

MASTER – SLAVE ARCHITECTURE

MASTER :

The Master in Jenkins manages the web interface, schedules builds, monitors nodes, and handles the distribution of jobs to the slave nodes.

SLAVE :

These are additional machines or instances that perform the actual build jobs. They are connected to the master node and can be of different operating systems and configurations.

TASK ON MASTER – SLAVE :

1. Create 1st instance named master and install Jenkins and JDK in the instance.
2. Create 2nd instance named as slaveA and install JDK and GIT in the instance.
3. Create 3rd instance named as slaveB and install JDK and GIT in the instance.
4. After connecting the Jenkins to web browser create 2 free style projects with 2 different git repositories in each free style project.
5. Goto nodes and create 2 nodes for slaveA and slaveB.
6. Connect one node to slaveA and another node to slaveB.
7. Install jar file to each instance.

STEPS TO BE FOLLOWED :

Instance – 1 : [MASTER]

Jenkins installation :

```
sudo yum update -y
sudo wget -O /etc/yum.repos.d/jenkins.repo
http://pkg.jenkins.io/redhat/jenkins.repo
sudo rpm --import https://pkg.jenkins.io/redhat/jenkins.io-2023.key
sudo yum install jenkins -y
systemctl daemon-reload
sudo systemctl start jenkins
sudo systemctl enable Jenkins
systemctl status Jenkins
```

JDK Installation :

```
sudo yum install java-17-amazon-corretto-devel
```

Instance – 2 : [slaveA]

- Create a empty directory with the name slaveA

JDK Installation :

```
sudo yum install java-17-amazon-corretto-devel
```

GIT Installation:

```
sudo yum install git -y
```

- Copy the path of the directory

Instance – 3 : [slaveB]

- Create a empty directory with the name slaveB

JDK Installation :

`sudo yum install java-17-amazon-corretto-devel`

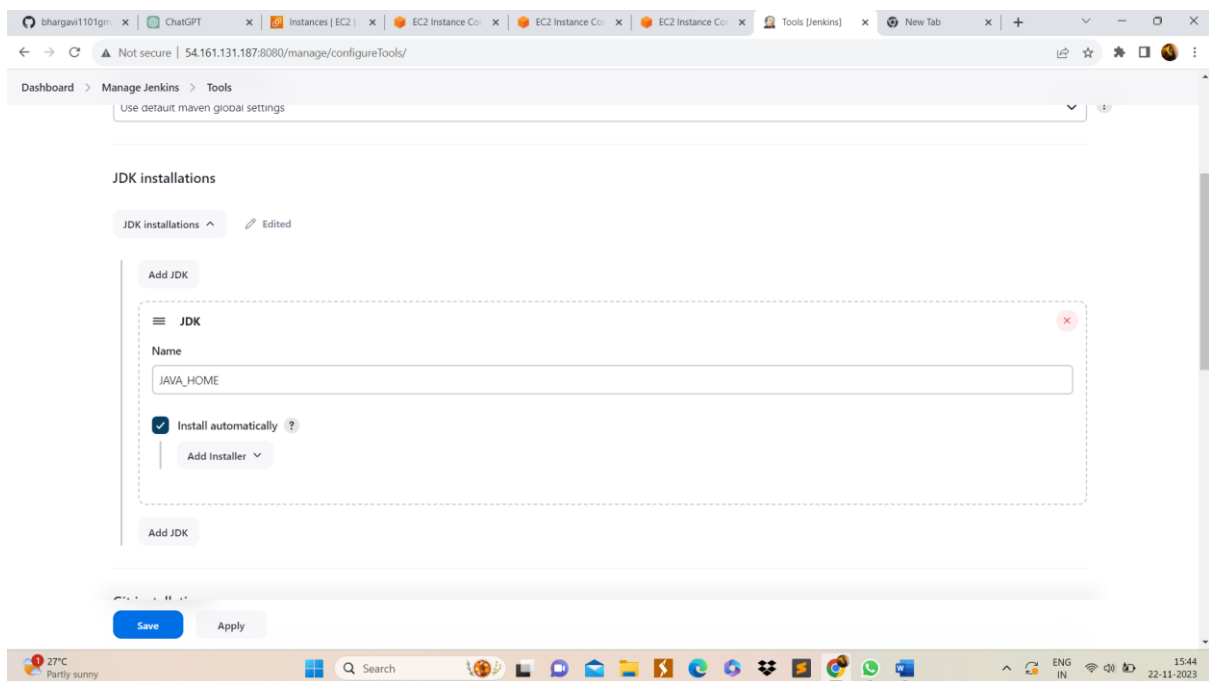
GIT Installation:

`sudo yum install git -y`

- Copy the path of the directory

JENKINS :

- Add path of jdk



- Create 2 freestyle projects

Screenshot of the Jenkins Dashboard. The top navigation bar shows the Jenkins logo, a search bar, and the user 'ADMIN' with a 'log out' button. The left sidebar contains links for 'New Item', 'People', 'Build History', 'Manage Jenkins', and 'My Views'. The main content area displays the 'Build Queue' (empty) and 'Build Executor Status' (showing 'Built-In Node' and 'slaveA', 'slaveB' as offline). A table lists recent builds:

S	W	Name	Last Success	Last Failure	Last Duration
✓	☁	project1	2 hr 4 min #12	2 hr 6 min #10	1.5 sec
✓	☀	project2	1 hr 55 min #1	N/A	8.5 sec

Below the table are links for 'Icon legend', 'Atom feed for all', 'Atom feed for failures', and 'Atom feed for just latest builds'. The bottom status bar shows '27°C Partly sunny', system icons, and the date '22-11-2023'.

- Create 2 nodes

Screenshot of the Jenkins 'Nodes' page. The breadcrumb trail is 'Dashboard > Manage Jenkins > Nodes'. The left sidebar shows 'Nodes' and 'Clouds' sections. The main content area has a 'Nodes' table and a '+ New Node' button.

S	Name	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time
✗	Built-In Node	Linux (amd64)	In sync	5.76 GB	0 B	471.48 MB	0ms
✗	slaveA		N/A	N/A	N/A	N/A	N/A
✗	slaveB		N/A	N/A	N/A	N/A	N/A
last checked		20 min	20 min	20 min	20 min	20 min	20 min

The bottom status bar is identical to the first screenshot, showing '27°C Partly sunny' and the date '22-11-2023'.

- Open slaveA

Jenkins Search (CTRL+K) ADMIN log out

Dashboard > Manage Jenkins > Nodes > slaveA

Agent slaveA Mark this node temporarily offline ⓘ

ⓘ Add description

Connection was broken

Run from agent command line: (Unix) ⓘ

```
curl -sO http://54.161.131.187:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://54.161.131.187:8080/computer/slaveA/jenkins-agent.jnlp -secret 500fc21231c4128016cd4c8a01fe06041af62f3d7a1bd569d626fc5ce465dd07 -workDir "/home/slaveA"
```

Run from agent command line: (Windows) ⓘ

```
curl.exe -sO http://54.161.131.187:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://54.161.131.187:8080/computer/slaveA/jenkins-agent.jnlp -secret 500fc21231c4128016cd4c8a01fe06041af62f3d7a1bd569d626fc5ce465dd07 -workDir "/home/slaveA"
```

Or run from agent command line, with the secret stored in a file: (Unix) ⓘ

```
echo 500fc21231c4128016cd4c8a01fe06041af62f3d7a1bd569d626fc5ce465dd07 > secret-file
```

27°C Partly sunny

us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-016862f83323288d1&osUser=ec2-user&sshPort=22#/

aws Services Search [Alt+S] N. Virginia Bhargavi Gneni

```
Last login: Wed Nov 22 08:09:05 2023 from 18.206.107.29
[ec2-user@ip-172-31-37-64 ~]$ sudo su
[root@ip-172-31-37-64 ec2-user]# cd ..
[root@ip-172-31-37-64 home]# ls
ec2-user slaveA
[root@ip-172-31-37-64 home]# cd slaveA
[root@ip-172-31-37-64 slaveA]# curl -sO http://54.161.131.187:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://54.161.131.187:8080/computer/slaveA/jenkins-agent.jnlp -secret 500fc21231c4128016cd4c8a01fe06041af62f3d7a1bd569d626fc5ce465dd07 -workDir "/home/slaveA"
Nov 22, 2023 10:21:38 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/slaveA/remoting as a remoting work directory
Nov 22, 2023 10:21:38 AM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /home/slaveA/remoting
Nov 22, 2023 10:21:38 AM hudson.remoting.jnlp.Main createEngine
INFO: Setting up agent: slaveA
Nov 22, 2023 10:21:39 AM hudson.remoting.Engine startEngine
INFO: Using Remoting version: 3160.vd76b9dd10cc
Nov 22, 2023 10:21:38 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/slaveA/remoting as a remoting work directory
Nov 22, 2023 10:21:39 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: WebSocket connection open
Nov 22, 2023 10:21:39 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Connected
```

i-016862f83323288d1 (slaveA)

PublicIPs: 54.164.16.118 PrivateIPs: 172.31.37.64

CloudShell Feedback

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27°C Partly sunny

Copy the unix command to linux slaveA instance and to the directory of slaveA

- Open slaveB

Browser tabs: bhargavi1101gn, ChatGPT, Instances | EC2, EC2 Instance Co, EC2 Instance Co, EC2 Instance Co, slaveB [Jenkins], New Tab

Address bar: Not secure | 54.161.131.187:8080/computer/slaveB/

Jenkins

Search (CTRL+K) ADMIN log out

Dashboard > Nodes > slaveB

Status

Delete Agent

Configure

Build History

Load Statistics

Log

Build Executor Status

Agent slaveB

Mark this node temporarily offline ⓘ

Add description

Connection was broken

Run from agent command line: (Unix)

```
curl -sO http://54.161.131.187:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://54.161.131.187:8080/computer/slaveB/jenkins-agent.jnlp -secret 9c9d7a2c2a0903ff98140dbfccccf248b4c7246684abba720a802aff2f47c68fc -workDir "/home/slaveB"
```

Run from agent command line: (Windows)

```
curl.exe -sO http://54.161.131.187:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://54.161.131.187:8080/computer/slaveB/jenkins-agent.jnlp -secret 9c9d7a2c2a0903ff98140dbfccccf248b4c7246684abba720a802aff2f47c68fc -workDir "/home/slaveB"
```

Or run from agent command line, with the secret stored in a file: (Unix)

```
echo 9c9d7a2c2a0903ff98140dbfccccf248b4c7246684abba720a802aff2f47c68fc > secret-file
```

27°C Partly sunny

Browser tabs: bhargavi1101gn, ChatGPT, Instances | EC2, EC2 Instance Co, EC2 Instance Co, EC2 Instance Co, slaveB [Jenkins], New Tab

Address bar: us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-08194a167ddf6edb7&osUser=ec2-user&sshPort=22#/

aws

Services Search [Alt+S] N. Virginia Bhargavi Gneni

```
Last login: Wed Nov 22 08:14:13 2023 from 18.206.107.27
[ec2-user@ip-172-31-37-9 ~]$ sudo su
[root@ip-172-31-37-9 ec2-user]# cd ..
[root@ip-172-31-37-9 home]# ls
ec2-user  slaveB
[root@ip-172-31-37-9 home]# cd slaveB
[root@ip-172-31-37-9 slaveB]# curl -sO http://54.161.131.187:8080/jnlpJars/agent.jar
java -jar agent.jar -jnlpUrl http://54.161.131.187:8080/computer/slaveB/jenkins-agent.jnlp -secret 9c9d7a2c2a0903ff98140dbfccccf248b4c7246684abba720a802aff2f47c68fc -workDir "/home/slaveB"
Nov 22, 2023 10:33:51 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/slaveB/remoting as a remoting work directory
Nov 22, 2023 10:33:51 AM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /home/slaveB/remoting
Nov 22, 2023 10:33:52 AM hudson.remoting.jnlp.Main createEngine
INFO: Setting up agent: slaveB
Nov 22, 2023 10:33:52 AM hudson.remoting.Engine startEngine
INFO: Using Remoting version: 3160.vd76b9dd10cc
Nov 22, 2023 10:33:52 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/slaveB/remoting as a remoting work directory
Nov 22, 2023 10:33:52 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: WebSocket connection open
Nov 22, 2023 10:33:52 AM hudson.remoting.jnlp.Main$CuiListener status
INFO: Connected
```

i-08194a167ddf6edb7 (slaveB)

PublicIPs: 35.173.139.133 PrivateIPs: 172.31.37.9

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NOTE : If the slave goes offline bring the slave back to online

Browser tabs: bhargavi1101gn, ChatGPT, Instances | EC2, EC2 Instance Co, EC2 Instance Co, EC2 Instance Co, slaveA [Jenkins], New Tab

Address bar: Not secure | 54.161.131.187:8080/computer/slaveA/

Jenkins

Search (CTRL+K) ADMIN log out

Dashboard > Nodes > slaveA

Agent slaveA

Bring this node back online Update offline reason Add description

Status

- Delete Agent
- Configure
- Build History
- Load Statistics
- Script Console
- Log
- System Information
- Disconnect

Build Executor Status

Projects tied to slaveA

S	W	Name	Last Success	Last Failure	Last Duration
✓	☁	project1	2 hr 26 min #12	2 hr 29 min #10	15 sec

Icon: S M L Icon legend Atom feed for all Atom feed for failures Atom feed for just latest builds

REST API Jenkins 2.426.1

27°C Mostly cloudy Search 16:08 22-11-2023

- After the slave is created, create build

Browser tabs: bhargavi1101gn, ChatGPT, Instances | EC2, EC2 Instance Co, EC2 Instance Co, EC2 Instance Co, project1 [Jenkins], New Tab

Address bar: Not secure | 54.161.131.187:8080/job/project1/

Jenkins

Search (CTRL+K) ADMIN log out

Dashboard > project1

project1

Add description Disable Project

Permalinks

- Last build (#12), 2 hr 28 min ago
- Last stable build (#12), 2 hr 28 min ago
- Last successful build (#12), 2 hr 28 min ago
- Last failed build (#10), 2 hr 30 min ago
- Last unsuccessful build (#10), 2 hr 30 min ago
- Last completed build (#12), 2 hr 28 min ago

Build History trend

Filter builds...

#	Build	Time
✓ #12	22 Nov 2023, 08:12	
✓ #11	22 Nov 2023, 08:11	
✗ #10	22 Nov 2023, 08:09	
✗ #9	22 Nov 2023, 07:24	
✗ #8	22 Nov 2023, 07:22	
✗ #7	22 Nov 2023, 07:20	

27°C Mostly cloudy Search 16:10 22-11-2023