Cloud Computing Lab 7:

VM Networking 1

Due Date: Tuesday, March 30, 2021 (11:59pm).

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Understanding VM networking operation and configuration on VMware Workstation Platform.

Equipment, Tools, Hardware, and Software Needed

1. Desktop PC, Laptop with internet connection.
2. VMware Workstation software - free downloadable
3. Ubuntu (live image) - free downloadable. You may download other Operating Systems image.

Theorem

One of the essential configuration and settings on Cloud Computing is network configuration and setting. There are multiple of types on how to connect a VM to a network, basically there are four types

- **Network Address Translation (NAT) – Default**
- **Host-Only Networking**
- **Bridged Networking**
- **Custom networking** (or the customized network configuration)

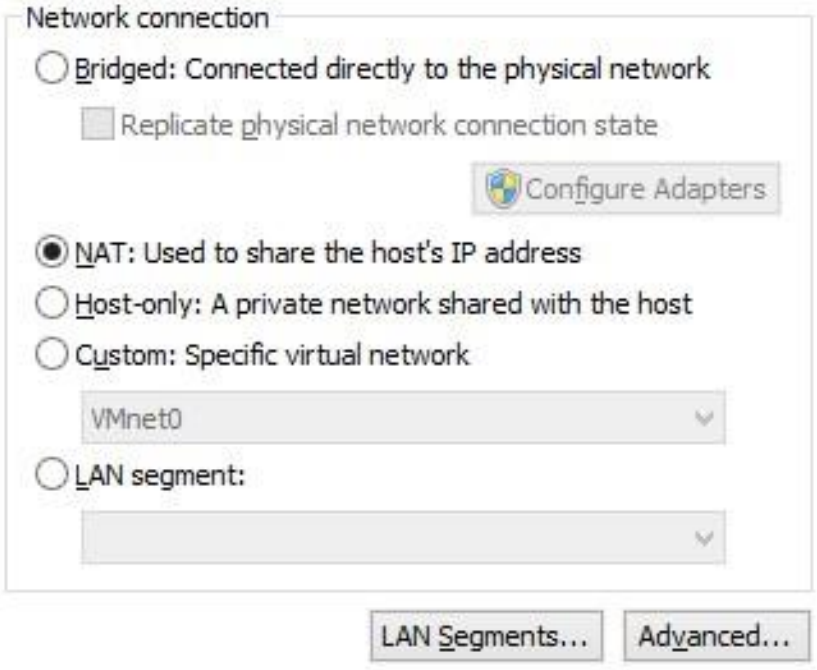


Figure 1 Network Connection Settings

In this Lab, we will prepare and review the available network configuration through VMware Workstation.

We will focus on **Network Address Translation (NAT)**, **Bridged Networking** and **Host-Only Networking.**

Procedure

***** Note: Use your previous Lab VMs**

USE ONE VIRTUAL MACHINE TO PRACTICE THE FOLLOWING NETWORK SETTINGS (as shown on the above Figure 1):

- Currently the VM is set on **NAT** configurations.
- **Trial 1**: POWER ON the VM and report its Network Configuration - POWER OFF the VM.
- **Trial 2**: While the Virtual Machine is POWER OFF, Change the Network setting to Bridged.
- POWER ON the VM and report its Network Configuration ○ Can you Ping Google (IP 8.8.8.8)?
- POWER OFF the VM.
- **Trial 3**: While the VM is POWER OFF, change the Network setting to Host-Only
- POWER ON the VM and report its Network Configuration ○ Can you Ping Google (IP 8.8.8.8)?
- POWER OFF the VM
- Whiel the VM is POWER OFF, change the Network setting to NAT

Lab Report

Question 1: What was the observation at the network settings for each trial?

Question 2: Which of the Network settings will allow the VM to access the outside network, i.e. Internet?

Question 3: Which of the Network setting will provide segregation (isolation) between co-hosted virtual machines?

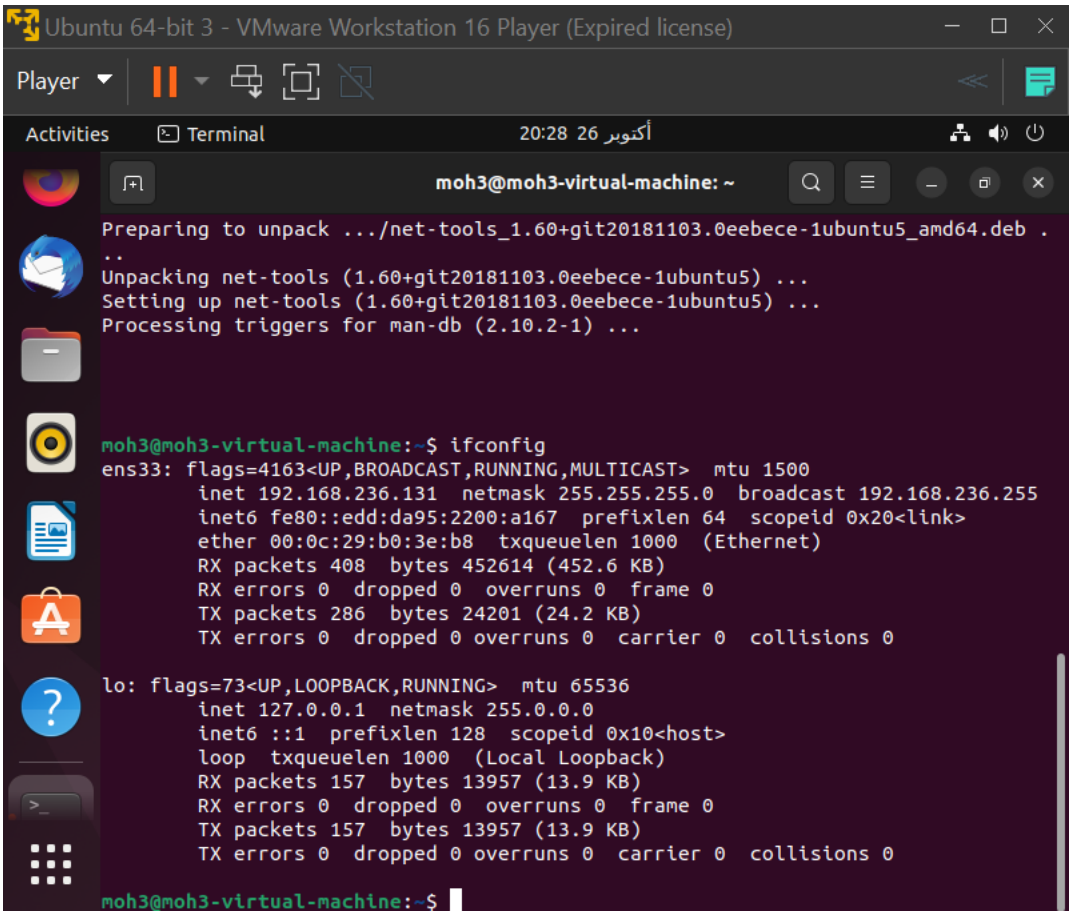
For the lab report, take a screenshots of your VMware Workstation configuration and include Command Line logs for the Virtual Machines as requested in the Lab Task.

Q1 : the Nat and Bridged are reachable we can ping on goolge , but host-only is not !!

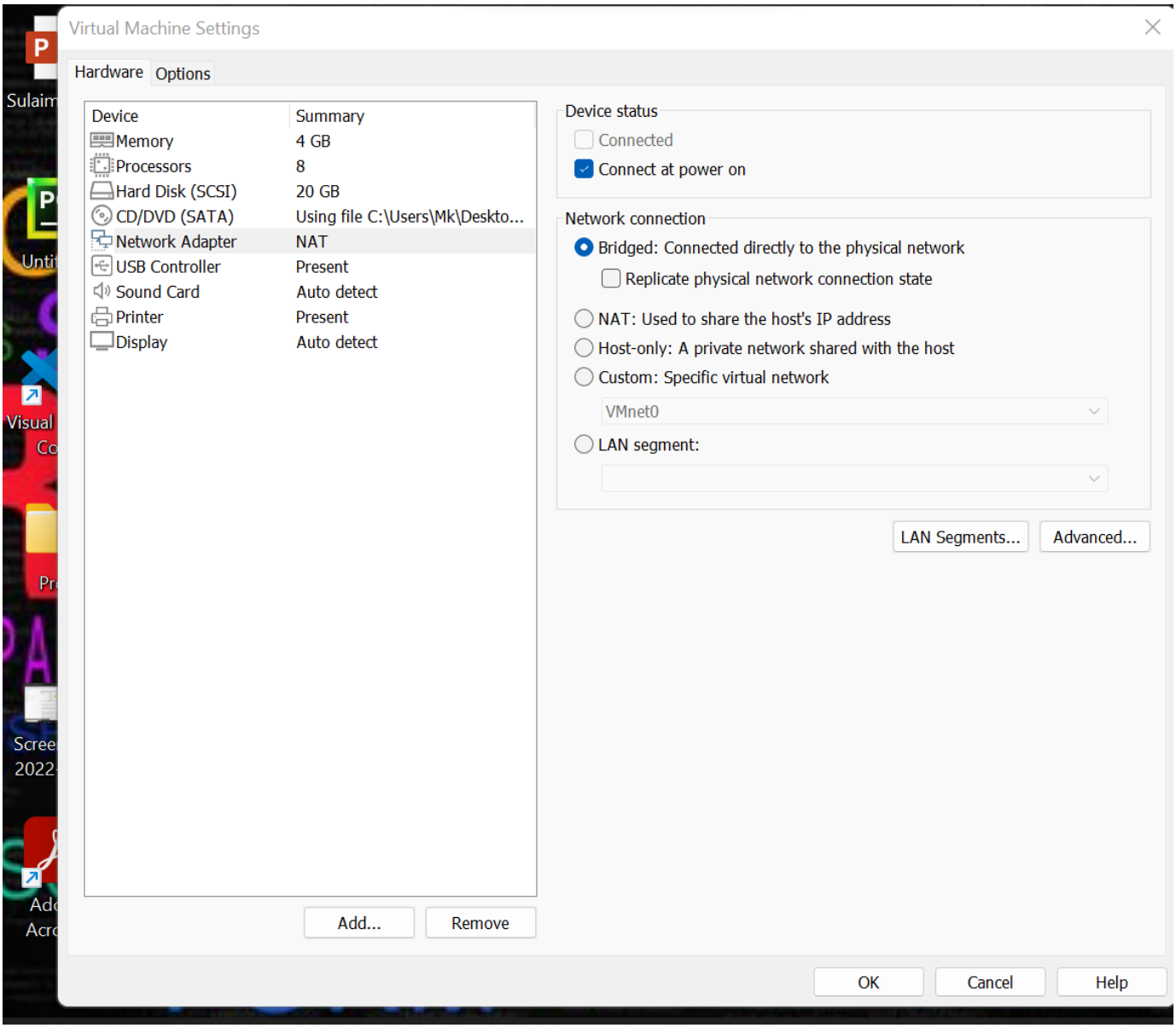
Q2: Bridged And Nat

Q3 : host-only

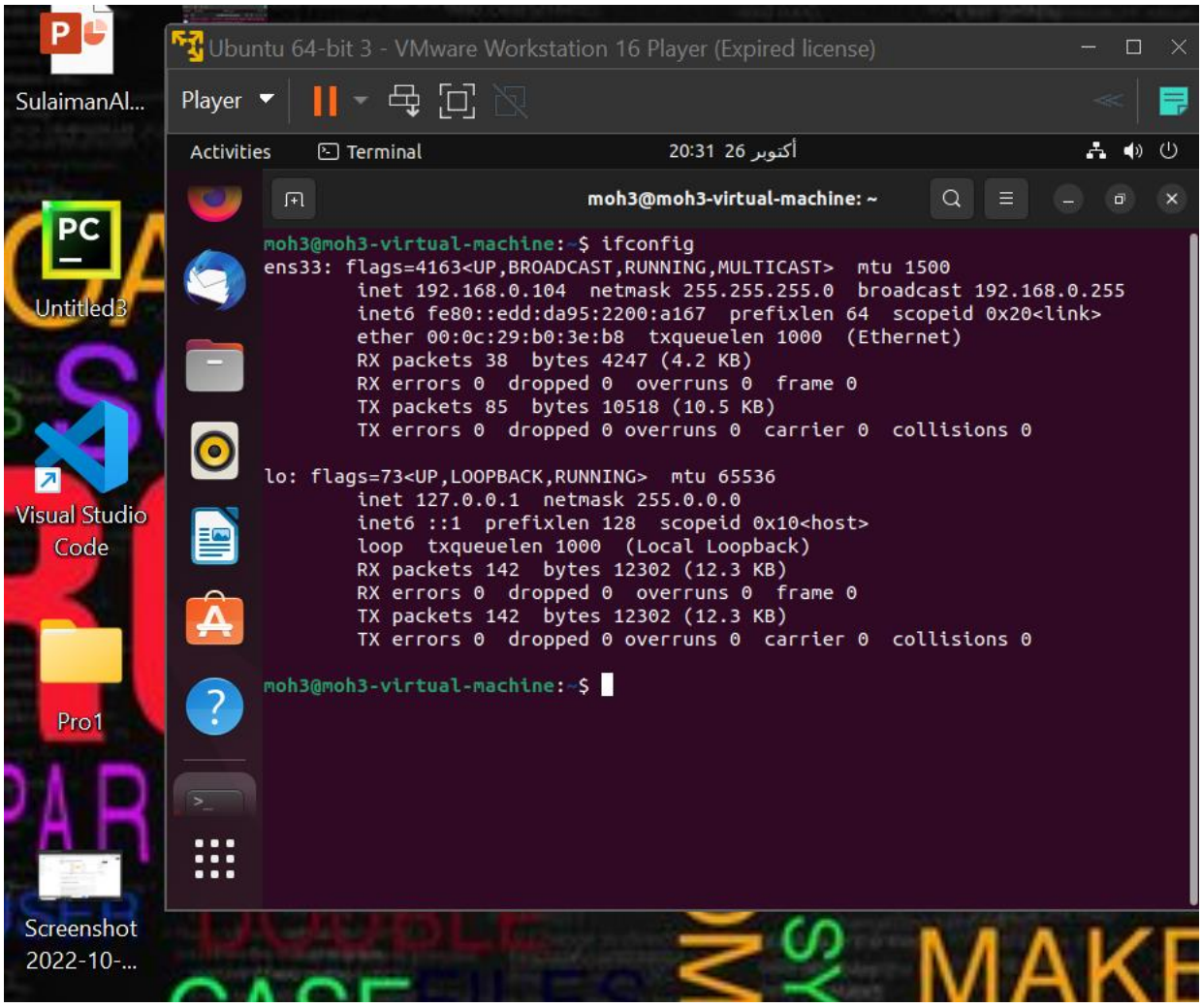
If config to see ips (nat)



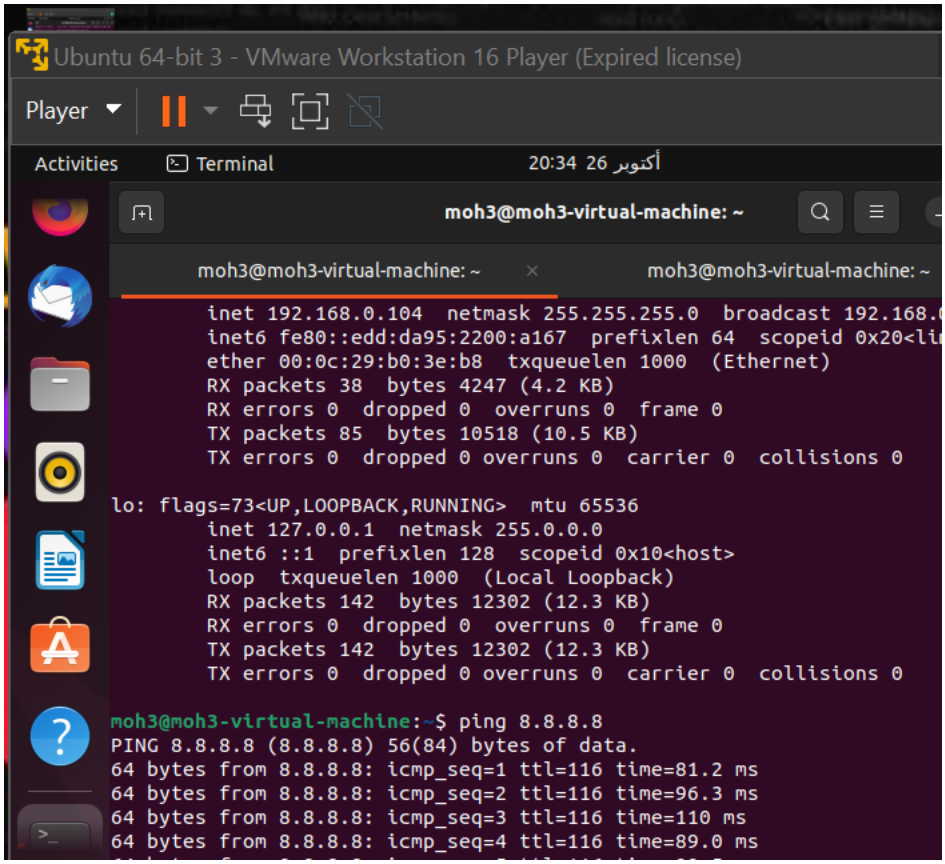
Change the network to Bridged



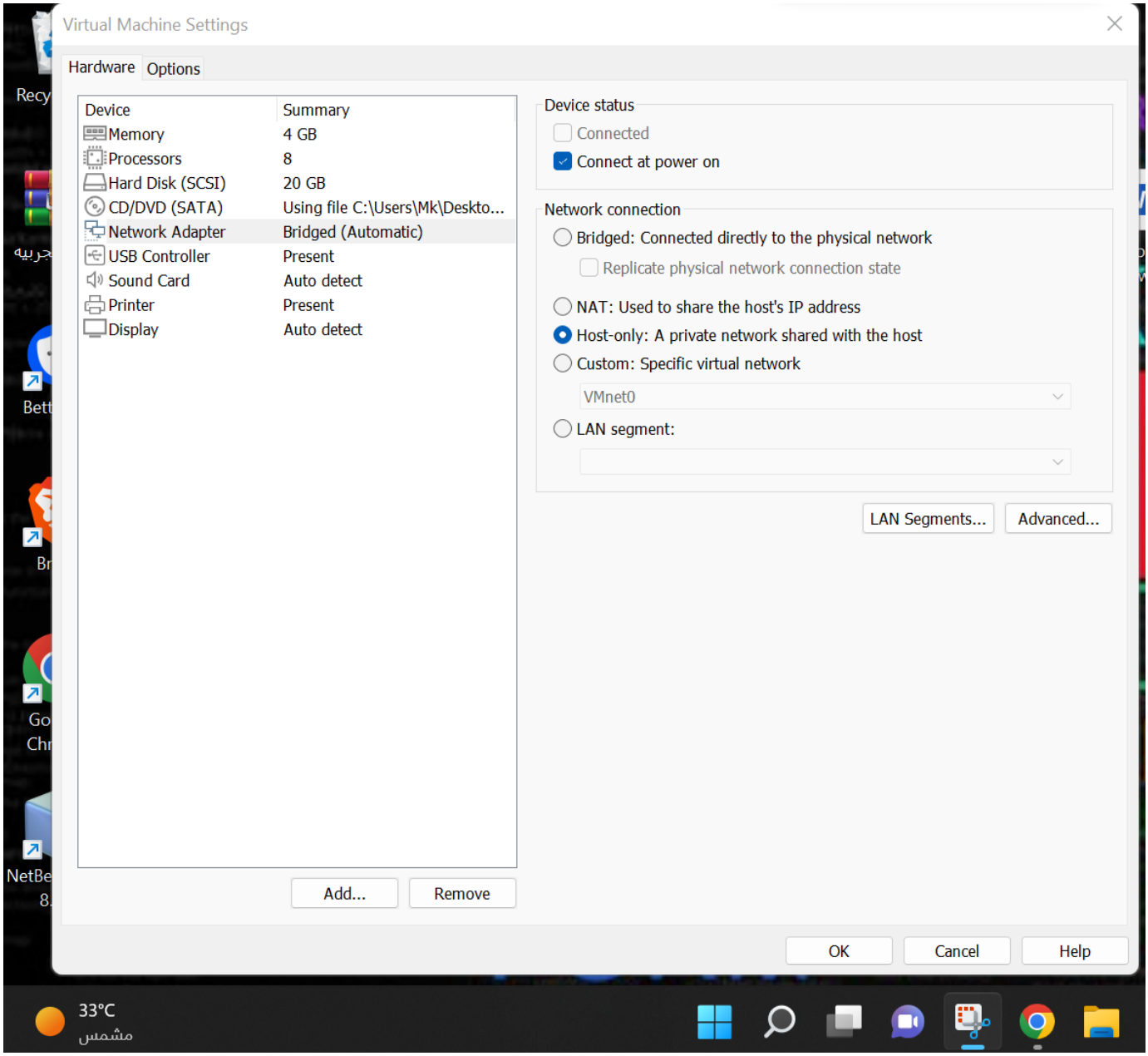
If config to see ips



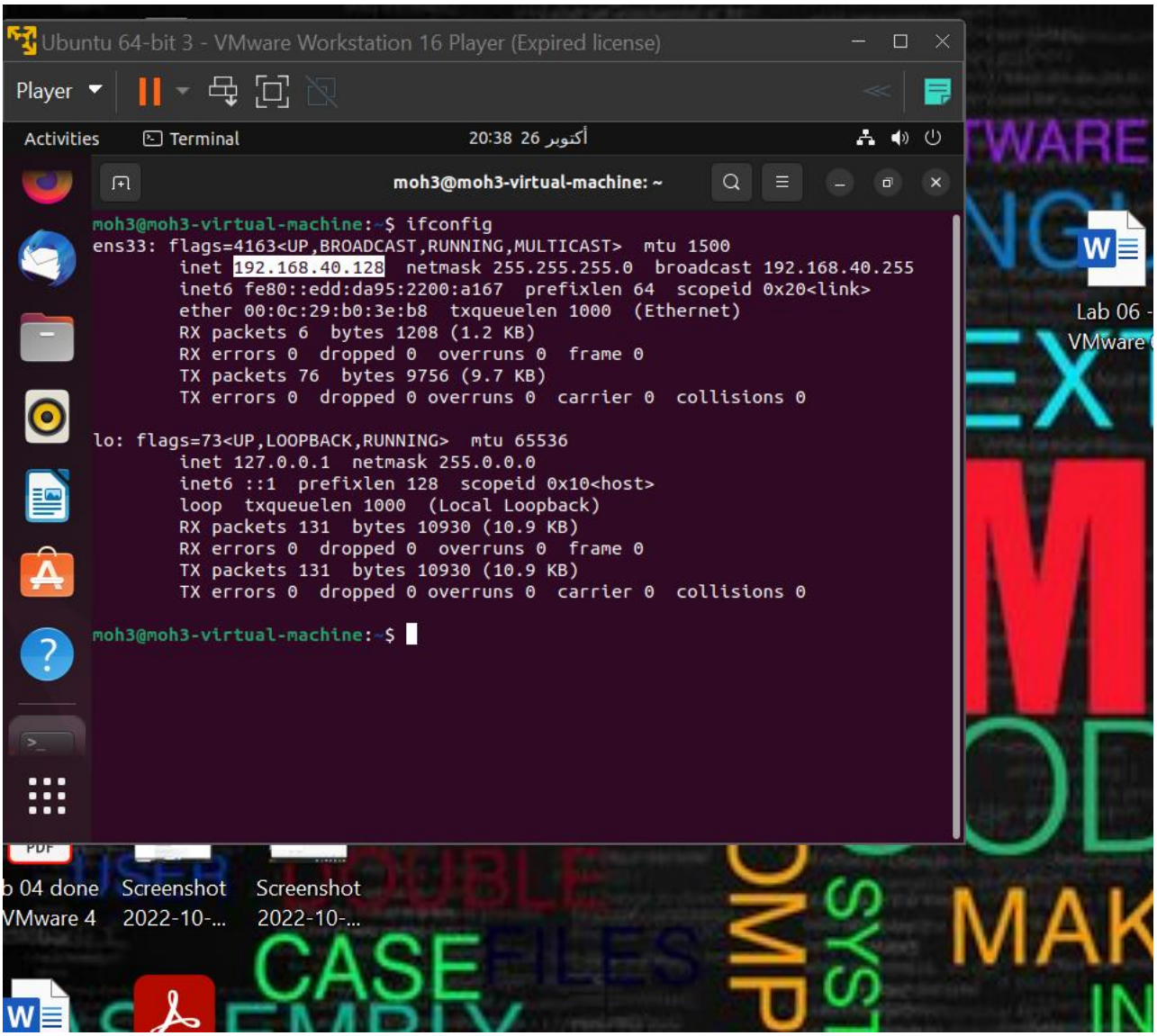
Try to ping google and see it’s reachable or not



Change the network to host



Ips


Ubuntu 64-bit 3 - VMware Workstation 16 Player (Expired license)
Player
Activities
Terminal
20:38 26 أكتوبر
moh3@moh3-virtual-machine: ~
moh3@moh3-virtual-machine:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 192.168.40.128 netmask 255.255.255.0 broadcast 192.168.40.255
inet6 fe80::edd:da95:2200:a167 prefixlen 64 scopeid 0x20<link>
ether 00:0c:29:b0:3e:b8 txqueuelen 1000 (Ethernet)
RX packets 6 bytes 1208 (1.2 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 76 bytes 9756 (9.7 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 131 bytes 10930 (10.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 131 bytes 10930 (10.9 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
moh3@moh3-virtual-machine:~$
Lab 06 -
VMware
b 04 done
VMware 4
Screenshot
2022-10-...
Screenshot
2022-10-...

Can’t ping google its unreachable