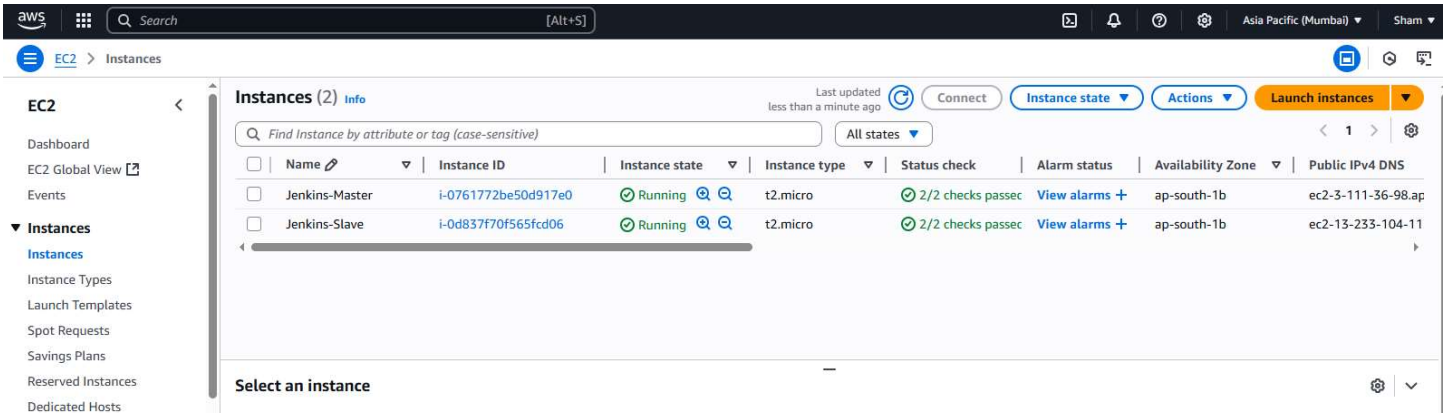
Configure for Master-Slave Agent Setup with Permeant and SSH Mode

1. Create separate Instance for master and Slave.



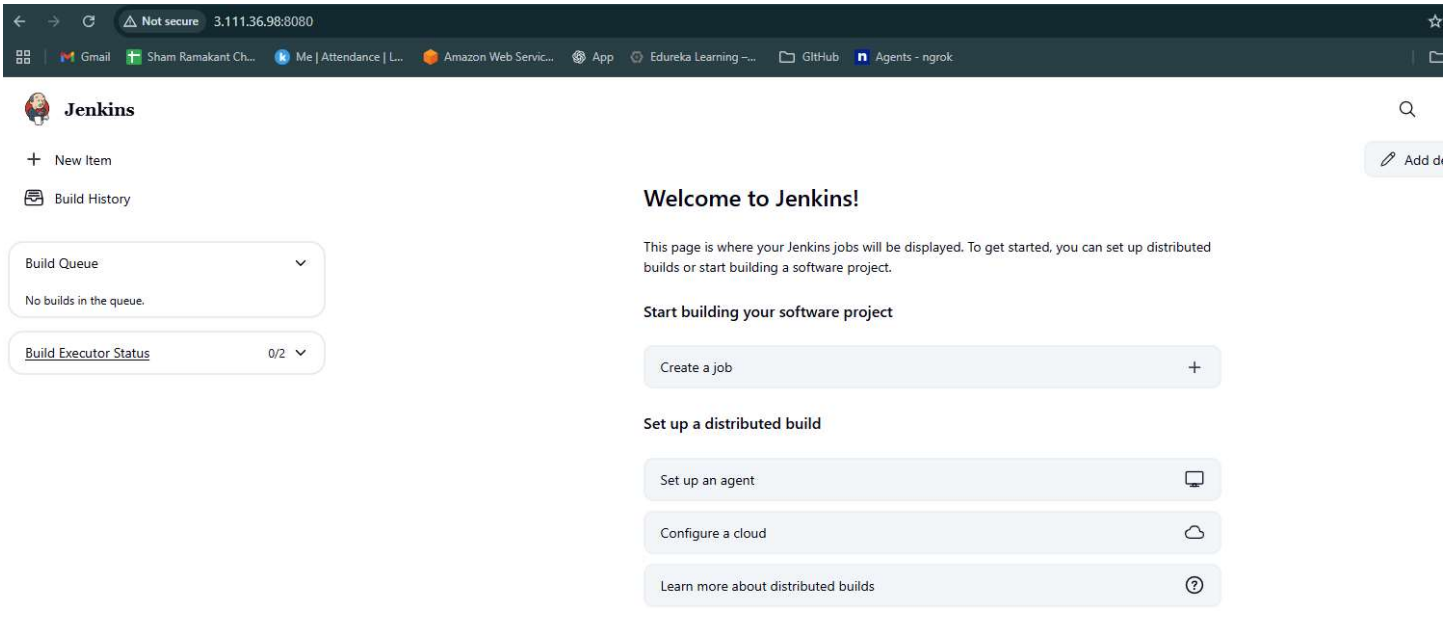
2. Configure Jenkins-Master server.

```
root@ip-172-31-8-214:~# systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
     Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
     Active: active (running) since Wed 2025-07-30 06:23:09 UTC; 18s ago
   Main PID: 4379 (java)
      Tasks: 40 (limit: 1124)
     Memory: 291.0M (peak: 303.9M)
        CPU: 17.475s
     CGroup: /system.slice/jenkins.service
             └─4379 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Jul 30 06:22:51 ip-172-31-8-214 jenkins[4379]: 8abe0a7848c9443b99bc27f5bc8b6edf
Jul 30 06:22:51 ip-172-31-8-214 jenkins[4379]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Jul 30 06:22:51 ip-172-31-8-214 jenkins[4379]: ************************************************************
Jul 30 06:22:51 ip-172-31-8-214 jenkins[4379]: ************************************************************
Jul 30 06:22:51 ip-172-31-8-214 jenkins[4379]: ************************************************************
Jul 30 06:22:59 ip-172-31-8-214 jenkins[4379]: 2025-07-30 06:22:59.802+0000 [id=48]        INFO        h.m.DownloadService$Downloadable#load: Obtained the updated data file
Jul 30 06:22:59 ip-172-31-8-214 jenkins[4379]: 2025-07-30 06:22:59.804+0000 [id=48]        INFO        hudson.util.Retrier#start: Performed the action check updates server s
Jul 30 06:23:09 ip-172-31-8-214 jenkins[4379]: 2025-07-30 06:23:09.178+0000 [id=31]        INFO        jenkins.InitReactorRunner$1#onAttained: Completed initialization
Jul 30 06:23:09 ip-172-31-8-214 jenkins[4379]: 2025-07-30 06:23:09.212+0000 [id=24]        INFO        hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
Jul 30 06:23:09 ip-172-31-8-214 systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
lines 1-20/20 (END)
```

i-0761772be50d917e0 (Jenkins-Master)

PublicIPs: 3.111.36.98 PrivateIPs: 172.31.8.214

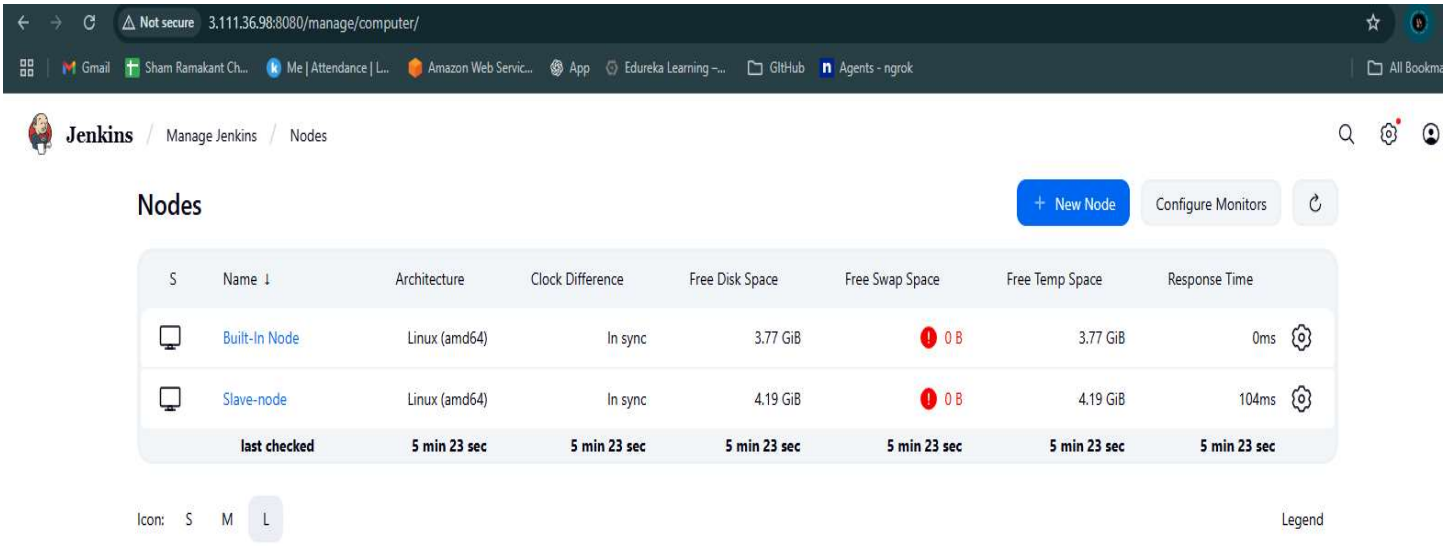


3. Configuring Agent on Jenkins.

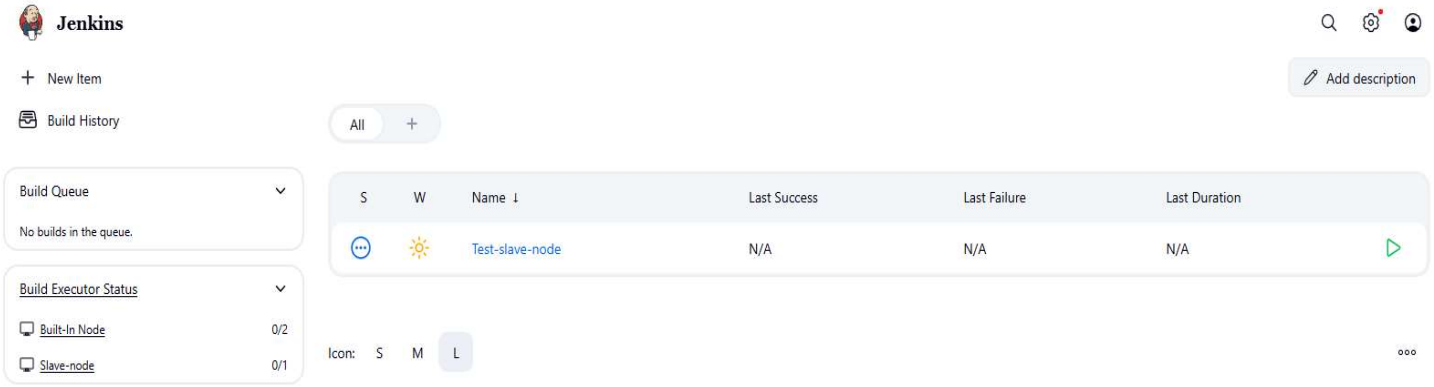
```
root@ip-172-31-11-237:~# java -jar agent.jar -url http://3.111.36.98:8080/ -secret 708ce9766926af2b42847d5223d6c96597aca041d44b1ca2e5a1c54674f8f9e1 -name "Sl
ve-node" -webSocket -workDir "/home/jenkins"
Jul 30, 2025 6:36:44 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/jenkins/remoting as a remoting work directory
Jul 30, 2025 6:36:44 AM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /home/jenkins/remoting
Jul 30, 2025 6:36:44 AM hudson.remoting.Launcher createEngine
INFO: Setting up agent: Slave-node
Jul 30, 2025 6:36:44 AM hudson.remoting.Engine startEngine
INFO: Using Remoting version: 3309.v27b_9314fd1a_4
Jul 30, 2025 6:36:44 AM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/jenkins/remoting as a remoting work directory
Jul 30, 2025 6:36:45 AM hudson.remoting.Launcher$CuiListener status
INFO: WebSocket connection open
Jul 30, 2025 6:36:45 AM hudson.remoting.Launcher$CuiListener status
INFO: Connected
```

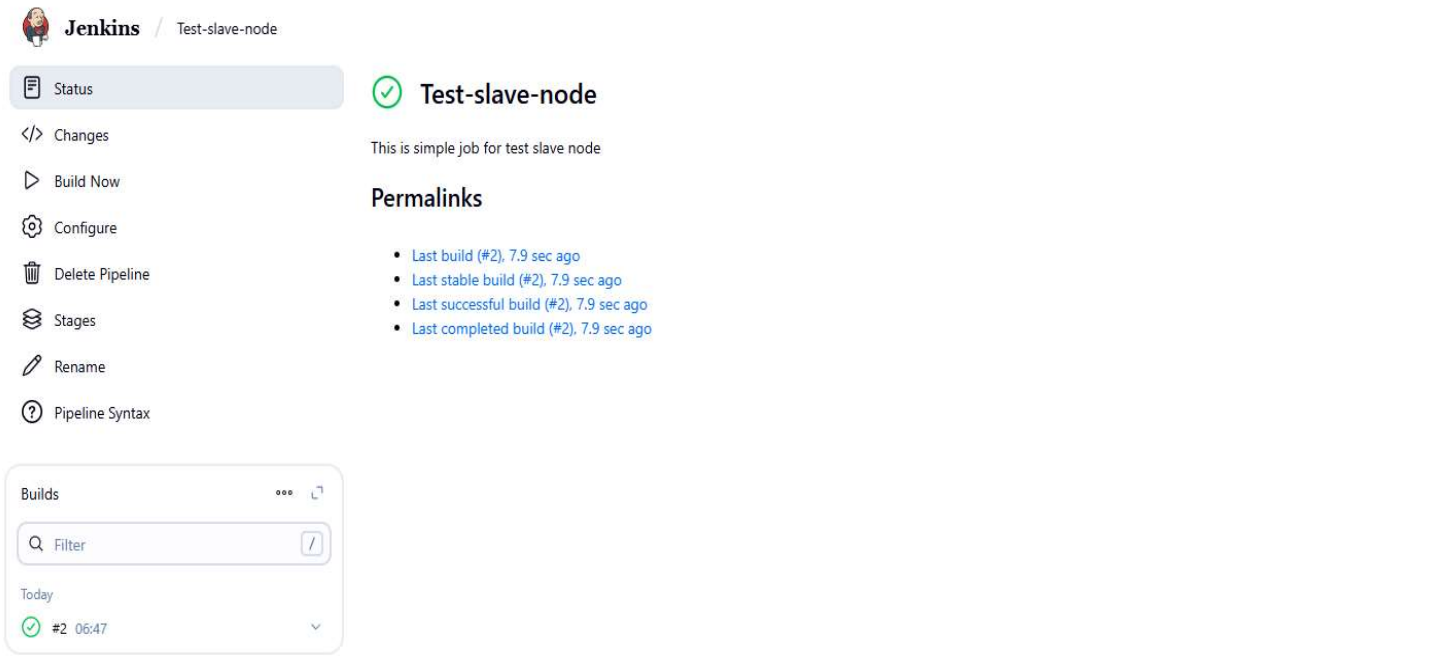
i-0d837f70f565fcd06 (Jenkins-Slave)

PublicIPs: 13.233.104.115 PrivateIPs: 172.31.11.237

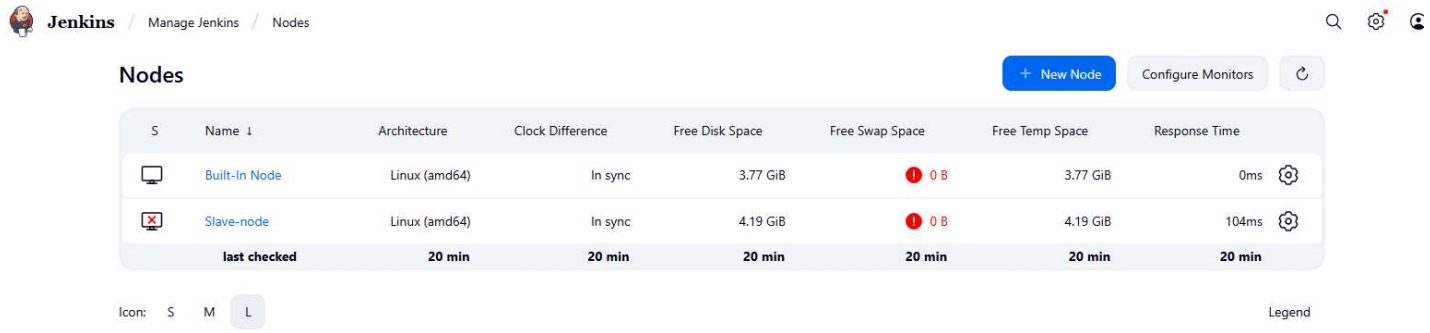


4. Create a Simple Job and running on Agent.





5. Run Jenkins Agent Permanently in Detached Mode.




```
root@ip-172-31-11-237:~# sudo mkdir -p /home/jenkins/agent
cd /home/jenkins/agent

# Download the agent.jar from controller
sudo curl -sO http://3.111.36.98:8080/jnlpJars/agent.jar

# Set permissions
sudo chown -R jenkins:jenkins /home/jenkins
root@ip-172-31-11-237:/home/jenkins/agent# curl -sO http://3.111.36.98:8080/jnlpJars/agent.jar
root@ip-172-31-11-237:/home/jenkins/agent# chown -R jenkins:jenkins /home/jenkins
root@ip-172-31-11-237:/home/jenkins/agent#
```

```
root@ip-172-31-11-237:/home/jenkins/agent# cat /etc/systemd/system/jenkins-agent.service

Description=Jenkins Agent
After=network.target

[Service]
User=jenkins
WorkingDirectory=/home/jenkins/agent
ExecStart=/usr/bin/java -jar /home/jenkins/agent/agent.jar \
  -url http://3.111.36.98:8080/ \
  -secret 708ce9766926af2b42847d5223d6c96597aca041d44b1ca2e5a1c54674f8f9e1 \
  -name "Slave-node" \
  -webSocket \
  -workDir "/home/jenkins"
Restart=always
RestartSec=10

[Install]
WantedBy=multi-user.target
root@ip-172-31-11-237:/home/jenkins/agent#
```

```
root@ip-172-31-11-237:/home/jenkins/agent# sudo systemctl daemon-reload
sudo systemctl enable jenkins-agent
sudo systemctl start jenkins-agent
sudo systemctl status jenkins-agent
Created symlink /etc/systemd/system/multi-user.target.wants/jenkins-agent.service → /etc/systemd/system/jenkins-agent.service.
● jenkins-agent.service
     Loaded: loaded (/etc/systemd/system/jenkins-agent.service; enabled; preset: enabled)
     Active: active (running) since Wed 2025-07-30 07:08:21 UTC; 35ms ago
   Main PID: 4092 (java)
      Tasks: 2 (limit: 1124)
     Memory: 8.7M (peak: 8.8M)
        CPU: 14ms
     CGroup: /system.slice/jenkins-agent.service
             └─4092 /usr/bin/java -jar /home/jenkins/agent/agent.jar -url http://3.111.36.98:8080/ -secret 708ce9766926af2b42847d5223d6c96597aca041d44b1ca
1c54674f8f9e1 -na>

Jul 30 07:08:21 ip-172-31-11-237 systemd[1]: Started jenkins-agent.service.
Jul 30 07:08:21 ip-172-31-11-237 systemd[1]: /etc/systemd/system/jenkins-agent.service:2: Assignment outside of section. Ignoring.
Jul 30 07:08:21 ip-172-31-11-237 systemd[1]: /etc/systemd/system/jenkins-agent.service:3: Assignment outside of section. Ignoring.
lines 1-13/13 (END)
```

Verify on server

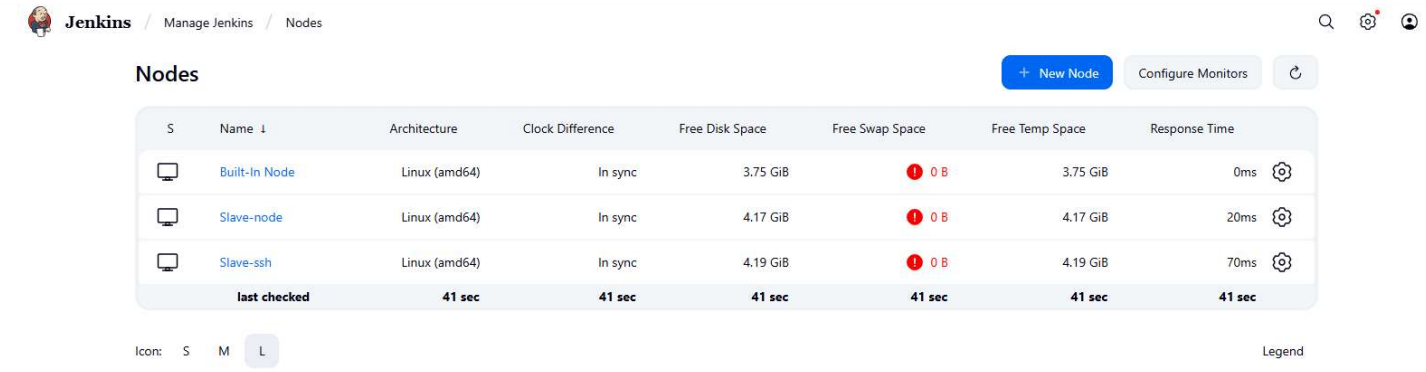
6. Connecting Node via SSH

Step: 1. Generate key one master using: ssh-keygen

2. Transfer Public Key to Slave Server.

3. Try to Connect slave server on Master manually.

Create Node.



```
ubuntu@ip-172-31-10-154:~$ cd /home/ubuntu/.ssh/
ubuntu@ip-172-31-10-154:~/.ssh$ LS
LS: command not found
ubuntu@ip-172-31-10-154:~/.ssh$ Ls
Ls: command not found
ubuntu@ip-172-31-10-154:~/.ssh$ ls
authorized_keys
ubuntu@ip-172-31-10-154:~/.ssh$ vi authorized_keys
ubuntu@ip-172-31-10-154:~/.ssh$ cd ..
ubuntu@ip-172-31-10-154:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-10-154:~$ ls
caches  remoting  remoting.jar  workspace
ubuntu@ip-172-31-10-154:~$ cd workspace/
ubuntu@ip-172-31-10-154:~/workspace$ ls
Test-slave-node  Test-slave-node@tmp
ubuntu@ip-172-31-10-154:~/workspace$ cd Test-slave-node
ubuntu@ip-172-31-10-154:~/workspace/Test-slave-node$ ls
sham.txt
ubuntu@ip-172-31-10-154:~/workspace/Test-slave-node$
```

i-0a1eabc15fe476d76 (Slave-SSH)

PublicIPs: 43.204.211.155 PrivateIPs: 172.31.10.154