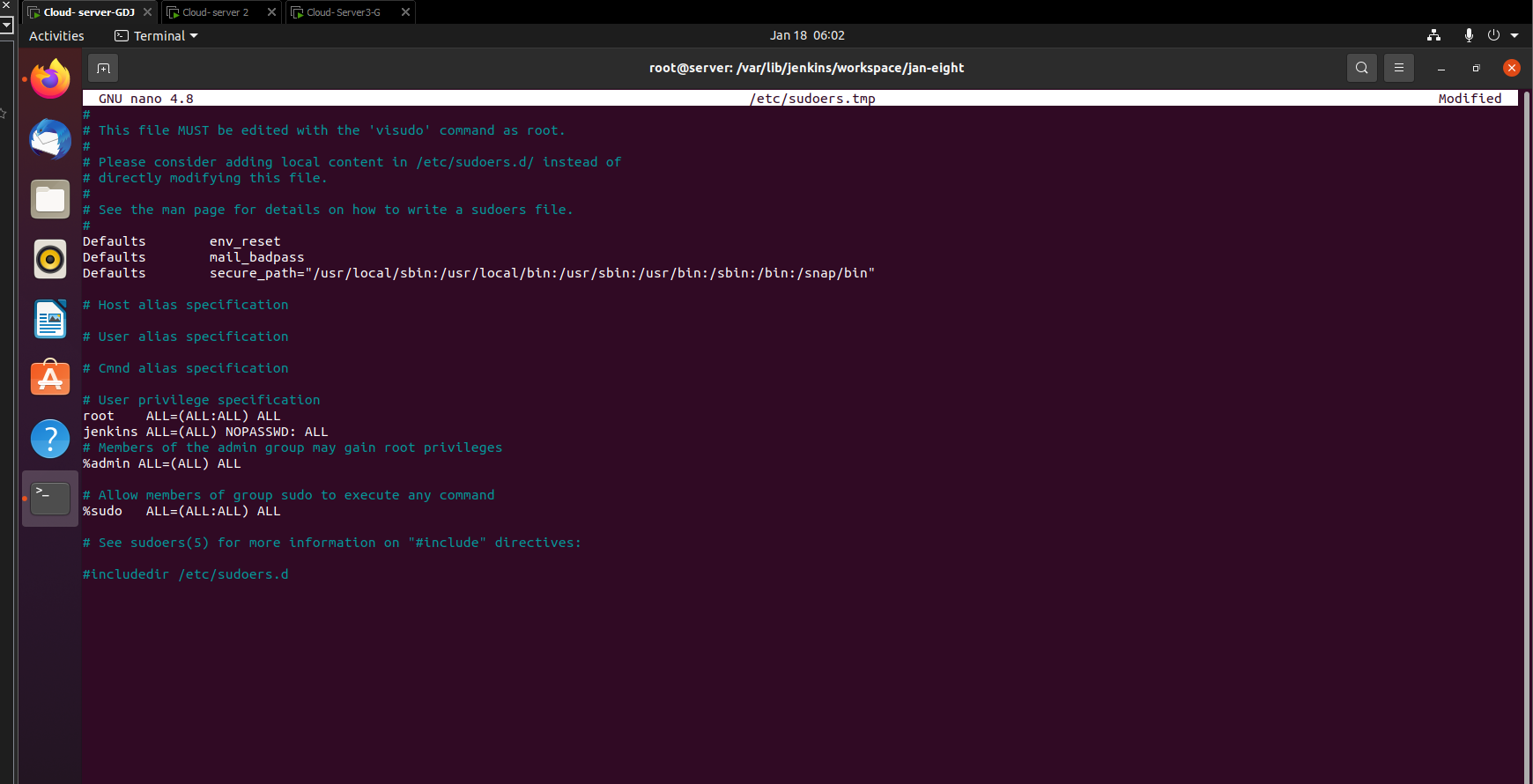


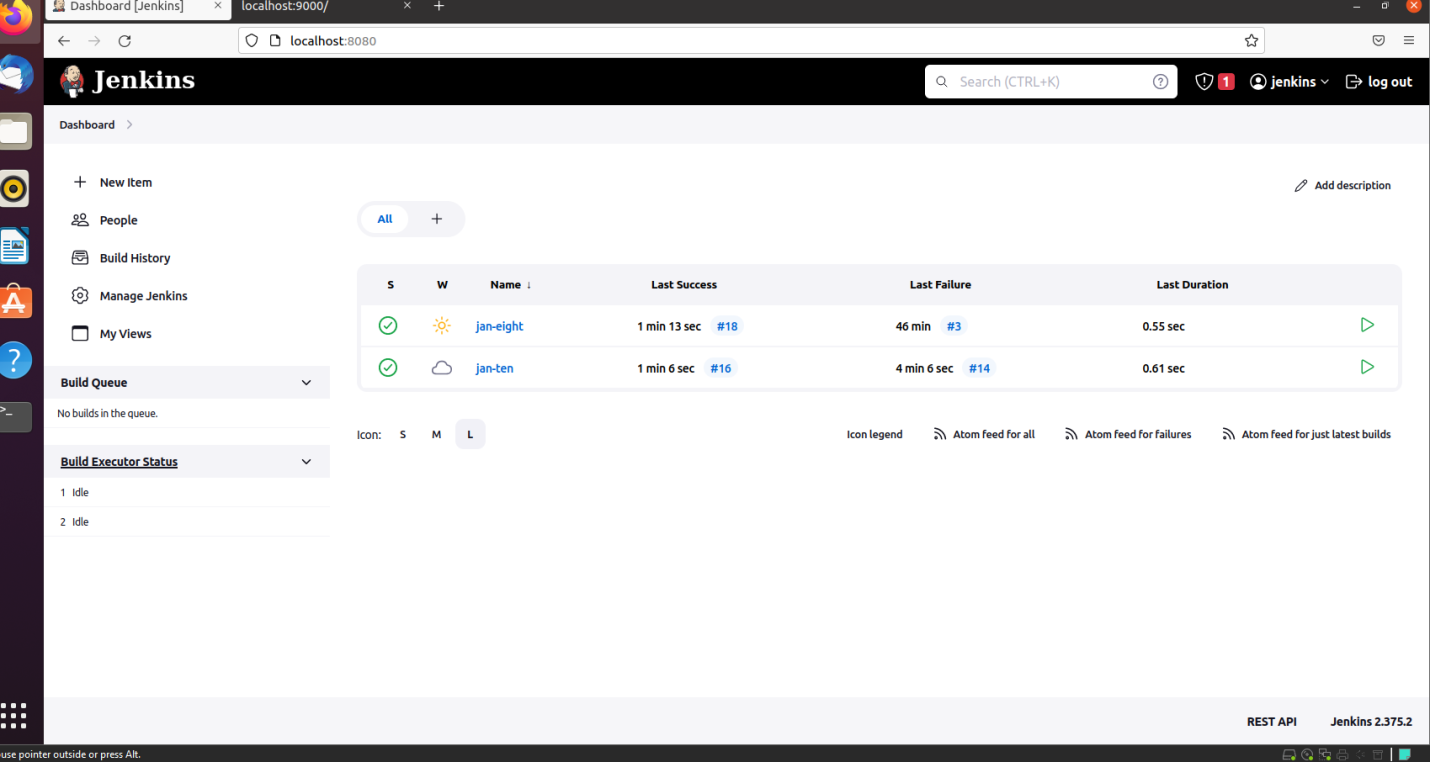
Build steps🡪 execute shell🡪



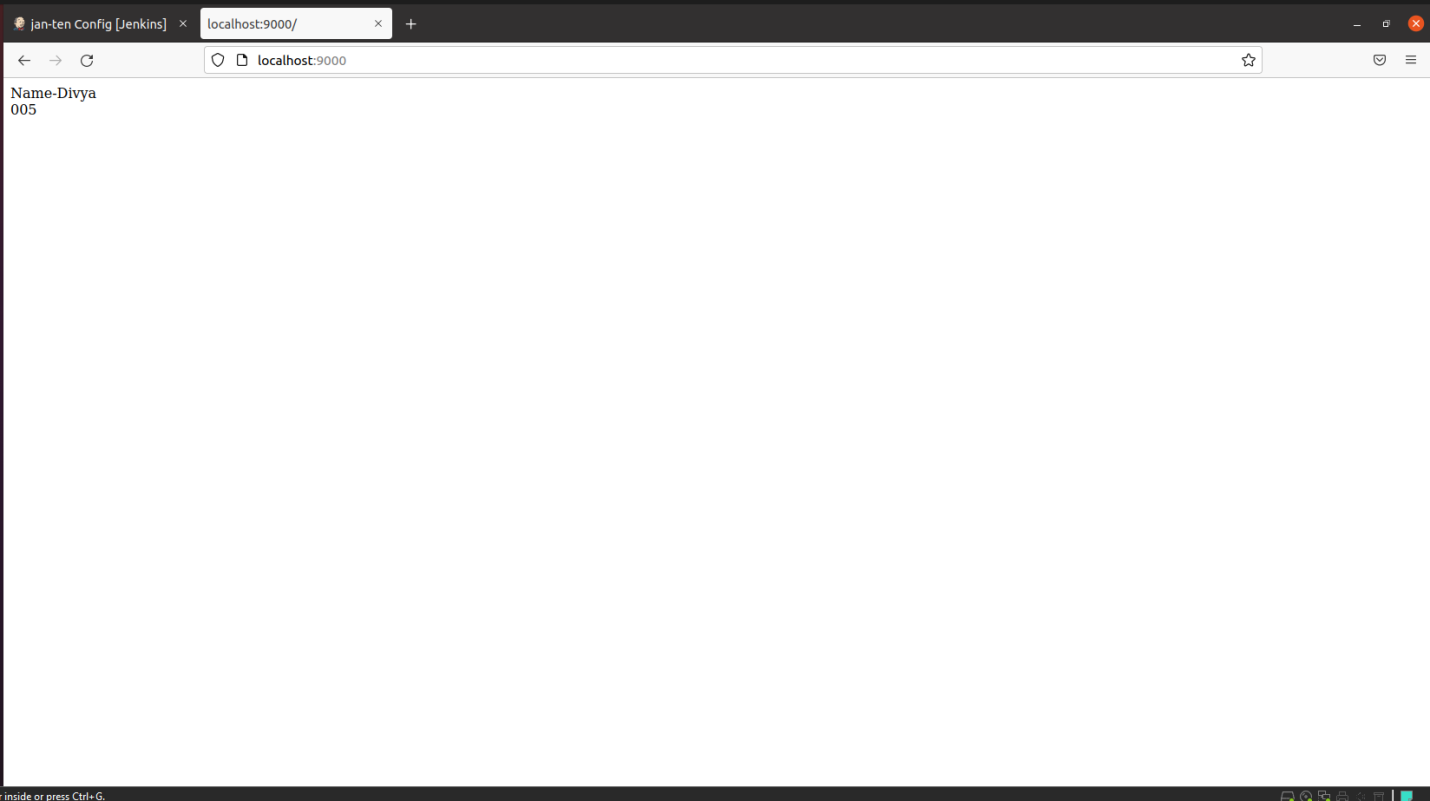
Apply and save

# visudo /etc/sudoers nad do the below changes



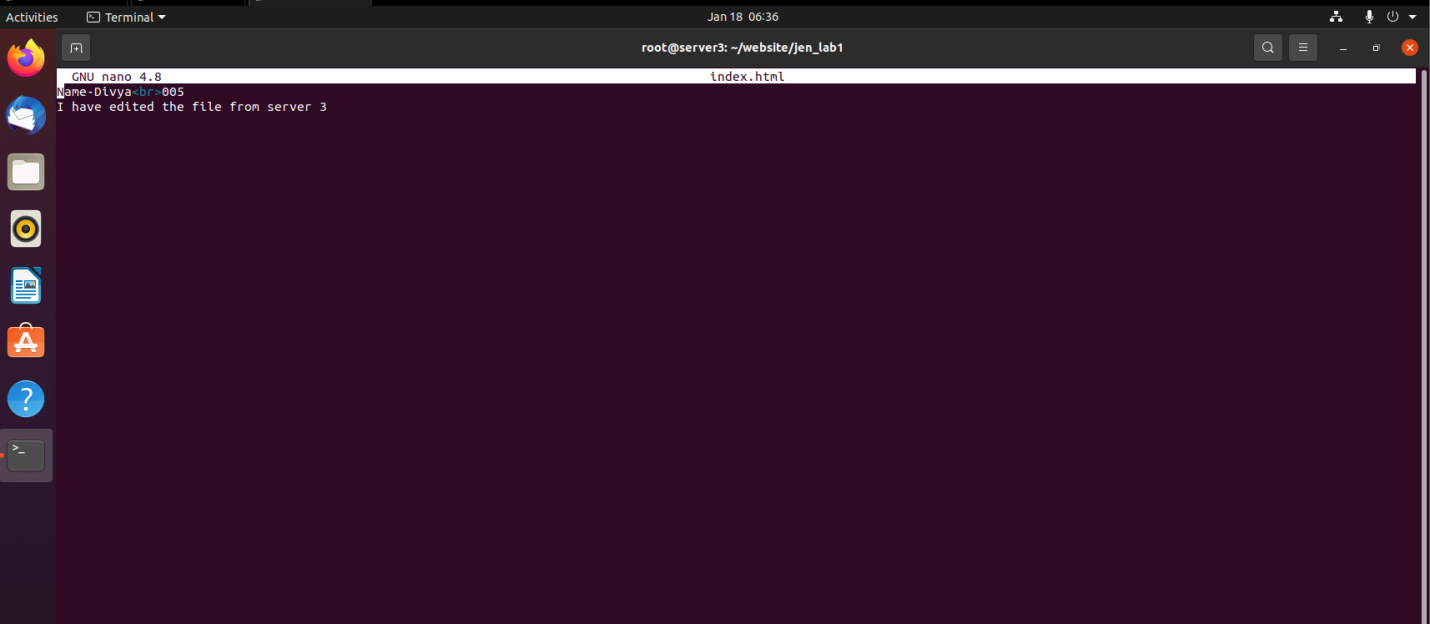


Check on browser



Try making changes in the inde.html file from the server 3(developer- where only git is installed)

Added one new line here it shiould be updated



git add -A

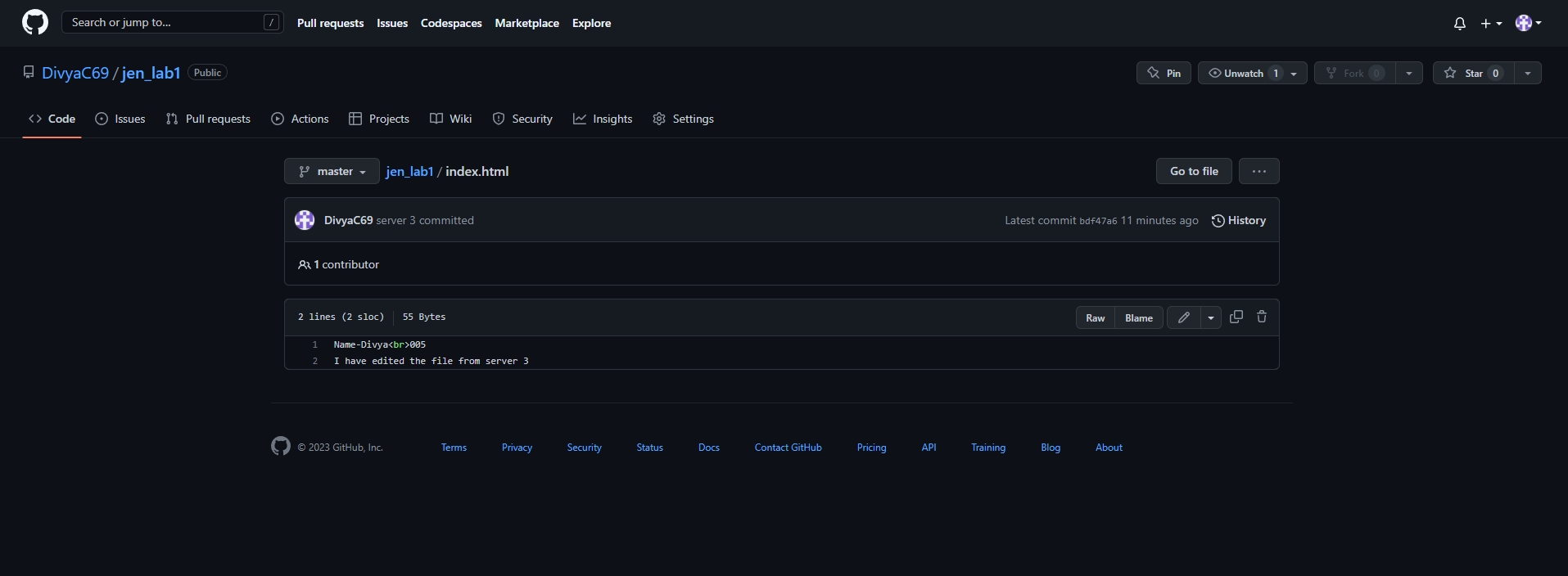
git commit -m " server 3 committed”

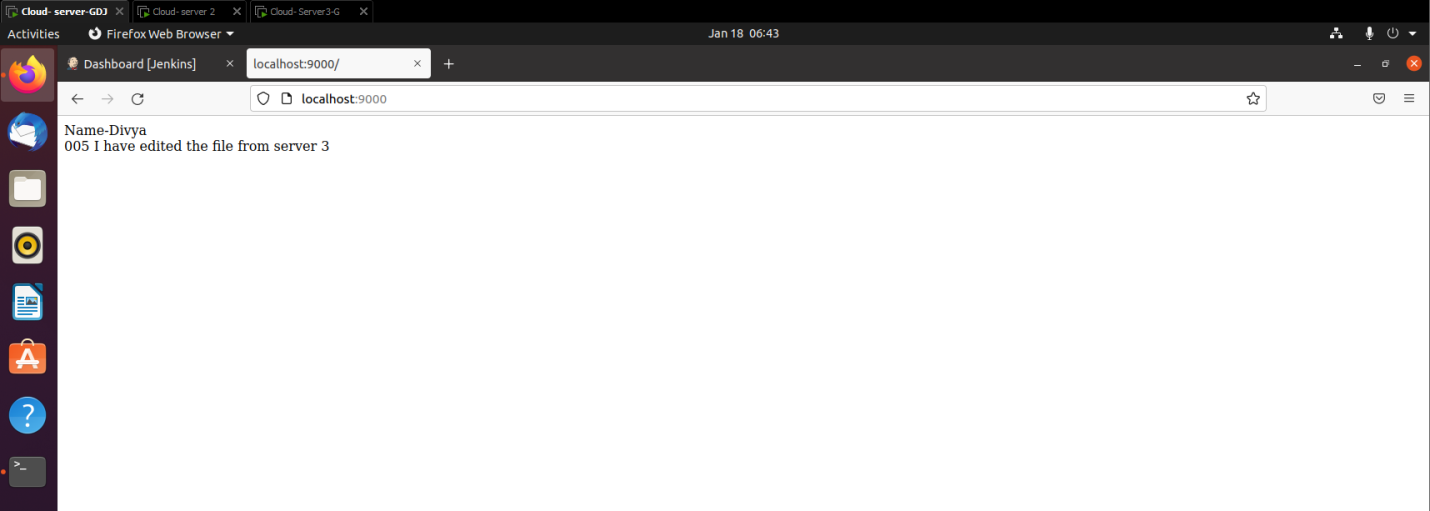
# git push

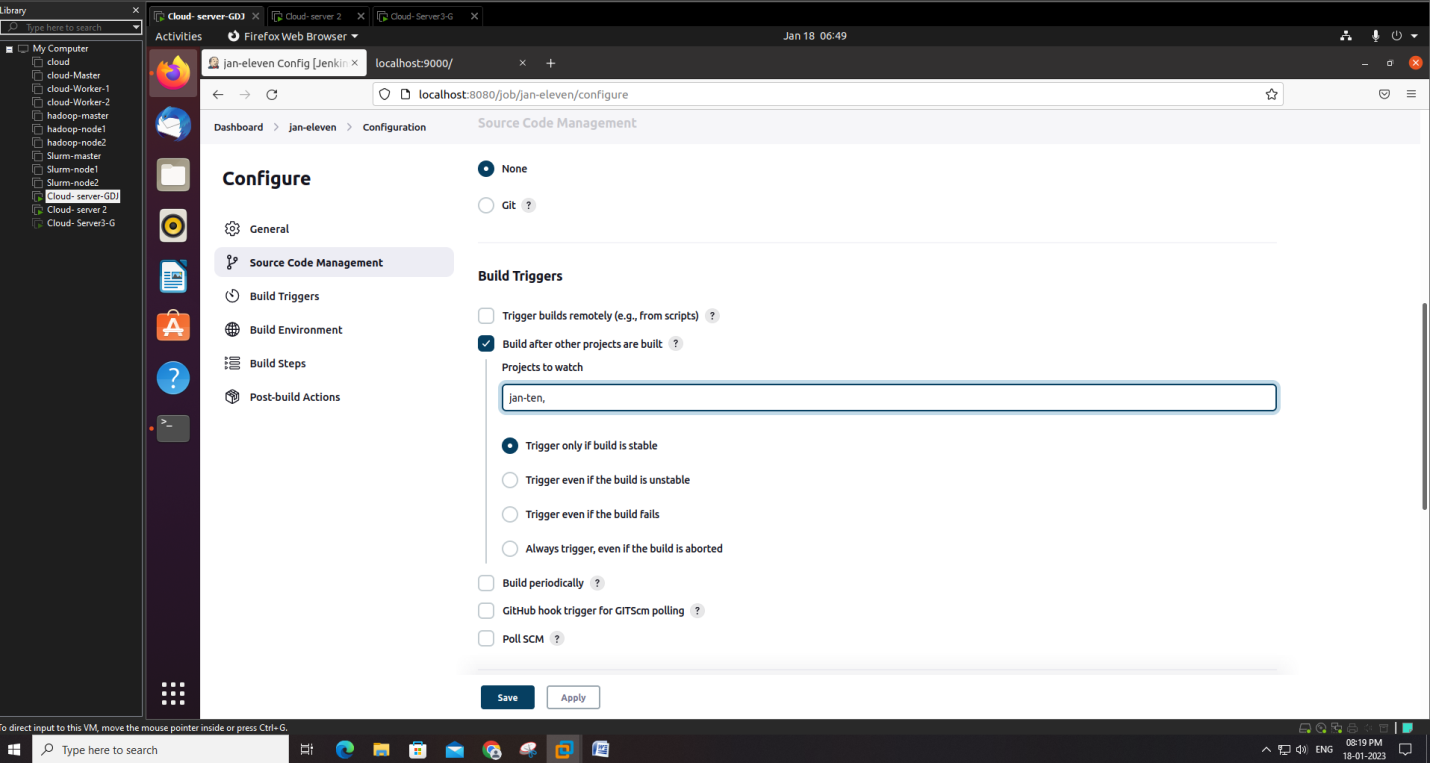
Username- github username

Passwd- ghp\_0leZH7ghT7Y0OlIUtts5R8vW29GgEa1snzCQ

It will be added to github and and will be reflected in the container as well! Like below 2 pics.







1. Convert image to tar-🡪 scp transfer the imsge ta rto server 2 🡪 with ssh accesing sheell untar and create container

**Server 2**- #apt-get install openssh\*

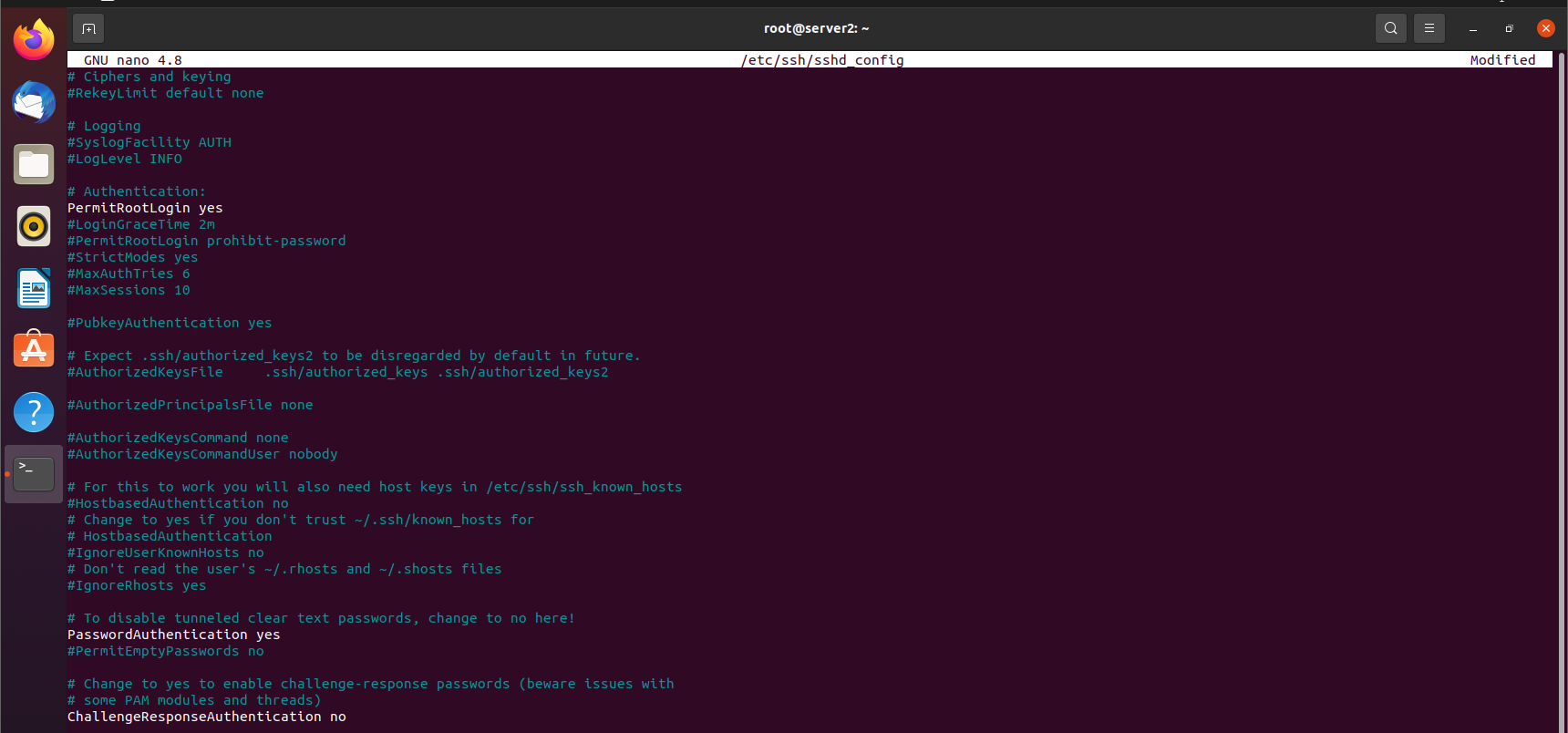
#apt-get install docker\*

**Server1** - #apt-get install openssh\*

**Server 2**

We have to do the below step because in ubuntu we cannot take shell of root through ssh

# nano /etc/ssh/sshd\_config



# systemctl restart sshd

**Server1-**

# cd /home/

#ls (here we don’t have jenkins user or its home dir, as we cannot access root through ssh we need jenkins home dir)

#cd

Passwordless ssh between jenkins and root of secont server-

# su -s /bin/bash jenkins to go to jenkins user

#ssh -keygen

-enter

-enter

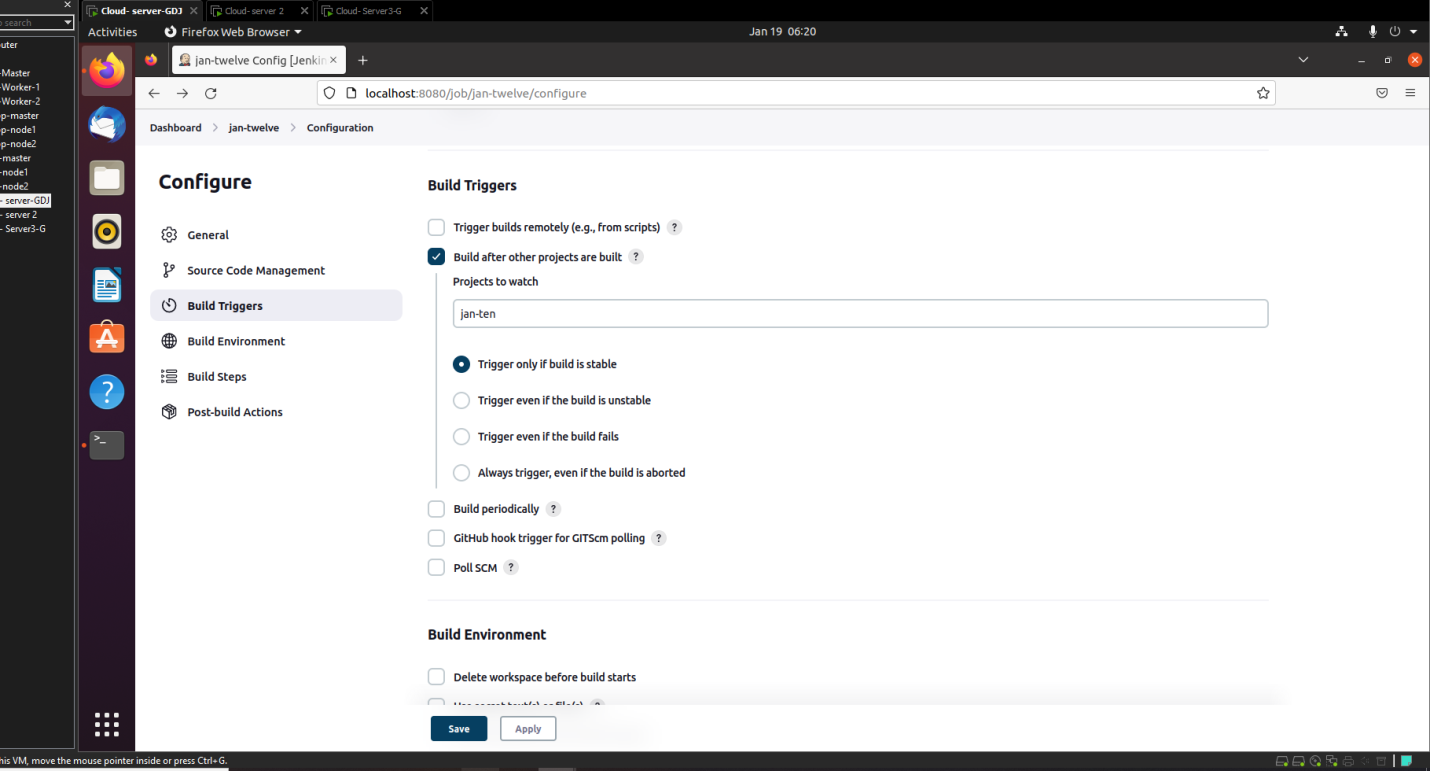
-enter

# cd /var/lib/jenkins/.ssh/

#ls

# ssh-copy-id [root@192.168.195.142](mailto:root@192.168.195.142)

Go to jenkins🡪 new item🡪 freestyle project🡪ok



Build step🡪 execute shell

cd /var/lib/jenkins/workspace/jan-eight/

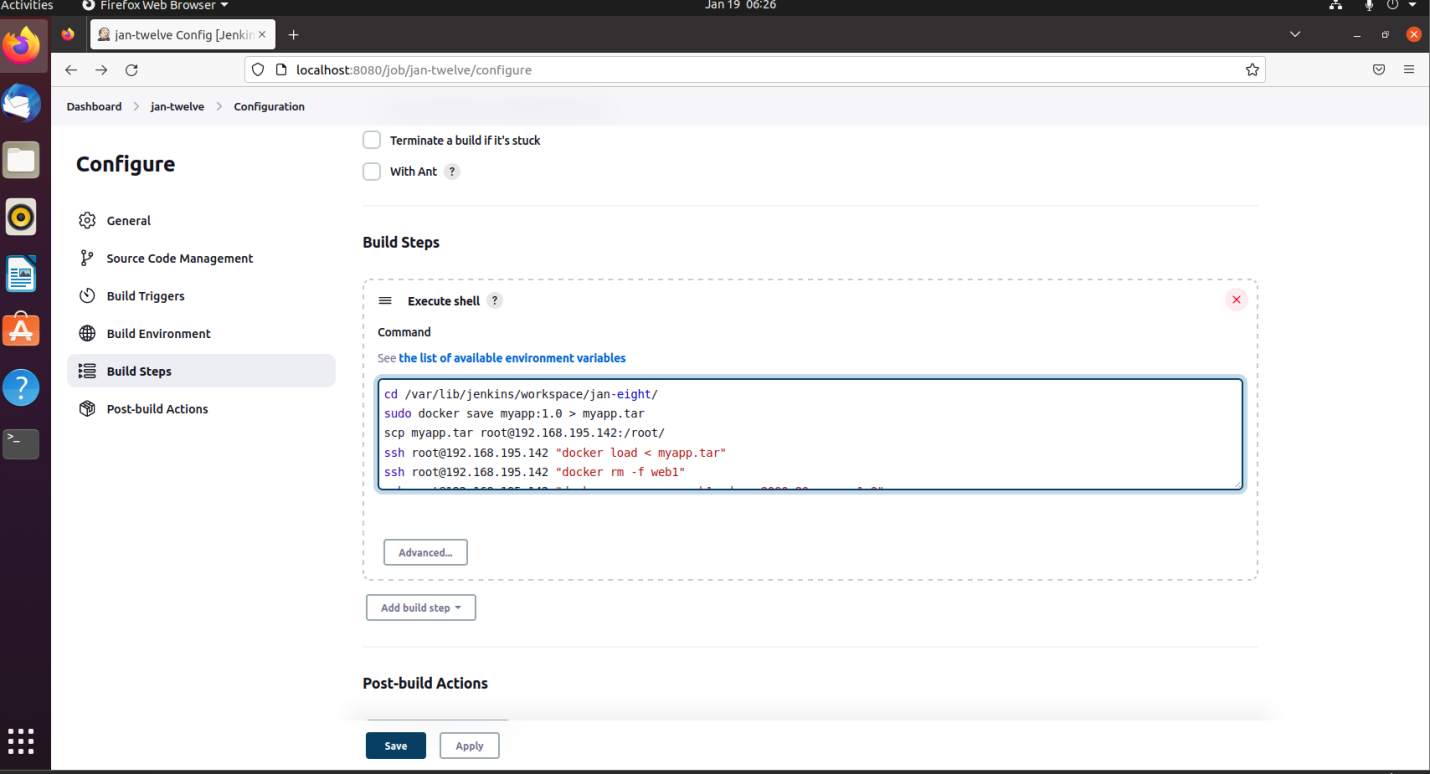
sudo docker save myapp:1.0 > myapp.tar

scp myapp.tar root@192.168.195.142:/root/

ssh root@192.168.195.142 "docker load < myapp.tar"

ssh root@192.168.195.142 "docker rm -f web1"

ssh root@192.168.195.142 "docker run --name web1 -d -p 9000:80 myapp:1.0"



Apply and save