

Master-slave configuration

creating private and public key pairs in the SSH directory on the master.

```
ubuntu@ip-172-31-46-166: ~/.ssh
root@ip-172-31-46-166:~# exit
logout
ubuntu@ip-172-31-46-166:~$ ls -lrt
total 0
ubuntu@ip-172-31-46-166:~$ ls -lart
total 28
-rw-r--r-- 1 ubuntu ubuntu 807 Feb 25 2020 .profile
-rw-r--r-- 1 ubuntu ubuntu 3771 Feb 25 2020 .bashrc
-rw-r--r-- 1 ubuntu ubuntu 220 Feb 25 2020 .bash_logout
drwxr-xr-x 3 root root 4096 Apr 11 12:20 ..
drwx----- 2 ubuntu ubuntu 4096 Apr 11 12:20 .ssh
drwx----- 2 ubuntu ubuntu 4096 Apr 11 12:24 .cache
-rw-r--r-- 1 ubuntu ubuntu 0 Apr 11 12:24 .sudo_as_admin_successful
drwxr-xr-x 4 ubuntu ubuntu 4096 Apr 11 12:24 .
ubuntu@ip-172-31-46-166:~$ cd .ssh
ubuntu@ip-172-31-46-166:~/.ssh$ ls
authorized_keys
ubuntu@ip-172-31-46-166:~/.ssh$
```

```
ubuntu@ip-172-31-46-166:~/.ssh$ touch id_rsa
ubuntu@ip-172-31-46-166:~/.ssh$ touch id_rsa.pub
ubuntu@ip-172-31-46-166:~/.ssh$ ls -lrt
total 4
-rw----- 1 ubuntu ubuntu 391 Apr 11 12:20 authorized_keys
-rw-rw-r-- 1 ubuntu ubuntu 0 Apr 11 12:30 id_rsa
-rw-rw-r-- 1 ubuntu ubuntu 0 Apr 11 12:30 id_rsa.pub
ubuntu@ip-172-31-46-166:~/.ssh$ cp authorized_keys id_rsa.pub
ubuntu@ip-172-31-46-166:~/.ssh$ ls -lrt
total 8
-rw----- 1 ubuntu ubuntu 391 Apr 11 12:20 authorized_keys
-rw-rw-r-- 1 ubuntu ubuntu 0 Apr 11 12:30 id_rsa
-rw-rw-r-- 1 ubuntu ubuntu 391 Apr 11 12:31 id_rsa.pub
ubuntu@ip-172-31-46-166:~/.ssh$
```

Changing the modification of those files as only as read mode.

```
ubuntu@ip-172-31-46-166: ~/.ssh
ubuntu@ip-172-31-46-166:~/.ssh$ vi id_rsa
ubuntu@ip-172-31-46-166:~/.ssh$ ls -lrt
total 12
-rw----- 1 ubuntu ubuntu 391 Apr 11 12:20 authorized_keys
-rw-rw-r-- 1 ubuntu ubuntu 391 Apr 11 12:31 id_rsa.pub
-rw-rw-r-- 1 ubuntu ubuntu 1675 Apr 11 12:31 id_rsa
ubuntu@ip-172-31-46-166:~/.ssh$ chmod 400 *
ubuntu@ip-172-31-46-166:~/.ssh$ ls -lrt
total 12
-r----- 1 ubuntu ubuntu 391 Apr 11 12:20 authorized_keys
-r----- 1 ubuntu ubuntu 391 Apr 11 12:31 id_rsa.pub
-r----- 1 ubuntu ubuntu 1675 Apr 11 12:31 id_rsa
ubuntu@ip-172-31-46-166:~/.ssh$
```

Now taking ssh localhost to connect.

```
ubuntu@ip-172-31-46-166: ~
ECDSA key fingerprint is SHA256:CaVTx78w0zT7ZM572cgMKLk/nImLdaWgC9eIsXzXt/Y.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'localhost' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-1055-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Thu Apr 11 12:32:43 UTC 2024

System load:  0.0          Processes:      105
Usage of / :  29.3% of 7.57GB   Users logged in: 1
Memory usage: 25%          IPv4 address for ens5: 172.31.46.166
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

40 updates can be applied immediately.
27 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

New release '22.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Thu Apr 11 12:24:03 2024 from 152.58.227.28
ubuntu@ip-172-31-46-166:~$
```

Now in the slave machine creating a remote directory for the creation of Jenkins workspace.

```
ubuntu@ip-172-31-42-227: ~/jenkins
root@ip-172-31-42-227:~# exit
logout
ubuntu@ip-172-31-42-227:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-42-227:~$ mkdir jenkins
ubuntu@ip-172-31-42-227:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-42-227:~$ cd jenkins
ubuntu@ip-172-31-42-227:~/jenkins$ pwd
/home/ubuntu/jenkins
ubuntu@ip-172-31-42-227:~/jenkins$ ^C
ubuntu@ip-172-31-42-227:~/jenkins$
```

Creating a new node in Jenkins web interface.

The screenshot shows the Jenkins web interface in a browser window. The address bar indicates the URL is `16.170.202.124:8080/manage/computer/createitem`. The page title is "Jenkins". The breadcrumb navigation shows "Dashboard > Manage Jenkins > Nodes >". The form for creating a new node is displayed with the following fields:

- Name**:
- Description**:
- Number of executors**:

At the bottom of the form is a blue "Save" button. The browser's taskbar at the bottom shows the time as 12:53 on 12-04-2024.

Instance details | EC2 | eu-north-1 x Jenkins x Jenkins: Automation for CI/CD. x +

Not secure 16.170.202.124:8080/manage/computer/createitem

Dashboard > Manage Jenkins > Nodes >

Remote root directory ?

/home/ubuntu/jenkins

Labels ?

salve1

Usage ?

Use this node as much as possible

Launch method ?

Launch agents via SSH

Host ?

51.204.222

Save

Type here to search

12:54 12-04-2024

Instance details | EC2 | eu-north-1 x Jenkins x Jenkins: Automation for CI/CD. x +

Not secure 16.170.202.124:8080/manage/computer/createitem

Dashboard > Manage Jenkins > Nodes >

Launch method ?

Launch agents via SSH

Host ?

51.204.222

Credentials ?

ubuntu

+ Add

Host Key Verification Strategy ?

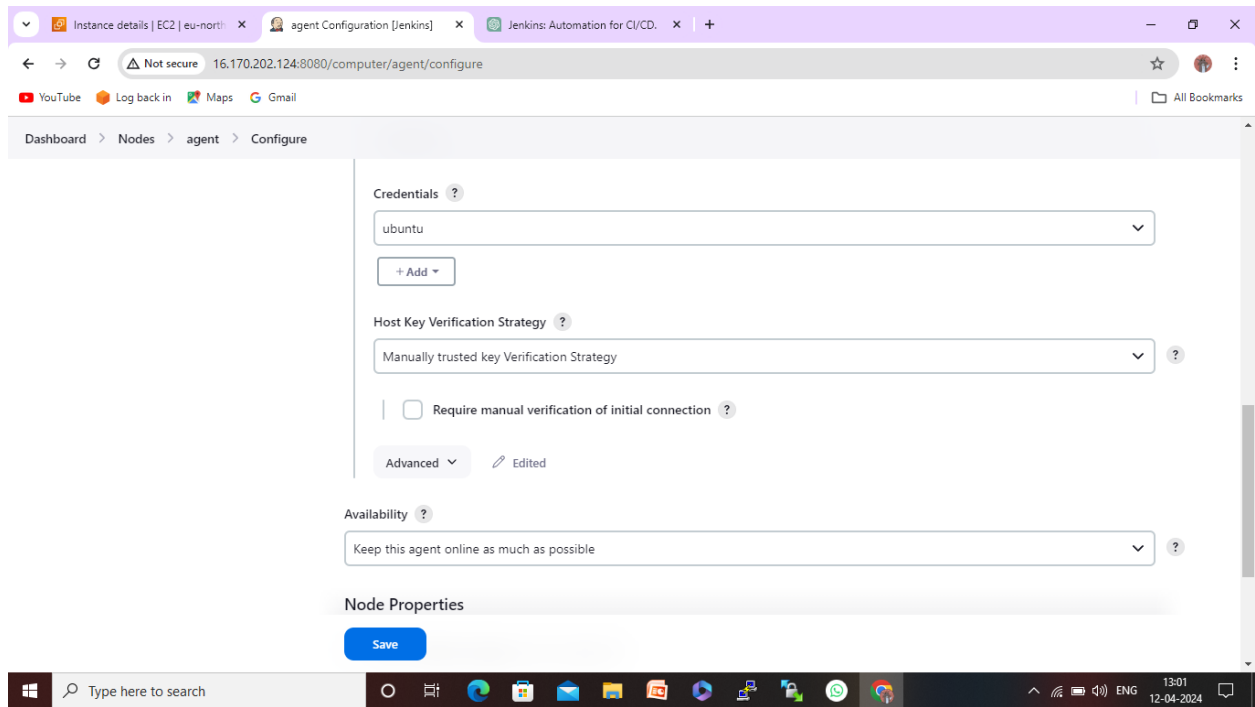
Known hosts file Verification Strategy

Advanced

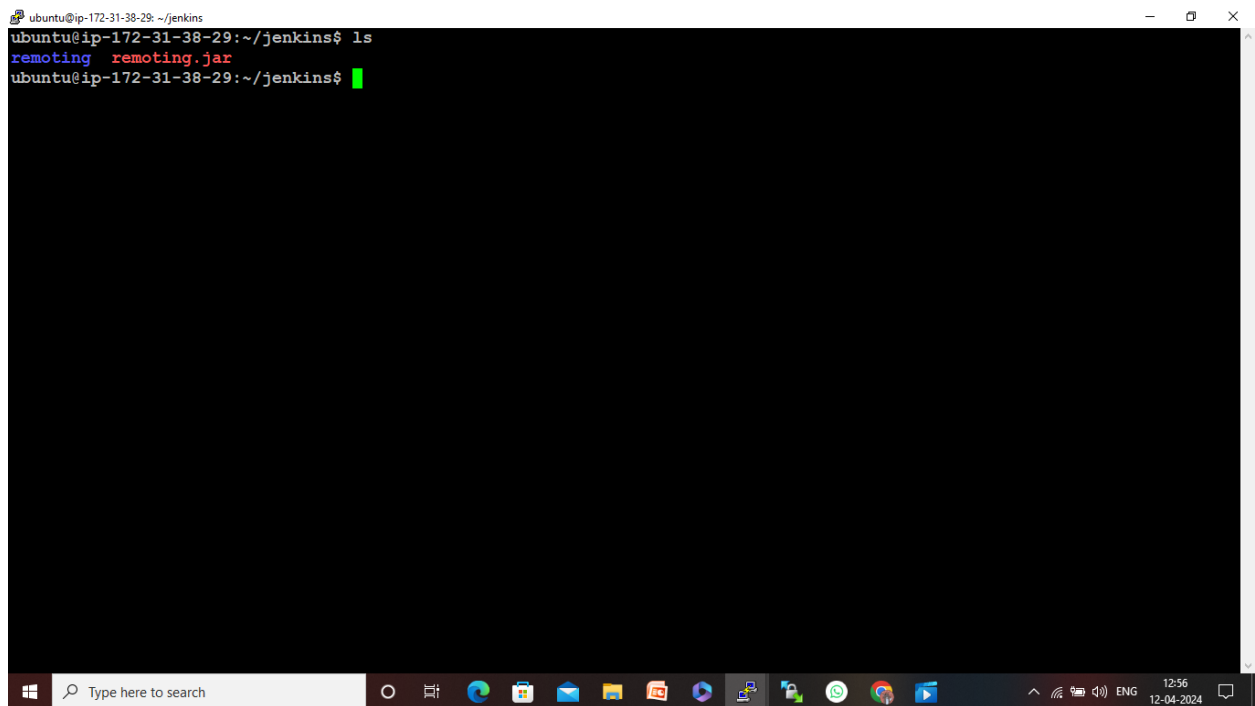
Save

Type here to search

12:54 12-04-2024



A remote workspace has been created in the slave machine.



The agent has been created.

The screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search bar, and a user profile 'deepika' with a 'log out' button. The breadcrumb trail is 'Dashboard > Nodes >'. On the left sidebar, the 'Nodes' tab is selected. The main content area is titled 'Nodes' and features a '+ New Node' button and a 'Configure Monitors' link. A table lists the nodes:

S	Name	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time
	agent	Linux (amd64)	In sync	5.32 GiB	1 0 B	5.32 GiB	86ms
	Built-In Node	Linux (amd64)	In sync	4.50 GiB	1 0 B	4.50 GiB	0ms
Data obtained		7 min 12 sec	7 min 12 sec	7 min 12 sec	7 min 12 sec	7 min 12 sec	7 min 12 sec

Below the table, there is a section for 'Icon' with options S, M, and L. The 'agent' node is highlighted with the 'L' icon. On the left sidebar, the 'Build Queue' section shows 'No builds in the queue.' and the 'Build Executor Status' section shows '1 idle' for the 'agent' node.

Configuring the job in which agent the job wants to run.

The screenshot shows the Jenkins web interface for configuring a job named 'myjob'. The breadcrumb trail is 'Dashboard > myjob > Configuration'. The left sidebar shows the 'Configure' section with various tabs: General, Source Code Management, Build Triggers, Build Environment, Build Steps, and Post-build Actions. The 'General' tab is selected. The main content area shows the following configuration options:

- ☐ This project is parameterized ?
- ☐ Throttle builds ?
- ☐ Execute concurrent builds if necessary ?
- ☒ Restrict where this project can be run ?

Under the 'Restrict where this project can be run' option, there is a 'Label Expression' field with the value 'slave1'. Below the field, there is a warning message: 'No agent/cloud matches this label expression. Did you mean 'agent' instead of 's'?'. There is also an 'Advanced' dropdown menu. At the bottom, there is a 'Source Code Management' section with a radio button selected for 'None'. A green 'Saved' button is visible at the bottom left, and 'Save' and 'Apply' buttons are at the bottom right.

The remote directory shows the new job which is executed in this directory.

```
ubuntu@ip-172-31-38-29: ~/jenkins/workspace
ubuntu@ip-172-31-38-29:~/jenkins$ ls
remoting  remoting.jar  workspace
ubuntu@ip-172-31-38-29:~/jenkins$ cd workspace
ubuntu@ip-172-31-38-29:~/jenkins/workspace$ ls
myjob
ubuntu@ip-172-31-38-29:~/jenkins/workspace$
```

The console output of the job where its executed.

The screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search bar, and the user 'deepika'. The breadcrumb trail is 'Dashboard > myjob > #2 > Console Output'. On the left sidebar, the 'Console Output' option is selected. The main content area displays the console output for build #2, which is successful. The output text is as follows:

```
Started by user deepika
Running as SYSTEM
Building remotely on agent (slave1) in workspace /home/ubuntu/jenkins/workspace/myjob
[myjob] $ /bin/sh -xe /tmp/jenkins1571085897646099280.sh
+ uptime
07:34:33 up 20 min, 1 user, load average: 0.00, 0.02, 0.06
Finished: SUCCESS
```

At the bottom right of the Jenkins interface, the text 'REST API Jenkins 2.440.2' is visible.