

UBUNTU Process

- Run VM using vagrant
- Login using following credentials:

Login: vagrant

Password: vagrant

- Execute following commands for updating and creating a new user

sudo su

apt update

apt upgrade

adduser cris -> set password

```
root@ubuntu-focal:/home/vagrant# adduser cris
Adding user `cris' ...
Adding new group `cris' (1002) ...
Adding new user `cris' (1002) with group `cris' ...
Creating home directory `/home/cris' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for cris
Enter the new value, or press ENTER for the default
    Full Name []: cris
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
root@ubuntu-focal:/home/vagrant#
```

- Add new user to sudoers group and verify

usermod -a -G sudo cris

su cris -> insert password

sudo whoami

```
vagrant@ubuntu-focal:~$ su cris
Password:
cris@ubuntu-focal:/home/vagrant$ sudo whoami
[sudo] password for cris:
root
cris@ubuntu-focal:/home/vagrant$ _
```

- Look at the ip address of the machine

sudo apt install net-tools

ifconfig

- Authorize password login and restart ssh service

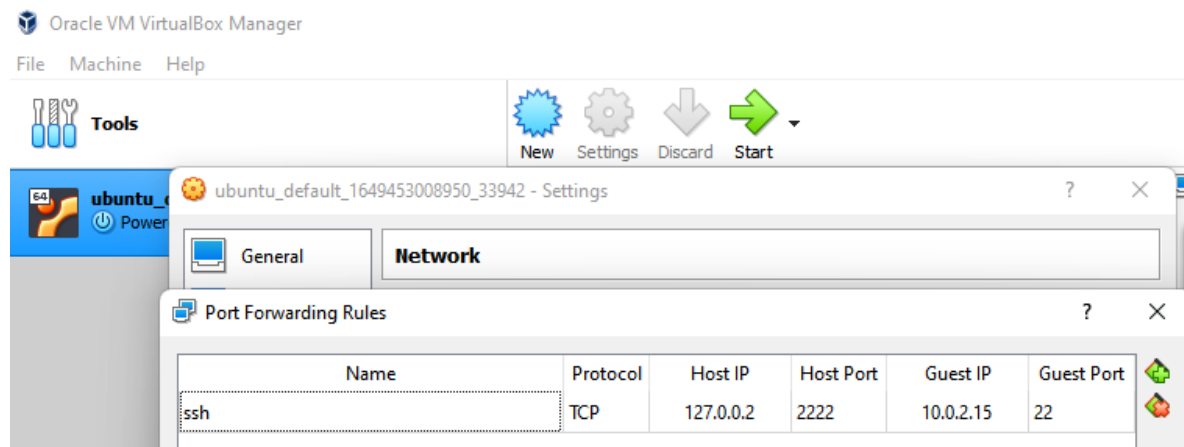
```
sudo vi /etc/ssh/sshd_config
```

```
# To disable tunneled clear text passwords, change to no here!
PasswordAuthentication yes_
#PermitEmptyPasswords no

# Change to yes to enable challenge-response passwords (beware issues with
# some PAM modules and threads)
ChallengeResponseAuthentication no
```

```
sudo systemctl restart sshd
```

- Turn off machine and configure VM Network ports, then start the machine again



- Login from windows terminal **USING** password

This is needed in order to connect remotely and copy the SSH key to the host

```
ssh cris@127.0.0.2 -p 2222 -> insert password
```

```

Cristian@DESKTOP-PM304DL MINGW64 ~
$ ssh cris@127.0.0.2 -p 2222
cris@127.0.0.2's password:
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.4.0-107-generic x86_64)

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

System information as of Fri Apr  8 22:06:46 UTC 2022

System load:  0.18               Processes:           118
Usage of /:   4.5% of 38.71GB    Users logged in:    1
Memory usage: 19%               IPv4 address for enp0s3: 10.0.2.15
Swap usage:   0%

0 updates can be applied immediately.

Last login: Fri Apr  8 22:06:00 2022 from 10.0.2.2
cris@ubuntu-focal:~$ |

```

- Generate a new SSH key pair on the client side

ssh-keygen

```

Cristian@DESKTOP-PM304DL MINGW64 ~
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/user/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/user/.ssh/id_rsa
Your public key has been saved in /c/Users/user/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:V5ElTg1+P6CuQevHtd9yPl5qFBw5ReYowlJx9Amy99o Cristian@DESKTOP-PM304DL
The key's randomart image is:
+---[RSA 3072]-----+
|          +o0=.++|
|          o B.===|
|          . + *o=o.|
|          . +.++.|
|          S... .o.|
|          ..o  +. .|
|          o..o.E .|
|          . oo .oo+|
|          o.  .++|
+-----[SHA256]-----+

```

- Copy SSH key for the host

ssh-copy-id --p 2222 cris@127.0.0.2

```
Cristian@DESKTOP-PM304DL MINGW64 ~/.ssh
$ ssh-copy-id -i fedora_key -p 2222 cris@127.0.0.3
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "fedora_key.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
cris@127.0.0.3's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh -p '2222' 'cris@127.0.0.3'"
and check to make sure that only the key(s) you wanted were added.
```

- Connect to machine using ssh, user@ip -p port

```
Cristian@DESKTOP-PM304DL MINGW64 ~
$ ssh cris@127.0.0.2 -p 2222
Welcome to Ubuntu 20.04.4 LTS (GNU/Linux 5.4.0-107-generic x86_64)

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

System information as of Fri Apr  8 22:20:19 UTC 2022

System load:  0.05               Processes:            115
Usage of /:   4.5% of 38.71GB    Users logged in:     1
Memory usage: 20%               IPv4 address for enp0s3: 10.0.2.15
Swap usage:   0%

0 updates can be applied immediately.

Last login: Fri Apr  8 22:14:20 2022 from 10.0.2.2
cris@ubuntu-focal:~$ |
```

Successful remote connection **WITHOUT** password

Docker Installation

- Install all the required for docker installation

`sudo apt update ; apt install -y build-essential net-tools curl git software-properties-common neofetch apt-transport-https ca-certificates curl gnupg-agent docker.io docker-compose`

```
cris@ubuntu-focal:~$ sudo apt install -y build-essential net-tools curl git software-properties-common neofetch apt-transport-https ca-certificates curl gnupg-agent docker.io docker-compose
Reading package lists... Done
Building dependency tree
Reading state information... Done
net-tools is already the newest version (1.60+git20180626.aebd88e-1ubuntu1).
ca-certificates is already the newest version (20210119~20.04.2).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.7).
curl set to manually installed.
git is already the newest version (1:2.25.1-1ubuntu3.2).
git set to manually installed.
software-properties-common is already the newest version (0.99.9.8).
software-properties-common set to manually installed.
```

- Enable docker, create a group for docker use

`systemctl enable --now docker ; usermod -aG docker $USER ; newgrp docker`

- Pull jenkins image

```
root@ubuntu-focal:/home/cris# systemctl enable --now docker ; usermod -aG docker $USER ; newgrp docker
root@ubuntu-focal:/home/cris# docker pull jenkins/jenkins
Using default tag: latest
latest: Pulling from jenkins/jenkins
dbba69284b27: Pull complete
6d9832bfff3ec: Pull complete
7c4a6d582917: Pull complete
ae0899c462a8: Pull complete
8a5edbfff1d1: Pull complete
c780f68adf6d: Pull complete
bdd8fb65d9ef: Pull complete
b64349c106a9: Pull complete
e0e3e2500574: Pull complete
83242c04be1c: Pull complete
ecfa4c67cc7b: Pull complete
14e81afa2cd2: Pull complete
a15019ddfe0a: Pull complete
ec7f41b7f300: Pull complete
0a15abba86c8: Pull complete
31f7e553bb6b: Pull complete
3a863afeb78b: Pull complete
Digest: sha256:854af743c459e0102a19fb314396b7fb92c338810b74ddff4dc613076cc317a8
Status: Downloaded newer image for jenkins/jenkins:latest
docker.io/jenkins/jenkins:latest
```

- Launch Jenkins using docker

`docker run -p 8080:8080 --name=jenkins-master jenkins/Jenkins`

```
*****
*****
*****

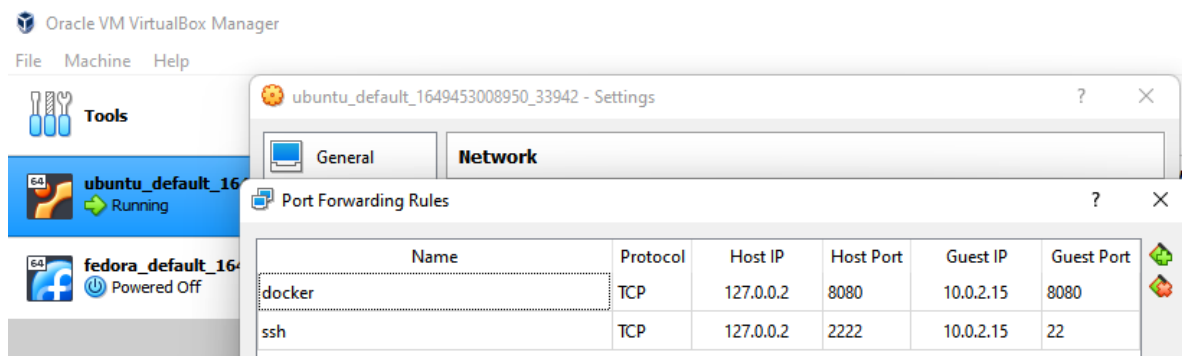
Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:

a37a48d4888c4541982eed3cadea11ef

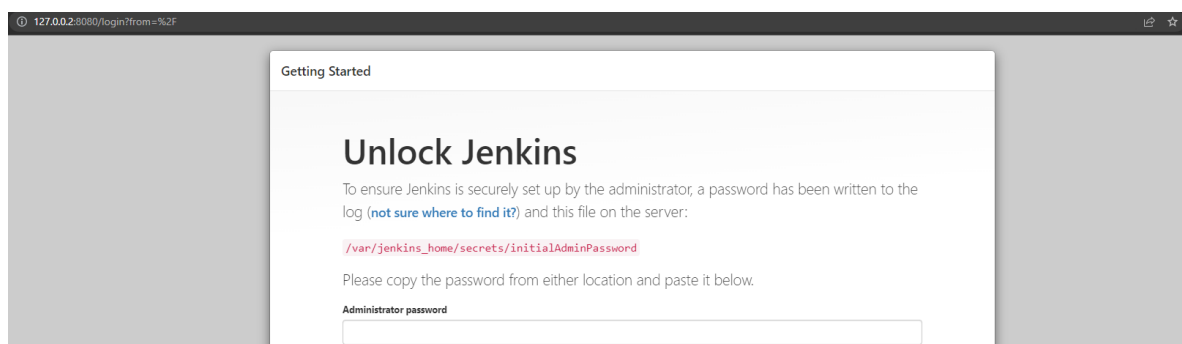
This may also be found at: /var/jenkins_home/secrets/initialAdminPassword

*****
*****
*****
```

- Map virtual machine ports as follows



- Access through browser using IP and port mapped, 127.0.0.2:8080



- Use the designed password and install all the suggested plugin

The screenshot shows the Jenkins 'Getting Started' interface. At the top, it says 'Getting Started'. Below this, there is a table of suggested plugins:

✓ Folders	✓ OWASP Markup Formatter	✓ Build Timeout	✓ Credentials Binding	** JavaBeans Activation Framework (JAF) API
⚙ Timestamper	⚙ Workspace Cleanup	⚙ Ant	⚙ Gradle	** JavaMail API
⚙ Pipeline	⚙ GitHub Branch Source	⚙ Pipeline: GitHub Groovy Libraries	⚙ Pipeline: Stage View	** SSH server
⚙ Git	⚙ SSH Build Agents	⚙ Matrix Authorization Strategy	⚙ PAM Authentication	Folders
⚙ LDAP	⚙ Email Extension	⚙ Mailer		OWASP Markup Formatter
				** Structs
				** Token Macro
				Build Timeout
				** Credentials
				** Trilead API
				** SSH Credentials
				** Pipeline: Step API
				** Plain Credentials
				Credentials Binding

Below the table, a log shows the installation process:

```

2022-04-10 00:12:58.016+0000 [id=275] INFO jenkins.InitReactorRunner$1#onAttained: System config loaded
2022-04-10 00:12:58.017+0000 [id=275] INFO jenkins.InitReactorRunner$1#onAttained: System config adapted
2022-04-10 00:12:58.019+0000 [id=273] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2022-04-10 00:12:58.061+0000 [id=275] INFO jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2022-04-10 00:12:58.515+0000 [id=273] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2022-04-10 00:12:58.595+0000 [id=77] INFO h.m.UpdateCenter$CompleteBatchJob#run: Completed installation of 85 plugins in 2 min 6 sec
  
```

- Create the new user and save the URL for Jenkins, then, the process has successfully finished

The screenshot shows the Jenkins 'Jenkins is ready!' screen. It says 'Jenkins is ready!' and 'Your Jenkins setup is complete.' Below this, there is a button that says 'Start using Jenkins'.

Below the 'Jenkins is ready!' screen, the main dashboard is visible. It has a sidebar with navigation links: 'Nueva Tarea', 'Personas', 'Historial de trabajos', 'Administrar Jenkins', 'Mis vistas', 'Lockable Resources', and 'New View'. The main content area has a header that says '¡Bienvenido a Jenkins!' and a sub-header that says 'Start building your software project'. Below this, there are several buttons: 'Create a job', 'Set up an agent', 'Configure a cloud', and 'Learn more about distributed builds'.