

Date  
26/07/21

# Nirraj Appani

## Linux Practical-4

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Aim = SSH Server password Authentication  
Configure SSH server to manage a server  
from the remote computer, SSH  
Client - (Ubuntu and Windows)

### Description

1) What is SSH  
SSH, also known as secure shell or SecureSocket shell, is a network protocol that gives users, particularly system administrators, a secure way to access a computer over an unsecured network.

2) How does SSH work?

Secure shell was created to replace insecure terminal emulation or login programs, such as Telnet, rlogin (remote login) and (remote shell). SSH enables the same function (logging into and running terminal sessions on remote system). SSH also replaces file transfer program, such as File Transfer Protocol (FTP) and rcp (remote copy).

3) Explain Putty

Putty is a free and open source terminal emulator, serial console and network file transfer application. It supports several network protocols, including SCP, SSH, Telnet, rlogin and raw socket connection. It can also connect to a serial port.



## Establishing the SSH connection

- 1) The remote server must be powered on and have a stable network connection
- 2) You This will require IP address of the server
- 3) The remote server must be accessible through that IP. You can test it using ping command
- 4) SSSH server and SSSH client tools must be installed in both server and client OS respectively
- 5) You will require a remote server's username and password
- 6) A firewall should not be blocking the connection

## Update pack database

```
$ sudo apt-get update
```

## Upgrade installed packages

```
$ sudo apt-get upgrade
```

```
$ sudo apt-get install openssh-server
```

## Configuring SSH server

```
$ sudo nano /etc/ssh/sshd_config
```



Uncomment  
# Port 22  
and add line  
MaxAuthTries 4

then save file and exit

Check SSH Service status

```
$ sudo service ssh status
```

To start the command  

```
$ sudo service ssh start
```

  
To stop  

```
$ sudo service ssh stop
```

## Steps

- You may often have to access remote servers to administer, manage and troubleshoot and there are several ways to do this
- You may use telnet to login to remote servers, FTP allows transferring files between different servers
- However, these programs are not secure enough for connecting to critical servers
- SSH, Secure Shell is a cryptographic network protocol using which you can securely access network services over an unsecured network
- SSH allows you to access servers through terminal and various command line functions

Neeraj Appan

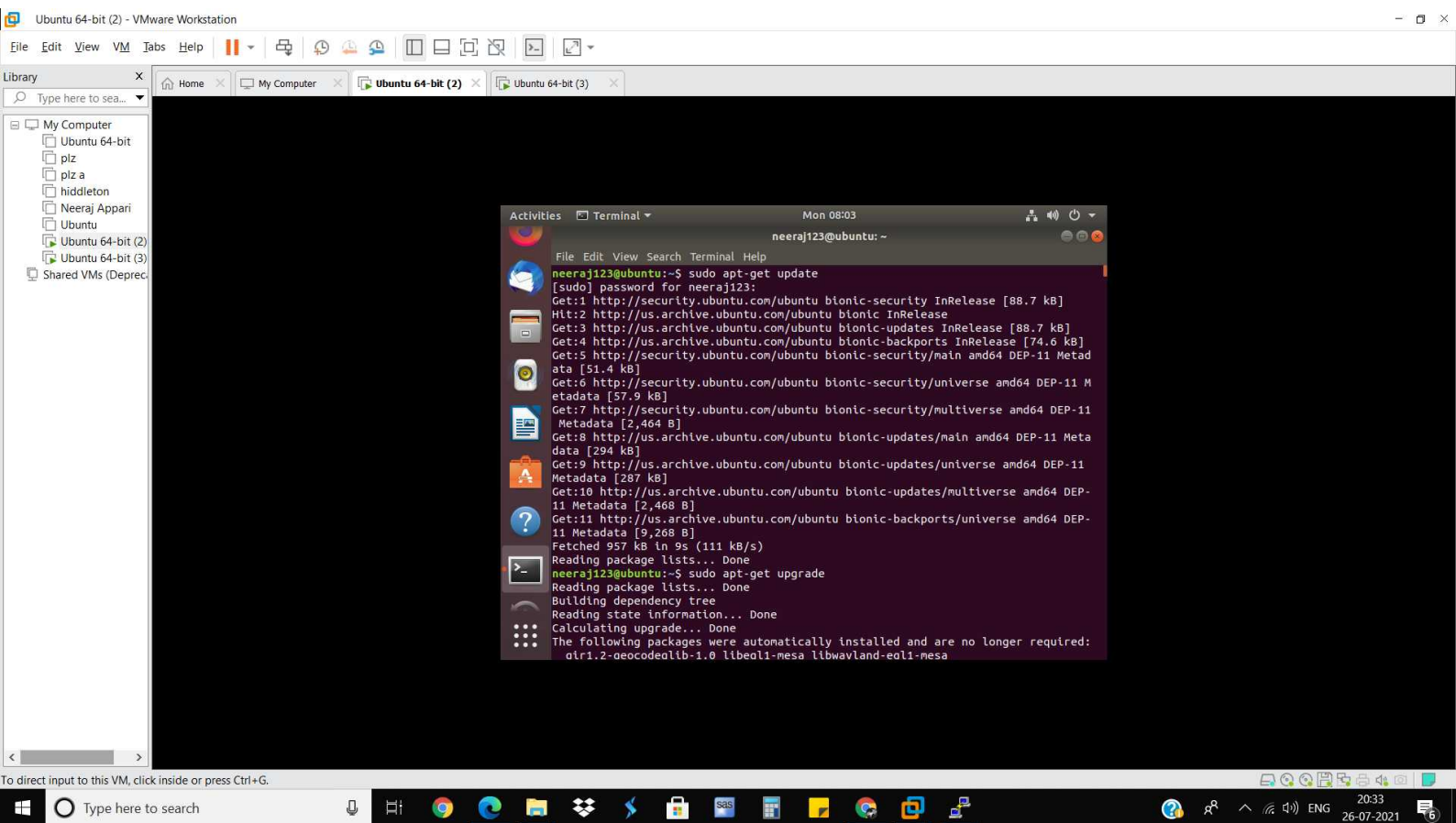
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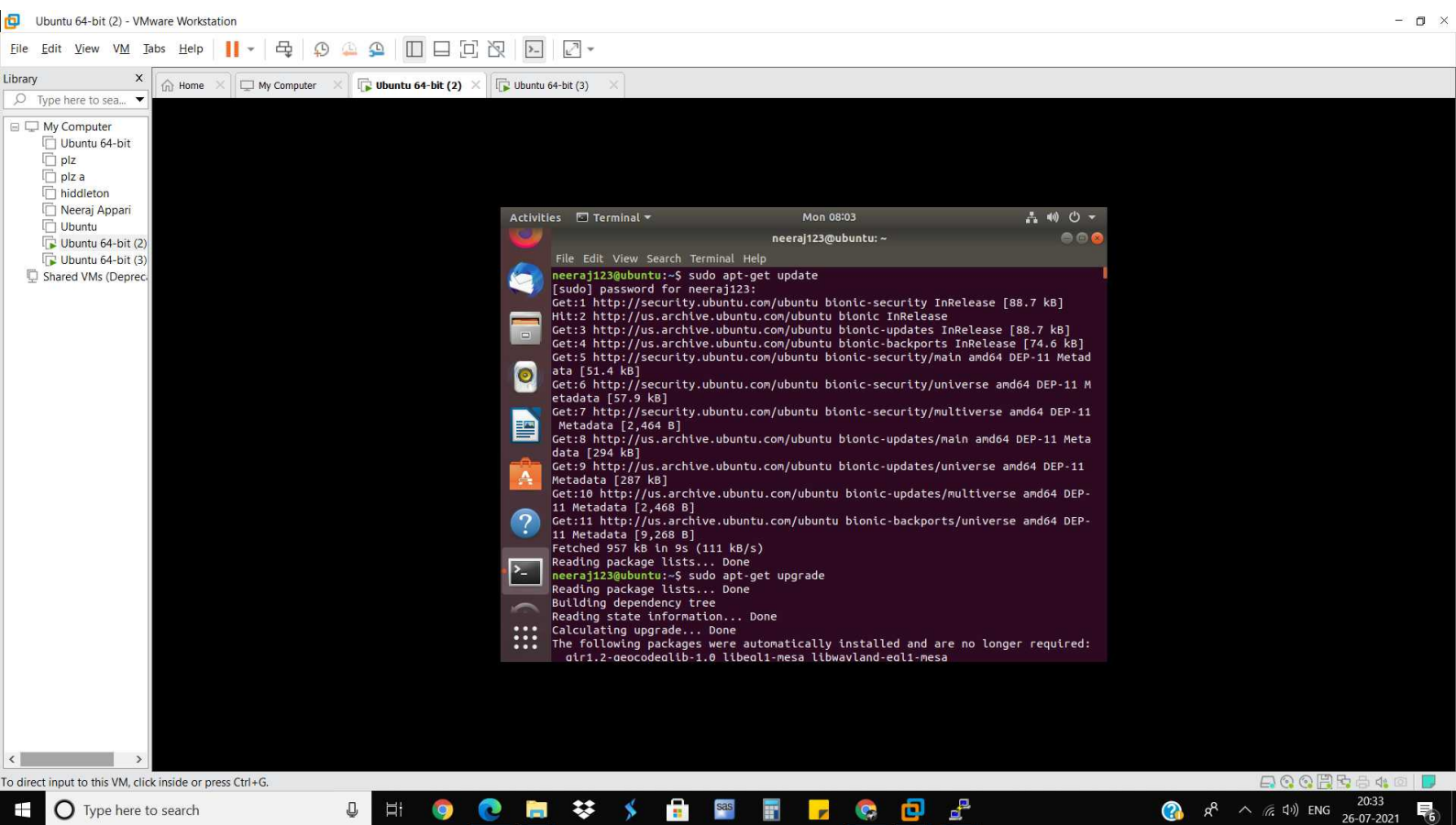
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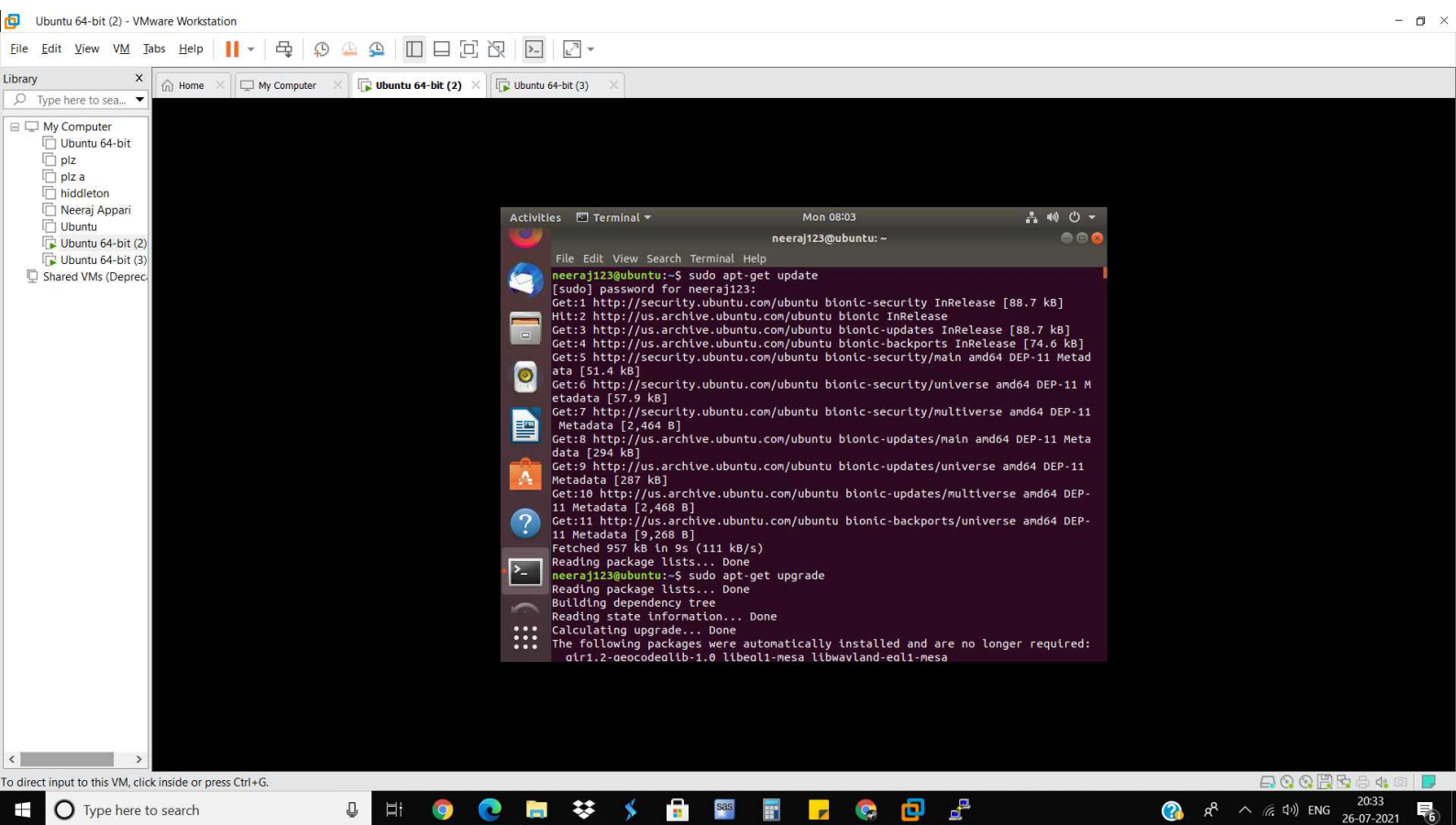
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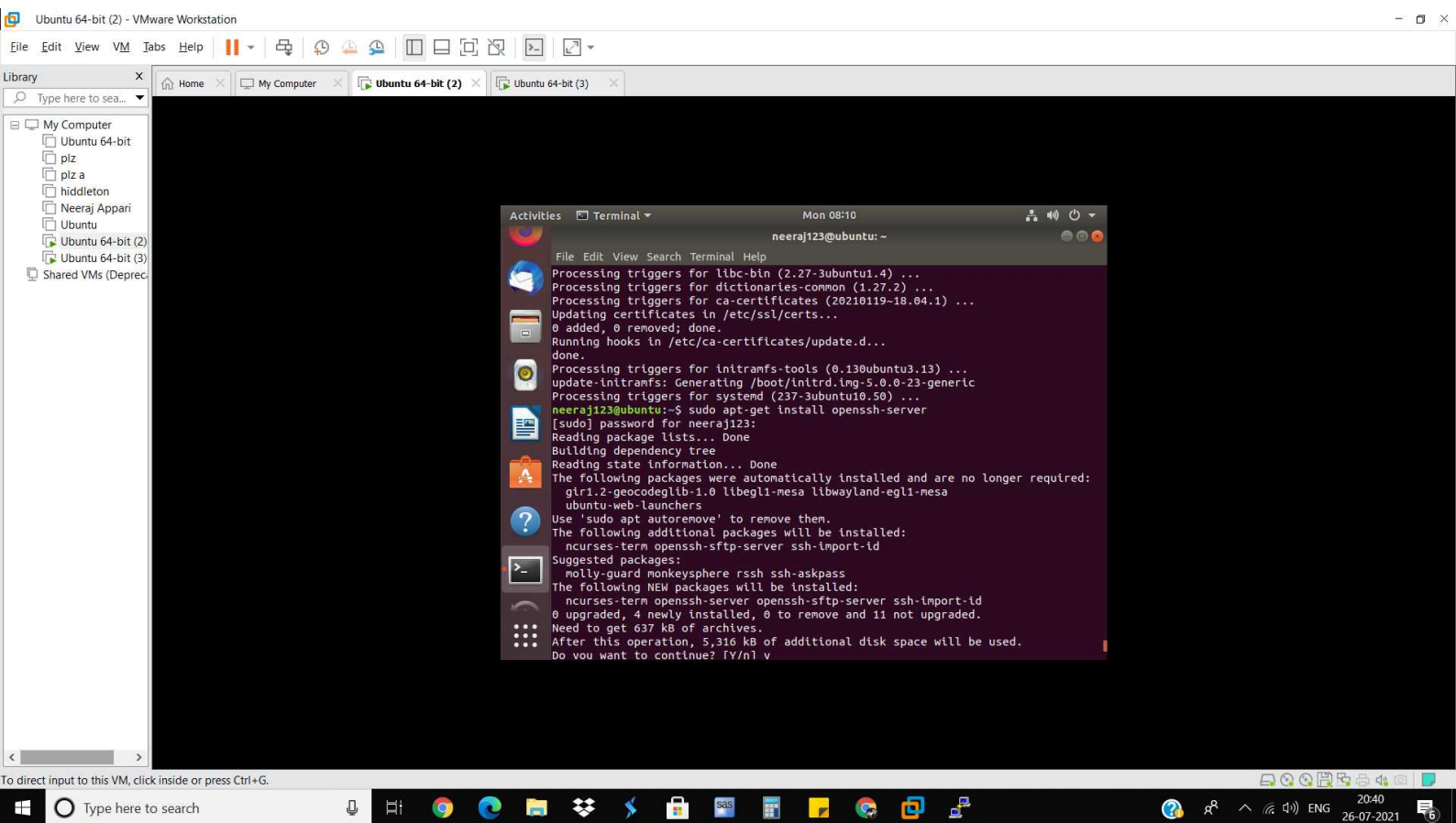
- It is helpful if you want to access and administer a service remotely using a secure way



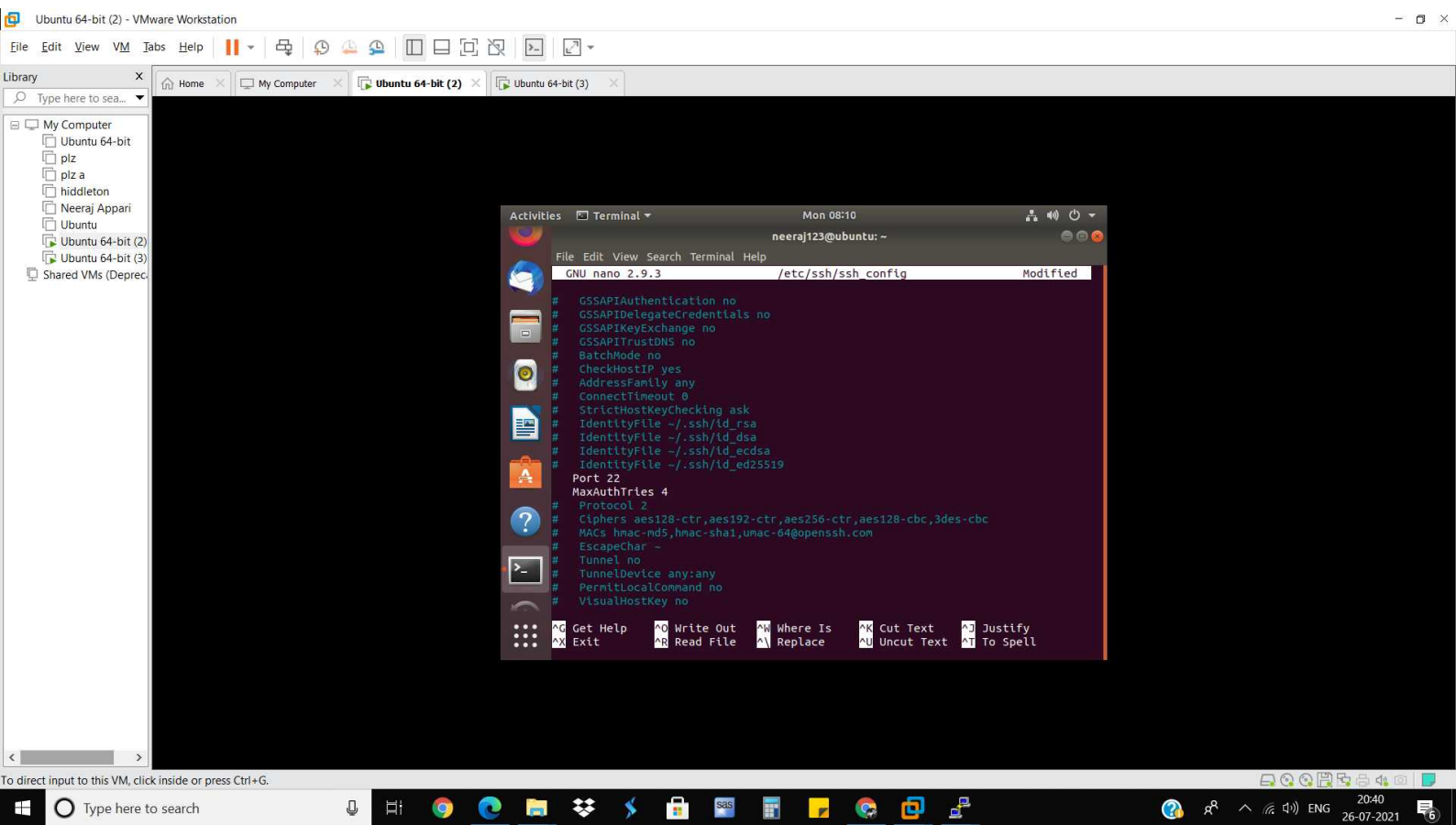












Ubuntu 64-bit (2) - VMware Workstation

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Activities Terminal Mon 08:11 neeraj123@ubuntu: ~

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```
2048 SHA256:57wUFLN2k8L20BwZS5fd1BVlyAdB1lQU4NGthirHfde root@ubuntu (RSA)
Creating SSH2 ECDSA key; this may take some time ...
256 SHA256:EbcKrff+DHVRU/hQoGJ9WII06sIVRb/zvyZAXPYJKaI root@ubuntu (ECDSA)
Creating SSH2 ED25519 key; this may take some time ...
256 SHA256:Xkm4WxBcn7jwvc2H0+aVcyGnAJNzpfA0c4pYfwgq2l4 root@ubuntu (ED25519)
Created symlink /etc/systemd/system/ssh.service → /lib/systemd/system/ssh.serv
ice.
Created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /lib/
systemd/system/ssh.service.
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.1) ...
Processing triggers for ureadahead (0.100.0-21) ...
Processing triggers for systemd (237-3ubuntu10.50) ...
neeraj123@ubuntu:~$ sudo nano /etc/ssh/ssh_config
neeraj123@ubuntu:~$ sudo service ssh status
ssh.service - OpenBSD Secure Shell server
Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: ena
Active: active (running) since Mon 2021-07-26 08:08:30 PDT; 2min 56s ago
Main PID: 36909 (sshd)
Tasks: 1 (limit: 1108)
CGroup: /system.slice/ssh.service
└─36909 /usr/sbin/sshd -D

Jul 26 08:08:29 ubuntu systemd[1]: Starting OpenBSD Secure Shell server...
Jul 26 08:08:30 ubuntu sshd[36909]: Server listening on 0.0.0.0 port 22.
Jul 26 08:08:30 ubuntu sshd[36909]: Server listening on :: port 22.
Jul 26 08:08:30 ubuntu systemd[1]: Started OpenBSD Secure Shell server.
lines 1-12/12 (END)
```

To direct input to this VM, click inside or press Ctrl+G.

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20:41 26-07-2021





