INDIAN INSTITUTE OF INFORMATION TECHNOLOGY

Dharwad

ज्ञानेन विकासः

CS457

Devops Final Assignment-2

Submitted to:

Dr.Uma S

Submitted by:

Team 6

Pokala Dattatreya (18BCS067)

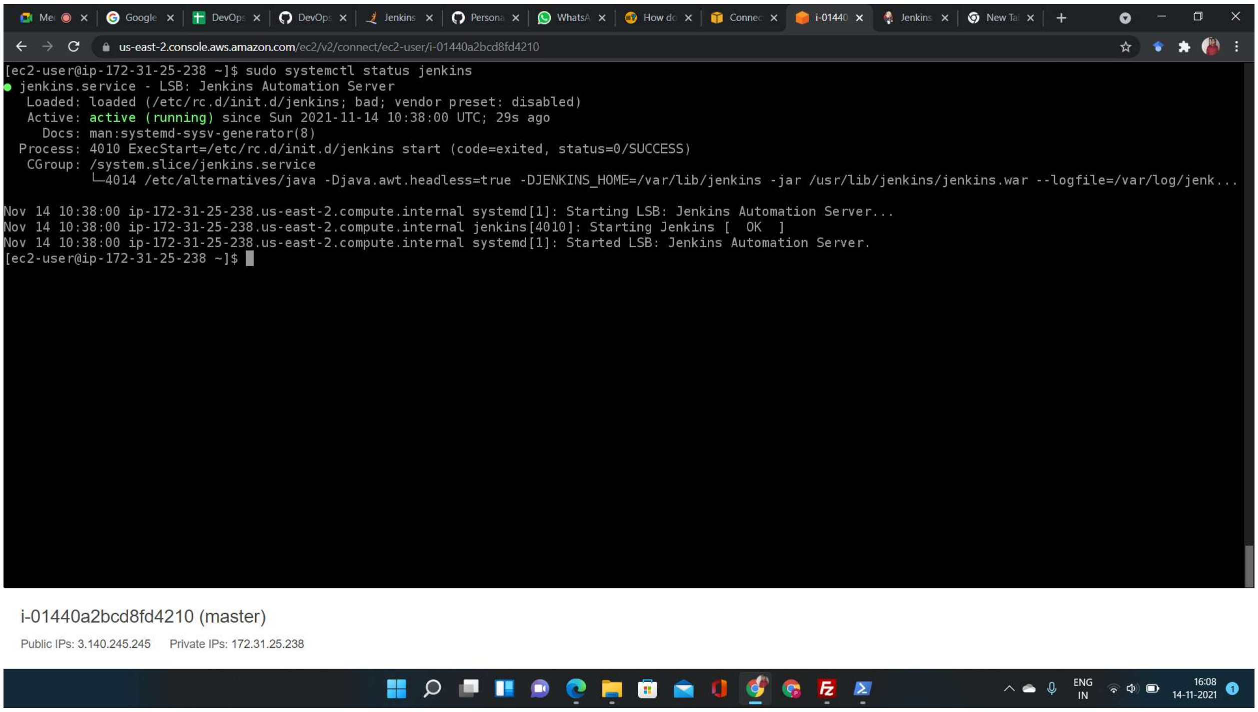
Rama Dundi Saketh(18BCS076)

S Sampath(18BCS087)

Jenkins Master Slave pipeline

->GO to AWS and create an instance master and install jenkins and java.

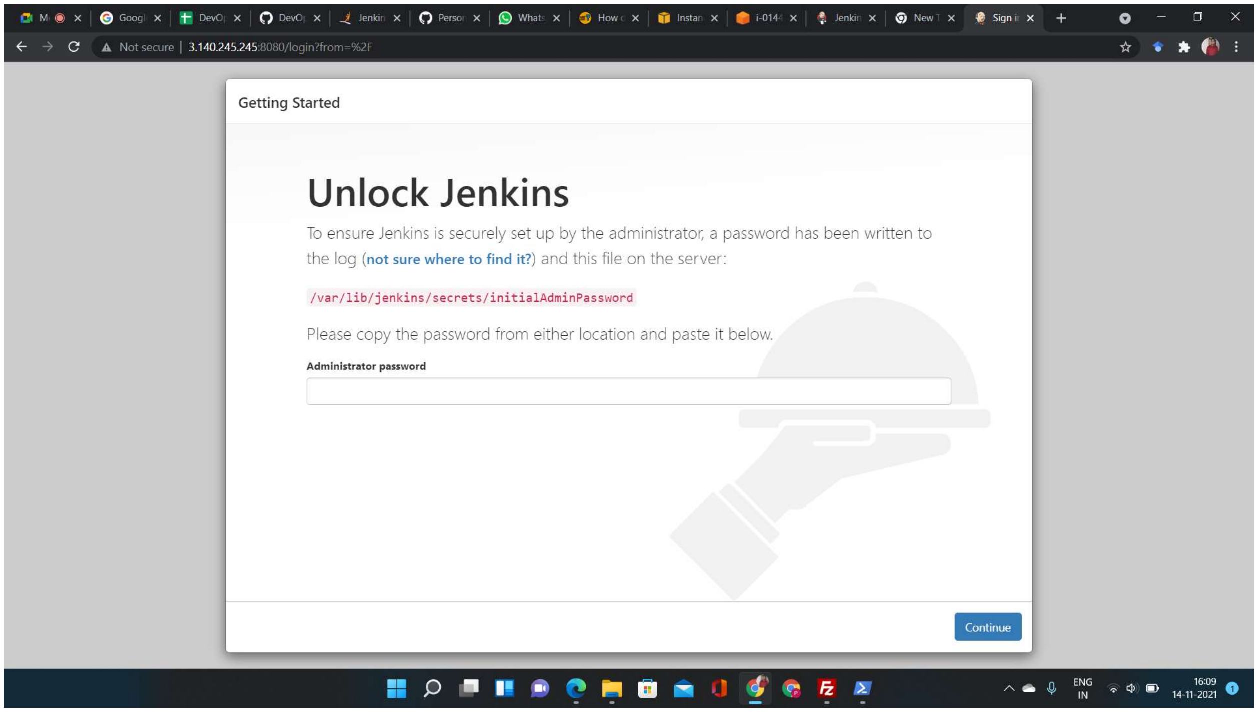
Commands:
->sudo yum install jenkins java-1.8.0-openjdk-devel
->sudo systemctl start jenkins
->sudo systemctl status jenkins


us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-01440a2bcd8fd4210

```
[ec2-user@ip-172-31-25-238 ~]$ sudo systemctl status jenkins
● jenkins.service - LSB: Jenkins Automation Server
   Loaded: loaded (/etc/rc.d/init.d/jenkins; bad; vendor preset: disabled)
   Active: active (running) since Sun 2021-11-14 10:38:00 UTC; 29s ago
     Docs: man:systemd-sysv-generator(8)
  Process: 4010 ExecStart=/etc/rc.d/init.d/jenkins start (code=exited, status=0/SUCCESS)
   CGroup: /system.slice/jenkins.service
           └─4014 /etc/alternatives/java -Djava.awt.headless=true -DJENKINS_HOME=/var/lib/jenkins -jar /usr/lib/jenkins/jenkins.war --logfile=/var/log/jenk...

Nov 14 10:38:00 ip-172-31-25-238.us-east-2.compute.internal systemd[1]: Starting LSB: Jenkins Automation Server...
Nov 14 10:38:00 ip-172-31-25-238.us-east-2.compute.internal jenkins[4010]: Starting Jenkins [  OK  ]
Nov 14 10:38:00 ip-172-31-25-238.us-east-2.compute.internal systemd[1]: Started LSB: Jenkins Automation Server.
[ec2-user@ip-172-31-25-238 ~]$
```

i-01440a2bcd8fd4210 (master)
Public IPs: 3.140.245.245   Private IPs: 172.31.25.238

Jenkins is now installed and running on your EC2 instance. To configure Jenkins:
->Connect to http://<your_server_public_DNS>:8080 from your browser. You will be able to access Jenkins through its management interface:



Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

`/var/lib/jenkins/secrets/initialAdminPassword`

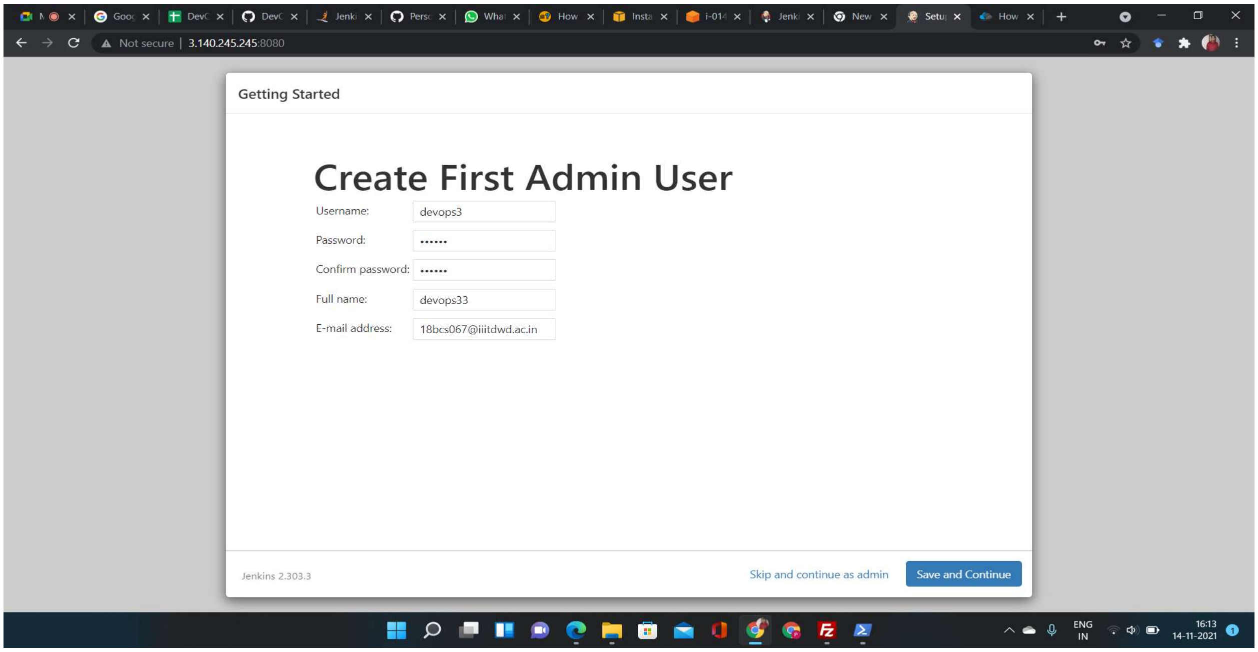
Please copy the password from either location and paste it below.

Administrator password

Use the following command to display password:

```
sudo cat /var/lib/jenkins/secrets/initialAdminPassword
```

Once the installation is complete, Create First Admin User, click Save and Continue.



Getting Started

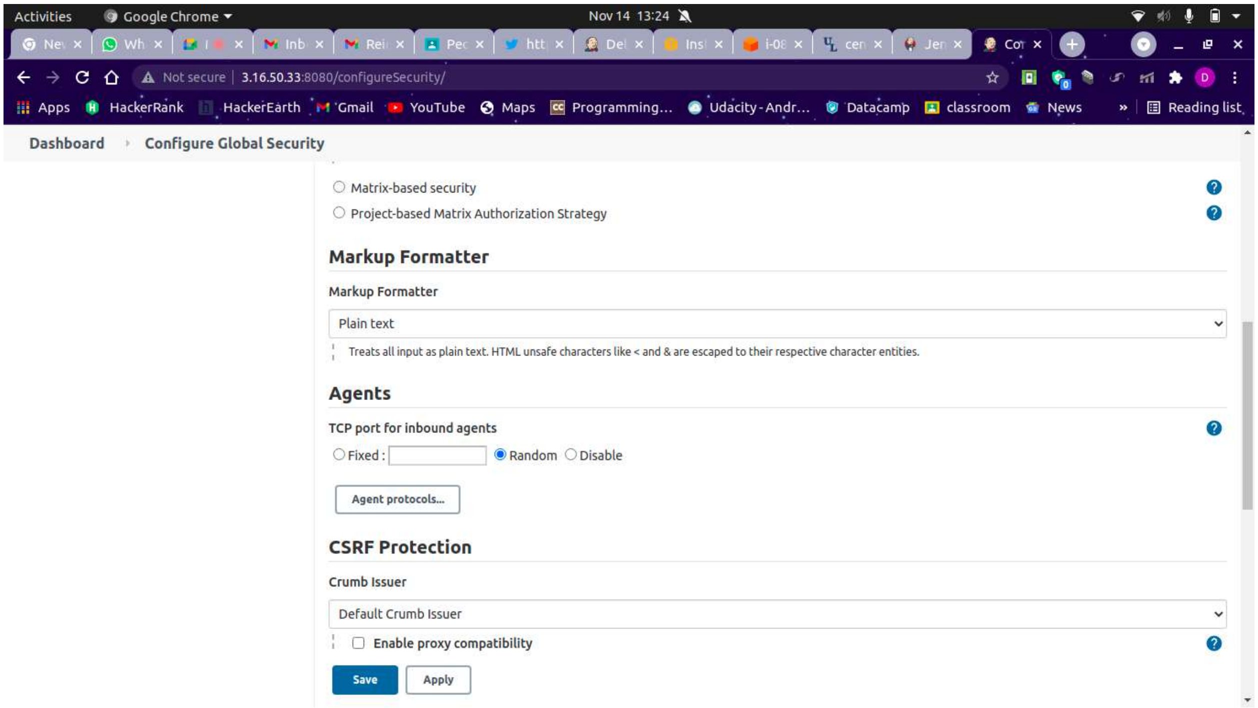
Create First Admin User

Username:	devops3
Password:	••••••
Confirm password:	••••••
Full name:	devops33
E-mail address:	18bcs067@iiitdwd.ac.in

Jenkins 2.303.3

->Create another 2 instances slave1 and slave2 in EC2

->Go to jenkins -> Manage jenkins -> Configure global security. In agents, change TCP port for inbound agents to random and save.



Dashboard › Configure Global Security

○ Matrix-based security

○ Project-based Matrix Authorization Strategy

Markup Formatter

Markup Formatter: Plain text

Treats all input as plain text. HTML unsafe characters like < and & are escaped to their respective character entities.

Agents

TCP port for inbound agents

○ Fixed : ● Random ○ Disable

Agent protocols...

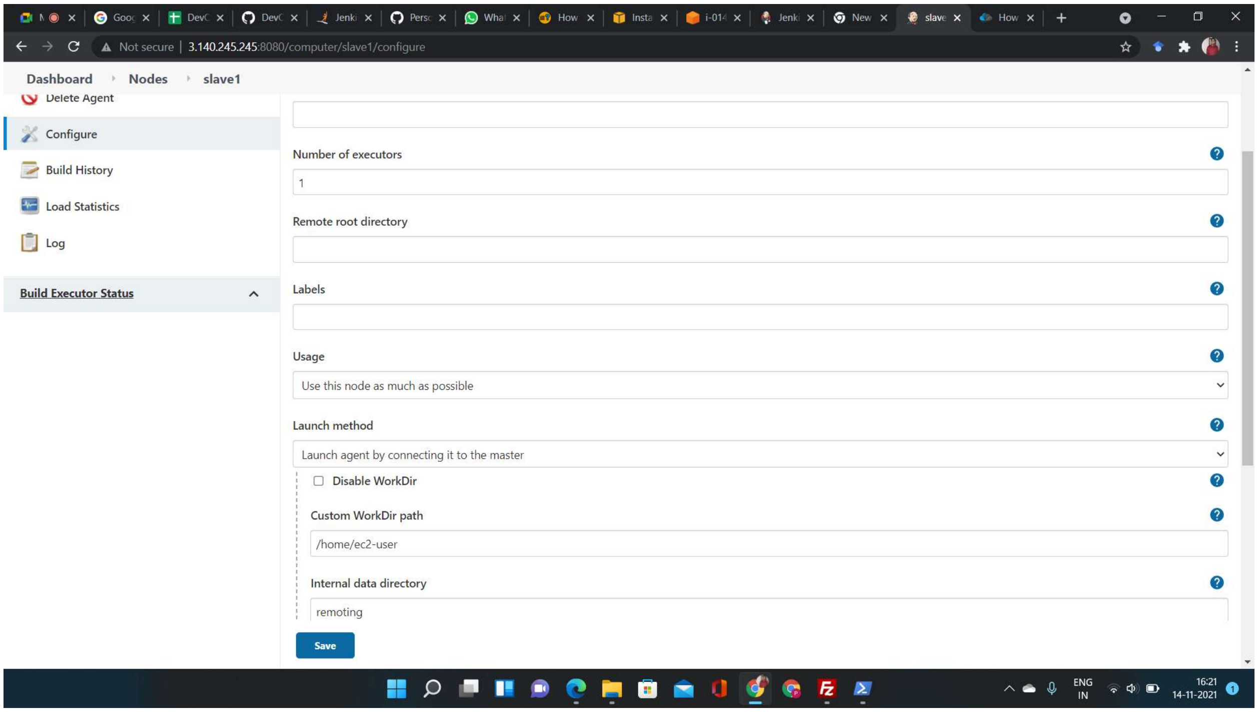
CSRF Protection

Crumb Issuer: Default Crumb Issuer

□ Enable proxy compatibility

Save Apply

->Go to jenkins dashboard -> manage nodes -> add new node Enter name as slave 1 for slave1 and configure it.



Not secure | 3.140.245.245:8080/computer/slave1/configure

Dashboard › Nodes › slave1

- Delete Agent
- Configure
- Build History
- Load Statistics
- Log

Build Executor Status

Number of executors

1

Remote root directory

Labels

Usage

Use this node as much as possible

Launch method

Launch agent by connecting it to the master

□ Disable WorkDir

Custom WorkDir path

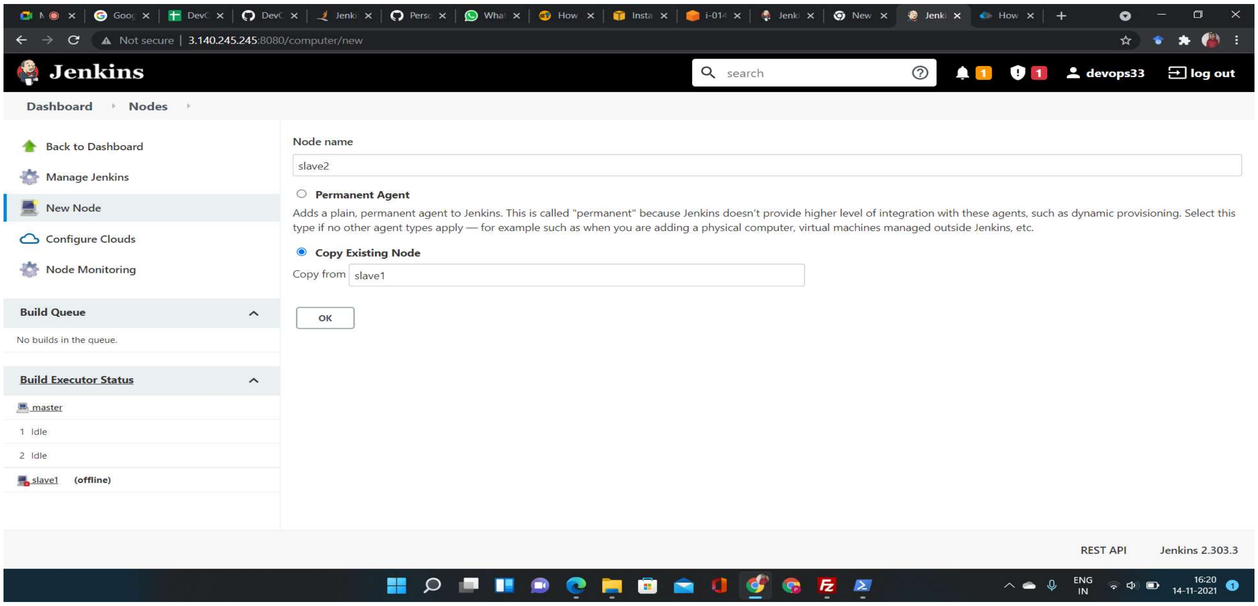
/home/ec2-user

Internal data directory

remoting

Save

->Repeat the same for slave 2 and use option of copy existing node and click ok and configure it.



Not secure | 3.140.245.245:8080/computer/new

Jenkins

search

devops33 log out

Dashboard › Nodes ›

- Back to Dashboard
- Manage Jenkins
- New Node
- Configure Clouds
- Node Monitoring

Build Queue

No builds in the queue.

Build Executor Status

master

1 Idle

2 Idle

slave1 (offline)

Node name

slave2

○ Permanent Agent

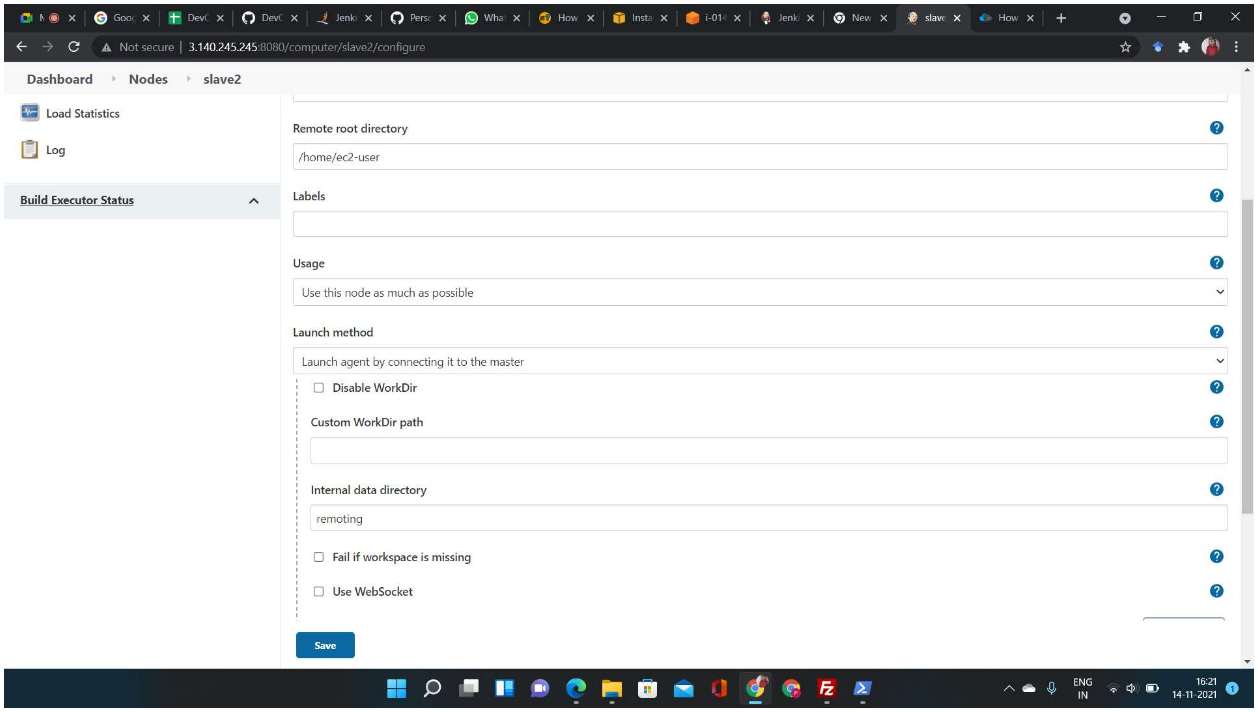
Adds a plain, permanent agent to Jenkins. This is called "permanent" because Jenkins doesn't provide higher level of integration with these agents, such as dynamic provisioning. Select this type if no other agent types apply — for example such as when you are adding a physical computer, virtual machines managed outside Jenkins, etc.

● Copy Existing Node

Copy from slave1

OK

REST API Jenkins 2.303.3


Not secure | 3.140.245.245:8080/computer/slave2/configure
Dashboard › Nodes › slave2
Load Statistics
Log
Build Executor Status

Remote root directory

/home/ec2-user

Labels

Usage

Use this node as much as possible

Launch method

Launch agent by connecting it to the master

□ Disable WorkDir

Custom WorkDir path

Internal data directory

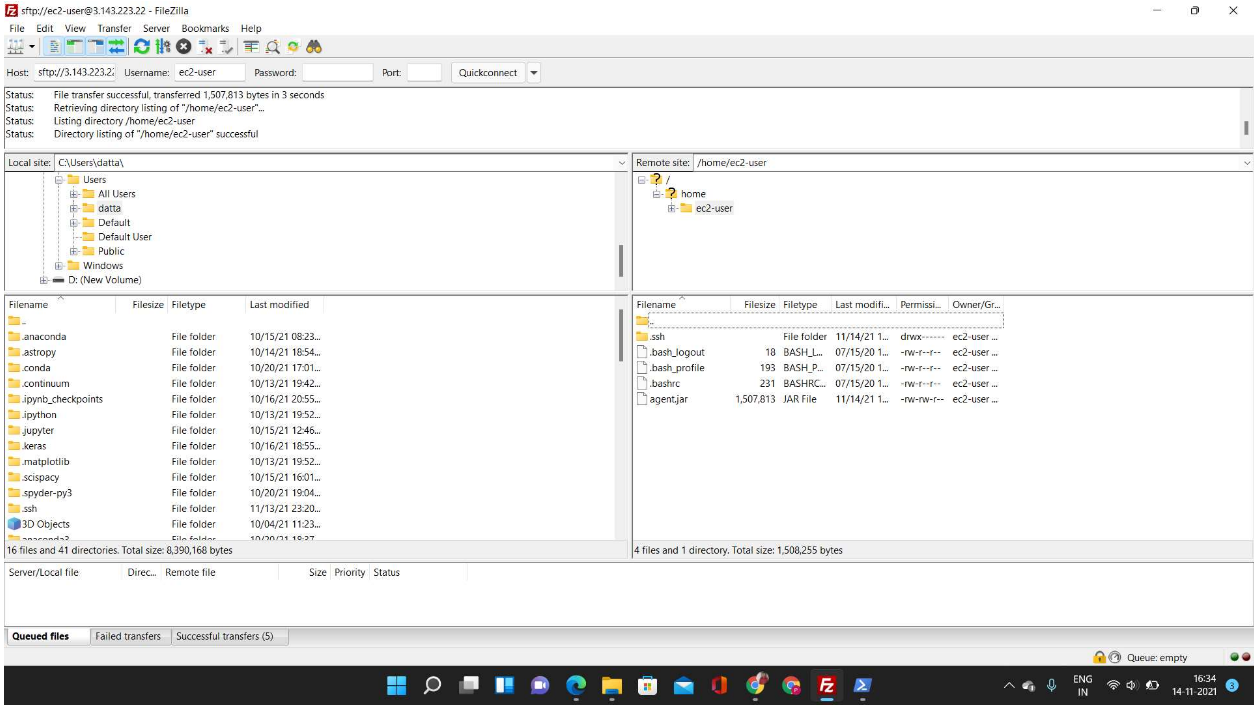
remoting

□ Fail if workspace is missing

□ Use WebSocket

Save
ENG IN 16:21 14-11-2021

Download the agent.jar file from the slave1 and slave2.Now add these files to each of instances slave1 and slave2 using FileZilla


sftp://ec2-user@3.143.223.22 - FileZilla
File Edit View Transfer Server Bookmarks Help

Host: sftp://3.143.223.2: Username: ec2-user Password: Port:

```
Status:    File transfer successful, transferred 1,507,813 bytes in 3 seconds
Status:    Retrieving directory listing of "/home/ec2-user"...
Status:    Listing directory /home/ec2-user
Status:    Directory listing of "/home/ec2-user" successful
```

Local site: C:\Users\datta\

```
Users
  All Users
  datta
  Default
  Default User
  Public
Windows
D: (New Volume)
```

Filename	Filesize	Filetype	Last modified
..			
.anaconda		File folder	10/15/21 08:23...
.astropy		File folder	10/14/21 18:54...
.conda		File folder	10/20/21 17:01...
.continuum		File folder	10/13/21 19:42...
.ipynb_checkpoints		File folder	10/16/21 20:55...
.ipython		File folder	10/13/21 19:52...
.jupyter		File folder	10/15/21 12:46...
.keras		File folder	10/16/21 18:55...
.matplotlib		File folder	10/13/21 19:52...
.scispacy		File folder	10/15/21 16:01...
.spyder-py3		File folder	10/20/21 19:04...
.ssh		File folder	11/13/21 23:20...
3D Objects		File folder	10/04/21 11:23...
anaconda3		File folder	10/20/21 18:37

16 files and 41 directories. Total size: 8,390,168 bytes

Remote site: /home/ec2-user

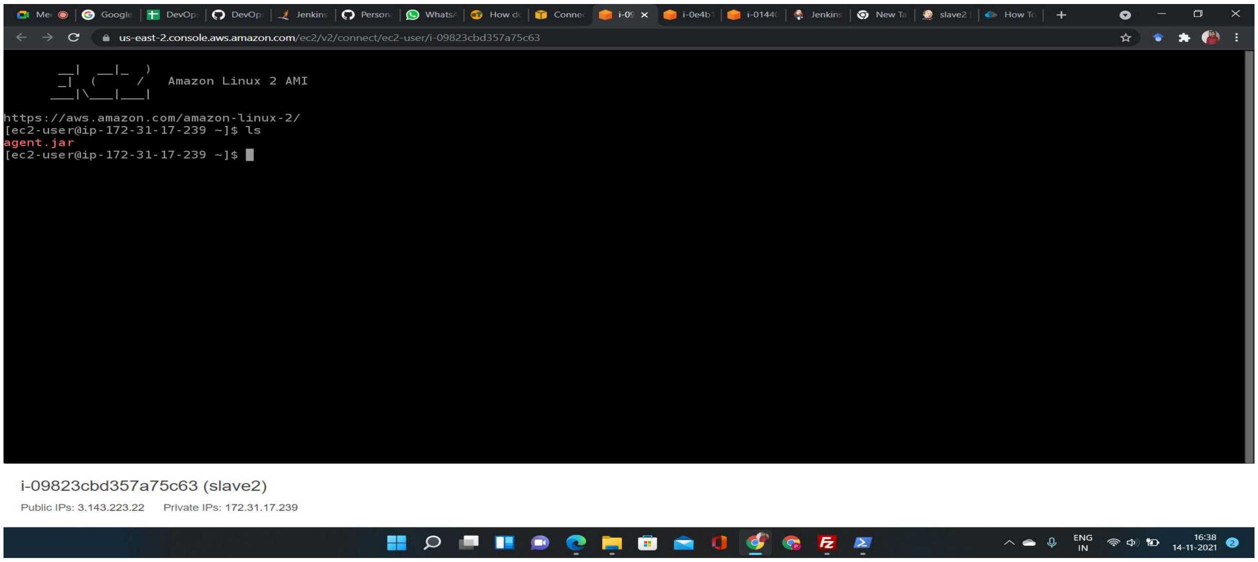
```
/
  home
    ec2-user
```

Filename	Filesize	Filetype	Last modifi...	Permissi...	Owner/Gr...
..					
.ssh		File folder	11/14/21 1...	drwx------	ec2-user ...
.bash_logout	18	BASH_L...	07/15/20 1...	-rw-r--r--	ec2-user ...
.bash_profile	193	BASH_P...	07/15/20 1...	-rw-r--r--	ec2-user ...
.bashrc	231	BASHRC...	07/15/20 1...	-rw-r--r--	ec2-user ...
agent.jar	1,507,813	JAR File	11/14/21 1...	-rw-rw-r--	ec2-user ...

4 files and 1 directory. Total size: 1,508,255 bytes

Server/Local file	Direc...	Remote file	Size	Priority	Status

To verify agent.jar is uploaded, connect each of the instances and check by using command ls.



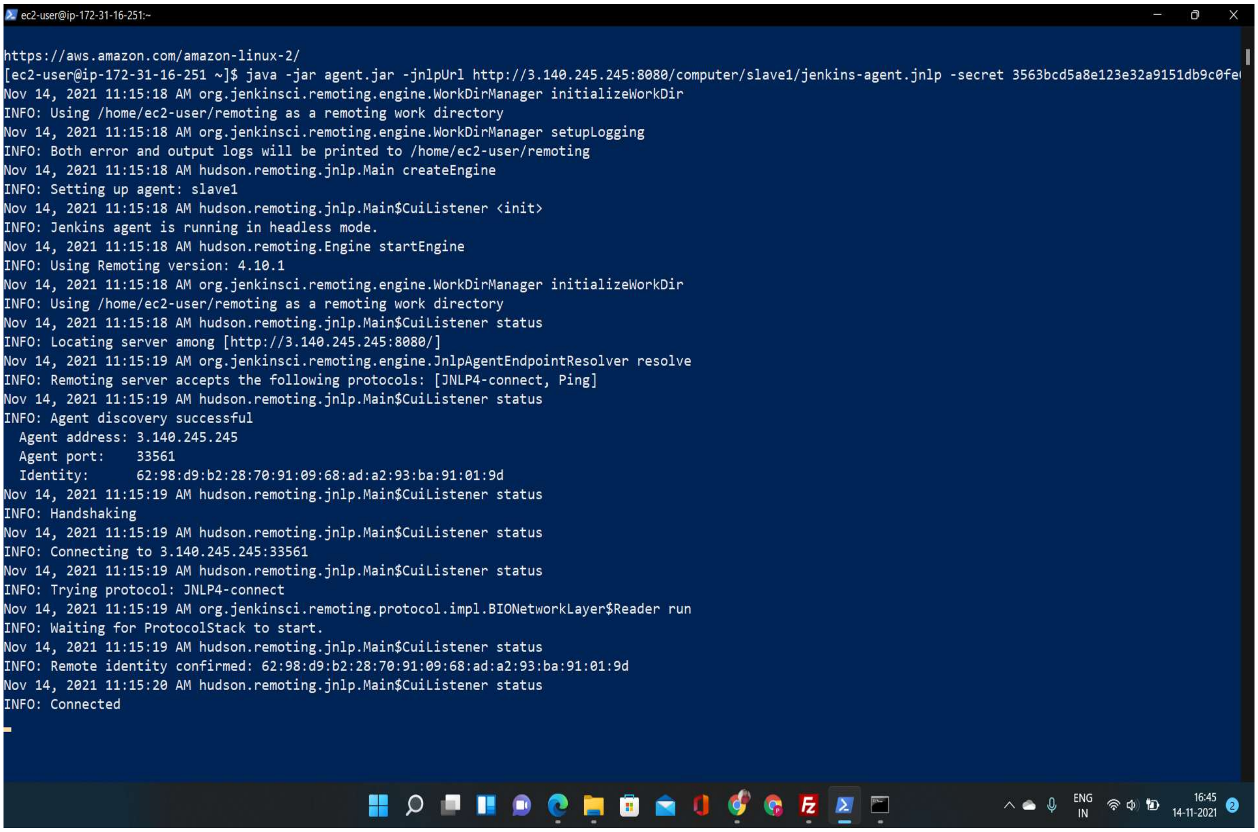
us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-09823cbd357a75c63

```
       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-17-239 ~]$ ls
agent.jar
[ec2-user@ip-172-31-17-239 ~]$ 
```

i-09823cbd357a75c63 (slave2)

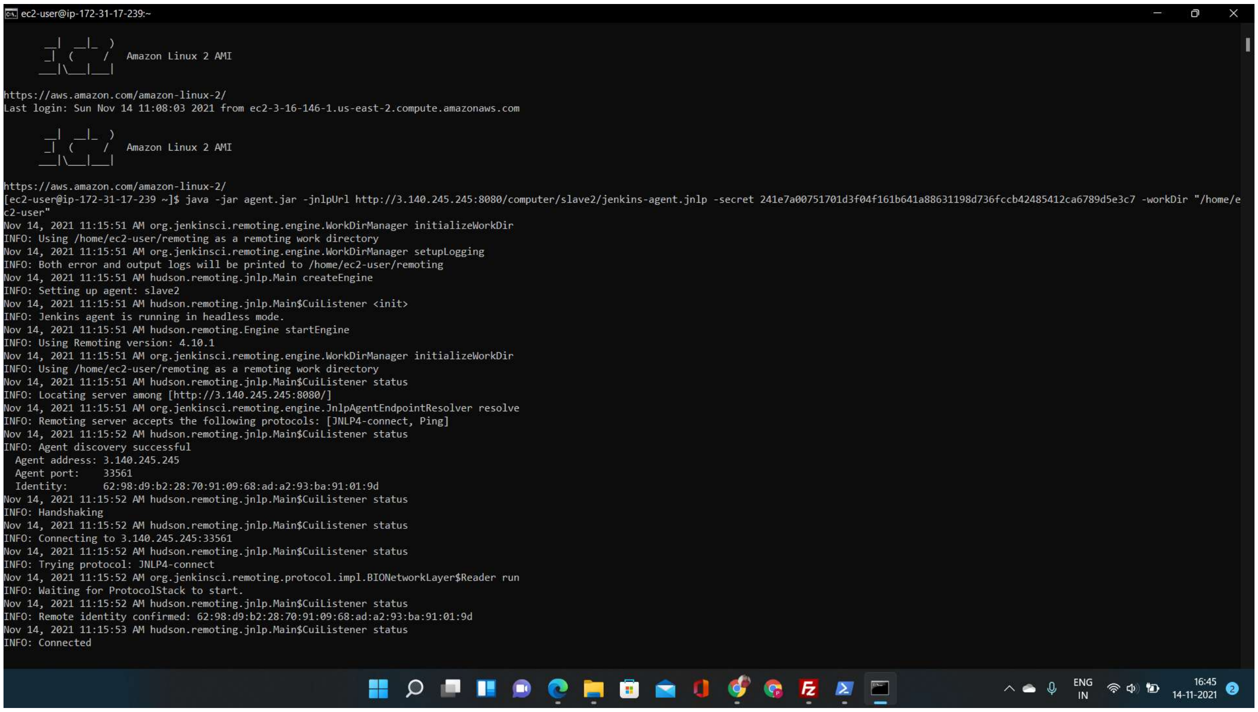
Public IPs: 3.143.223.22   Private IPs: 172.31.17.239

Connect slave nodes to masternode.



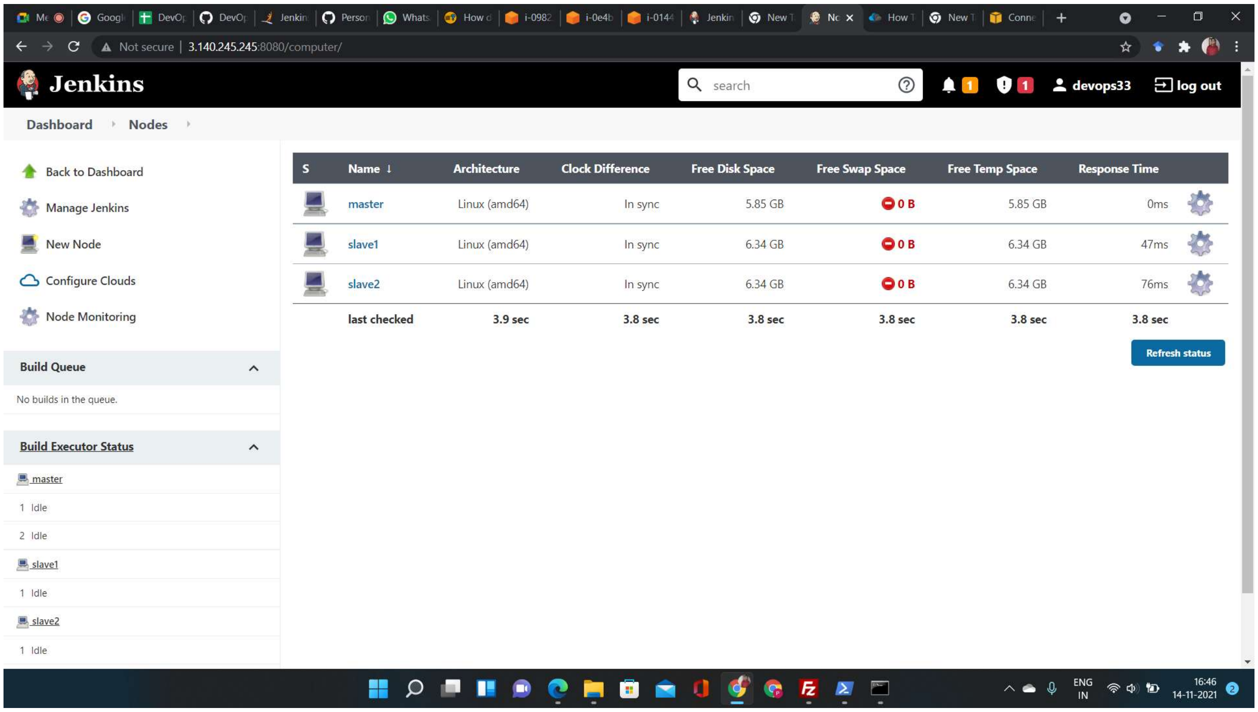
ec2-user@ip-172-31-16-251:~

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-16-251 ~]$ java -jar agent.jar -jnlpUrl http://3.140.245.245:8080/computer/slave1/jenkins-agent.jnlp -secret 3563bcd5a8e123e32a9151db9c0fe
Nov 14, 2021 11:15:18 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/ec2-user/remoting as a remoting work directory
Nov 14, 2021 11:15:18 AM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /home/ec2-user/remoting
Nov 14, 2021 11:15:18 AM hudson.remoting.jnlp.Main createEngine
INFO: Setting up agent: slave1
Nov 14, 2021 11:15:18 AM hudson.remoting.jnlp.Main$CuiListener <init>
INFO: Jenkins agent is running in headless mode.
Nov 14, 2021 11:15:18 AM hudson.remoting.Engine startEngine
INFO: Using Remoting version: 4.10.1
Nov 14, 2021 11:15:18 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/ec2-user/remoting as a remoting work directory
Nov 14, 2021 11:15:18 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Locating server among [http://3.140.245.245:8080/]
Nov 14, 2021 11:15:19 AM org.jenkinsci.remoting.engine.JnlpAgentEndpointResolver resolve
INFO: Remoting server accepts the following protocols: [JNLP4-connect, Ping]
Nov 14, 2021 11:15:19 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Agent discovery successful
  Agent address: 3.140.245.245
  Agent port:    33561
  Identity:      62:98:d9:b2:28:70:91:09:68:ad:a2:93:ba:91:01:9d
Nov 14, 2021 11:15:19 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Handshaking
Nov 14, 2021 11:15:19 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Connecting to 3.140.245.245:33561
Nov 14, 2021 11:15:19 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Trying protocol: JNLP4-connect
Nov 14, 2021 11:15:19 AM org.jenkinsci.remoting.protocol.impl.BIONetworkLayer$Reader run
INFO: Waiting for ProtocolStack to start.
Nov 14, 2021 11:15:19 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Remote identity confirmed: 62:98:d9:b2:28:70:91:09:68:ad:a2:93:ba:91:01:9d
Nov 14, 2021 11:15:20 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Connected
```



```
       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
Last login: Sun Nov 14 11:08:03 2021 from ec2-3-16-146-1.us-east-2.compute.amazonaws.com

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-17-239 ~]$ java -jar agent.jar -jnlpUrl http://3.140.245.245:8080/computer/slave2/jenkins-agent.jnlp -secret 241e7a00751701d3f04f161b641a88631198d736fccb42485412ca6789d5e3c7 -workDir "/home/e
c2-user"
Nov 14, 2021 11:15:51 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/ec2-user/remoting as a remoting work directory
Nov 14, 2021 11:15:51 AM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /home/ec2-user/remoting
Nov 14, 2021 11:15:51 AM hudson.remoting.jnlp.Main createEngine
INFO: Setting up agent: slave2
Nov 14, 2021 11:15:51 AM hudson.remoting.jnlp.Main$CuiListener <init>
INFO: Jenkins agent is running in headless mode.
Nov 14, 2021 11:15:51 AM hudson.remoting.Engine startEngine
INFO: Using Remoting version: 4.10.1
Nov 14, 2021 11:15:51 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/ec2-user/remoting as a remoting work directory
Nov 14, 2021 11:15:51 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Locating server among [http://3.140.245.245:8080/]
Nov 14, 2021 11:15:51 AM org.jenkinsci.remoting.engine.JnlpAgentEndpointResolver resolve
INFO: Remoting server accepts the following protocols: [JNLP4-connect, Ping]
Nov 14, 2021 11:15:52 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Agent discovery successful
  Agent address: 3.140.245.245
  Agent port:    33561
  Identity:      62:98:d9:b2:28:70:91:09:68:ad:a2:93:ba:91:01:9d
Nov 14, 2021 11:15:52 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Handshaking
Nov 14, 2021 11:15:52 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Connecting to 3.140.245.245:33561
Nov 14, 2021 11:15:52 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Trying protocol: JNLP4-connect
Nov 14, 2021 11:15:52 AM org.jenkinsci.remoting.protocol.impl.BIONetworkLayer$Reader run
INFO: Waiting for ProtocolStack to start.
Nov 14, 2021 11:15:52 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Remote identity confirmed: 62:98:d9:b2:28:70:91:09:68:ad:a2:93:ba:91:01:9d
Nov 14, 2021 11:15:53 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Connected
```

After this open jenkins u can see that slaves are in sync



- Back to Dashboard
- Manage Jenkins
- New Node
- Configure Clouds
- Node Monitoring

S	Name ↓	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time	
	master	Linux (amd64)	In sync	5.85 GB	0 B	5.85 GB	0ms	
	slave1	Linux (amd64)	In sync	6.34 GB	0 B	6.34 GB	47ms	
	slave2	Linux (amd64)	In sync	6.34 GB	0 B	6.34 GB	76ms	
	last checked	3.9 sec	3.8 sec	3.8 sec	3.8 sec	3.8 sec	3.8 sec	

Build Queue

No builds in the queue.

Build Executor Status

master
1 Idle
2 Idle
slave1
1 Idle
slave2
1 Idle

Install docker on both slave Machines

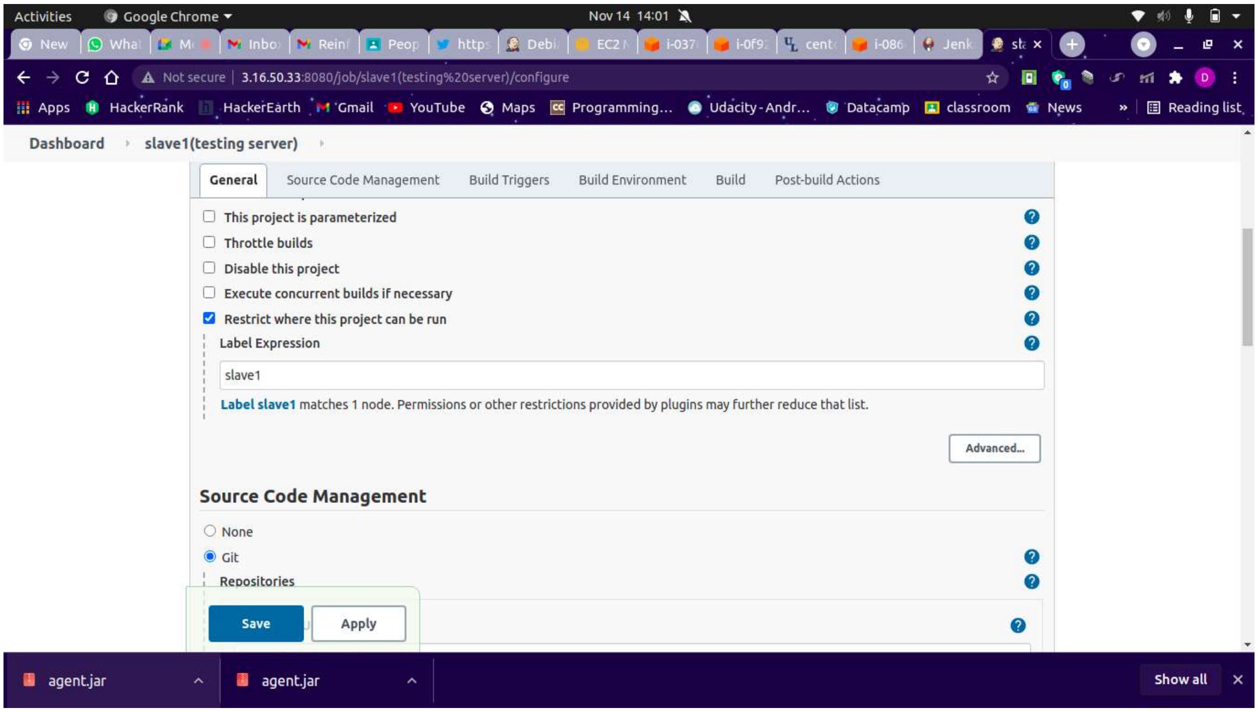
Commands:

sudo yum update -y

```
$ sudo amazon-linux-extras install docker
 $ sudo yum install docker
$ sudo service docker start
$ sudo usermod -a -G docker ec2-user
```

->Code is in the github repository:

Creating new job:
Go to jenkins dashboard -> create new job -> enter job name -> select freestyle project -> click save



Not secure | 3.16.50.33:8080/job/slave1(testing%20server)/configure

Dashboard › slave1(testing server) ›

□ This project is parameterized
□ Throttle builds
□ Disable this project
□ Execute concurrent builds if necessary
☑ Restrict where this project can be run

Label Expression

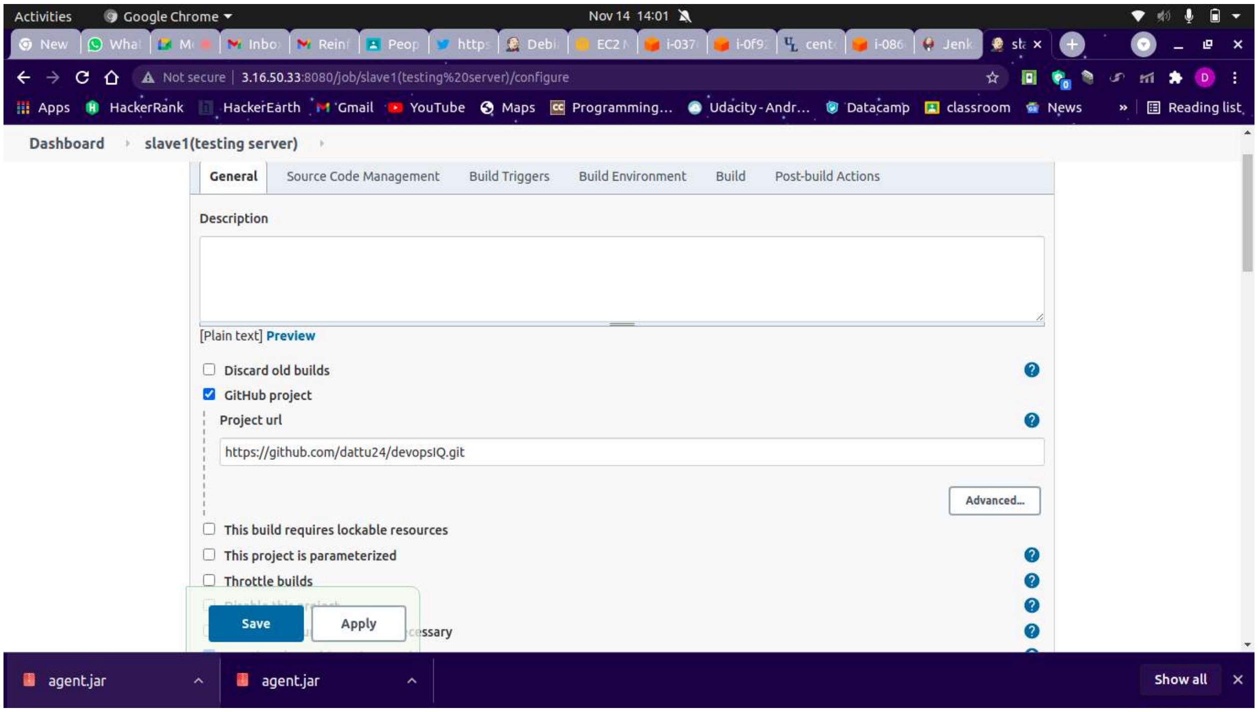
slave1

Label slave1 matches 1 node. Permissions or other restrictions provided by plugins may further reduce that list.

Source Code Management

○ None
● Git

Repositories



Description

[Plain text] Preview

□ Discard old builds

☑ GitHub project

Project url: https://github.com/dattu24/devopsIQ.git

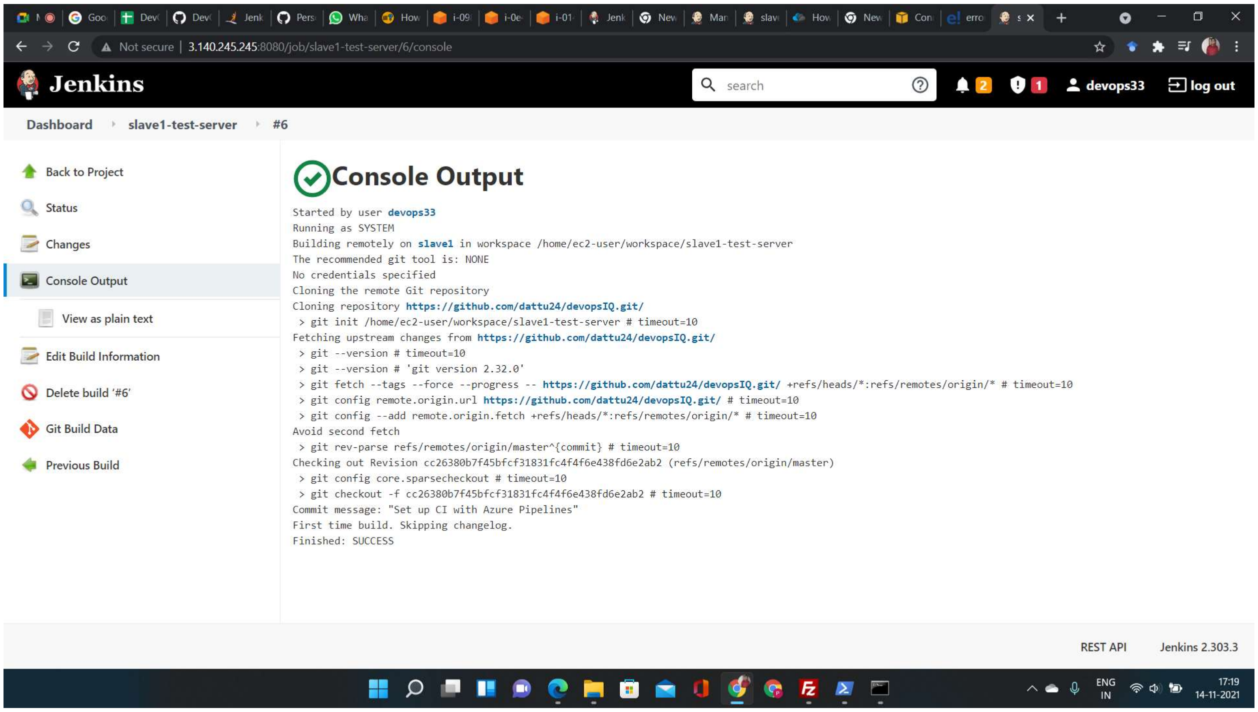
Advanced...

□ This build requires lockable resources

□ This project is parameterized

□ Throttle builds

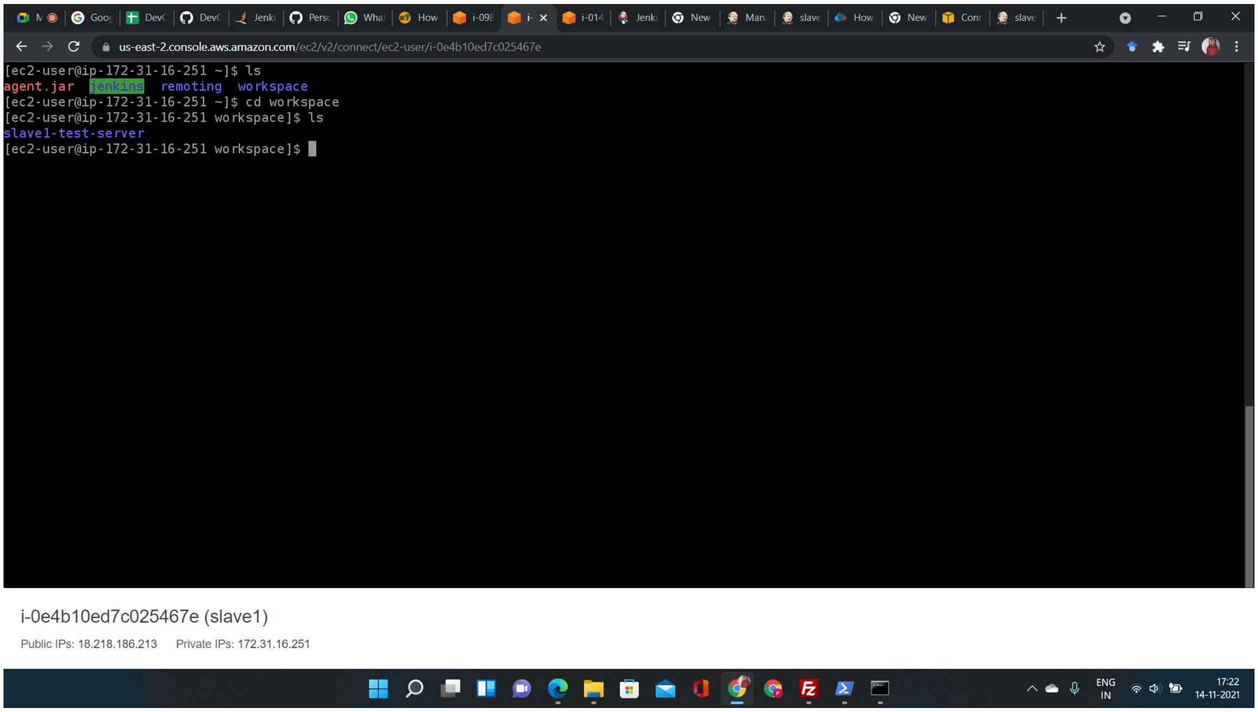
After configuration click on build now .after build successfully output is going to look like this



Console Output

```
Started by user devops33
Running as SYSTEM
Building remotely on slave1 in workspace /home/ec2-user/workspace/slave1-test-server
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/dattu24/devopsIQ.git/
 > git init /home/ec2-user/workspace/slave1-test-server # timeout=10
Fetching upstream changes from https://github.com/dattu24/devopsIQ.git/
 > git --version # timeout=10
 > git --version # 'git version 2.32.0'
 > git fetch --tags --force --progress -- https://github.com/dattu24/devopsIQ.git/ +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git config remote.origin.url https://github.com/dattu24/devopsIQ.git/ # timeout=10
 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
 > git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision cc26380b7f45bfcf31831fc4f4f6e438fd6e2ab2 (refs/remotes/origin/master)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f cc26380b7f45bfcf31831fc4f4f6e438fd6e2ab2 # timeout=10
Commit message: "Set up CI with Azure Pipelines"
First time build. Skipping changelog.
Finished: SUCCESS
```

When the job executes it creates a directory called “**workspace**” in root directory /home/ec2-user.


us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-0e4b10ed7c025467e

```
[ec2-user@ip-172-31-16-251 ~]$ ls
agent.jar  jenkins  remoting  workspace
[ec2-user@ip-172-31-16-251 ~]$ cd workspace
[ec2-user@ip-172-31-16-251 workspace]$ ls
slave1-test-server
[ec2-user@ip-172-31-16-251 workspace]$
```

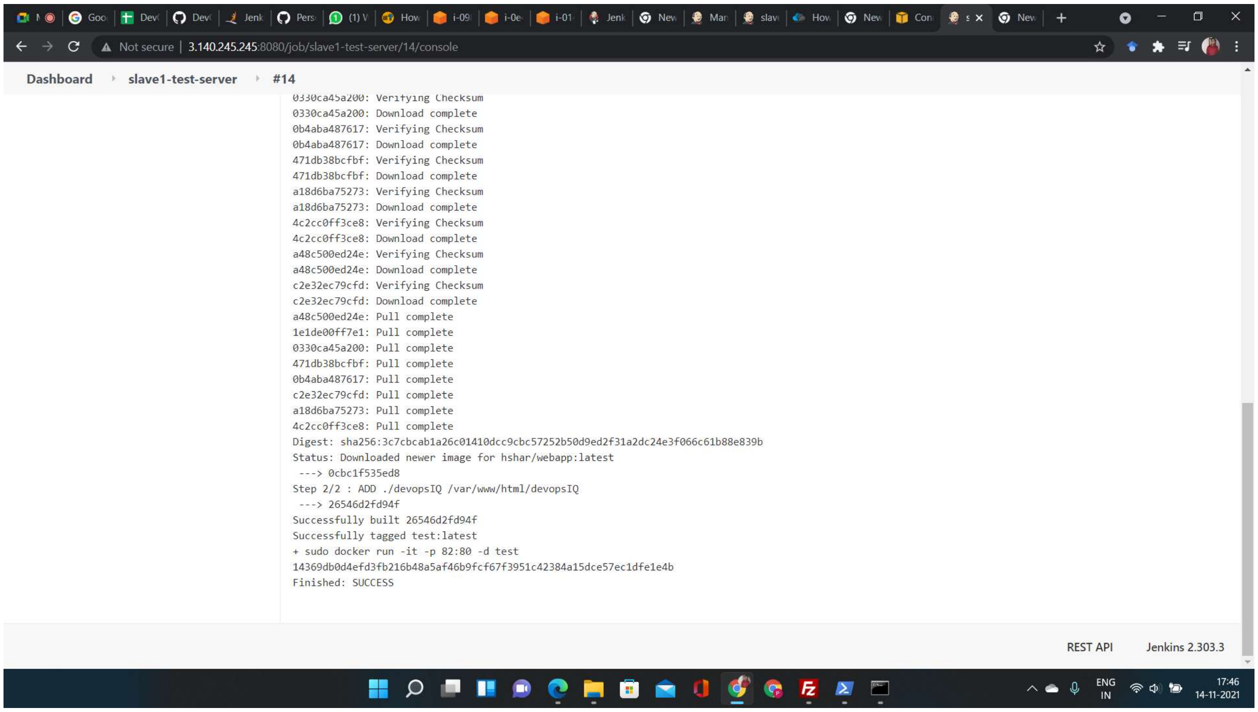
i-0e4b10ed7c025467e (slave1)

Public IPs: 18.218.186.213 Private IPs: 172.31.16.251

Now create any docker container on slave1.

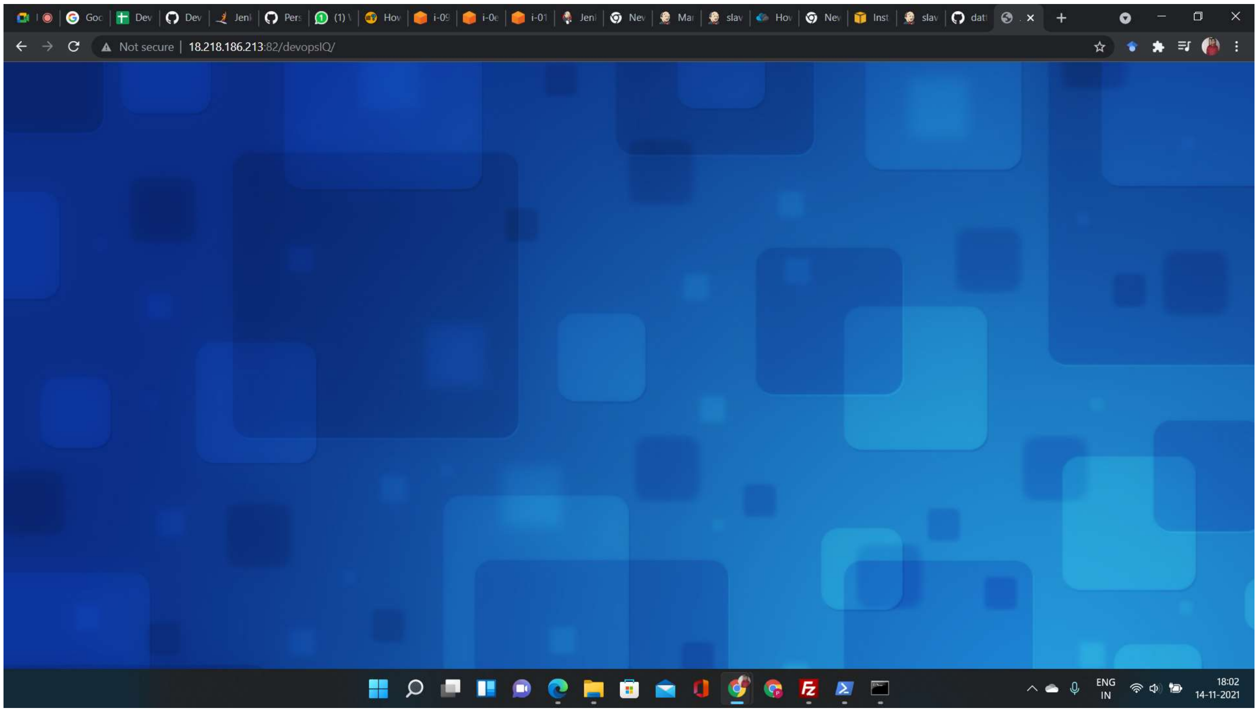
Now again configure the job.

Put these commands under execute shell
$ sudo docker rm -f $(sudo docker ps -a -q)
$ sudo docker build path_of_slave-1_job_under-workspace -t test 28
$ sudo docker run -it -p 82:80 -d test
Build the job.
To check if the build is successful.

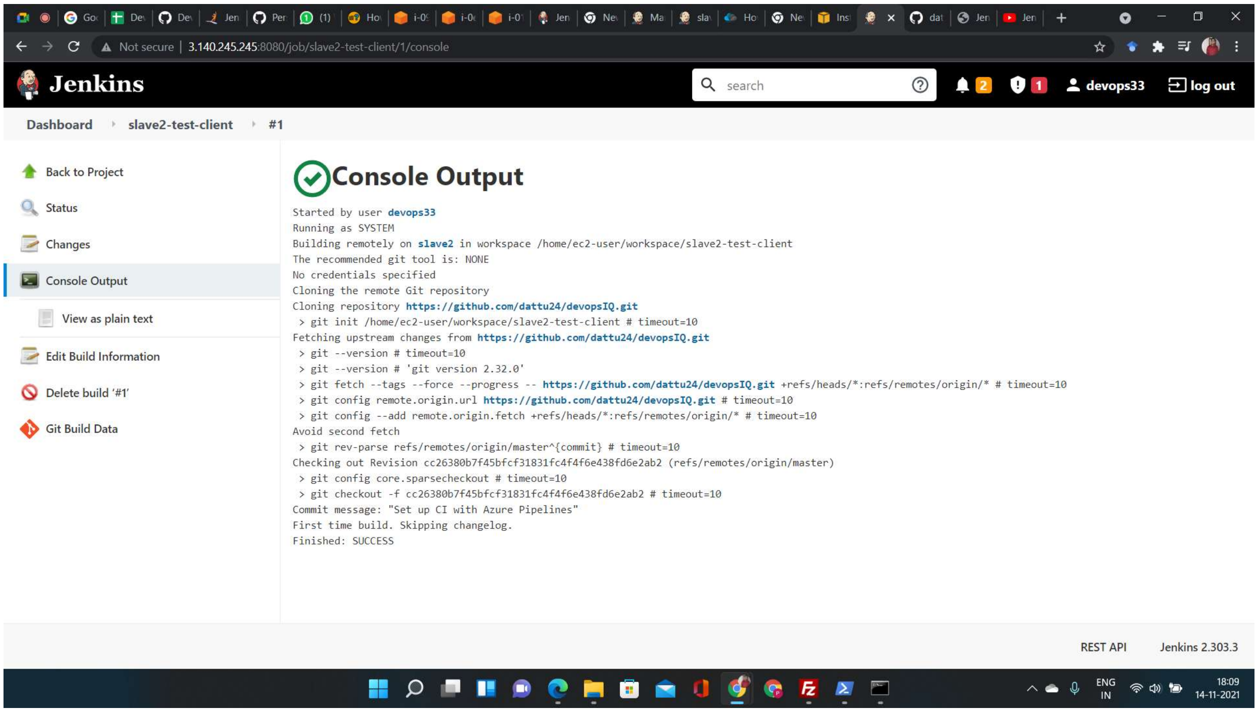


```
0330ca45a200: Verifying Checksum
0330ca45a200: Download complete
0b4aba487617: Verifying Checksum
0b4aba487617: Download complete
471db38bcfbf: Verifying Checksum
471db38bcfbf: Download complete
a18d6ba75273: Verifying Checksum
a18d6ba75273: Download complete
4c2cc0ff3ce8: Verifying Checksum
4c2cc0ff3ce8: Download complete
a48c500ed24e: Verifying Checksum
a48c500ed24e: Download complete
c2e32ec79cfd: Verifying Checksum
c2e32ec79cfd: Download complete
a48c500ed24e: Pull complete
1e1de00ff7e1: Pull complete
0330ca45a200: Pull complete
471db38bcfbf: Pull complete
0b4aba487617: Pull complete
c2e32ec79cfd: Pull complete
a18d6ba75273: Pull complete
4c2cc0ff3ce8: Pull complete
Digest: sha256:3c7cbcab1a26c01410dcc9cbc57252b50d9ed2f31a2dc24e3f066c61b88e839b
Status: Downloaded newer image for hshar/webapp:latest
 ---> 0cbc1f535ed8
Step 2/2 : ADD ./devopsIQ /var/www/html/devopsIQ
 ---> 26546d2fd94f
Successfully built 26546d2fd94f
Successfully tagged test:latest
+ sudo docker run -it -p 82:80 -d test
14369db0d4efd3fb216b48a5af46b9fcf67f3951c42384a15dce57ec1dfe1e4b
Finished: SUCCESS
```

To check if build is successful on testing server which is slave1
 Go to browser http:public ip of slave1:82/devopsIQ/

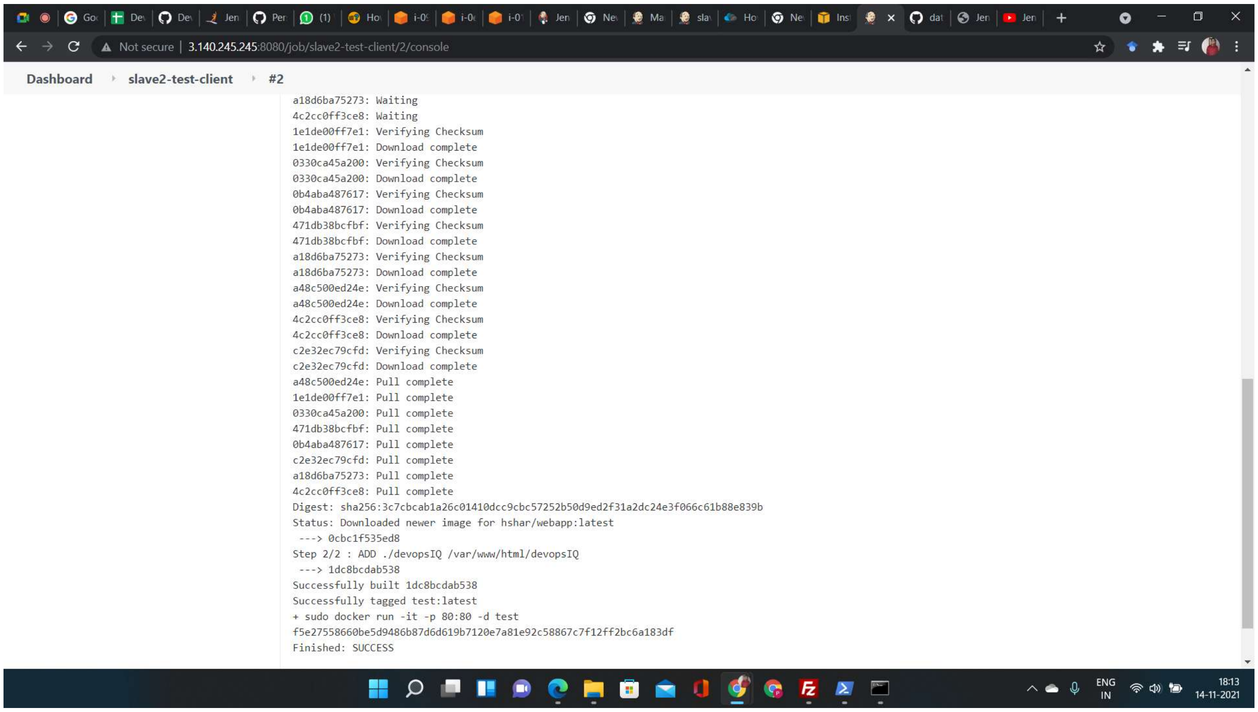


Repeat above same steps for slave2.
But change port no in execute shell as 80 from 82
After that do build.



Console Output

```
Started by user devops33
Running as SYSTEM
Building remotely on slave2 in workspace /home/ec2-user/workspace/slave2-test-client
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/dattu24/devopsIQ.git
 > git init /home/ec2-user/workspace/slave2-test-client # timeout=10
Fetching upstream changes from https://github.com/dattu24/devopsIQ.git
 > git --version # timeout=10
 > git --version # 'git version 2.32.0'
 > git fetch --tags --force --progress -- https://github.com/dattu24/devopsIQ.git +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git config remote.origin.url https://github.com/dattu24/devopsIQ.git # timeout=10
 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
 > git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision cc26380b7f45bfcf31831fc4f4f6e438fd6e2ab2 (refs/remotes/origin/master)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f cc26380b7f45bfcf31831fc4f4f6e438fd6e2ab2 # timeout=10
Commit message: "Set up CI with Azure Pipelines"
First time build. Skipping changelog.
Finished: SUCCESS
```

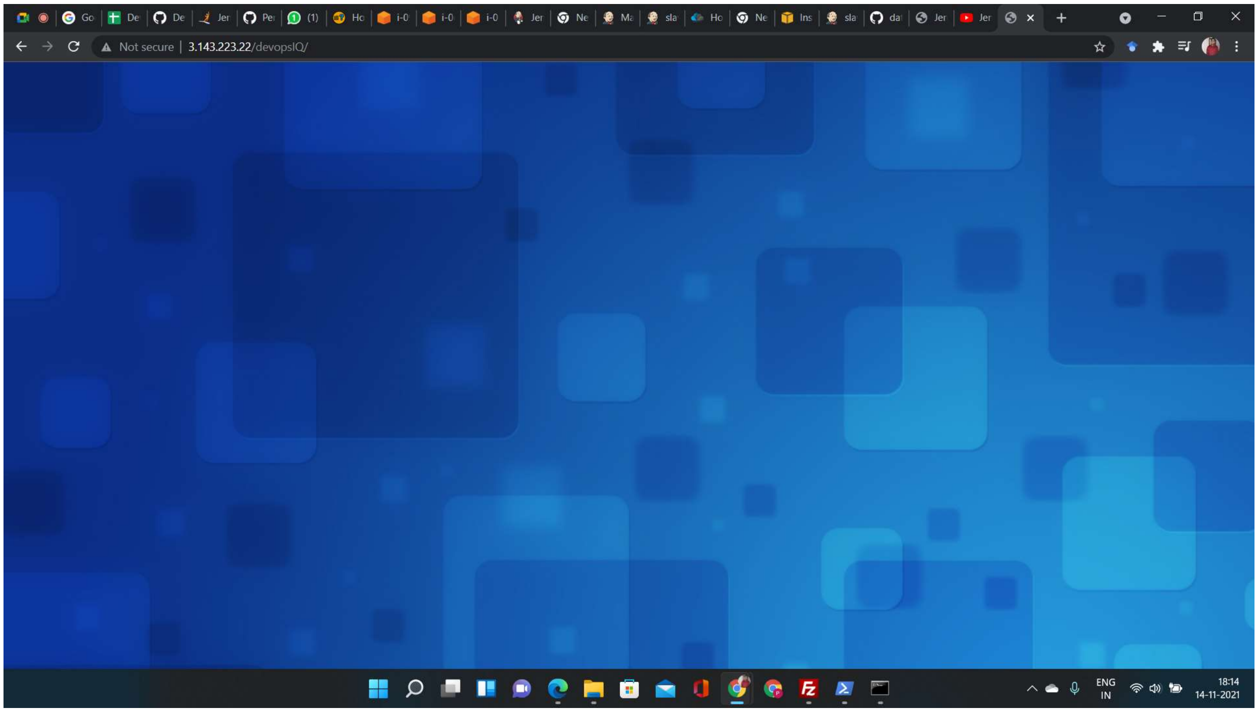


Not secure | 3.140.245.245:8080/job/slave2-test-client/2/console
Dashboard
slave2-test-client
#2
ENG IN
18:13 14-11-2021

```
a18d6ba75273: Waiting
4c2cc0ff3ce8: Waiting
1e1de00ff7e1: Verifying Checksum
1e1de00ff7e1: Download complete
0330ca45a200: Verifying Checksum
0330ca45a200: Download complete
0b4aba487617: Verifying Checksum
0b4aba487617: Download complete
471db38bcfbf: Verifying Checksum
471db38bcfbf: Download complete
a18d6ba75273: Verifying Checksum
a18d6ba75273: Download complete
a48c500ed24e: Verifying Checksum
a48c500ed24e: Download complete
4c2cc0ff3ce8: Verifying Checksum
4c2cc0ff3ce8: Download complete
c2e32ec79cfd: Verifying Checksum
c2e32ec79cfd: Download complete
a48c500ed24e: Pull complete
1e1de00ff7e1: Pull complete
0330ca45a200: Pull complete
471db38bcfbf: Pull complete
0b4aba487617: Pull complete
c2e32ec79cfd: Pull complete
a18d6ba75273: Pull complete
4c2cc0ff3ce8: Pull complete
Digest: sha256:3c7cbcab1a26c01410dcc9cbc57252b50d9ed2f31a2dc24e3f066c61b88e839b
Status: Downloaded newer image for hshar/webapp:latest
 ---> 0cbc1f535ed8
Step 2/2 : ADD ./devopsIQ /var/www/html/devopsIQ
 ---> 1dc8bcdab538
Successfully built 1dc8bcdab538
Successfully tagged test:latest
+ sudo docker run -it -p 80:80 -d test
f5e27558660be5d9486b87d6d619b7120e7a81e92c58867c7f12ff2bc6a183df
Finished: SUCCESS
```

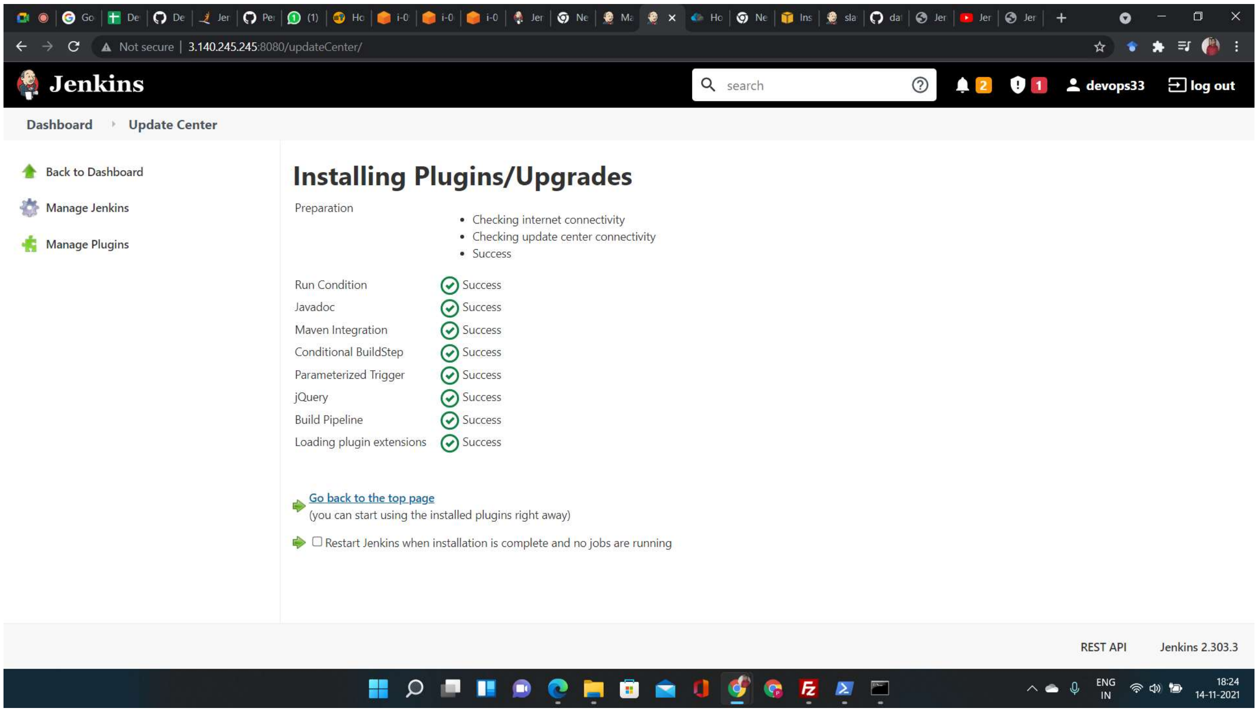
To check if build is successful on production server which is slave2

Go to browser http:public ip of slave2:80/devopsIQ/



Go to slave1 and configure it.
->Under post build actions -> select build other projects -> enter production job name (name of slave-2's job)

Now install plugin buildpipeline by going to jenkins dashboard -> manage jenkins -> manage plugins -> available -> search "build pipeline"



Installing Plugins/Upgrades

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

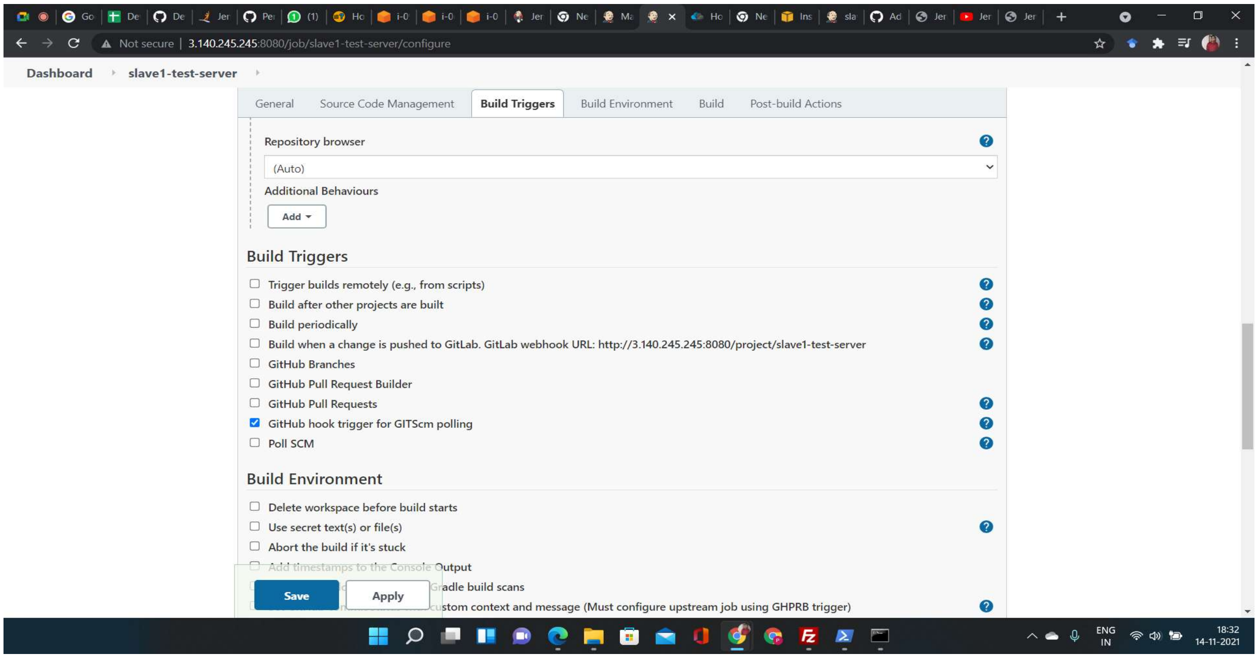
Run Condition	✓ Success
Javadoc	✓ Success
Maven Integration	✓ Success
Conditional BuildStep	✓ Success
Parameterized Trigger	✓ Success
jQuery	✓ Success
Build Pipeline	✓ Success
Loading plugin extensions	✓ Success

Go back to the top page
(you can start using the installed plugins right away)

□ Restart Jenkins when installation is complete and no jobs are running

->Now change the build pipeline view to CICD.
->Under pipeline options -> under select initial job -> select testing job -> click on apply -> click ok.

Now go to slave1 under Build triggers tick Buildhook trigger for GITScm Polling.



Repository browser
(Auto)
Additional Behaviours
Add

Build Triggers

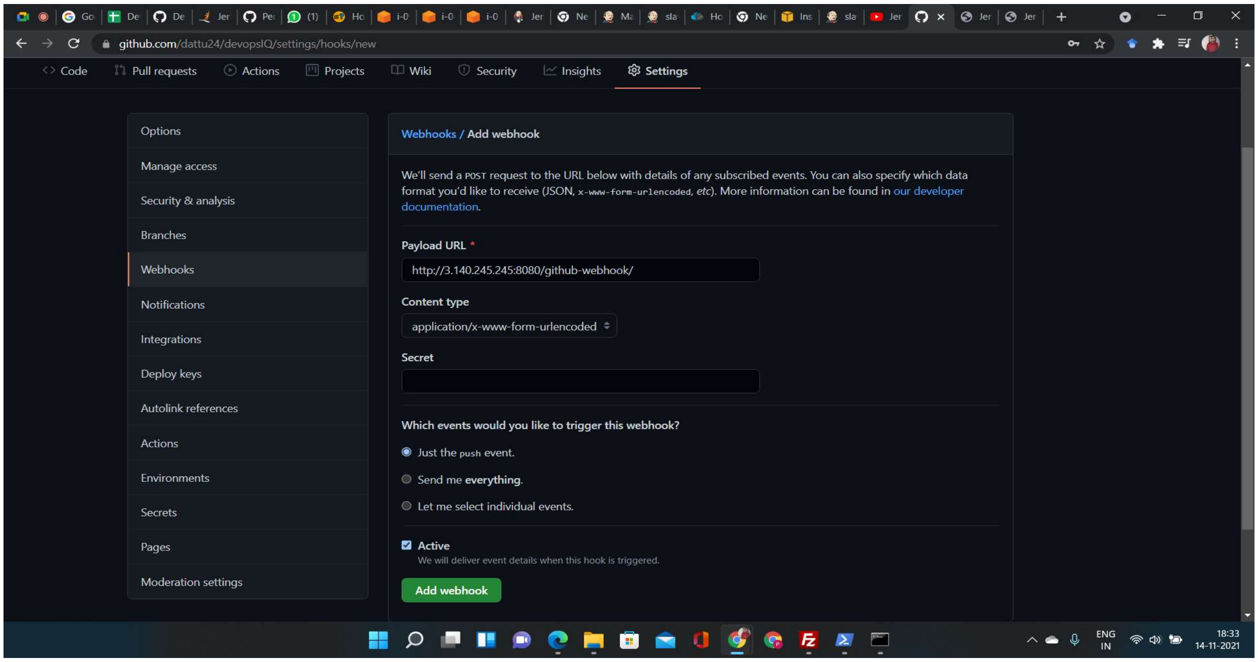
- □ Trigger builds remotely (e.g., from scripts)
- □ Build after other projects are built
- □ Build periodically
- □ Build when a change is pushed to GitLab. GitLab webhook URL: http://3.140.245.245:8080/project/slave1-test-server
- □ GitHub Branches
- □ GitHub Pull Request Builder
- □ GitHub Pull Requests
- ☑ GitHub hook trigger for GITScm polling
- □ Poll SCM

Build Environment

- □ Delete workspace before build starts
- □ Use secret text(s) or file(s)
- □ Abort the build if it's stuck
- □ Add timestamps to the Console Output
- □ Gradle build scans
- □ ustom context and message (Must configure upstream job using GHPRB trigger)

Configure Webhook in github

Go to github repository -> settings of git repo -> select webhook -> add webhook -> Under payload url http://ip-address-of-jenkins-master:8080/github-webhook/ Select push event



github.com/dattu24/devopsIQ/settings/hooks/new

Webhooks / Add webhook

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, *etc*). More information can be found in our developer documentation.

Payload URL *

http://3.140.245.245:8080/github-webhook/

Content type

application/x-www-form-urlencoded

Secret

Which events would you like to trigger this webhook?

● Just the push event.

○ Send me **everything**.

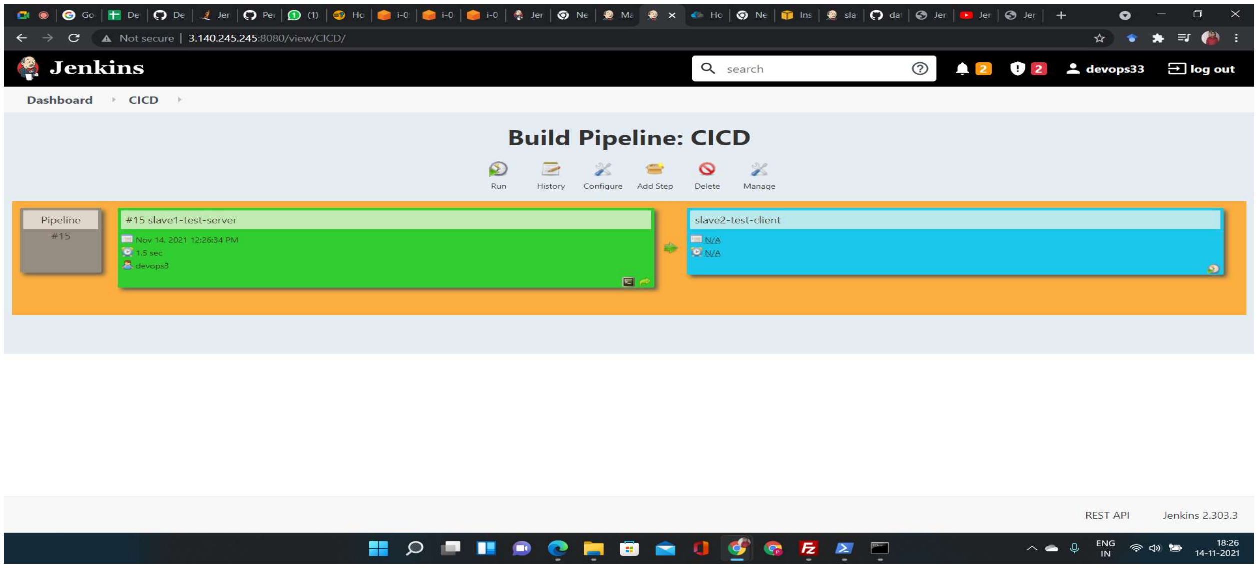
○ Let me select individual events.

☑ Active

We will deliver event details when this hook is triggered.

After that run CICD

Before run



Not secure | 3.140.245.245:8080/view/CICD/

Build Pipeline: CICD

Pipeline #15

#15 slave1-test-server

Nov 14, 2021 12:26:34 PM

1.5 sec

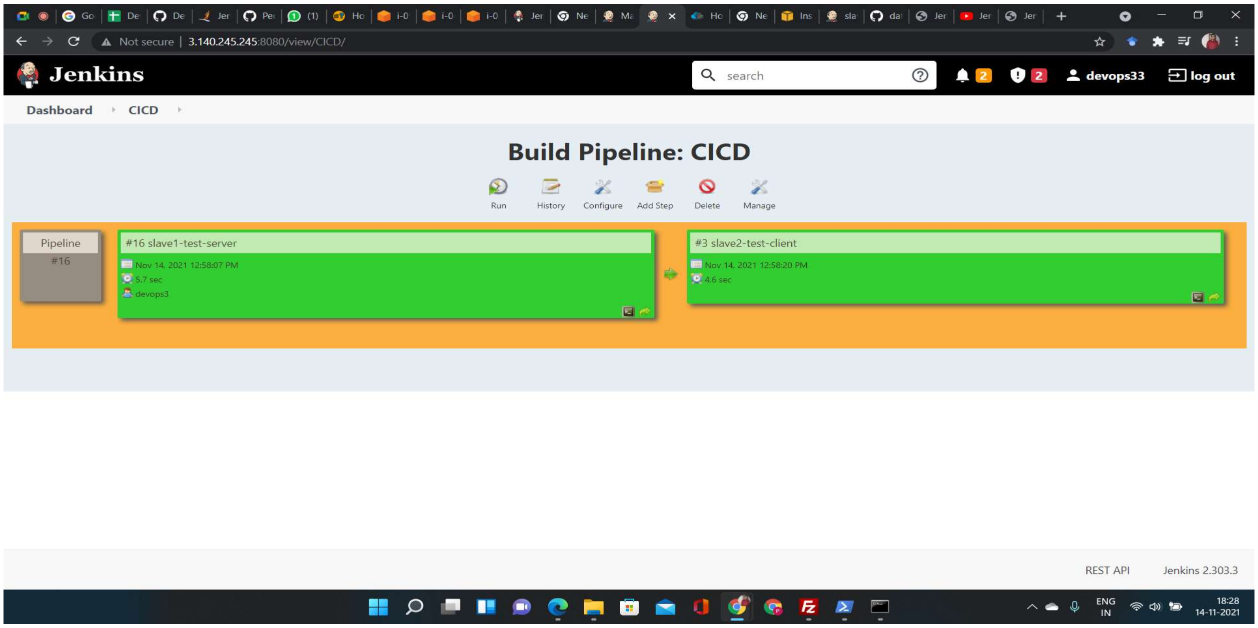
devops3

slave2-test-client

N/A

N/A

After run



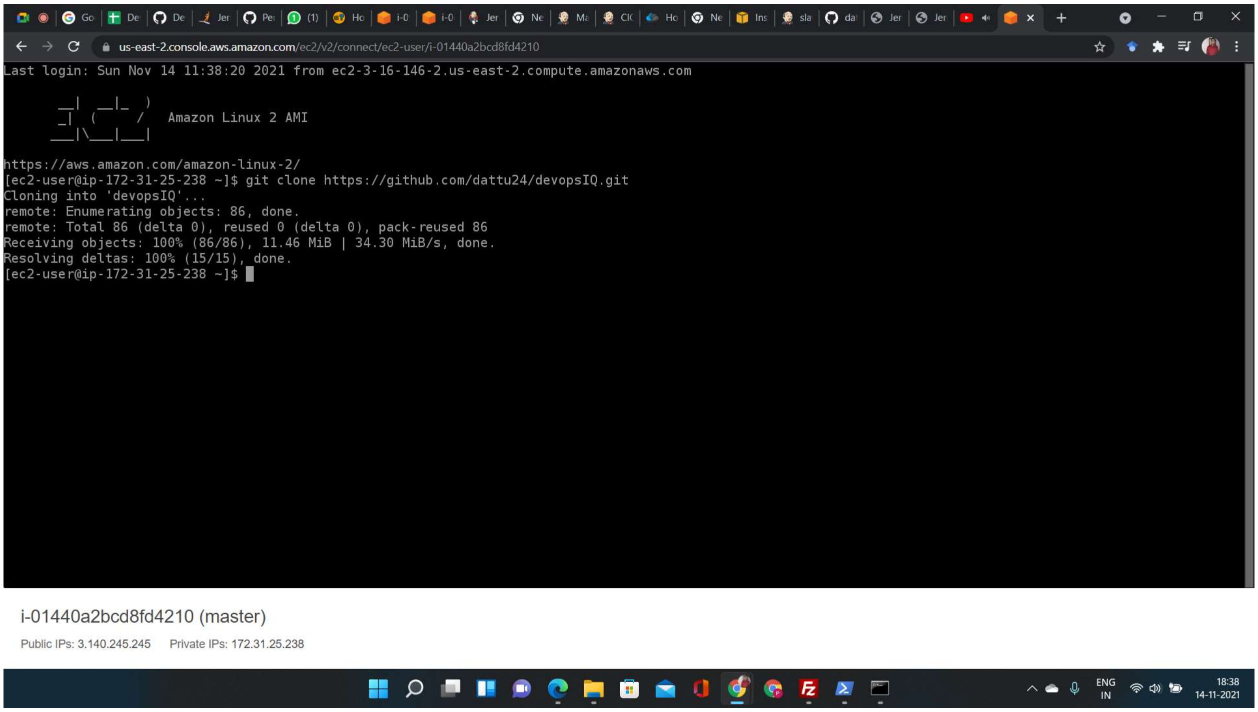
Build Pipeline: CICD

Pipeline #16

#16 slave1-test-server
Nov 14, 2021 12:58:07 PM
5.7 sec
devops3

#3 slave2-test-client
Nov 14, 2021 12:58:20 PM
4.6 sec

Trigger the pipeline by pushing the code to github by doing this testing job automatically triggered with the help of webhook.Go to jenkins master server to clone and make changes in github.

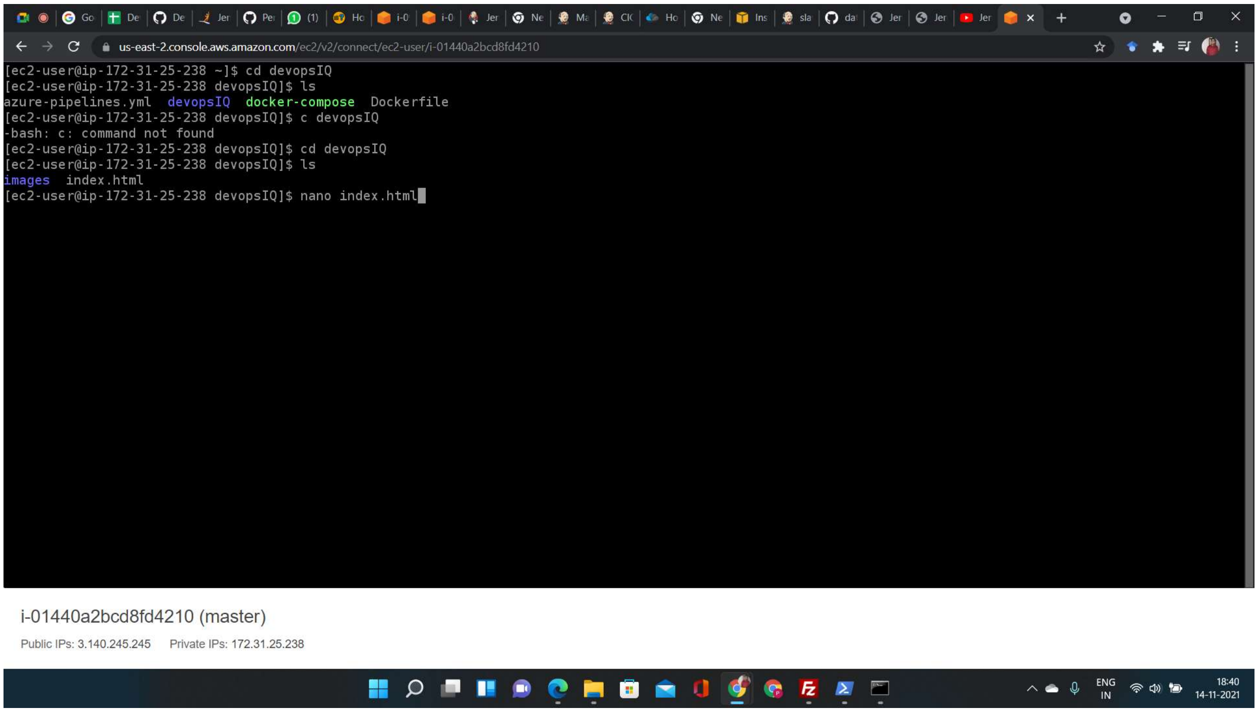

us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-01440a2bcd8fd4210

```
Last login: Sun Nov 14 11:38:20 2021 from ec2-3-16-146-2.us-east-2.compute.amazonaws.com

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-25-238 ~]$ git clone https://github.com/dattu24/devopsIQ.git
Cloning into 'devopsIQ'...
remote: Enumerating objects: 86, done.
remote: Total 86 (delta 0), reused 0 (delta 0), pack-reused 86
Receiving objects: 100% (86/86), 11.46 MiB | 34.30 MiB/s, done.
Resolving deltas: 100% (15/15), done.
[ec2-user@ip-172-31-25-238 ~]$ 
```

i-01440a2bcd8fd4210 (master)

Public IPs: 3.140.245.245   Private IPs: 172.31.25.238

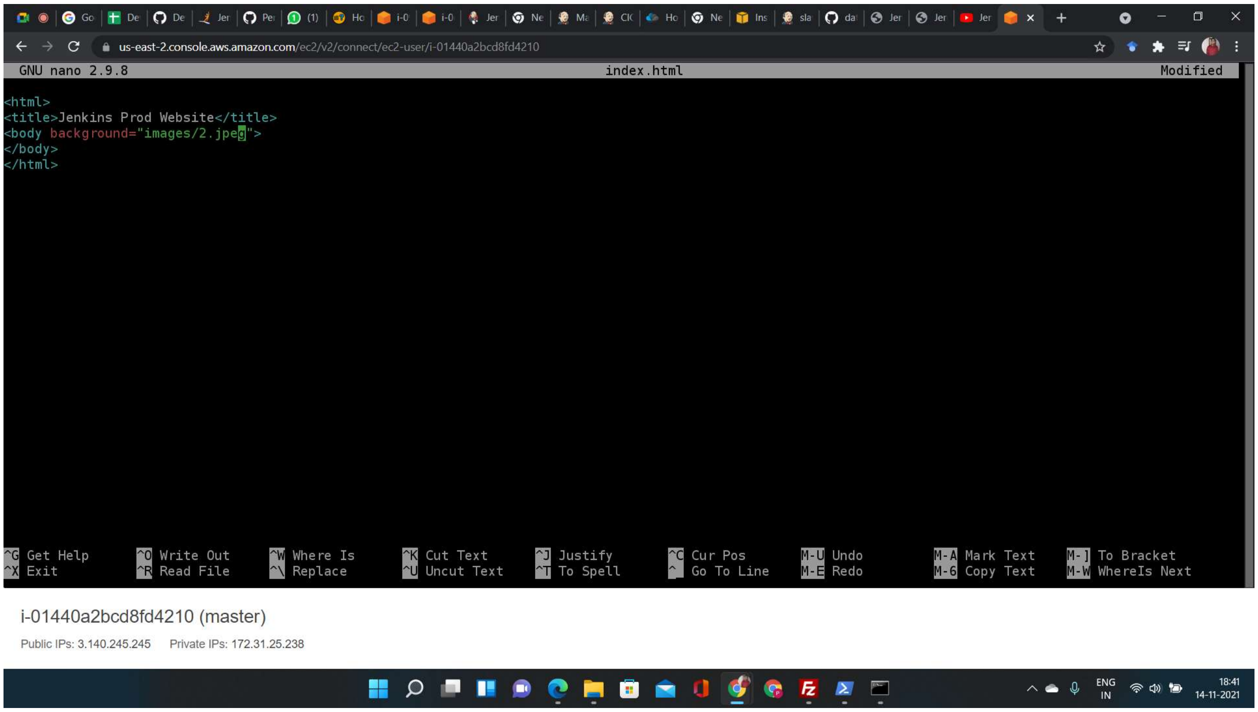
Go to directory devopsIQ and open index.html file and change the image and title,commit the changes to github repository.


us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-01440a2bcd8fd4210

```
[ec2-user@ip-172-31-25-238 ~]$ cd devopsIQ
[ec2-user@ip-172-31-25-238 devopsIQ]$ ls
azure-pipelines.yml  devopsIQ  docker-compose  Dockerfile
[ec2-user@ip-172-31-25-238 devopsIQ]$ c devopsIQ
-bash: c: command not found
[ec2-user@ip-172-31-25-238 devopsIQ]$ cd devopsIQ
[ec2-user@ip-172-31-25-238 devopsIQ]$ ls
images  index.html
[ec2-user@ip-172-31-25-238 devopsIQ]$ nano index.html
```

i-01440a2bcd8fd4210 (master)

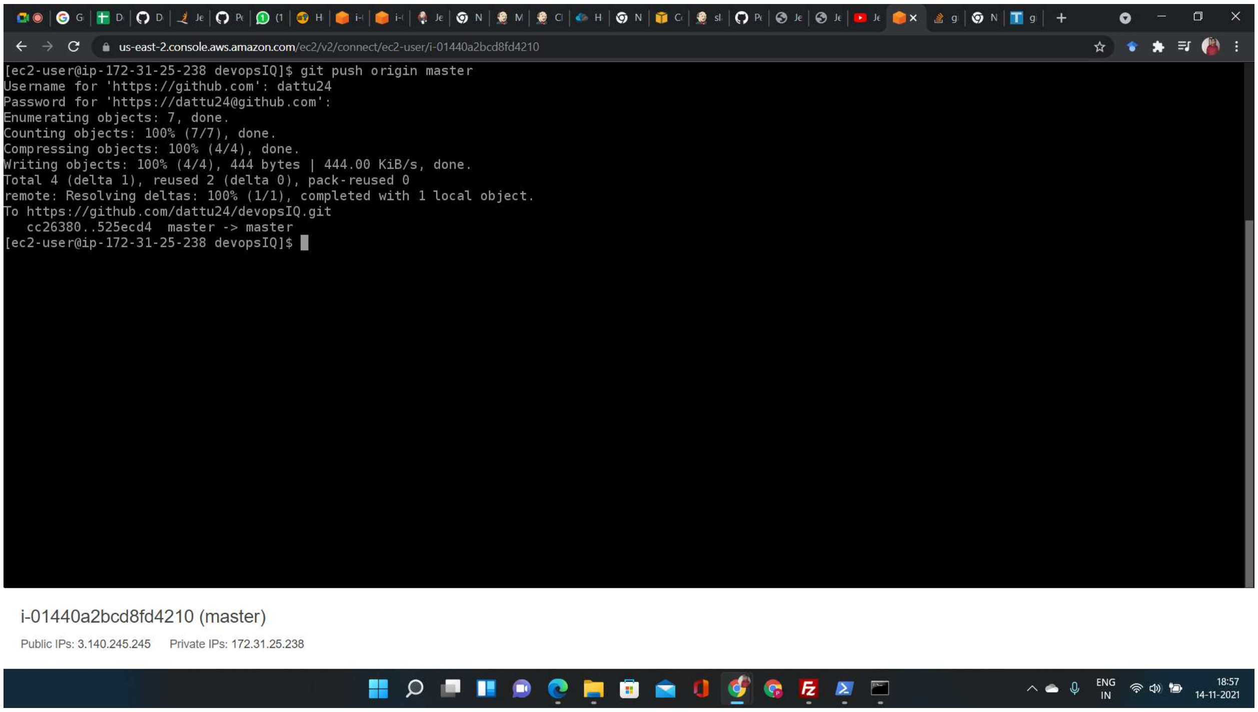
Public IPs: 3.140.245.245   Private IPs: 172.31.25.238


us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-01440a2bcd8fd4210

```
  GNU nano 2.9.8                                    index.html                                    Modified

<html>
<title>Jenkins Prod Website</title>
<body background="images/2.jpeg">
</body>
</html>

^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U Undo       M-A Mark Text  M-] To Bracket
^X Exit        ^R Read File   ^\ Replace     ^U Uncut Text  ^T To Spell    ^_ Go To Line  M-E Redo       M-6 Copy Text  M-W WhereIs Next
```

i-01440a2bcd8fd4210 (master)

Public IPs: 3.140.245.245   Private IPs: 172.31.25.238



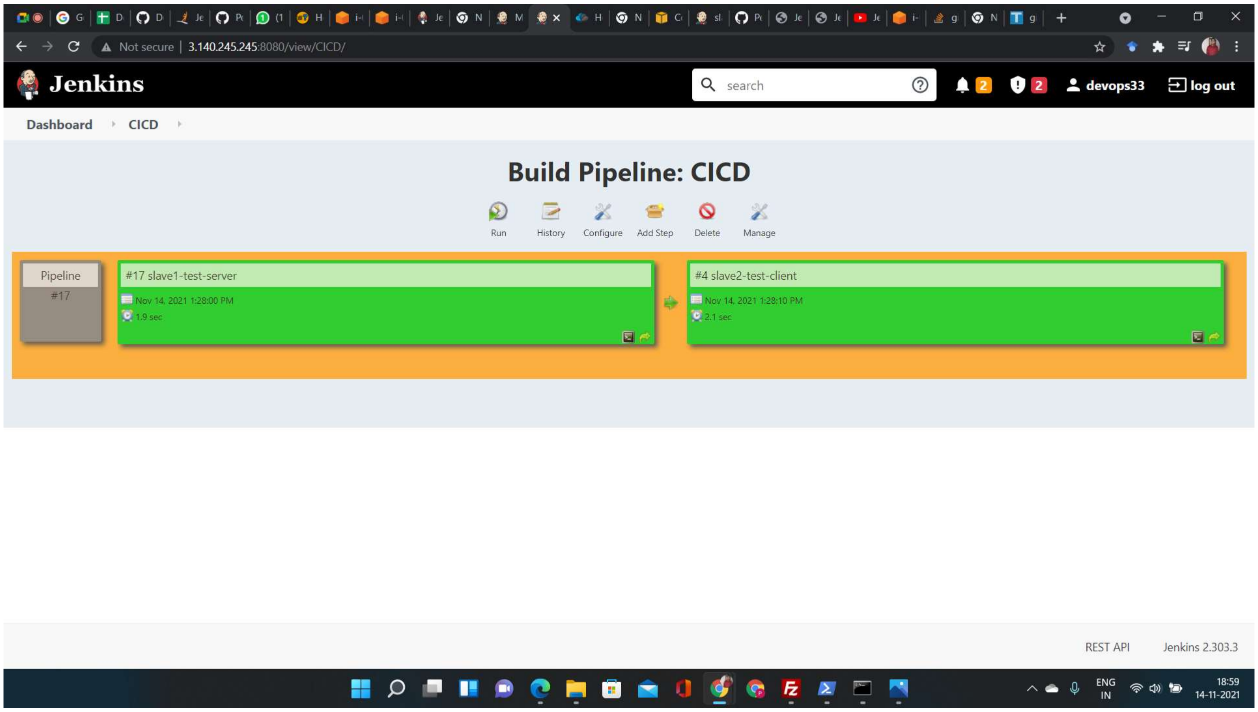
us-east-2.console.aws.amazon.com/ec2/v2/connect/ec2-user/i-01440a2bcd8fd4210

```
[ec2-user@ip-172-31-25-238 devopsIQ]$ git push origin master
Username for 'https://github.com': dattu24
Password for 'https://dattu24@github.com':
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 444 bytes | 444.00 KiB/s, done.
Total 4 (delta 1), reused 2 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/dattu24/devopsIQ.git
   cc26380..525ecd4  master -> master
[ec2-user@ip-172-31-25-238 devopsIQ]$
```

i-01440a2bcd8fd4210 (master)

Public IPs: 3.140.245.245   Private IPs: 172.31.25.238

Open jenkins to see the job status.



Not secure | 3.140.245.245:8080/view/CICD/

Build Pipeline: CICD

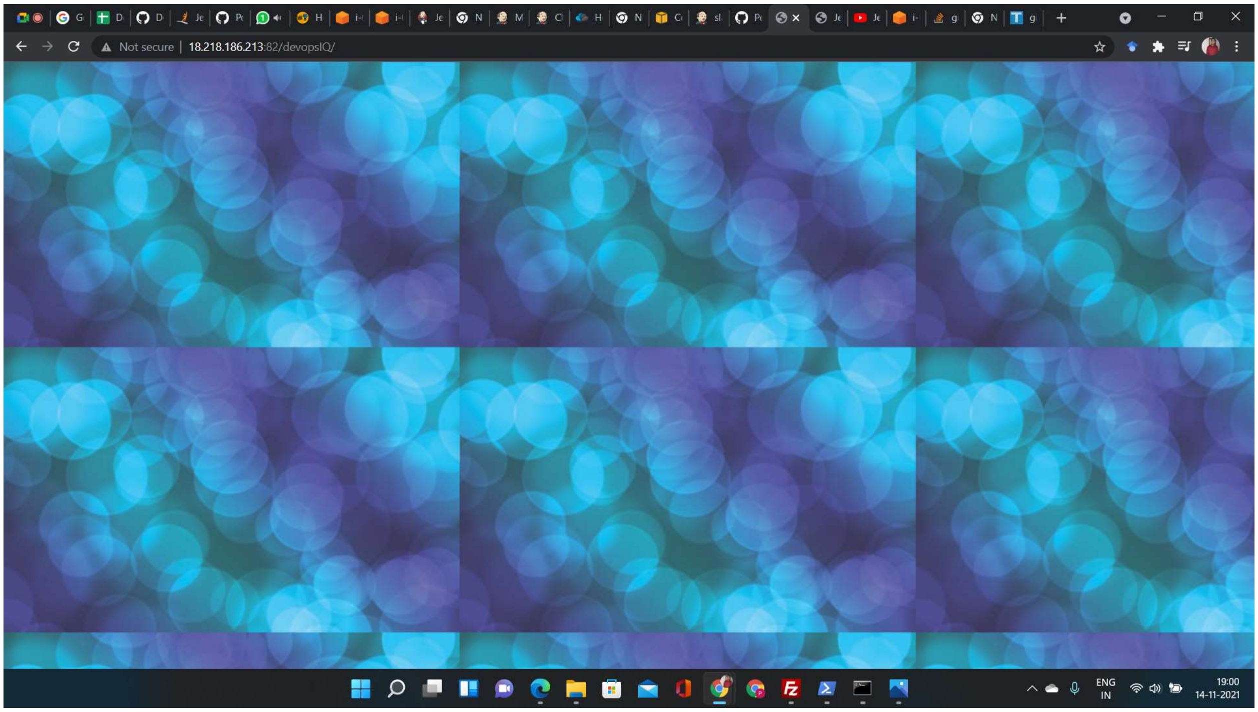
Pipeline #17

#17 slave1-test-server
Nov 14, 2021 1:28:00 PM
1.9 sec

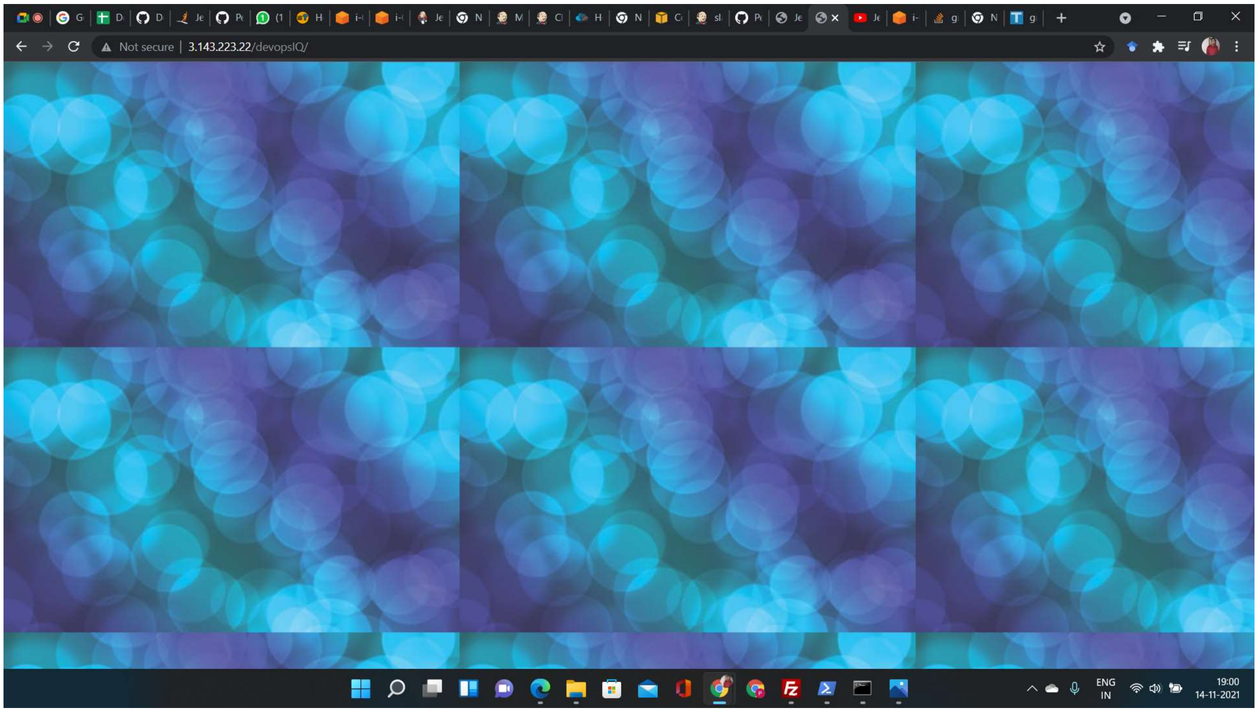
#4 slave2-test-client
Nov 14, 2021 1:28:10 PM
2.1 sec

Both the jobs ran successfully.

To verify if the changes have been deployed on testing server
Go to browser and hit http://ipaddress_of_slave-1:82/devopsIQ
Image will change



To verify if the changes have been deployed on production server
Go to browser and hit http://ipaddress_of_slave-2:80/devopsIQ


Not secure | 3.143.223.22/devopsIQ/
ENG
IN
19:00
14-11-2021