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Course/Section: CPE212 - CPE31S2	Date Submitted: 8/08/2025
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Activity 1: Configure Network using Virtual Machines

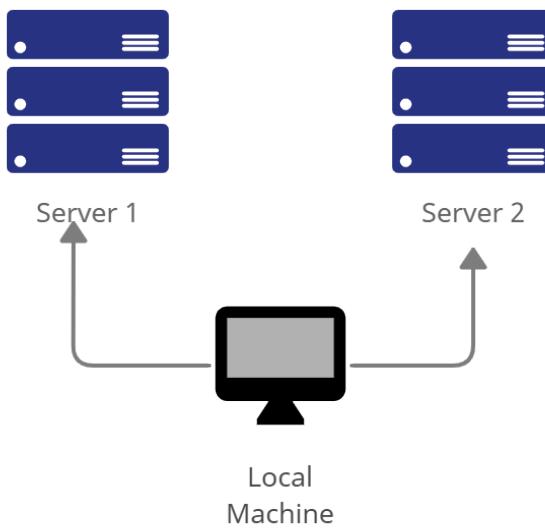
1. Objectives:

- 1.1. Create and configure Virtual Machines in Microsoft Azure or VirtualBox
- 1.2. Set-up a Virtual Network and Test Connectivity of VMs

2. Discussion:

Network Topology:

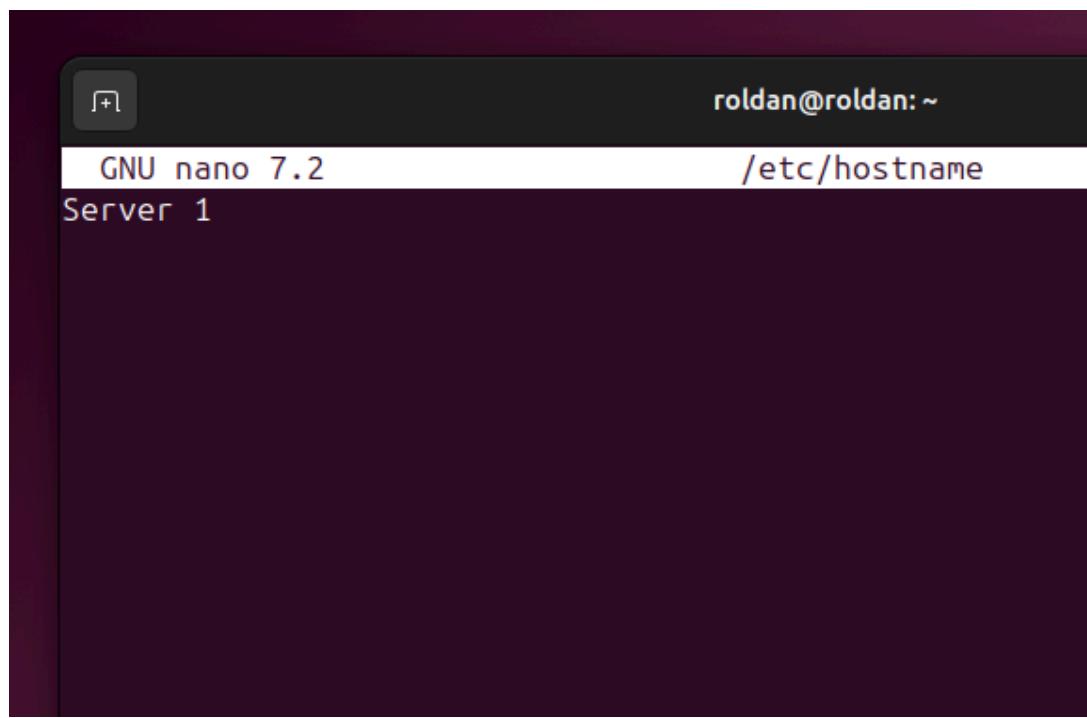
Assume that you have created the following network topology in Virtual Machines, **provide screenshots for each task.** (Note: *it is assumed that you have the prior knowledge of cloning and creating snapshots in a virtual machine*).



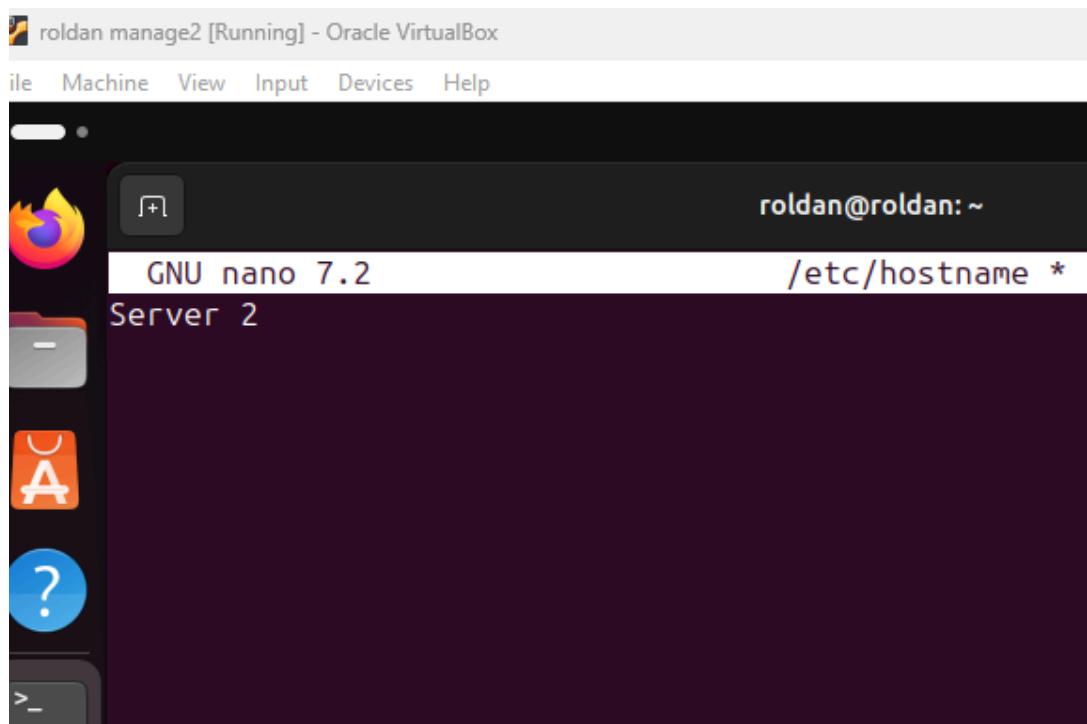
Task 1: Do the following on Server 1, Server 2, and Local Machine. In editing the file using nano command, press control + O to write out (save the file). Press enter when asked for the name of the file. Press control + X to end.

1. Change the hostname using the command ***sudo nano /etc/hostname***

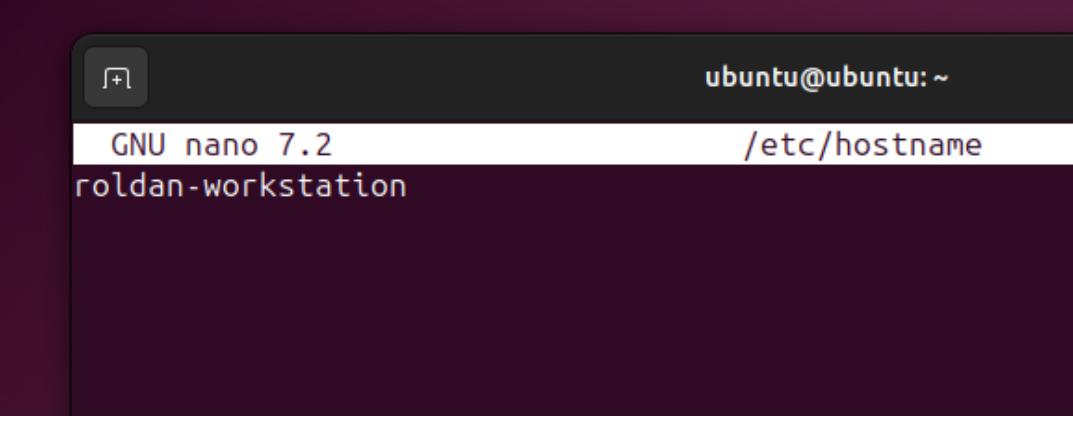
1.1 Use server1 for Server 1



1.2 Use server2 for Server 2

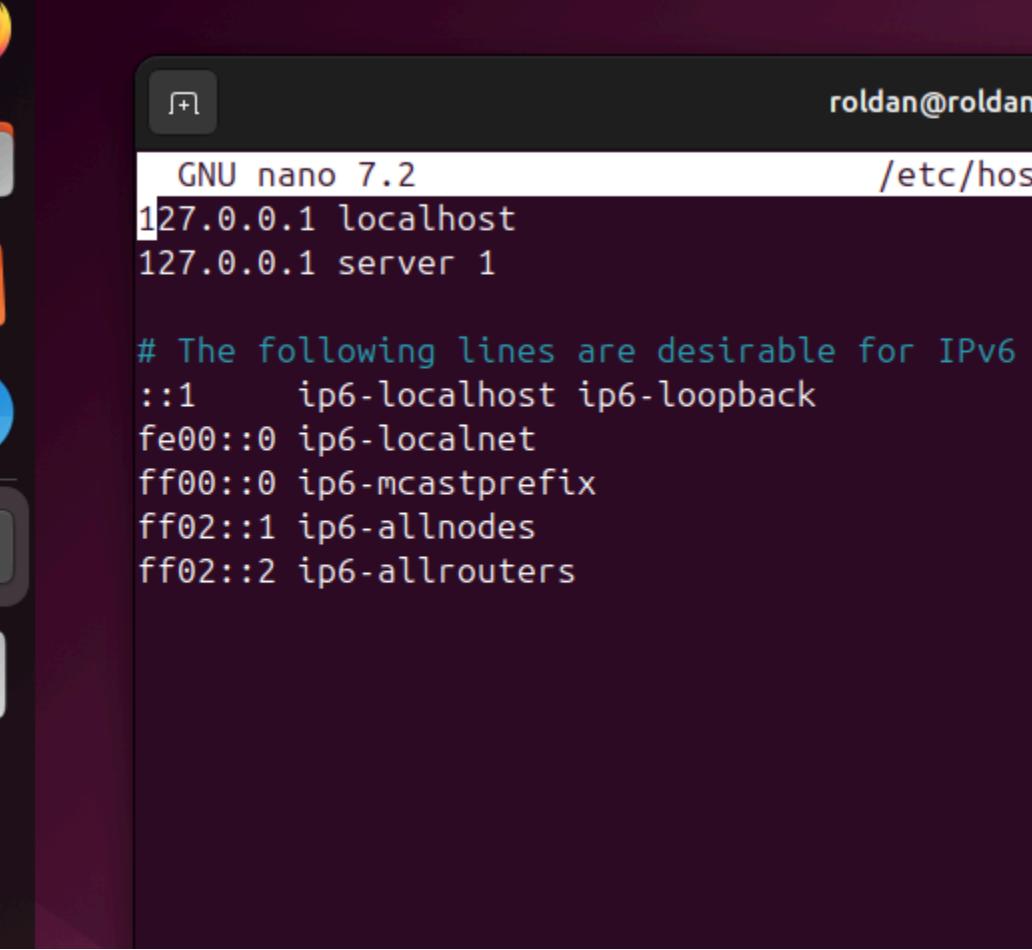


1.3 Use workstation for the Local Machine



```
ubuntu@ubuntu: ~
GNU nano 7.2
roldan-workstation
```

2. Edit the hosts using the command *sudo nano /etc/hosts*. Edit the second line.
2.1 Type 127.0.0.1 server 1 for Server 1



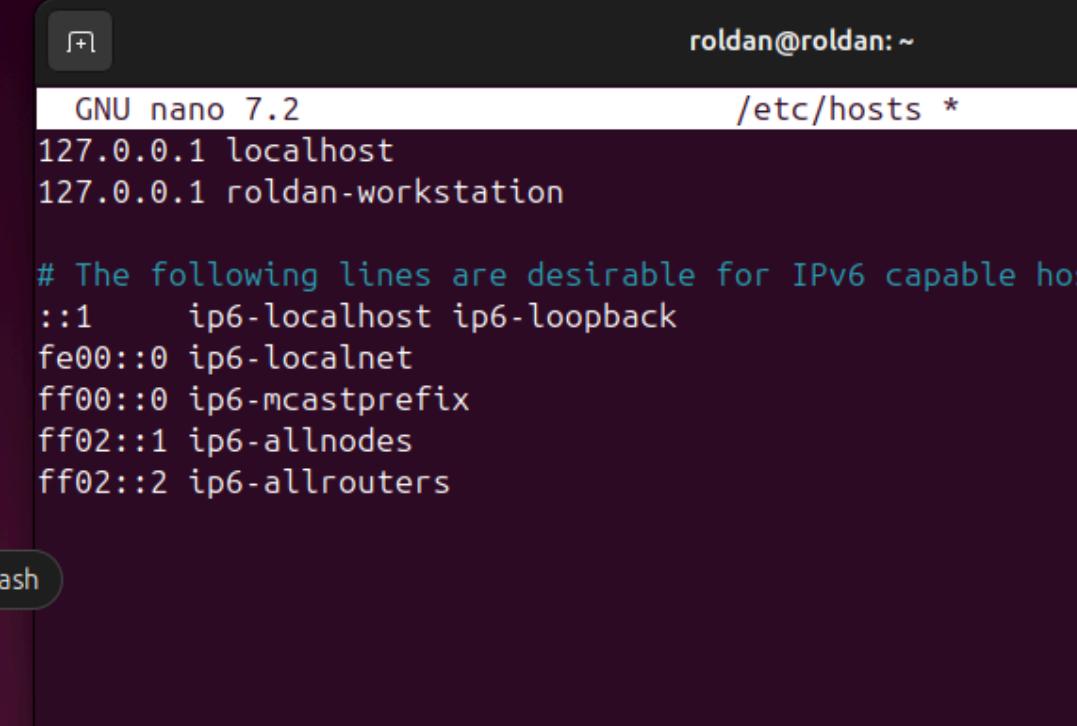
```
roldan@roldan: ~
GNU nano 7.2
/etc/hosts
127.0.0.1 localhost
127.0.0.1 server 1

# The following lines are desirable for IPv6
::1      ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

- 2.2 Type 127.0.0.1 server 2 for Server 2

- 2.3 Type 127.0.0.1 workstation for the Local Machine

Aug 8



```
GNU nano 7.2 /etc/hosts *
127.0.0.1 localhost
127.0.0.1 roldan-workstation

# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

Task 2: Configure SSH on Server 1, Server 2, and Local Machine. Do the following:

1. Upgrade the packages by issuing the command `sudo apt update` and `sudo apt upgrade` respectively.

```
roldan@Server1:~$ sudo apt update && sudo apt upgrade
[sudo] password for roldan:
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
2 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  libgl1-amber-dri libglapi-mesa libllvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following packages have been kept back:
  libgl1-amber-dri libglapi-mesa
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
roldan@Server1:~$
```

```
roldan manage2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Aug 8 09:46
roldan@Server2:~$ sudo apt update && sudo apt upgrade
[sudo] password for roldan:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
2 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  libgl1-amber-dri libglapi-mesa libllvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following packages have been kept back:
  libgl1-amber-dri libglapi-mesa
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.
roldan@Server2:~$
```

```
[+] roldan@workstation:~  
roldan@workstation:~$ sudo apt update && sudo apt upgrade  
[sudo] password for roldan:  
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
2 packages can be upgraded. Run 'apt list --upgradable' to see  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Calculating upgrade... Done  
The following packages were automatically installed and are no  
libgl1-amber-dri libglapi-mesa libllvm17t64 python3-netifaces  
Use 'sudo apt autoremove' to remove them.  
The following packages have been kept back:  
libgl1-amber-dri libglapi-mesa  
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded  
roldan@workstation:~$
```

2. Install the SSH server using the command *sudo apt install openssh-server*.

```
roldan@Server1:~$ sudo apt install openssh-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libgl1-amber-dri libglapi-mesa libllvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libnurses-term openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 upgraded, 4 newly installed, 0 to remove and 2 not upgraded.
Need to get 832 kB of archives.
After this operation, 6,743 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-sftp-server amd64 1:9.6p1-3ubuntu13.13 [37.1 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-server amd64 1:9.6p1-3ubuntu13.13 [510 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 ncurses-term all 6.4+40113-1ubuntu2 [275 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 ssh-import-id 1:5.11-0ubuntu2.24.04.1 [10.1 kB]
Fetched 832 kB in 5s (169 kB/s)
Preconfiguring packages ...
Selecting previously unselected package openssh-sftp-server.
(Reading database ... 188075 files and directories currently installed.)
Preparing to unpack .../openssh-sftp-server_1%3a9.6p1-3ubuntu13.13_amd64.deb
Unpacking openssh-sftp-server (1:9.6p1-3ubuntu13.13) ...
Selecting previously unselected package openssh-server.
```

```
roldan@Server2:~$ sudo apt install openssh-server
[sudo] password for roldan:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libgl1-amber-dri libglapi-mesa libllvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  ncurses-term openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 upgraded, 4 newly installed, 0 to remove and 2 not upgraded.
Need to get 832 kB of archives.
After this operation, 6,743 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-sftp-server amd64 1:9.6p1-3ubuntu13.13 [37.1 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-server amd64 1:9.6p1-3ubuntu13.13 [510 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 ncurses-term all 6.4+201113-1ubuntu2 [275 kB]
```

```
roldan@workstation:~$ sudo apt install openssh-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libgl1-amber-dri libglapi-mesa libllvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  ncurses-term openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 upgraded, 4 newly installed, 0 to remove and 2 not upgraded.
Need to get 832 kB of archives.
After this operation, 6,743 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-server 1:9.6p1-3ubuntu13.13 [37.1 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-sftp-server 1:9.6p1-3ubuntu13.13 [510 kB]
47% [2 openssh-server 400 kB/510 kB 78%]
```

- Verify if the SSH service has started by issuing the following commands:

3.1 ***sudo service ssh start***

3.2 ***sudo systemctl status ssh***

```
roldan@Server1:~$ sudo service ssh start
roldan@Server1:~$ sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
     Active: active (running) since Fri 2025-08-08 10:04:22 UTC; 6s ago
       Docs: man:sshd(8)
             man:sshd_config(5)
    Process: 3613 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
   Main PID: 3614 (sshd)
      Tasks: 1 (limit: 4604)
        Memory: 1.2M (peak: 1.7M)
         CPU: 17ms
        CGroup: /system.slice/ssh.service
                 └─3614 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Aug 08 10:04:22 Server1 systemd[1]: Starting ssh.service - OpenBSD Secure Shell...
Aug 08 10:04:22 Server1 sshd[3614]: Server listening on 0.0.0.0 port 22.
Aug 08 10:04:22 Server1 sshd[3614]: Server listening on :: port 22.
Aug 08 10:04:22 Server1 systemd[1]: Started ssh.service - OpenBSD Secure Shell.
```

```
roldan@Server2:~$ sudo service ssh start
roldan@Server2:~$ sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled;
  Active: active (running) since Fri 2025-08-08 10:10:30 UTC; 5s
    TriggeredBy: ● ssh.socket
    Docs: man:sshd(8)
           man:sshd_config(5)
  Process: 3240 ExecStartPre=/usr/sbin/sshd -t (code=exited, statu
  Main PID: 3241 (sshd)
    Tasks: 1 (limit: 4604)
   Memory: 1.2M (peak: 1.7M)
      CPU: 20ms
     CGroup: /system.slice/ssh.service
             └─3241 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100

Aug 08 10:10:30 Server2 systemd[1]: Starting ssh.service - OpenBSD S
Aug 08 10:10:30 Server2 sshd[3241]: Server listening on 0.0.0.0 port
Aug 08 10:10:30 Server2 sshd[3241]: Server listening on :: port 22.
Aug 08 10:10:30 Server2 systemd[1]: Started ssh.service - OpenBSD Se
roldan@Server2:~$
```

```
roldan@workstation:~$ sudo service ssh start
roldan@workstation:~$ sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
  Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled;
  Active: active (running) since Fri 2025-08-08 10:17:10 UTC; 1s
    TriggeredBy: ● ssh.socket
    Docs: man:sshd(8)
           man:sshd_config(5)
  Process: 3590 ExecStartPre=/usr/sbin/sshd -t (code=exited, statu
  Main PID: 3592 (sshd)
    Tasks: 1 (limit: 4604)
   Memory: 1.2M (peak: 1.6M)
      CPU: 14ms
     CGroup: /system.slice/ssh.service
             └─3592 "sshd: /usr/sbin/sshd -D [listener] 0

Aug 08 10:17:10 workstation systemd[1]: Starting ssh.service - OpenBSD S
Aug 08 10:17:10 workstation sshd[3592]: Server listening on 0.0.0.0 port
Aug 08 10:17:10 workstation sshd[3592]: Server listening on :: port 22.
Aug 08 10:17:10 workstation systemd[1]: Started ssh.service - OpenBSD Se
lines 1-18/18 (END)
```

qConfigure the firewall to all port 22 by issuing the following commands:

- 4.1 ***sudo ufw allow ssh***
- 4.2 ***sudo ufw enable***

4.3 *sudo ufw status*

```
roldan@Server1:~$ sudo ufw allow ssh
Rules updated
Rules updated (v6)
roldan@Server1:~$ sudo ufw enable
Firewall is active and enabled on system startup
roldan@Server1:~$ sudo ufw status
Status: active

To                         Action      From
--                         --          --
22/tcp                      ALLOW       Anywhere
22/tcp (v6)                  ALLOW       Anywhere (v6)
```

```
Aug 08 10:10:50 Server2 systemd[1]: Started ssh.service -
roldan@Server2:~$ sudo ufw allow ssh
Rules updated
Rules updated (v6)
roldan@Server2:~$ sudo ufw enable
Firewall is active and enabled on system startup
roldan@Server2:~$ sudo ufw status
Status: active

To                         Action      From
--                         --          --
22/tcp                      ALLOW       Anywhere
22/tcp (v6)                  ALLOW       Anywhere (v6)

roldan@Server2:~$
```

Task 3: Verify network settings on Server 1, Server 2, and Local Machine. On each device, do the following:

1. Record the ip address of Server 1, Server 2, and Local Machine. Issue the command *ifconfig* and check network settings. Note that the ip addresses of all the machines are in this network 192.168.56.XX.
1.1 Server 1 IP address: 192.168.56.118

```
roldan@Server1:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe50:8336 prefixlen 64 scopeid 0x20<brd>
        inet6 fd00::a00:27ff:fe50:8336 prefixlen 64 scopeid 0x0<glue>
        inet6 fd00::2b81:848d:d0b5:4cc0 prefixlen 64 scopeid 0x0<glue>
        ether 08:00:27:50:83:36 txqueuelen 1000 (Ethernet)
        RX packets 1547 bytes 1396952 (1.3 MB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 768 bytes 63011 (63.0 KB)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 192.168.56.118 netmask 255.255.255.0 broadcast 192.168.56.255
        inet6 fe80::a00:27ff:fead:68c5 prefixlen 64 scopeid 0x20<brd>
        ether 08:00:27:ad:68:c5 txqueuelen 1000 (Ethernet)
        RX packets 64 bytes 10815 (10.8 KB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 77 bytes 9515 (9.5 KB)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
        inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
        loop txqueuelen 1000 (Local Loopback)
        RX packets 245 bytes 24585 (24.5 KB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 245 bytes 24585 (24.5 KB)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

1.2 Server 2 IP address: 192.168.56.119

```
Processing triggers for man-db (2.12.0-4build2) ...
roldan@Server2:~$ 
roldan@Server2:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.2.15  netmask 255.255.255.0  broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fecc:35e8  prefixlen 64  scopeid 0x20<brd
          inet6 fd00::f558:e69:9808:5d4d  prefixlen 64  scopeid 0x0<link>
          inet6 fd00::a00:27ff:fecc:35e8  prefixlen 64  scopeid 0x0<link>
        ether 08:00:27:cc:35:e8  txqueuelen 1000  (Ethernet)
          RX packets 1291  bytes 1117899 (1.1 MB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 681  bytes 54048 (54.0 KB)
          TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.56.119  netmask 255.255.255.0  broadcast 192.168.56.255
        inet6 fe80::a00:27ff:fe88:49aa  prefixlen 64  scopeid 0x20<brd
          ether 08:00:27:88:49:aa  txqueuelen 1000  (Ethernet)
          RX packets 62  bytes 10598 (10.5 KB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 74  bytes 9286 (9.2 KB)
          TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0
```

1.3 workstation IP address: 192.168.56.120

```
roldan@workstation:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.25
        inet6 fd00::a00:27ff:fe80:2d6c prefixlen 64 scopeid 0x0<
        inet6 fd00::f42e:5265:de44:6785 prefixlen 64 scopeid 0x0
        inet6 fe80::a00:27ff:fe80:2d6c prefixlen 64 scopeid 0x20
        ether 08:00:27:80:2d:6c txqueuelen 1000 (Ethernet)
          RX packets 56 bytes 7934 (7.9 KB)
          RX errors 0 dropped 0 overruns 0 frame 0
          TX packets 140 bytes 17898 (17.8 KB)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 192.168.56.120 netmask 255.255.255.0 broadcast 192.
        inet6 fe80::a00:27ff:fefb:cb45 prefixlen 64 scopeid 0x20
        ether 08:00:27:fb:cb:45 txqueuelen 1000 (Ethernet)
          RX packets 3 bytes 758 (758.0 B)
          RX errors 0 dropped 0 overruns 0 frame 0
          TX packets 64 bytes 8406 (8.4 KB)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
      inet 127.0.0.1 netmask 255.0.0.0
```

2. Make sure that they can ping each other. pi

2.1 Connectivity test for Local Machine 1 to Server 1: Successful Not Successful

2.2 Connectivity test for Local Machine 1 to Server 2: Successful Not Successful

2.3 Connectivity test for Server 1 to Server 2: Successful Not Successful

Task 4: Verify SSH connectivity on Server 1, Server 2, and Local Machine.

1. On the Local Machine, issue the following commands:

1.1 ssh username@ip_address_server1 for example, **ssh jvtaylor@192.168.56.120**

```
roldan@workstation:~$ ssh roldan@192.168.56.120
The authenticity of host '192.168.56.120 (192.168.56.120)' can't be established.
ED25519 key fingerprint is SHA256:d5hZMHW08PhGxEac3AlZfbwZ2nzcCRtP7swICRQe
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '192.168.56.120' (ED25519) to the list of known hosts.
roldan@192.168.56.120's password:
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-27-generic x86_64)

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

Expanded Security Maintenance for Applications is not enabled.

1 update can be applied immediately.
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
```

1.2 Enter the password for server 1 when prompted

1.3 Verify that you are in server 1. The user should be in this format user@server1.
For example, *jvtaylor@server1*

```
roldan@Server1:~$ roldan@server1
roldan@server1: command not found
roldan@Server1:~$ ssh roldan@server1
The authenticity of host 'server1 (fd00::ec:6dfc:79ee:a0c2)' can't be
checked.
ED25519 key fingerprint is SHA256:eg7RpM3NS0tvH7QjukZy8IEanpQL
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerpr
Warning: Permanently added 'server1' (ED25519) to the list of
roldan@server1's password:
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-27-generic x86_64)

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

Expanded Security Maintenance for Applications is not enabled.

1 update can be applied immediately.
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
```

2. Logout of Server 1 by issuing the command **control + D**.

```
applicable law.

roldan@Server1:~$ 
logout
Connection to server1 closed.
roldan@Server1:~$
```

3. Do the same for Server 2.

```
roldan@Server2:~$ ssh roldan@server2
The authenticity of host 'server2 (fd00::a00:27ff:fecc:35e8)' can't be established.
ED25519 key fingerprint is SHA256:Gv3LKU+uyq0Ty6j0PMXySjAoSxKk9jahm1Ub2ZSw3.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'server2' (ED25519) to the list of known hosts.
roldan@server2's password:
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-27-generic x86_64)

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

Expanded Security Maintenance for Applications is not enabled.

An update can be applied immediately.
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

The programs included with the Ubuntu system are free software;
applicable law.

roldan@Server2:~$ logout
Connection to server2 closed.
roldan@Server2:~$
```

4. Edit the hosts of the Local Machine by issuing the command ***sudo nano /etc/hosts***. Below all texts type the following:
 - 4.1 **IP_address server 1** (provide the ip address of server 1 followed by the hostname)
 - 4.2 **IP_address server 2** (provide the ip address of server 2 followed by the hostname)
- 4.3 Save the file and exit.

5. On the local machine, verify that you can do the SSH command but this time, use the hostname instead of typing the IP address of the servers. For example, try to do `ssh jvtaylor@server1`. Enter the password when prompted. Verify that you have entered Server 1. Do the same for Server 2.

Reflections:

Answer the following:

1. How are we able to use the hostname instead of IP address in SSH commands?
 - DNS (Domain Name System), where instead of remembering the IP address of a host you refer to a hostname that is easier to remember, rather than entering the numbers yourself.
2. How secured is SSH?
 - The level of SSH security is highly high. It encrypts messages, applies authentication and keeps you and your connection confidential and secure, which is particularly true when configuration is done well.