Documentation

LAB - SERVER VIRTUALISATION

I chose VMware workstation hypervisor for my PC. Windows-10 64-bits and Ubuntu 20.4.3 are the two Virtual Machines that were installed as in the assignment. A screenshot of both the virtual machines is attached below:

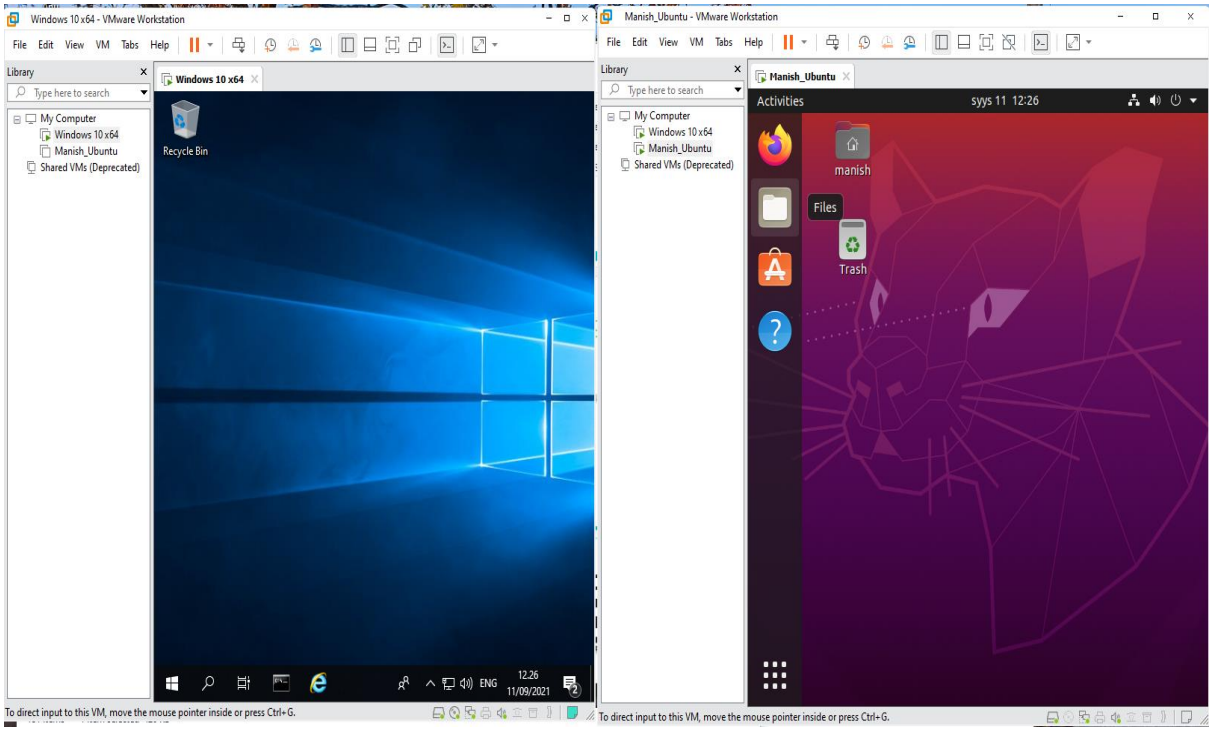

Figure: Virtual Machines (Windows 10 and Ubuntu 20.4.3)

The virtual hardware specifications for **Windows** are as follows:

Virtual Memory: Max Size: 3 199 MB

Virtual Memory: Available: 2 143 MB

Virtual Memory: In Use: 1 056 MB

Processors: 1 / Number of cores per processor: 2

Hard Disk (NVMe): 60GB

CD/DVD (SATA): Using ISO image

Network Adapter: NAT

USB Controller: Present

Sound Card: Auto detect

Printer: Present

Display: Auto detect

The network configurations for **Windows** are as follows:

Ethernet adapter:

Connection-specific DNS Suffix - localdomain

Link-local IPv6 Address - fe80::91c1:ae4:1a05:1bb9%4

IPv4 Address - 192.168.228.128

Subnet Mask - 255.255.255.0

Default Gateway - 192.168.228.2

The virtual hardware specifications for **Ubuntu** are as follows:

Virtual Memory: Max Size – 3 GB

Virtual Memory: Available – 2 GB

Processors: 2 / Number of cores per processor: 1

Hard Disk (SCSI) - 20GB

CD/DVD (SATA) - Using ISO image

Network Adapter - NAT

USB Controller - Present

Sound Card - Auto detect

Printer – Present

The network configurations for **Ubuntu** are as follows:

Link speed 1000 Mb/s

IPv4 Address - 192.168.228.129

IPv6 address - fe80::c00d:d81e:b536:7997

Default Gateway - 192.168.228.2

The **connectivity** between the two virtual machines is **successfully tested**. Following ping success proves the connectivity:

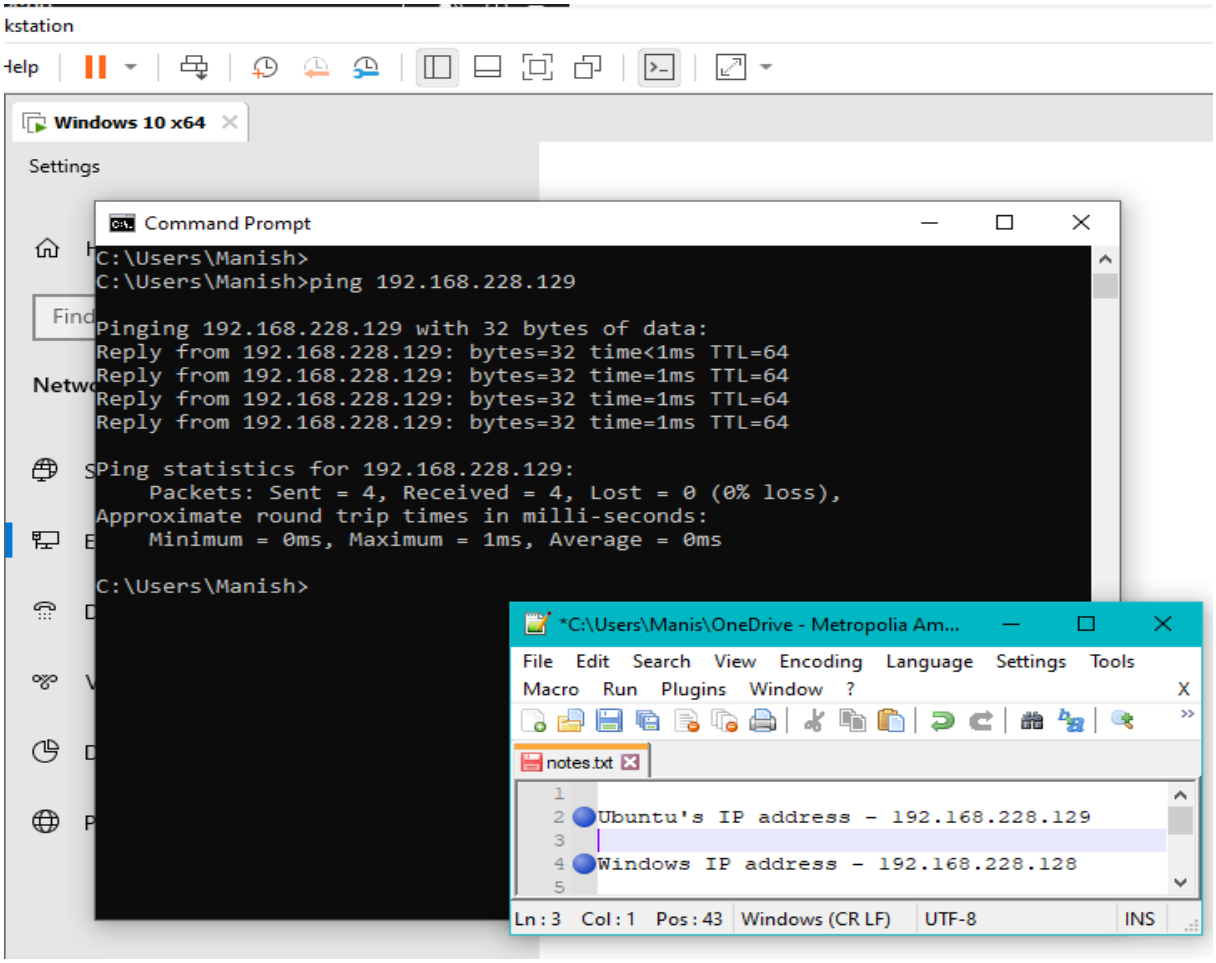

Figure: Ping request successfully responded

Installation of Apache2 server was successful, and it was active (running) as in below.

It was simply installed with the use of the command ‘sudo apt install apache2’ and started with the command ‘sudo systemctl start apache2.service’.

The status of the service was confirmed with the command ‘sudo systemctl status apache2.service’ that displayed the following information.

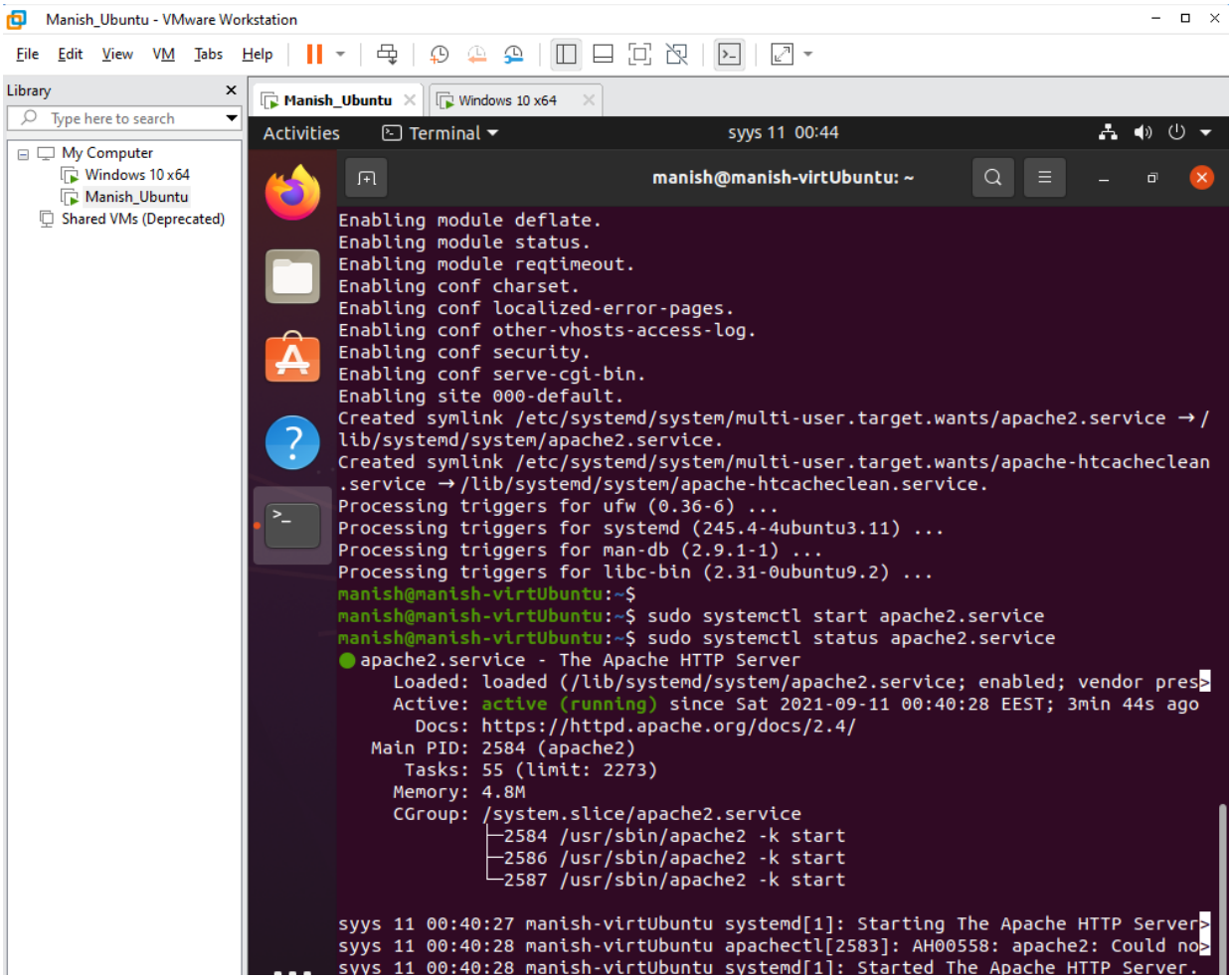

Figure: Apache server installed and active

Also, the webpage served by the Apache2 server in Ubuntu successfully opened in Windows' browser.

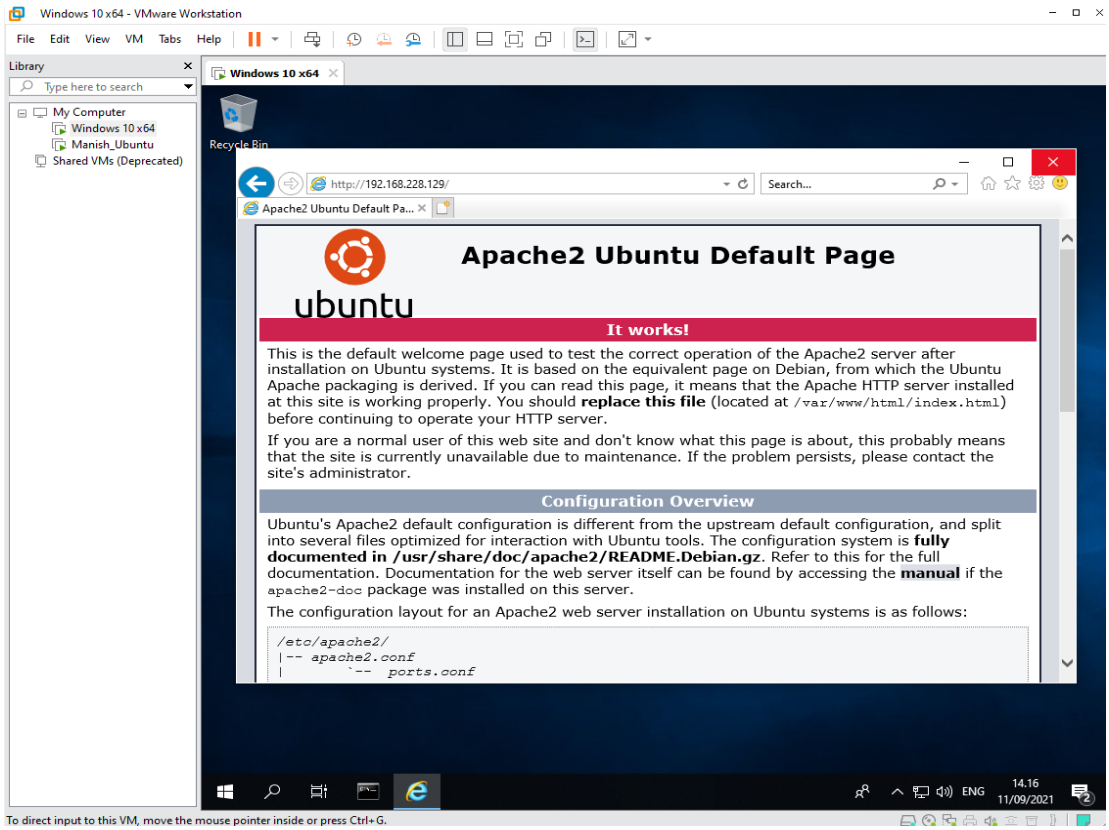

Figure: Page served and rendered successfully

Conclusion

This lab exercise demonstrated the server virtualization thoroughly.

The Ubuntu was installed in a virtual environment on top of VMware workstation hypervisor along with Windows 10. Both virtual machines used my PC's physical resources but still independent of each other. The hypervisor was communicating with the physical hardware on behalf of the guest OS. The Ubuntu served the webpage which was accessible through windows' browser. Both virtual machines could connect to each other.