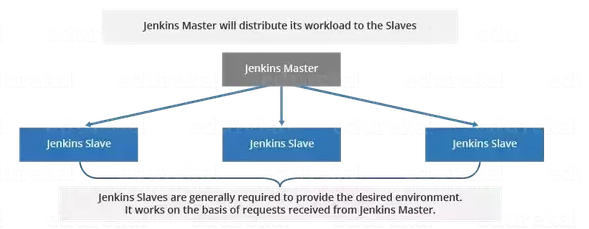
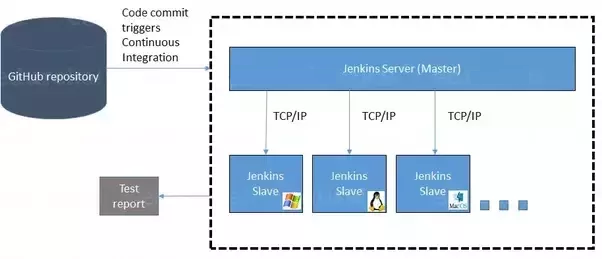
**Use of master and slave in Jenkins**

* Jenkins checks the Git repository at periodic intervals for any changes made in the source code.
* Each builds requires a different testing environment which is not possible for a single Jenkins server. In order to perform testing in different environments Jenkins uses various Slaves as shown in the diagram.
* Jenkins Master requests these Slaves to perform testing and to generate test reports.





**Jenkins distributed Architecture**

* Jenkins uses a Master Slave architecture to manage the distributed builds
* The Master and slave communicate through Tcp/IP Protocol.

**Jenkins Master:** Your main Jenkins server is the Master.

* Scheduling build jobs.
* Dispatching builds to the slaves for the actual execution.
* Monitor the slaves (possibly taking them online and offline as required).
* Recording and presenting the build results.
* A Master instance of Jenkins can also execute build jobs directly.

**Jenkins Slave:** A Slave is a Java executable that runs on a remote machine

* It hears requests from the Jenkins Master instance.
* Slaves can run on a variety of operating systems.
* The job of a Slave is to do as they are told to, which involves executing build jobs dispatched by the Master.

**How to configure Jenkins Master to Slaves/Nodes/Clients**

**Create 3 instances in AWS which ever you want**

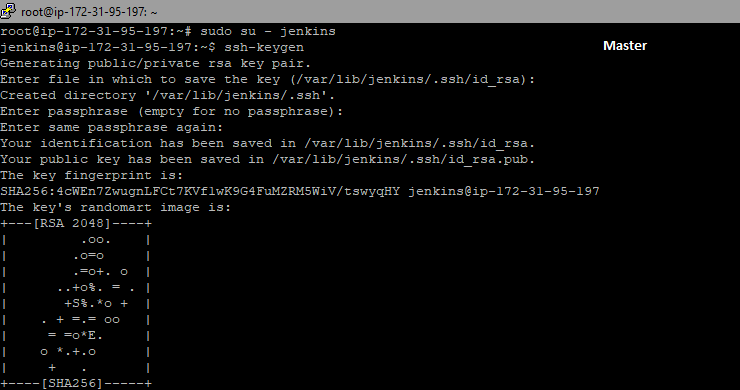
**I am taking 3 ubuntu instances i.e**

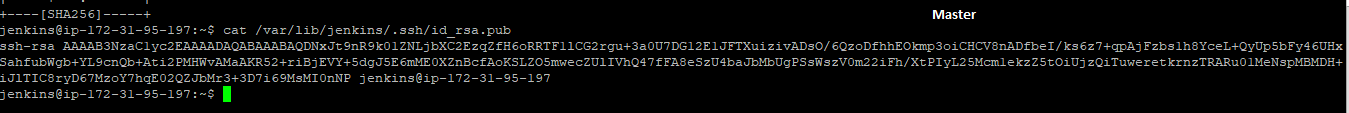
1. **Jenkins\_Master 🡪Private Ip: 172.31.95.197**
2. **Jenkins\_Slave1**
3. **Jenkins\_Slave2**

****

**Install Jenkins on Master -🡪 Open the Terminal of Jenkins\_Master**

* **switch user to root 🡪 sudo su -**
* **switch user to Jenkins 🡪 sudo su – jenkins**
* **now generate sshkey in Master**

****

****

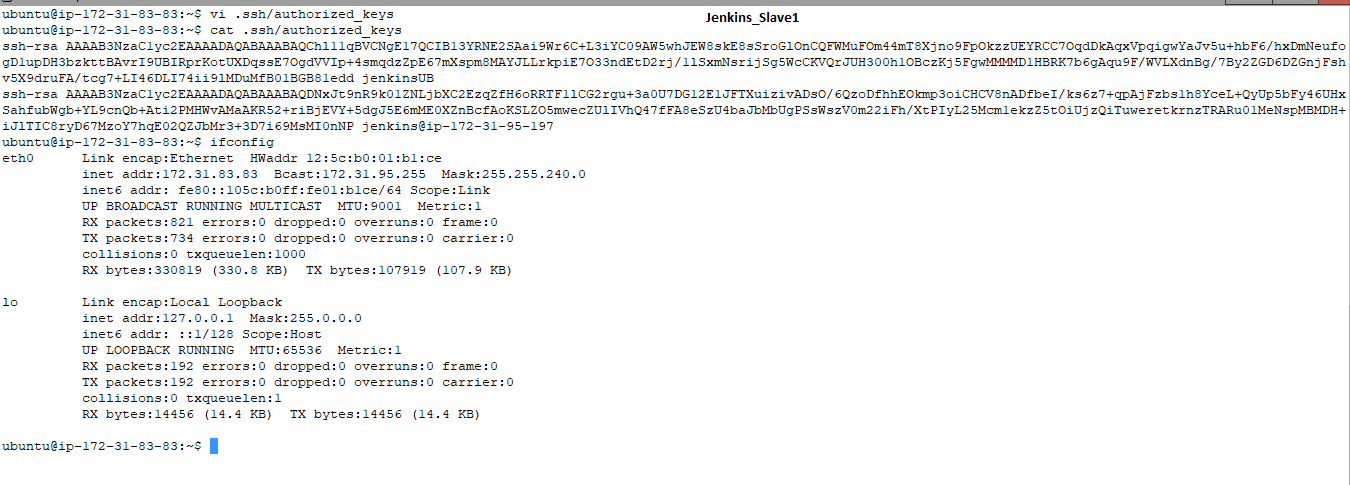
* **copy the public key and paste into the Jenkins\_Slave1 and Jenkins\_Slave2**

**Now open Jenkins\_Slave1 terminal**

**vi .ssh/authorized\_keys 🡪 esc I, esc o 🡪 paste the master public key into this**

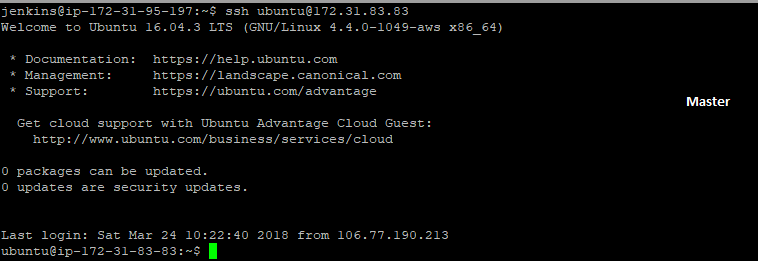
**and close esc :wq!**

**Check is correctly pasted or not 🡪 cat .ssh/authorized\_keys**

****

**Copy the private ip of Jenkins\_Slave1 to master for the communication purpose**

**ssh ubuntu@172.31.83.83**

****

**Exit form that to master**

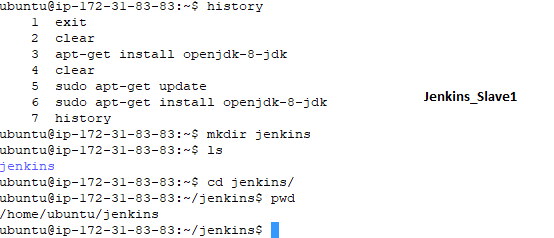
* **Jenkins is written in Java so if want to connect the Jenkins master java is perquisite so install java in Jenkins\_slave1 and also update apt Repo**

**sudo apt-get update**

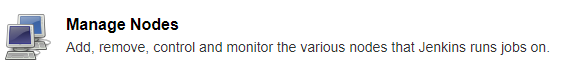
**sudo apt-get install openjdk-8-jdk**

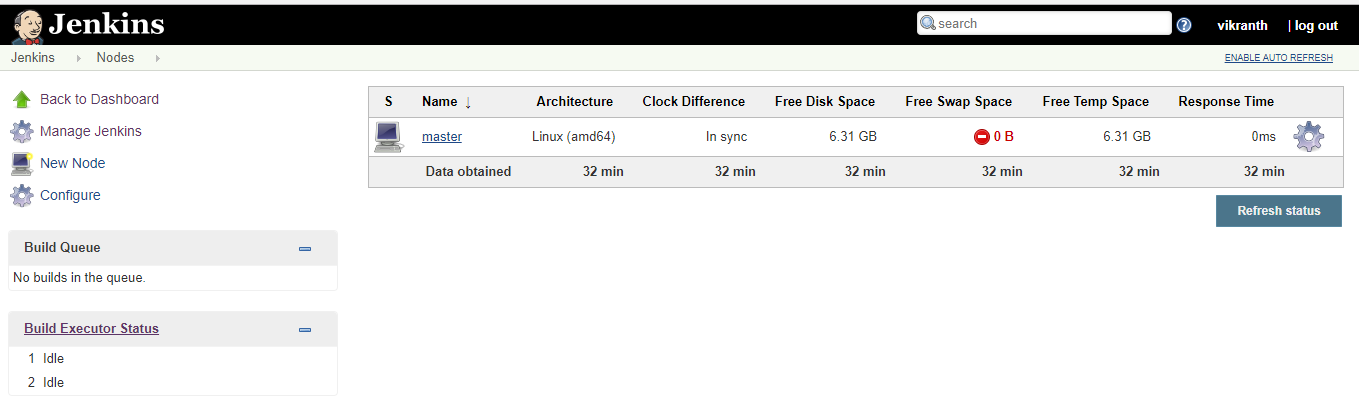
**after that create one directory name as Jenkins**

**mkdir Jenkins 🡪 ls🡪 cd Jenkins 🡪pwd**

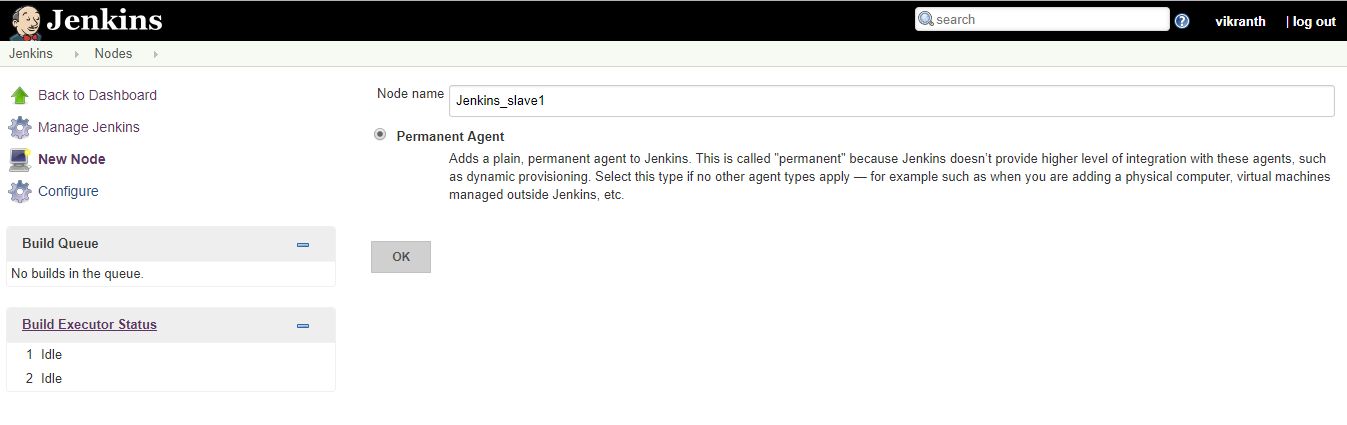
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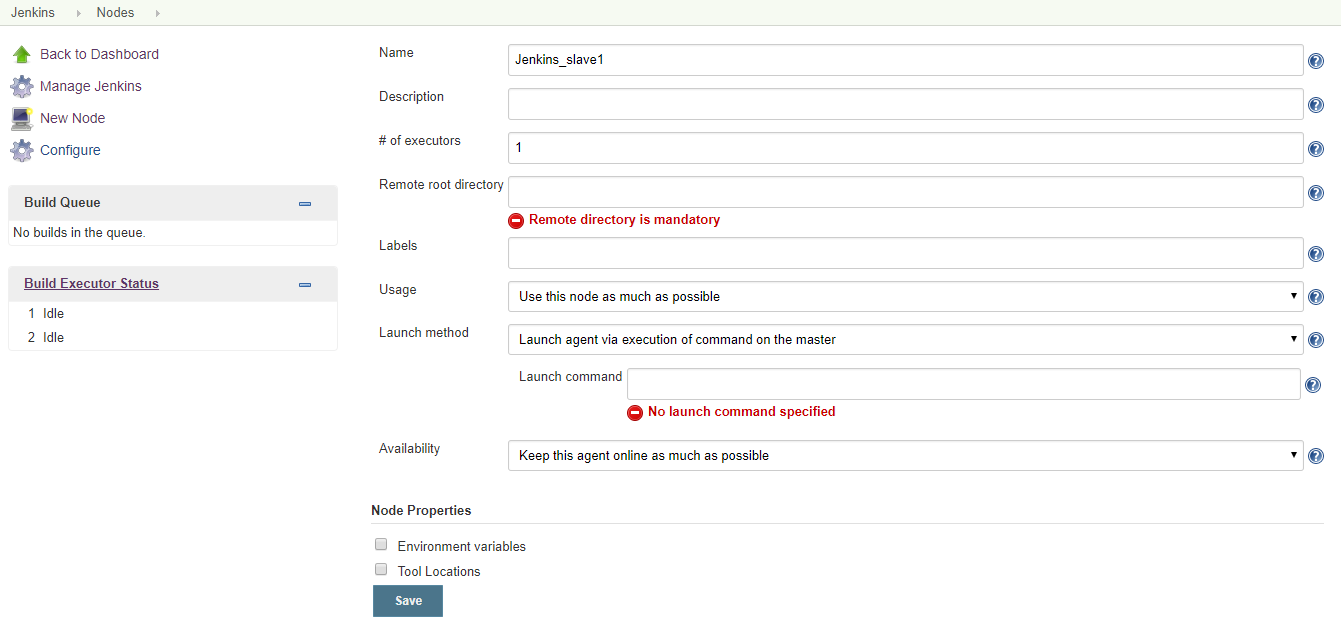
**Now go to Jenkins Dashboard 🡪** [**http://54.89.229.86:8080/**](http://54.89.229.86:8080/)

**Manage Jenkins🡪 Manage Nodes🡪 **

****

**Click on New Node🡪 give the node Name and select Permanent🡪 ok**

****

****

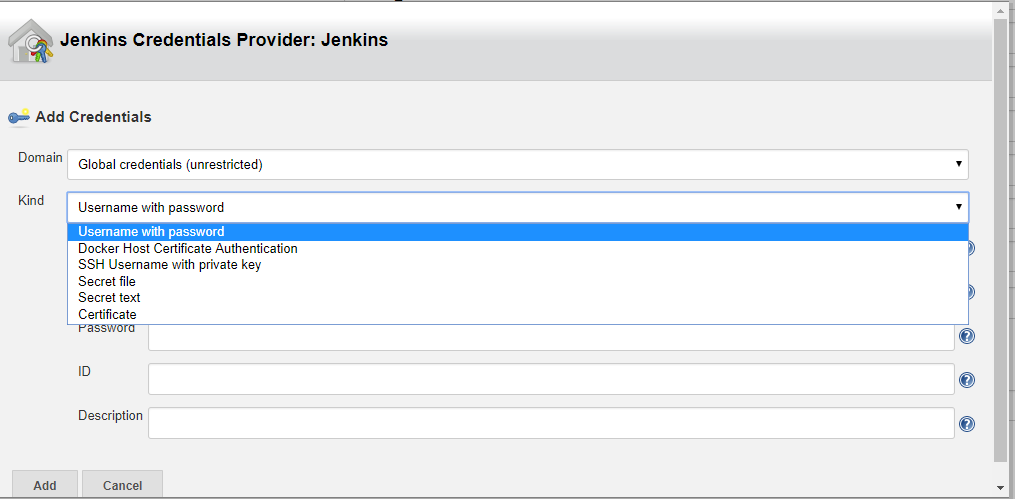
**Under Remote root Directory-🡪 give slave1 home Directory path i.e**

**/home/ubuntu/Jenkins**

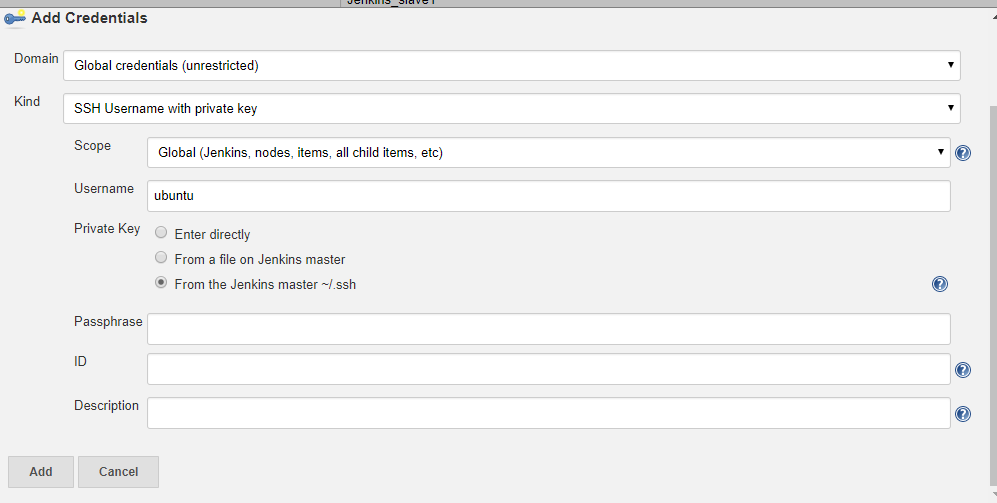
**Give the labels as 🡪 linux whatever it is**

**Launch method select the 🡪Launch ssh agents via SSH**

**Host 🡪 give the private ip of slave1 🡪** **172.31.83.83**

****

**Kind🡪 username with password**

****

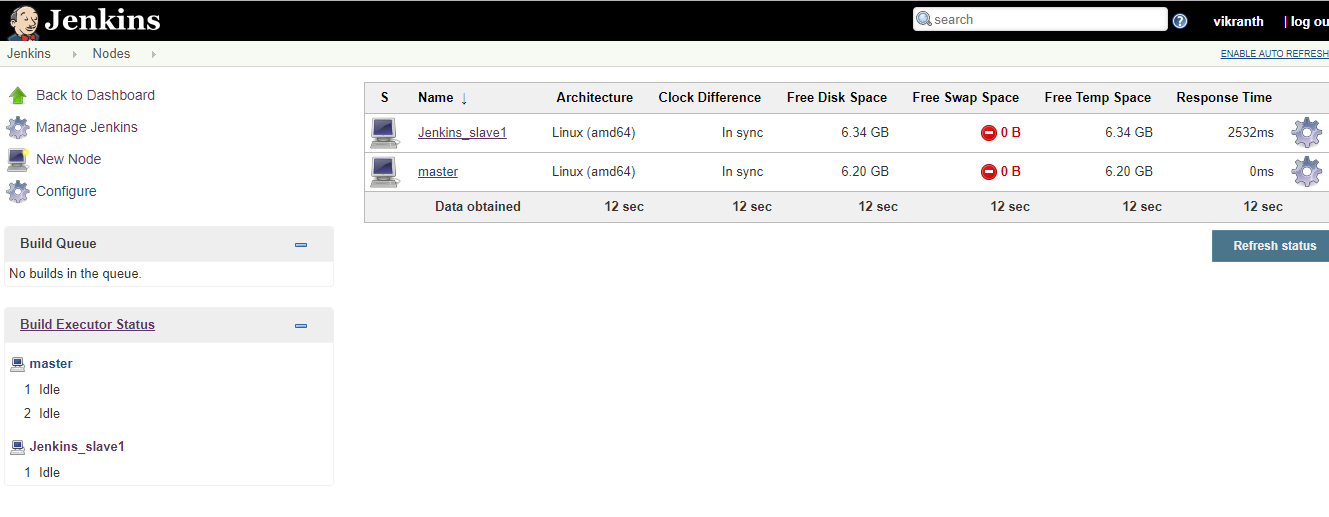
**User name as 🡪ubuntu**

**Private key🡪 🡪 add**

**Under credentials 🡪 take the user name**

** click on ok**

**Now click on Jenkins\_Slave1🡪**

****

**Now Jenkins\_Slave1 added to master successfully**

**Similarly you can add many number of slaves to ur Master**

**Now connect slave2 to master**

**Steps:**

* **Copy the ssh public key and paste into the Slave2**
* **Check the communication between master and slave2**
* **Install the java in slave2**
* **Create the directory as Jenkins in slave**
* **on Jenkins dashboard🡪**

**Manage nodes🡪**

**add node🡪**

**give remote directory as slave home directory 🡪 /home/ubuntu/jenkins**

**labels name -- linux🡪**

**Take launch method as 🡪 Launch slave agents via SSH**

**Host 🡪 give the slave2 private ip**

**Click on add 🡪 Jenkins🡪 kind🡪 SSH Username with private key**

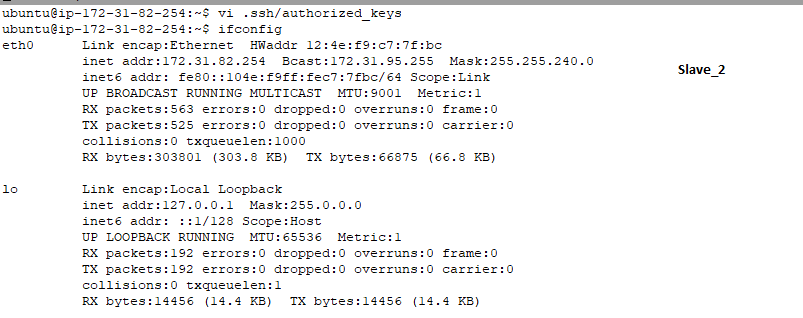
**User Name 🡪 ubuntu**

**Private key 🡪 select From the Jenkins Master ~/.ssh 🡪 add**

**Credentials 🡪**

**take user name 🡪 ubuntu**

**save  
click on launch the slave2**

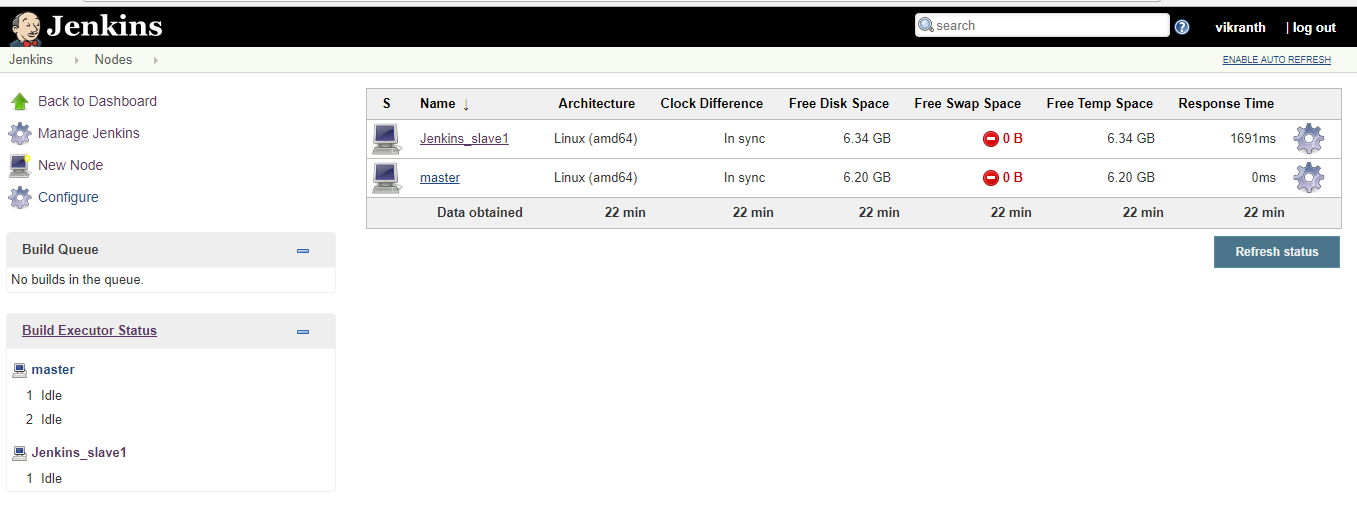
**----------------------------------------------------------------------------------------------------**

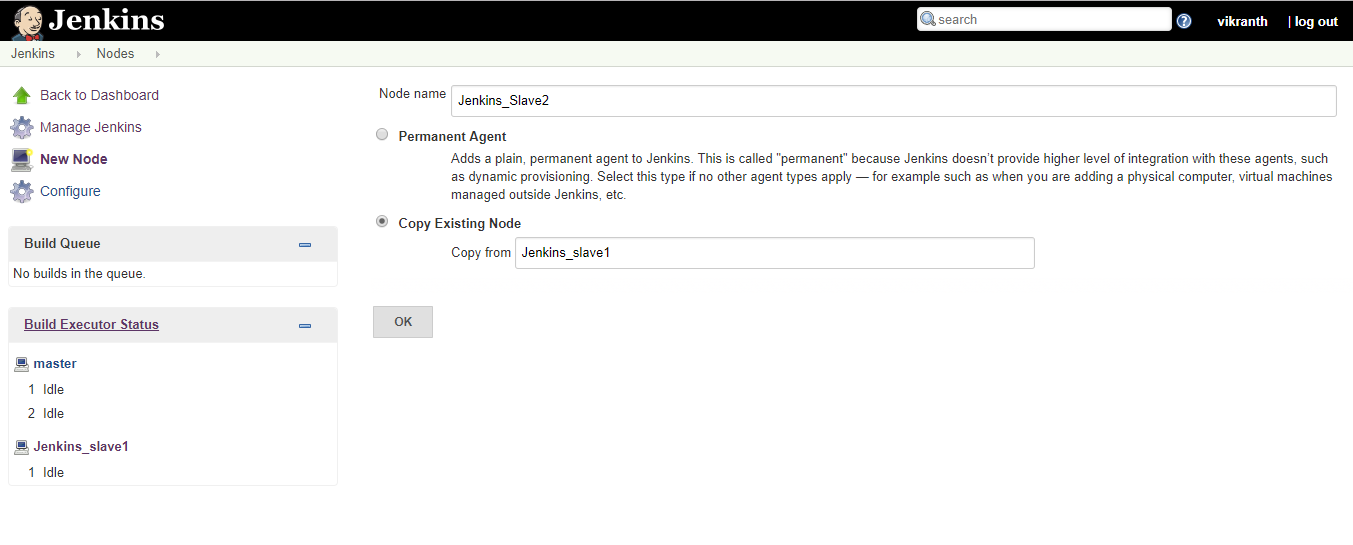
**sudo apt-get update**

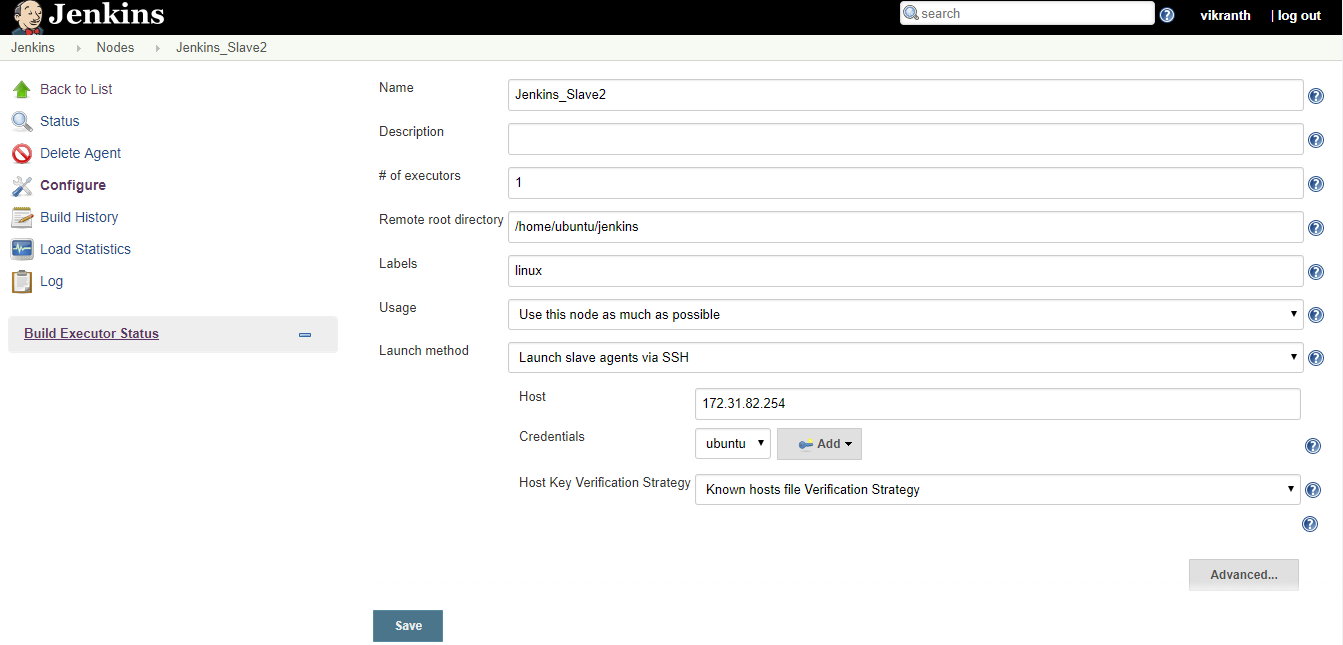
**sudo apt-get install openjdk-8-jdk**

**mkdir Jenkins 🡪 /home/ubuntu/Jenkins**

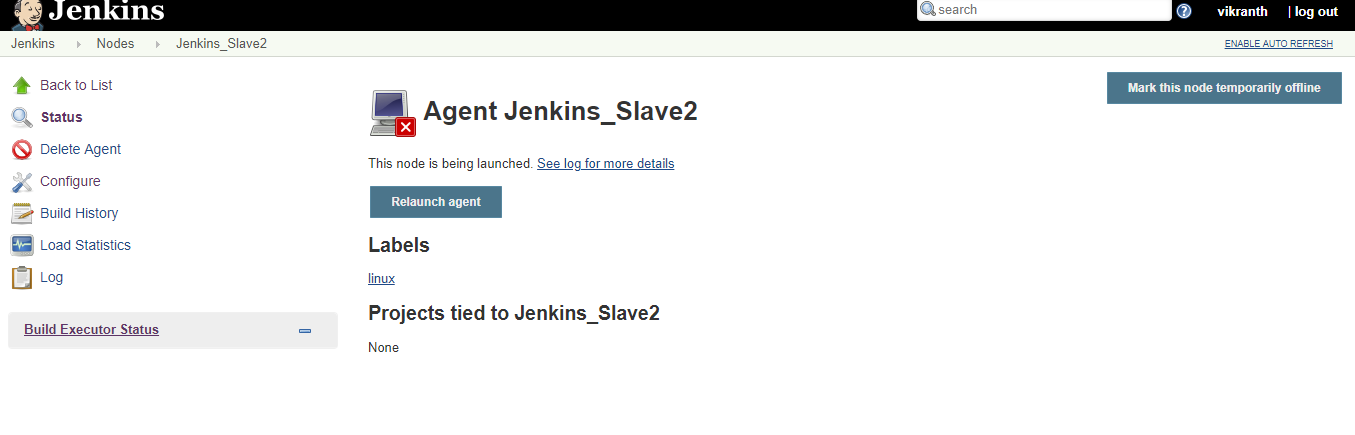
**now go to Jenkins dashboard 🡪 Manage Jenkins🡪 Manage Nodes🡪 New Node**

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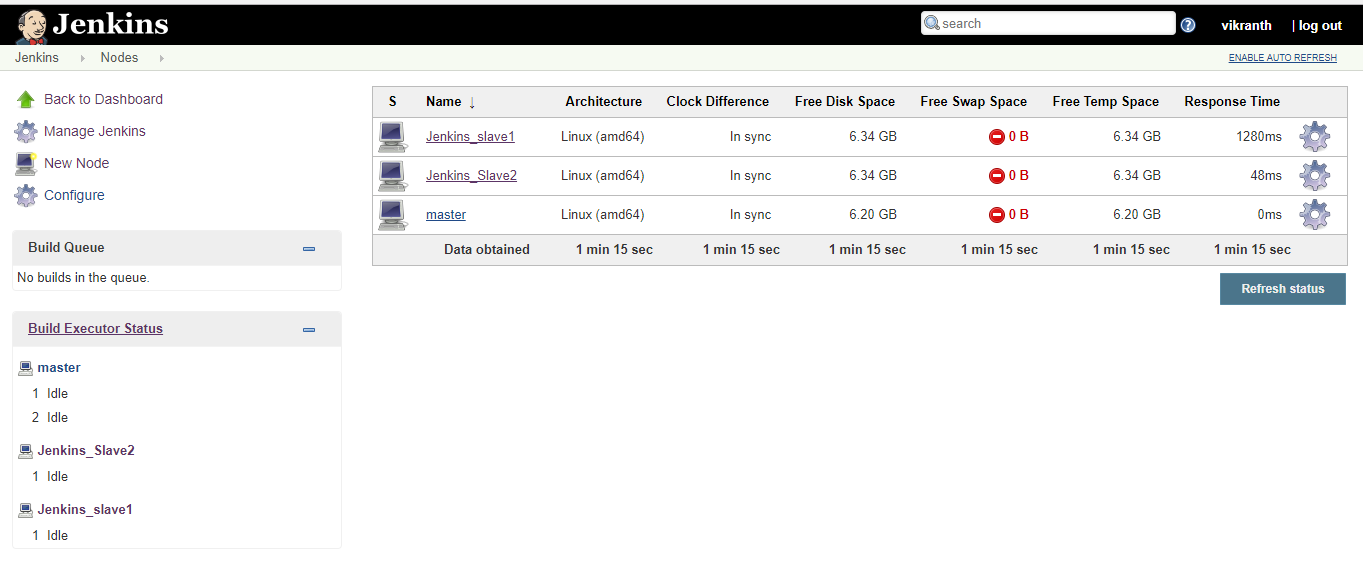
****

**Give the all details and save**

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**Click on Relaunch agent**

**And go to nodes🡪**

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