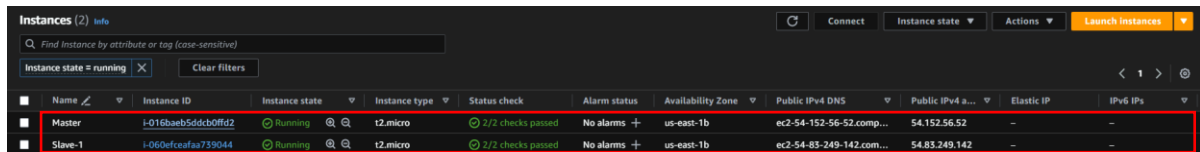


Jenkins Master Slave Architecture

Master to Slaves

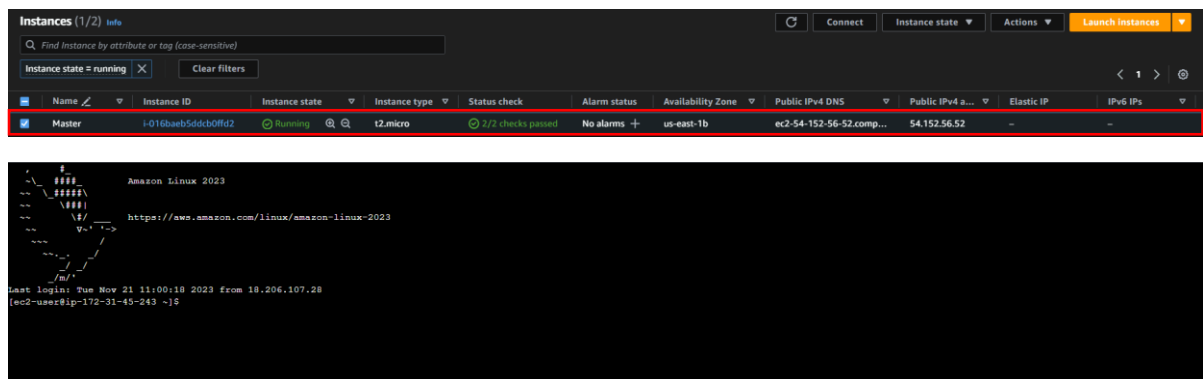
Step-1 : Create 2 instance in AWS Linux.

1. EC2-1 is Master
2. EC2-2 is Slave



Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 a...	Elastic IP	IPv6 IPs
Master	i-016baeb5ddcb0ff0d2	Running	t2.micro	2/2 checks passed	No alarms +	us-east-1b	ec2-54-152-56-52.comp...	54.152.56.52	-	-
Slave-1	i-060efceafaa739044	Running	t2.micro	2/2 checks passed	No alarms +	us-east-1b	ec2-54-83-249-142.com...	54.83.249.142	-	-

Step-2 : connect Master



```
aws ssm start-session --targets 'i-016baeb5ddcb0ff0d2'
```

Step-3 : Install Jenkins and java in Master.

to install : Jenkins

```
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
```

To Check : version of Jenkins whether installed or not. cmd : (jenkins --version)

to install : java

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

To Check : version of java whether installed or not. cmd : (java -version)

- Jenkins status is running.

```

[root@ip-172-31-45-243 ec2-user]# systemctl status jenkins
jenkins.service - Jenkins Continuous Integration Server
Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: disabled)
Active: active (running) since Thu 2023-11-23 04:10:22 UTC; 50min ago
Main PID: 1978 (java)
Tasks: 41 (limit: 1114)
Memory: 540.5M
CPU: 59.937s
CGroup: /system.slice/jenkins.service
└─1978 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Nov 23 04:10:22 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:22.126+0000 [id=31] INFO jenkins.InitReactorRunner$1:onAttained: Loaded all jobs
Nov 23 04:10:22 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:22.137+0000 [id=31] INFO jenkins.InitReactorRunner$1:onAttained: Configuration for all jobs updated
Nov 23 04:10:22 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:22.246+0000 [id=50] INFO hudson.util.Retrier$1:Attempt #1 to do the action check updates server
Nov 23 04:10:22 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:22.375+0000 [id=31] INFO jenkins.InitReactorRunner$1:onAttained: Completed initialization
Nov 23 04:10:22 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:22.481+0000 [id=24] INFO hudson.lifecycle.Lifecycle$onReady: Jenkins is fully up and running
Nov 23 04:10:22 ip-172-31-45-243.ec2.internal systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
Nov 23 04:10:47 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:47.636+0000 [id=50] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file for hudson.tasks.Maven
Nov 23 04:10:47 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:47.736+0000 [id=50] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file for hudson.tasks.Ant
Nov 23 04:10:47 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:47.918+0000 [id=50] INFO h.m.DownloadService$Downloadable$load: Obtained the updated data file for hudson.plugins.git
Nov 23 04:10:47 ip-172-31-45-243.ec2.internal jenkins[1978]: 2023-11-23 04:10:47.919+0000 [id=50] INFO hudson.util.Retrier$1:Attempt #1 to do the action check updates server successfully at the at
lines 1-20/20 (END)

```

Step-4 : Connect Slave-1

The screenshot shows the Jenkins 'Instances' page with two instances: 'Master' and 'Slave-1'. 'Slave-1' is highlighted with a red box. Below the table is a terminal window showing the login prompt for 'Slave-1'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 a...	Elastic IP	IPv6 IPs
Master	i-016baeb5ddcb0ff02	Running	t2.micro	2/2 checks passed	No alarms	us-east-1b	ec2-54-152-56-52.com...	54.152.56.52	-	-
Slave-1	i-060efcafa759044	Running	t2.micro	2/2 checks passed	No alarms	us-east-1b	ec2-54-83-249-142.com...	54.83.249.142	-	-

```

Amazon Linux 2023
Last login: Thu Nov 23 04:27:15 2023 from 18.206.107.28
[ec2-user@ip-172-31-41-200 ~]$

```

Step-5 : install java, git.

to install

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

To Check : version of java whether installed or not. cmd : (java -version)

To install

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

To Check : version of git whether installed or not. cmd : (git --version)

Step-6 : Create 1 directory (Slave-1), go inside, copy current absolute path.

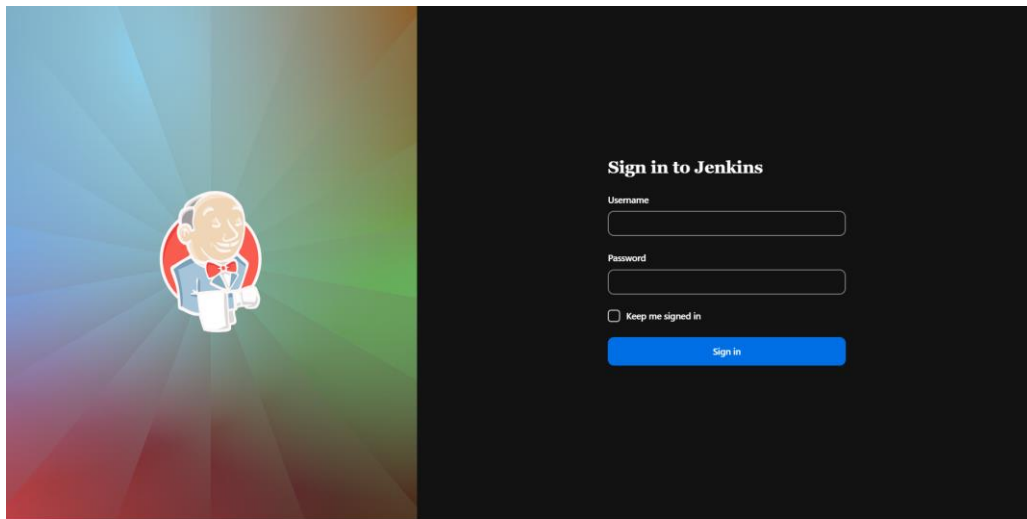
```

[ec2-user@ip-172-31-45-243 ~]$ mkdir Slave1
[ec2-user@ip-172-31-45-243 ~]$ cd Slave1/
[ec2-user@ip-172-31-45-243 Slave1]$ pwd
/home/ec2-user/Slave1
[ec2-user@ip-172-31-45-243 Slave1]$

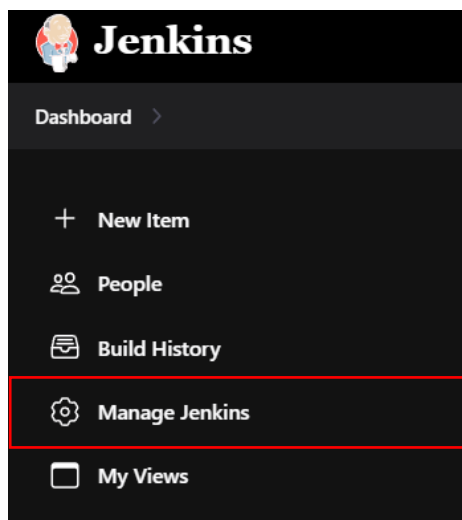
```

Step-7 : connect to Jenkins.

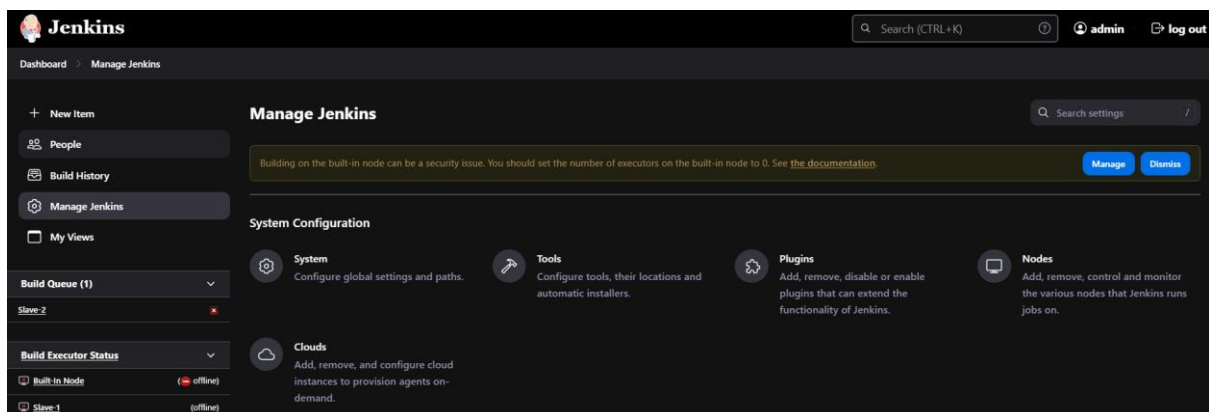
(with the help of **Master** instance public IP with :8080)



Step-8 : Create Node and connect to **slave-1**.



1. Go to manage **Jenkins**.
2. Node, New node.

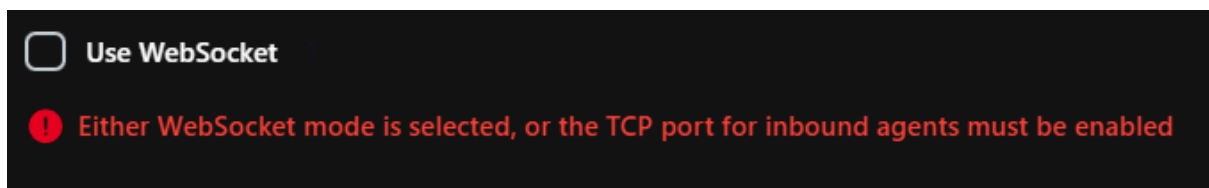




3. in Remote Root Directory give path which we have created in [slave-1](#).



4. Check Websocket.



5. Save.



6. Copy unix command and paste in Slave-1 (/home/ec2-user/Slave-1)
7. After paste [agent.jar](#), [remoting](#), secret-file, [workspace](#) will be create in that directory.

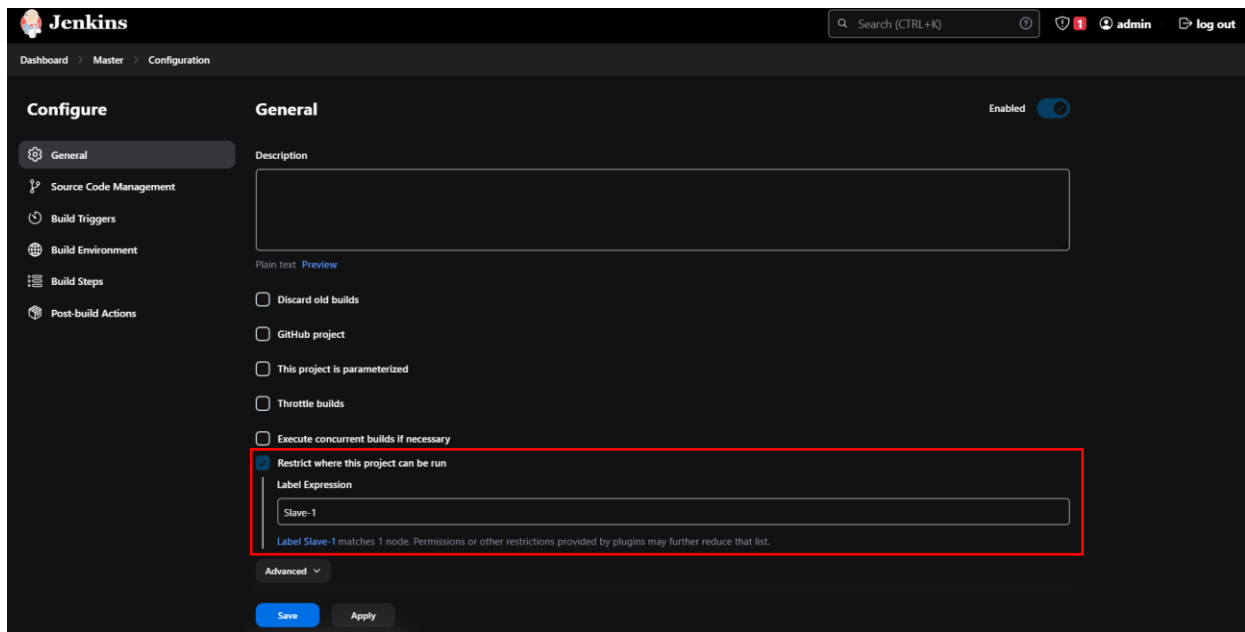
```
[root@ip-172-31-41-200 slave-1]# ls
agent.jar  remoting  secret-file  workspace
[root@ip-172-31-41-200 slave-1]# pwd
```

Note : Make sure your [slave-1](#) is in online.

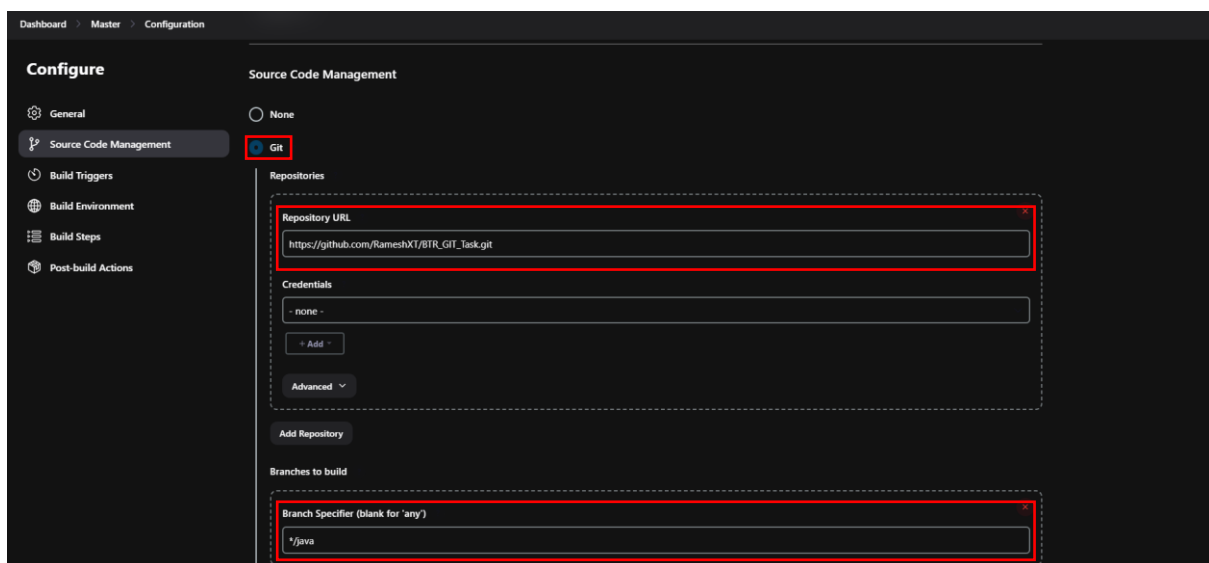
Step-9 : Create a Freestyle Project in Jenkins.

After creating a Jenkins project we need to configure that.

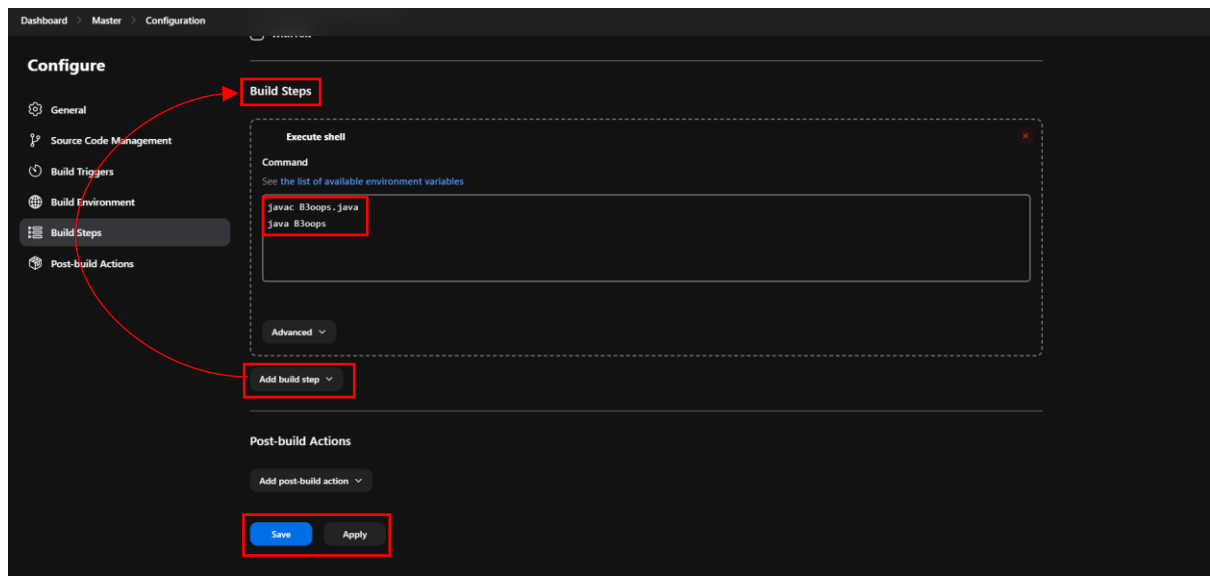
1. Restrict where this project can be run. (label **Slave-1**)



2. Click **git** (Source code management)
3. Add you repository link there.
4. Add branch.



5. in add build steps
6. execute shell command

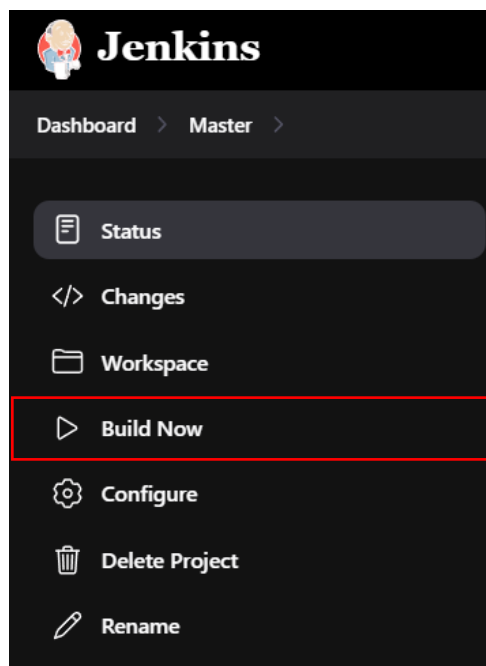


7. to compile `java` file, to run `java` file

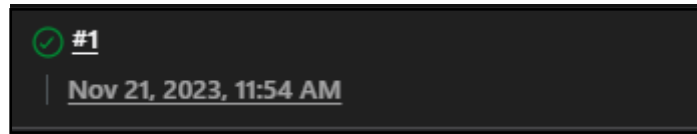
```
javac B3oops.java
java B3oops
```

8. save, and apply.

Step-10 : once finish with configuration build our project in project dashboard.



Step-11 : if our Build is success output will be shown in below.



A screenshot of the Jenkins web interface. The top navigation bar shows "Jenkins" with a logo, a search bar, and user information "admin". The breadcrumb trail is "Dashboard > Master > #1 > Console Output". The left sidebar contains a list of actions: "Status", "Changes", "Console Output" (selected), "View as plain text", "Edit Build Information", "Delete build '#10'", "Git Build Data", "Previous Build", and "Next Build". The main panel is titled "Console Output" with a green checkmark icon. It displays the build log, which starts with "Started by user admin" and "Running as SYSTEM". The log shows the build process on a slave node, including git commands to fetch and checkout code, and the execution of "javac Bloops.java". At the bottom of the log, the text "33709" and "Finished: SUCCESS" are displayed, with "Finished: SUCCESS" highlighted by a red rectangular box.