University of Baghdad
College of Science for Women

Cloud Computer Lab Materials

Department of Computer Science

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1- Creating new virtual machine

In order to start the use of the virtualization technology that is mainly used in cloud computing, follow the instruction below:

Figure 1. Creating a new virtual machine

To create a new virtual machine, select the + icon in the middle of the screen as shown in Fig.1. Also, you can make a new virtual machine by selecting the **File** menu and then select **New Virtual Machine** or by pressing **Ctrl + N** from the keyboard as shown in Fig.2.
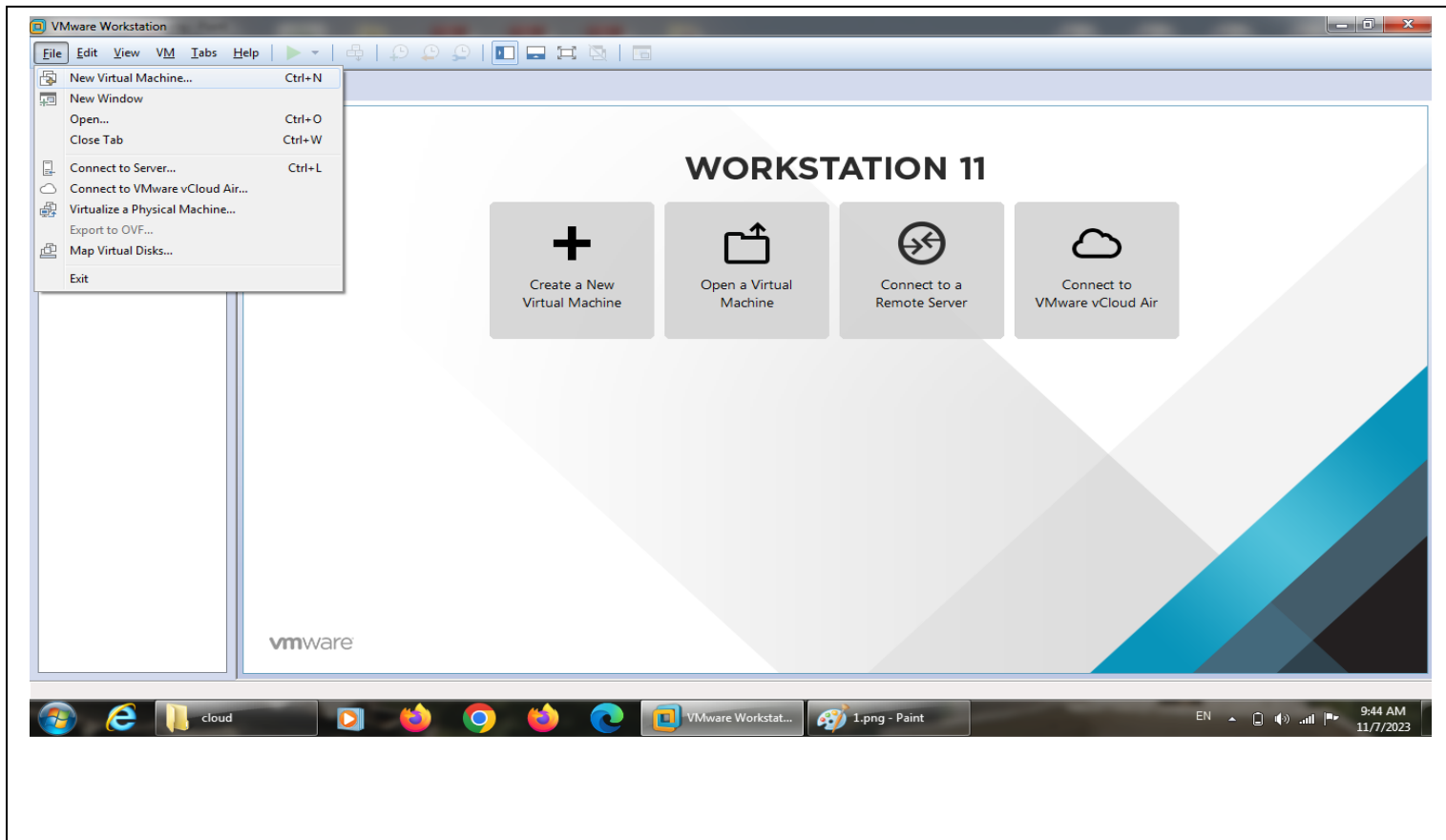
Figure 2. Creating a new virtual machine by selecting File menu
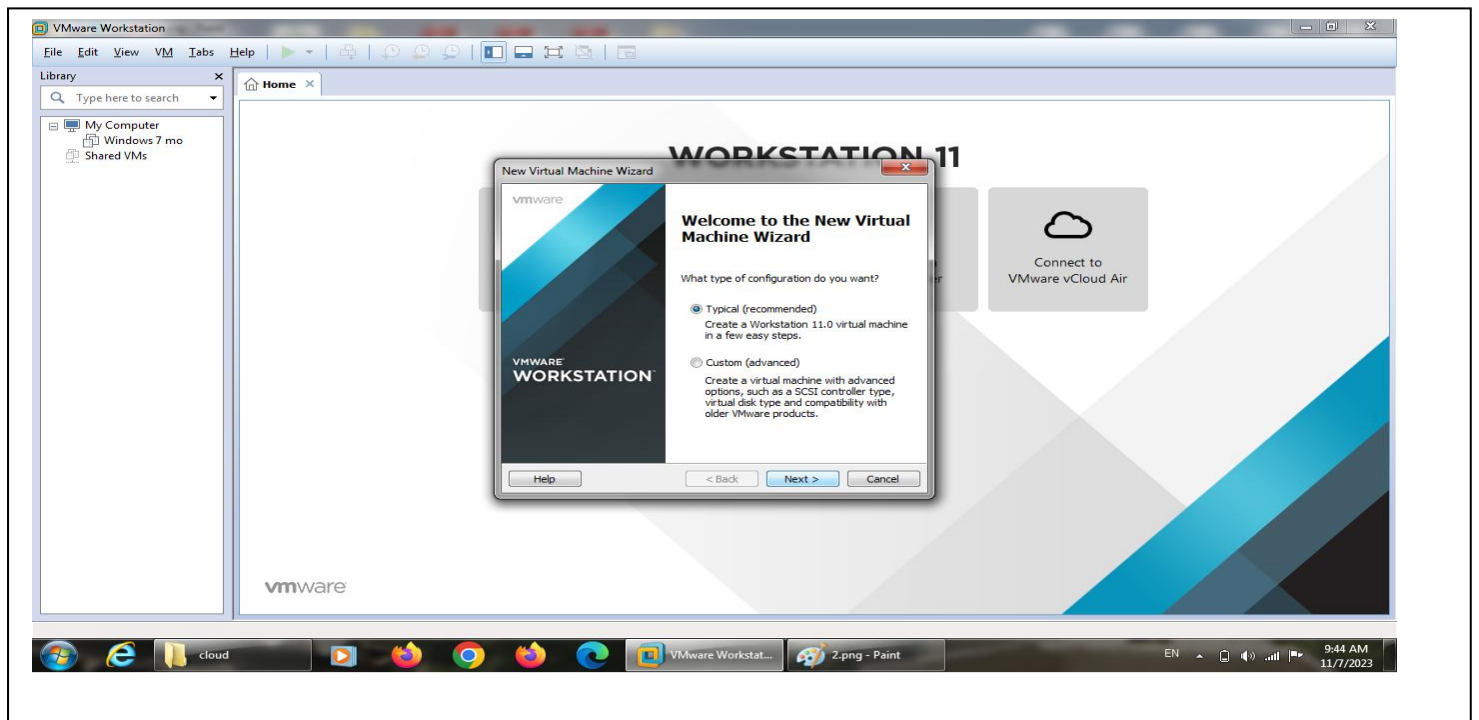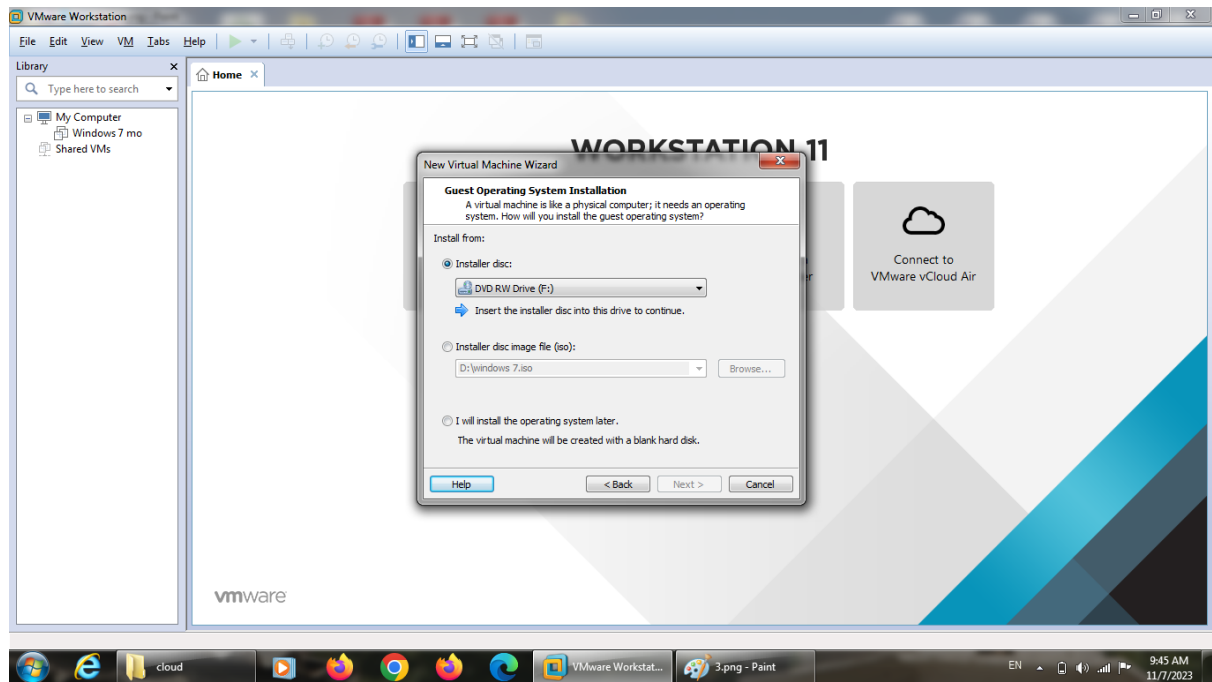

Figure 3. Wizard of creating new virtual machine

Figure 4. Installing an operating system for the new virtual machine

In order to start the process of installing an operating system for the new virtual machine, select one of the options that are illustrated in Fig.4 above. The first option (Installer Disk) will install OS from the CD drive. The second option will install an image file (ISO). The last option will allow the user install OS later.
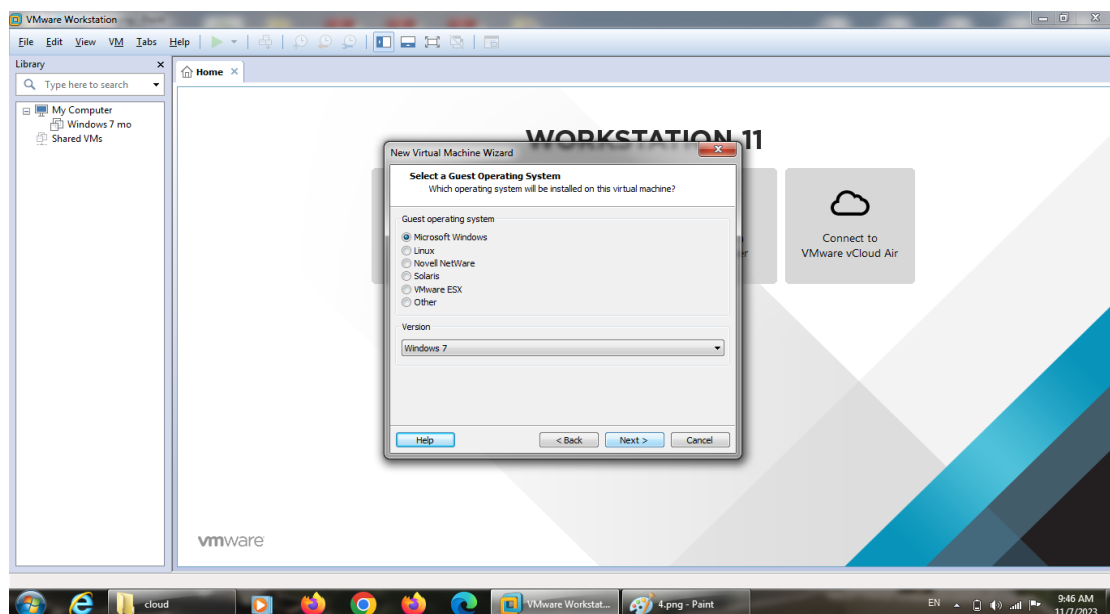
Figure 5. Selecting OS for creating virtual machine

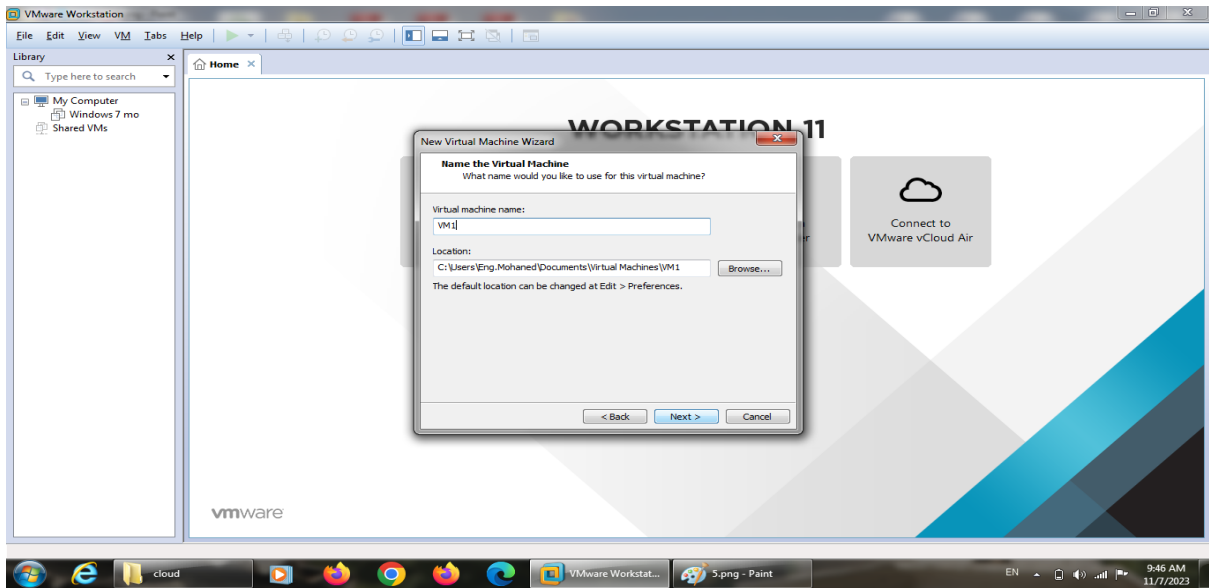In Fig.5, the user needs to choose which OS will be installed for the new virtual machine.

Figure 6. Selecting a name for the virtual machine

In order to select a name for the new virtual machine, the user should select a name in English starting with any alphabet from A to Z and can add any number as shown in Fig.6.
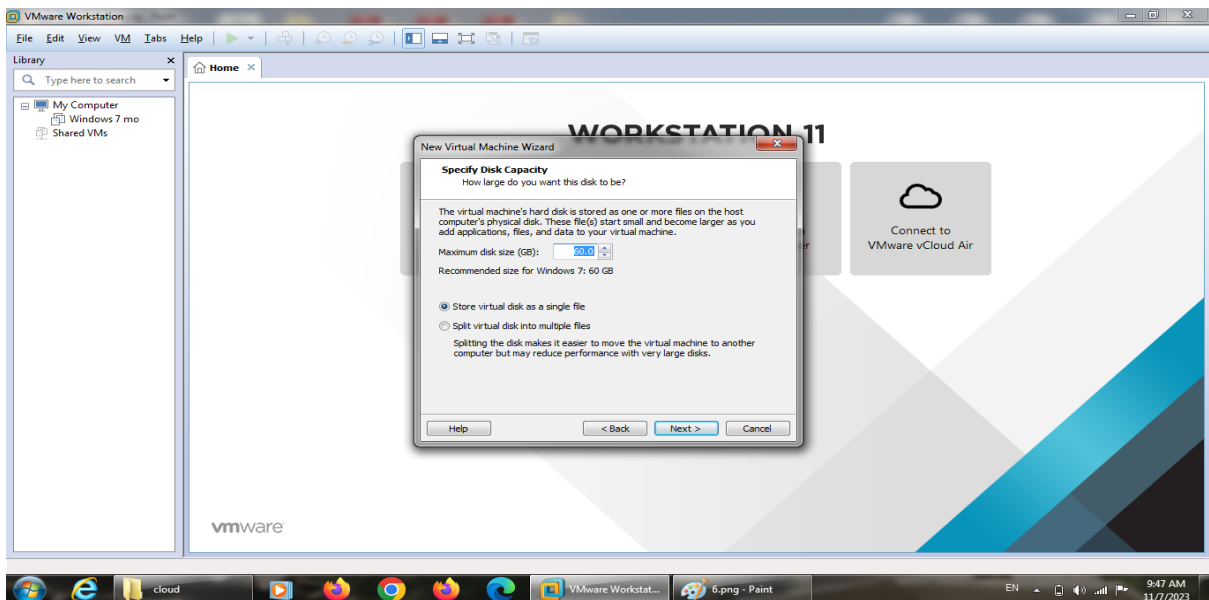

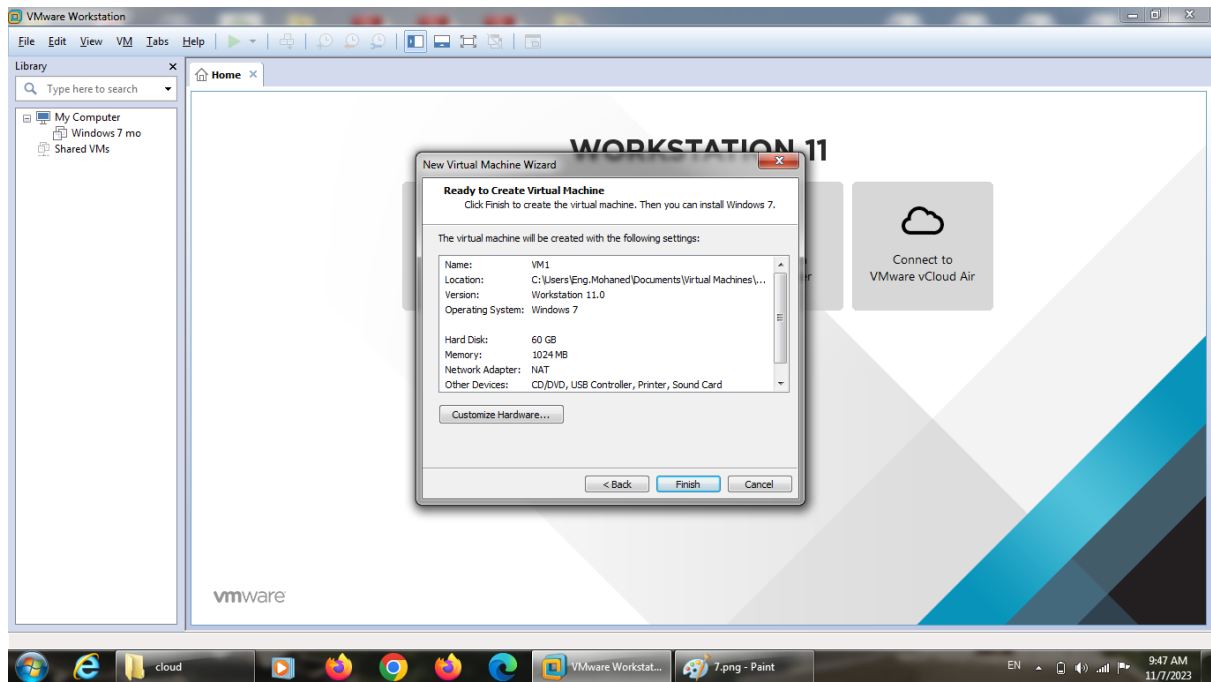Figure 7. Customize the hardware resources of the virtual machine

Figure 8. the summary of creating a new virtual machine.

The last stage of creating a new virtual machine is illustrated in Fig.8.

Figure 9. the new created virtual machine

The new created virtual machine is ready to be launched by the user after completing the creation process as shown in Fig.9.
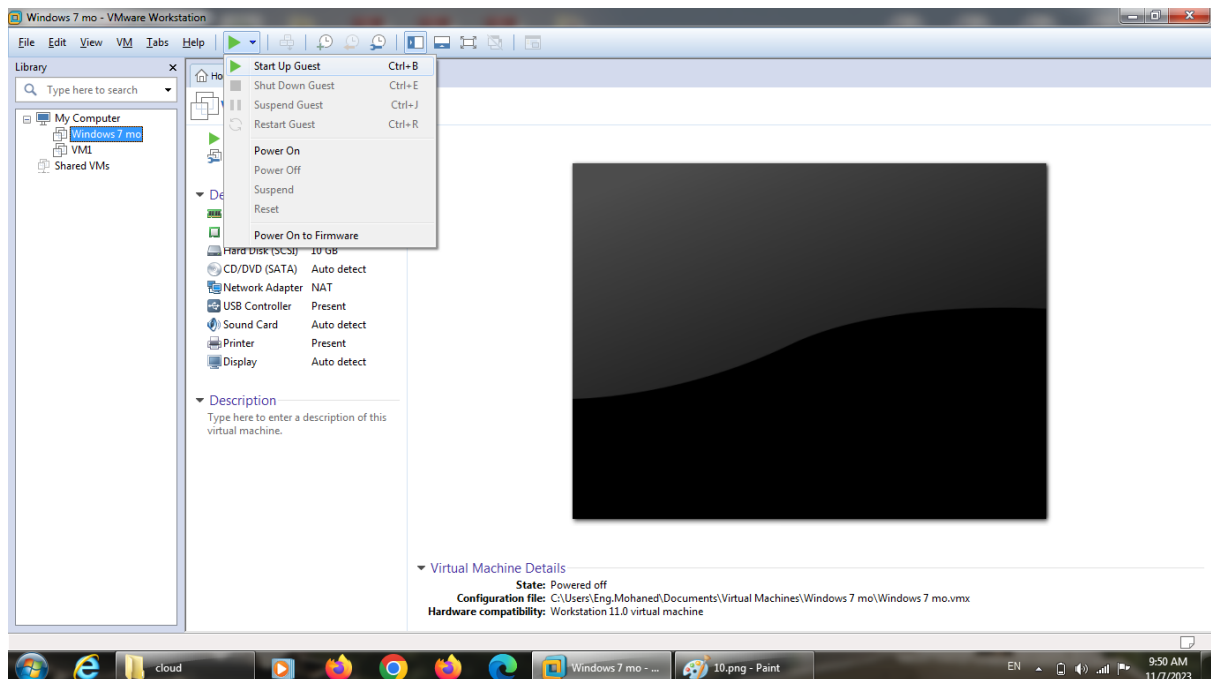

**Figure 10. Start up the virtual machine**

2. Sharing folder bweteen host and guest machines

One of the benefits of using virtualization in cloud computing is sharing folders, files and other contents between the host and guest (virtual machine) after completing the creation process. In order to start making sharing folder, select the virtual machine from the left side of the window, and use right click of the mouse and select the **Setting** option as shown in Fig.11 below.
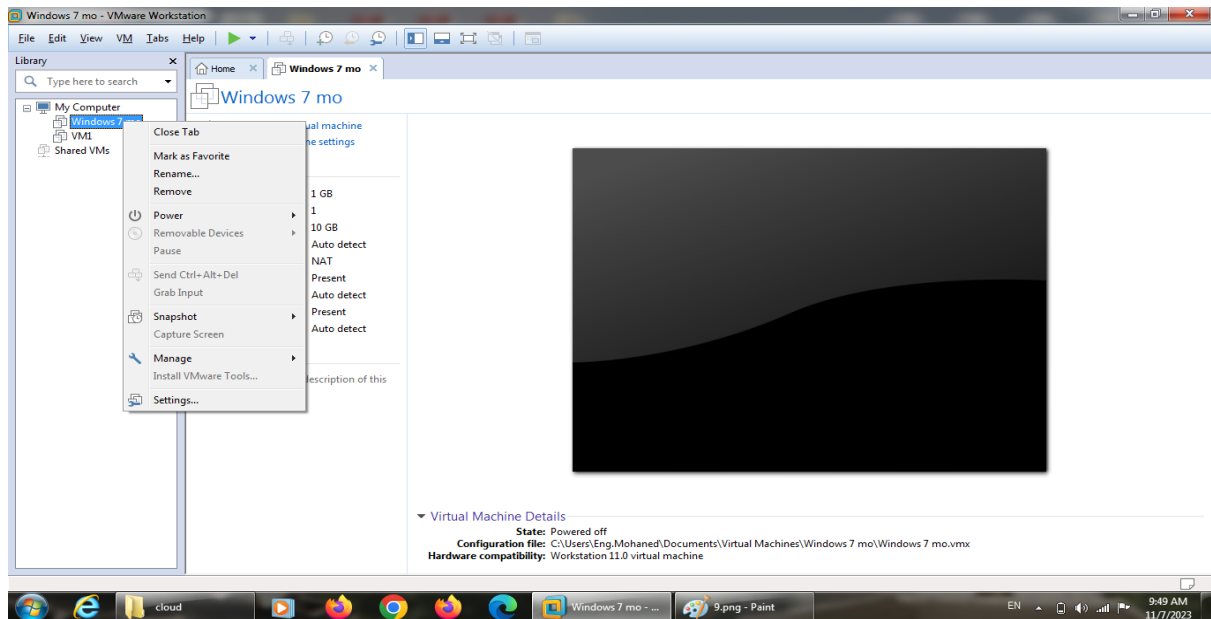
Figure 11. selecting the Setting option to make sharing folder
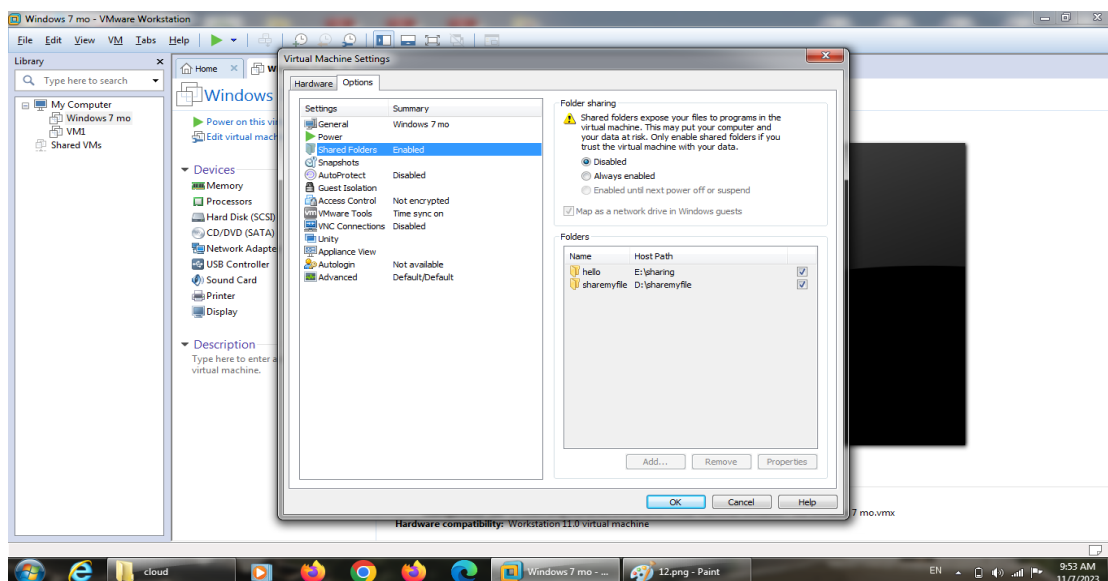

Figure 12. Selecting Options tab to make sharing folder

In Fig.12, the user selects the Option tab to start making a shared folder between host and guest machine. Then, the Shared folder tab is clearly illustrated and should be selected. On the right side of the shared folder tab, the user make sure to enable the shared folder as shown in Fig.13 below.
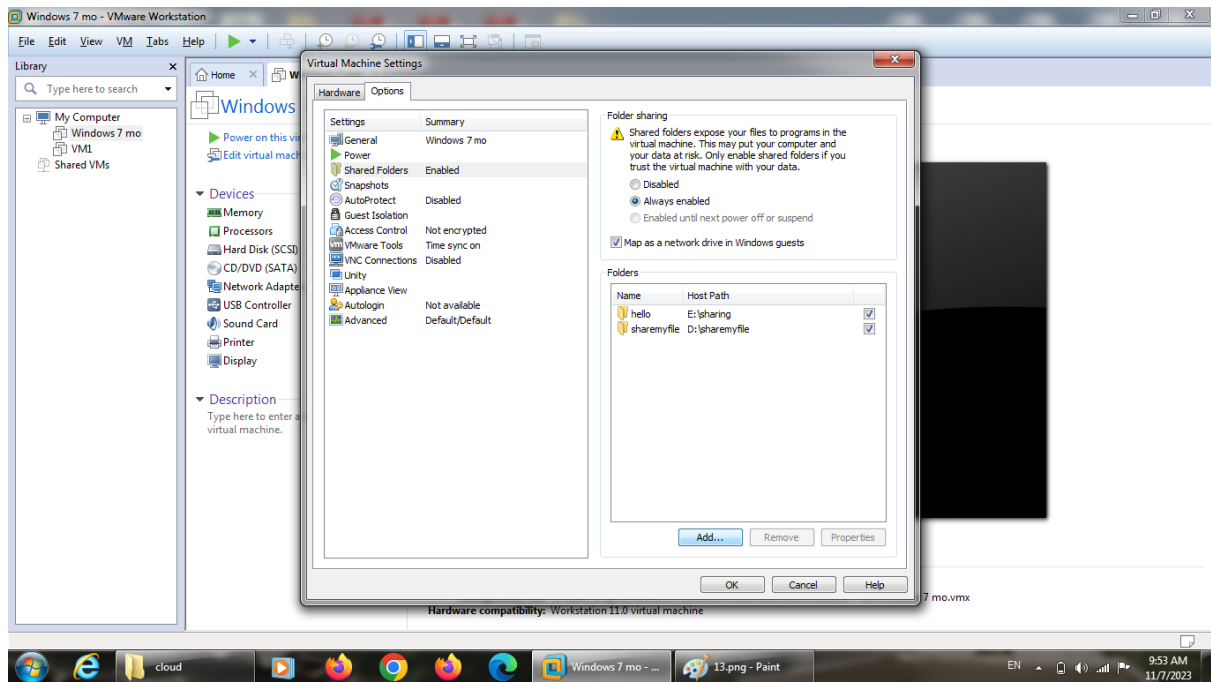
Figure 13. Enable the shared folder button

By selecting the Add button, the user will see the window in the figure below.
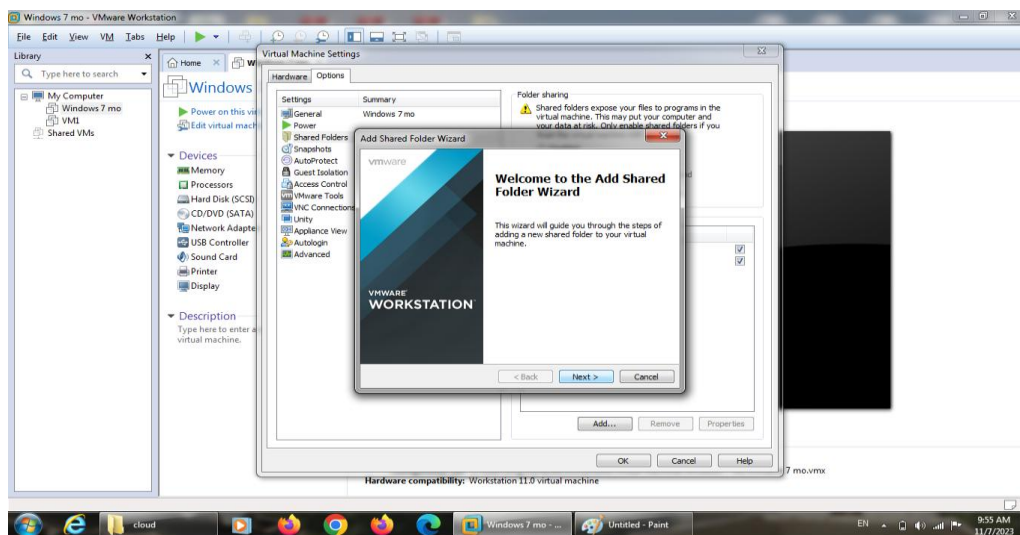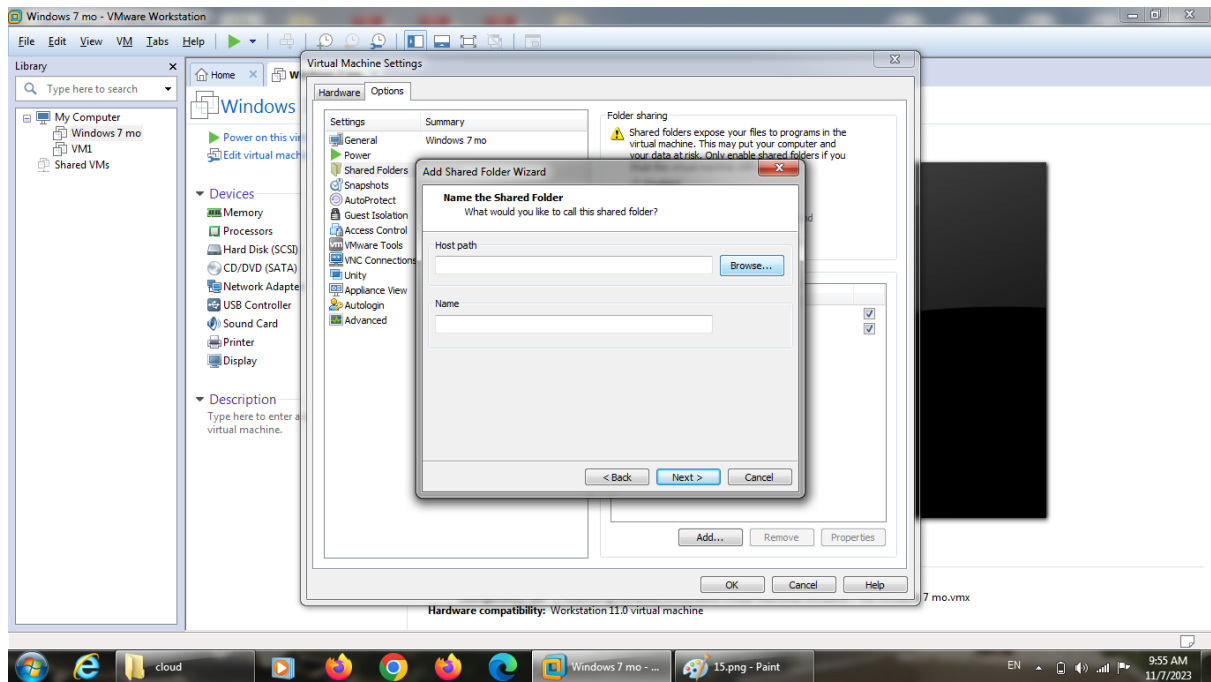

Figure 14.making a shared folder

Figure 15.selecting path to sharing folder

In fig.15, the system will ask the user to choose a path to locate a shared folder. By selecting Browse, the path is detected by the user.
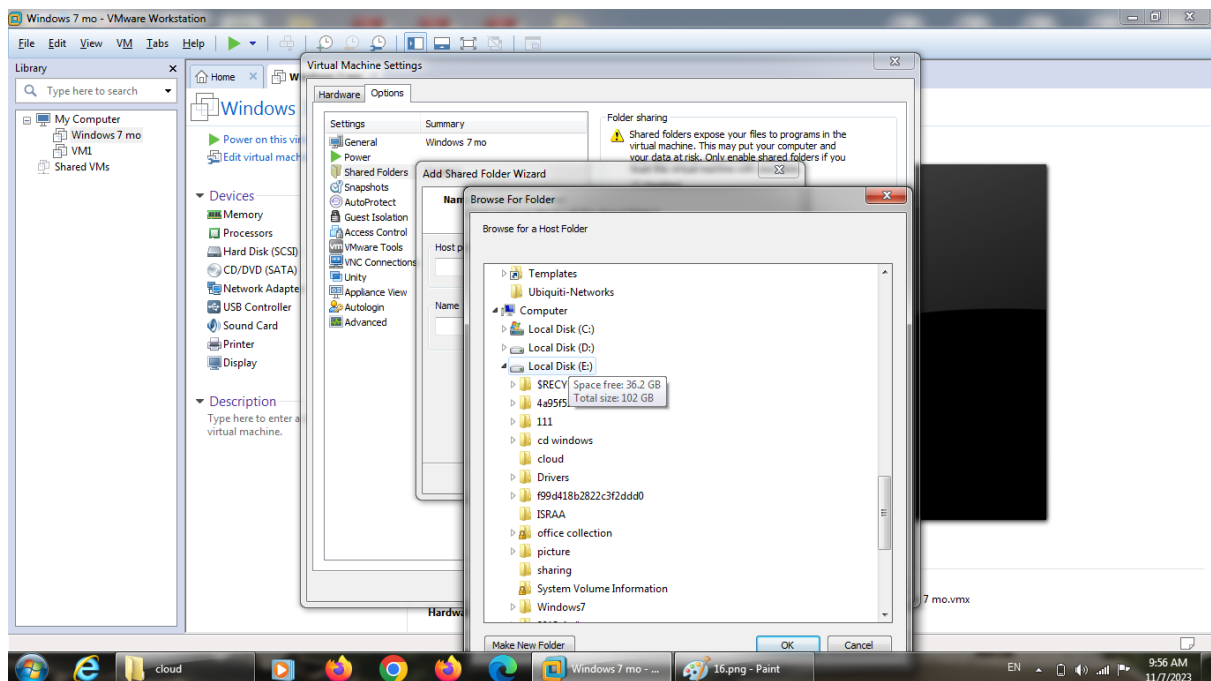

Figure 16. choosing a directory and specify the shared folder place in the host computer

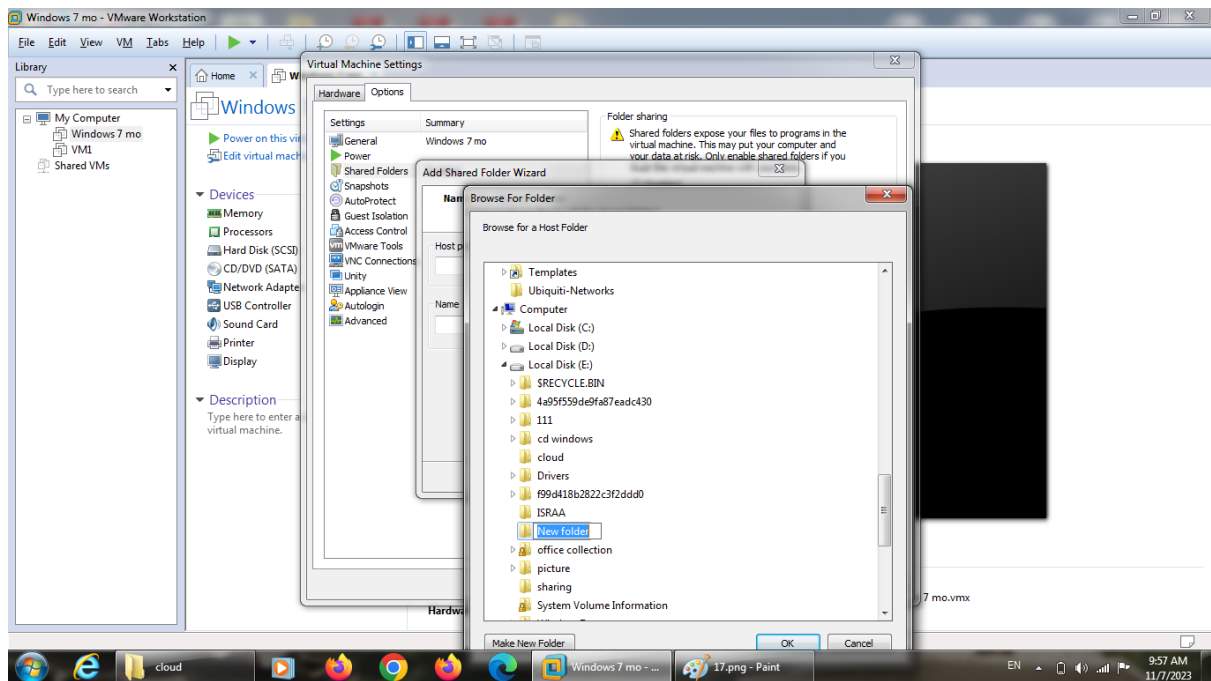By selecting Make New Folder the user will see a new folder is created in the selected path.

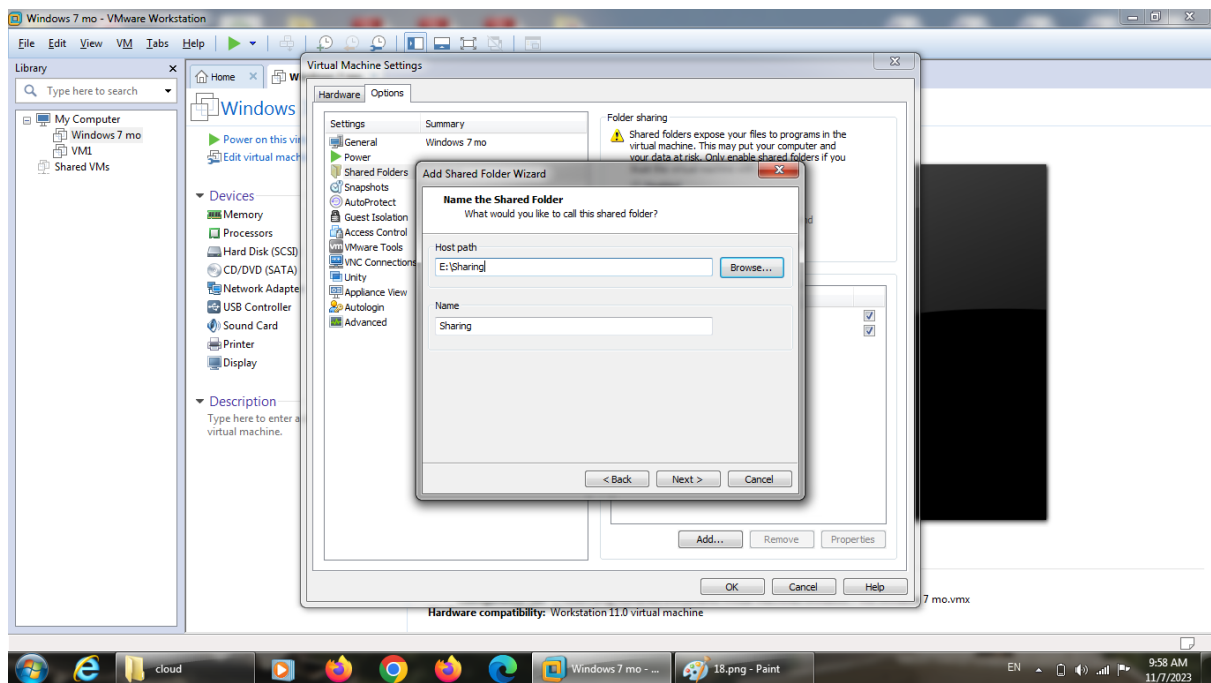Figure 17. create a shared folder in a specific directory

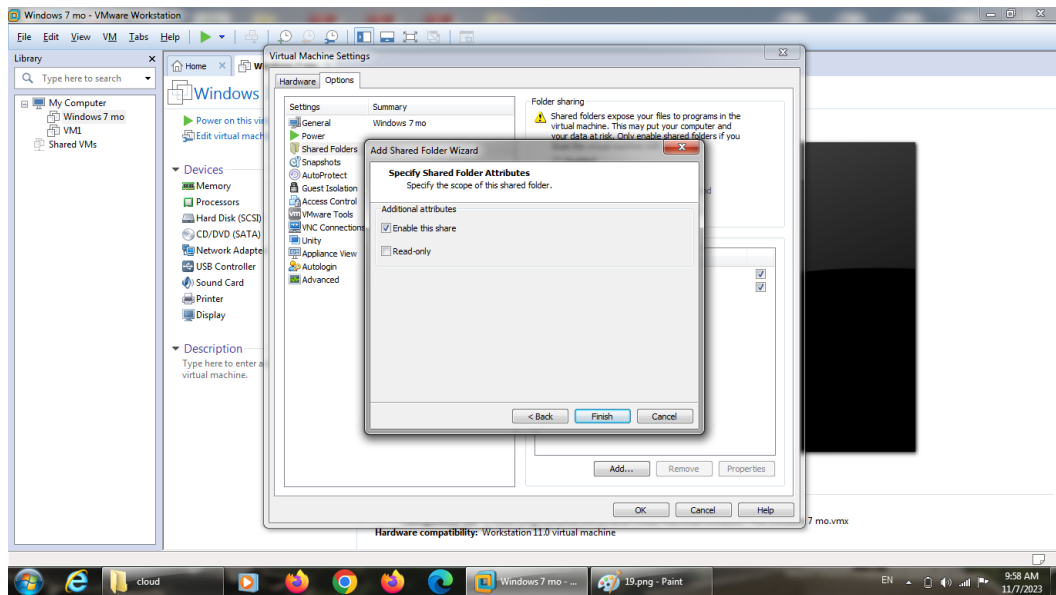Figure 18. the shared folder is created with a selected name and path

Figure 19. Choosing the property of the created sharing folder

In Fig.19, the user must detect which type of attributes which make the shared files can be read only or read/write.
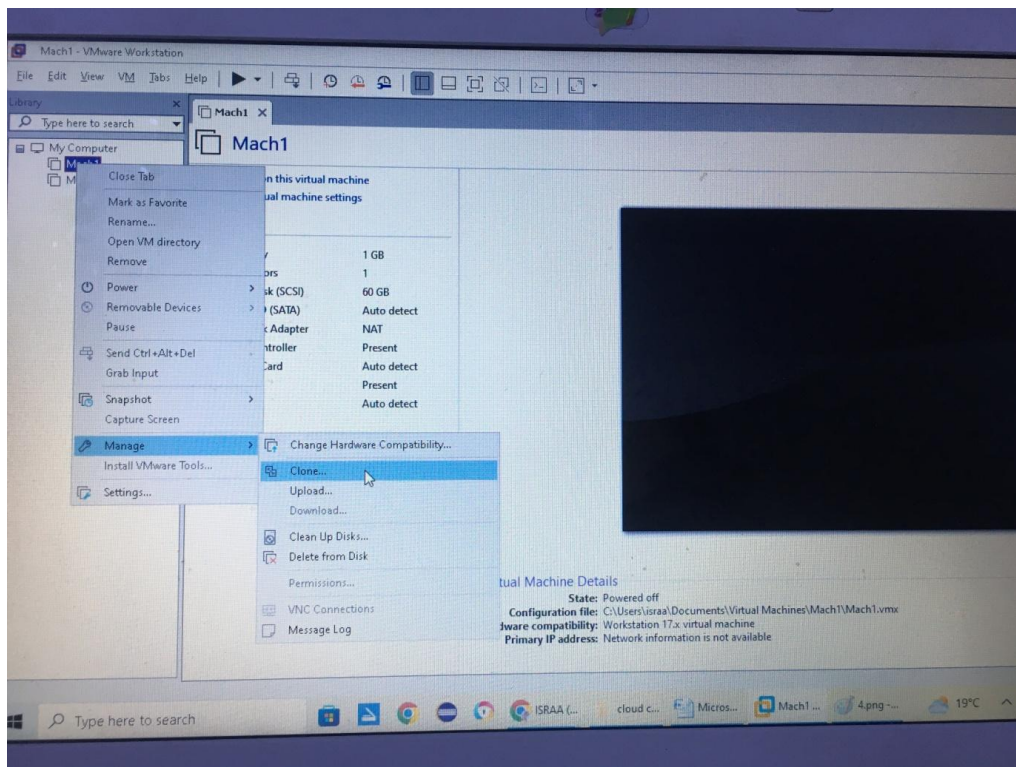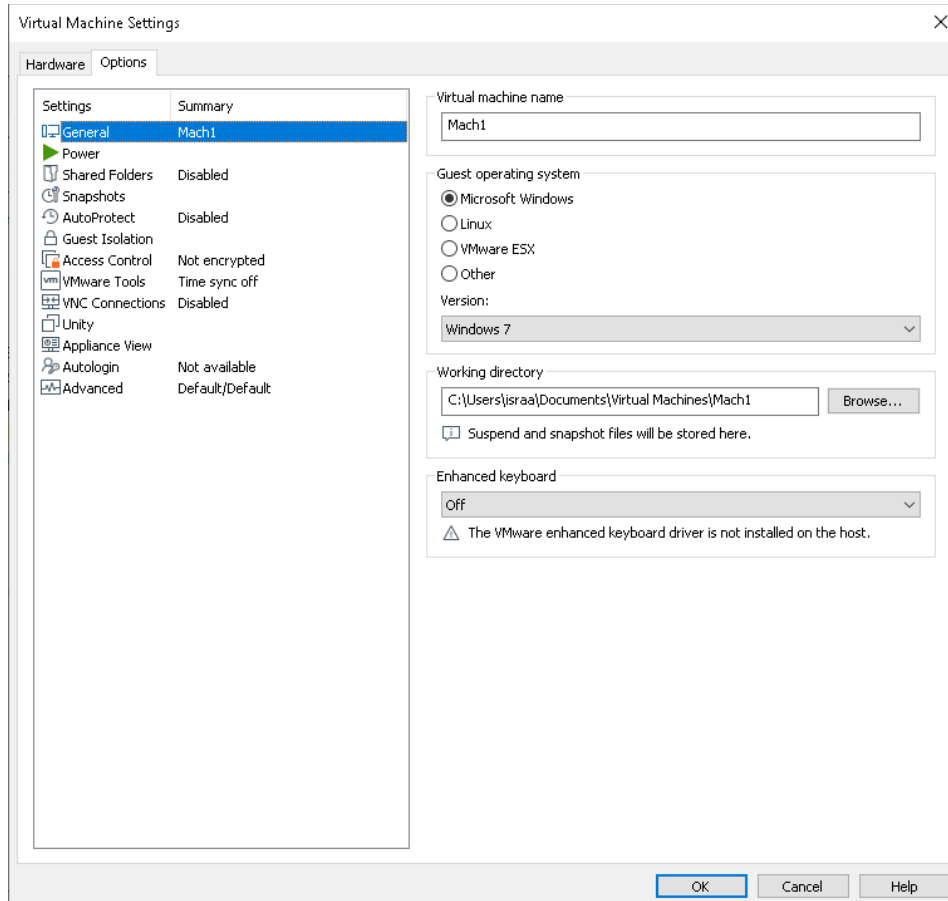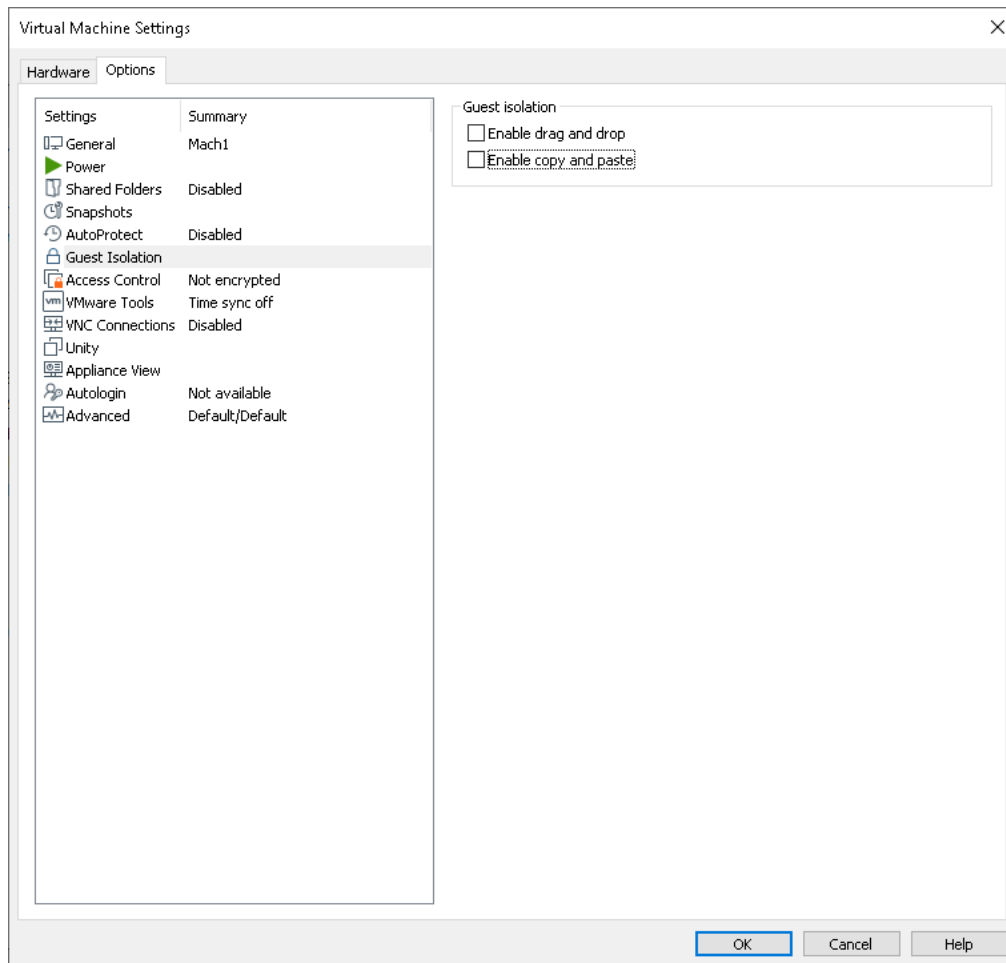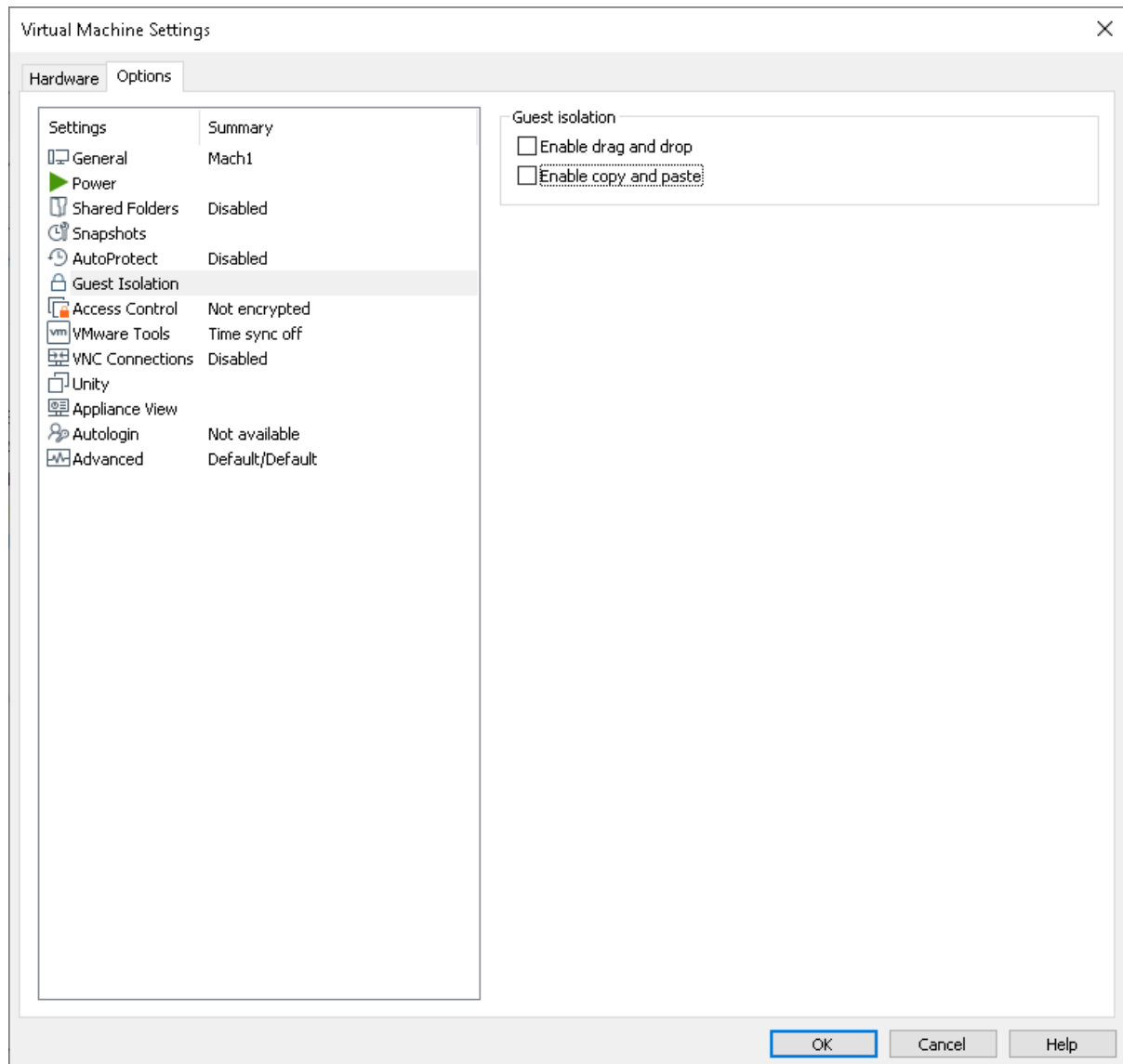
3- Make a copy of an existing vm machine

Figure 20

First use **Right** click of the mouse on the name of the selected VM, then select the **Manage** option then select **Clone**.

4- Drag and Drop between Host and Guest machines

In order to make drag and drop of the files (images, text and other types of files) between host machine and guest (VM) follow the instructions below:

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Virtual Machine Settings   ✕

Hardware | Options

Settings   Summary
🖵 General   Mach1
▶ Power
🗍 Shared Folders Disabled
🕮 Snapshots
🕘 AutoProtect   Disabled
🔒 Guest Isolation
🖵 Access Control Not encrypted
vm VMware Tools   Time sync off
🖴 VNC Connections Disabled
🗗 Unity
🖳 Appliance View
🔑 Autologin   Not available
⎍ Advanced   Default/Default

Guest isolation
☐ Enable drag and drop
☐ Enable copy and paste

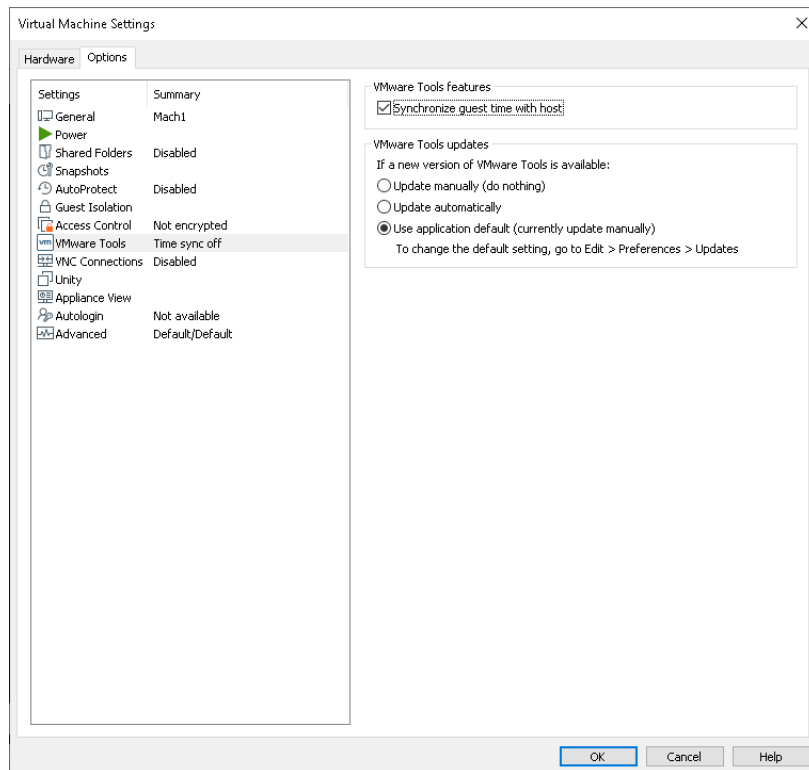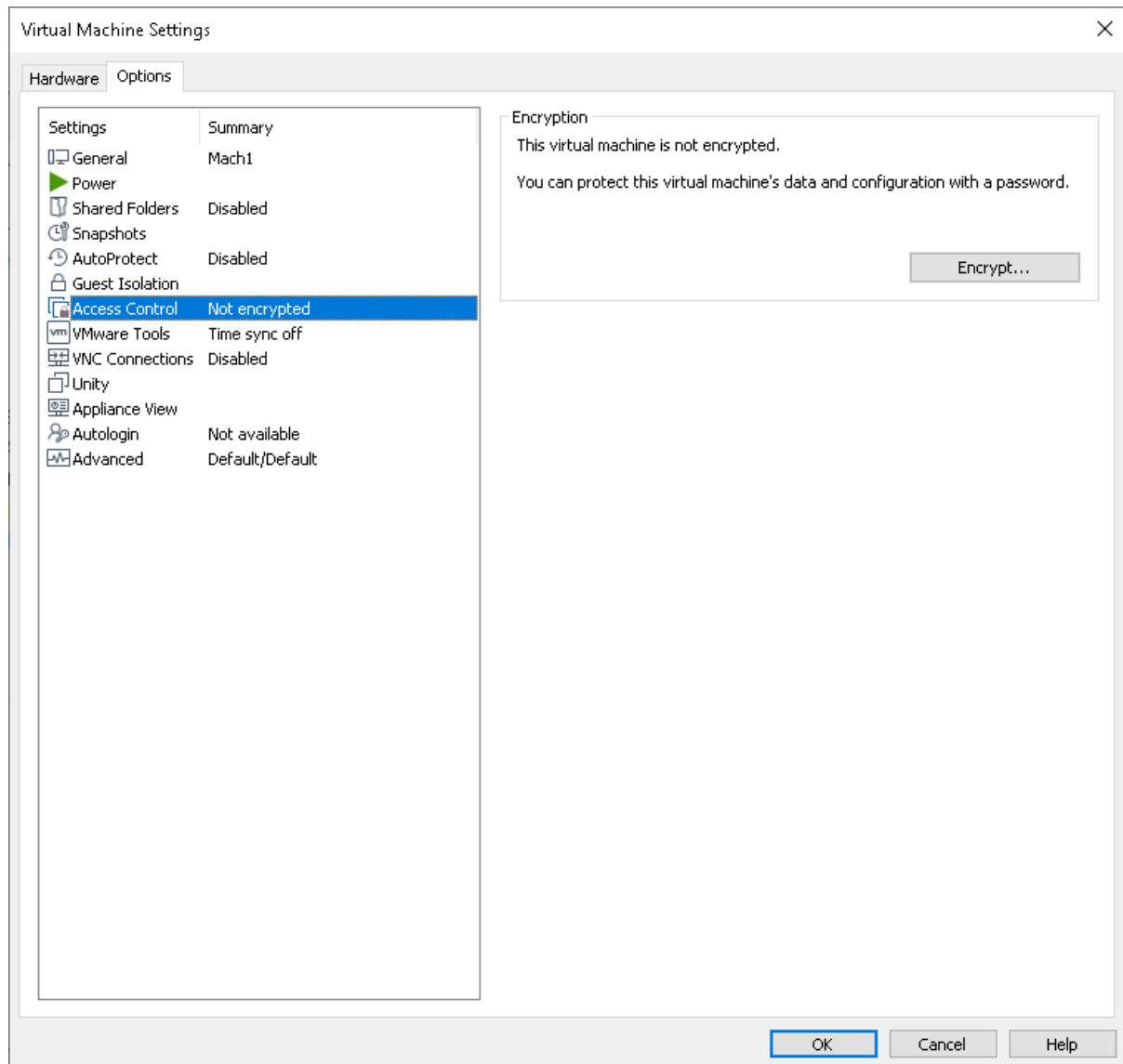   OK   Cancel   Help

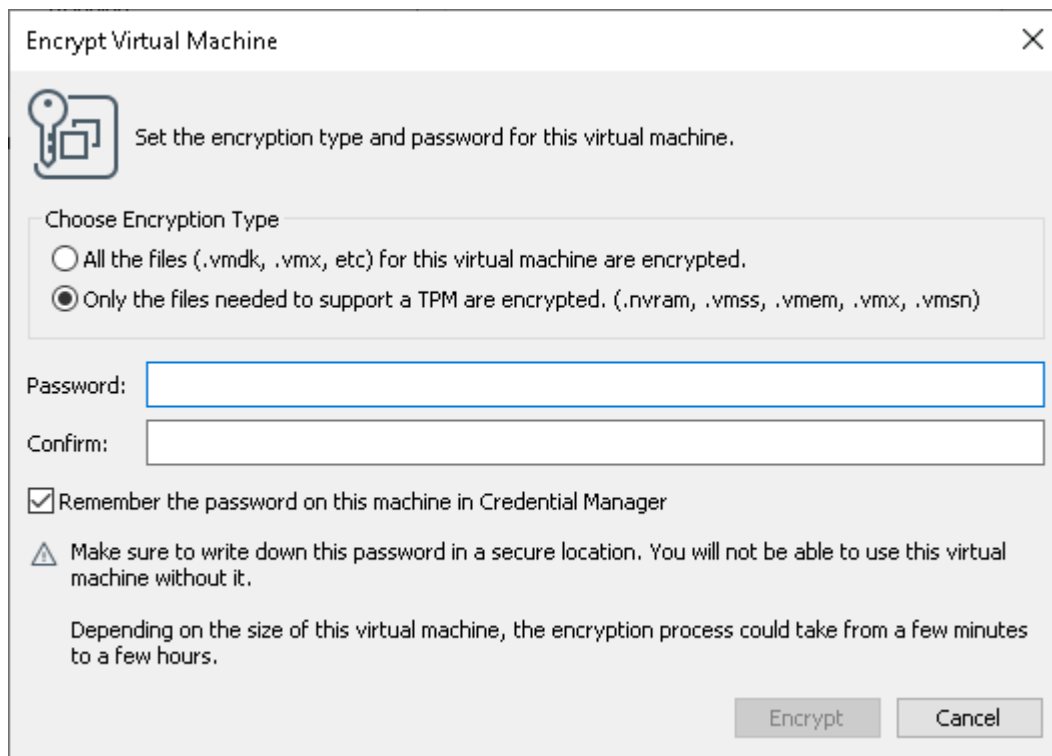## 5- Setup the time and the date for the virtual machine

By choosing Synchronize time of host and guest.
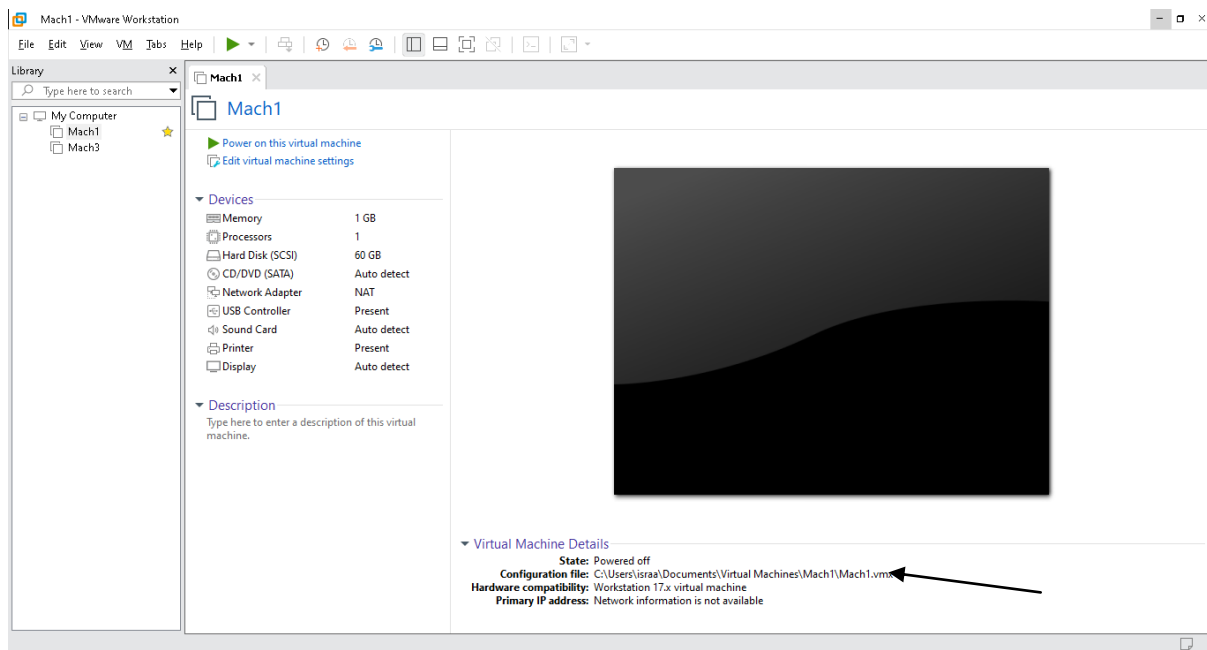
6- Protecting the virtual machine by password

By selecting Encryption, writing username and password as shown in below:

7- Starting up VM by using cmd command line

First we should know the full path of the VM machine :

The VM should be turned off.

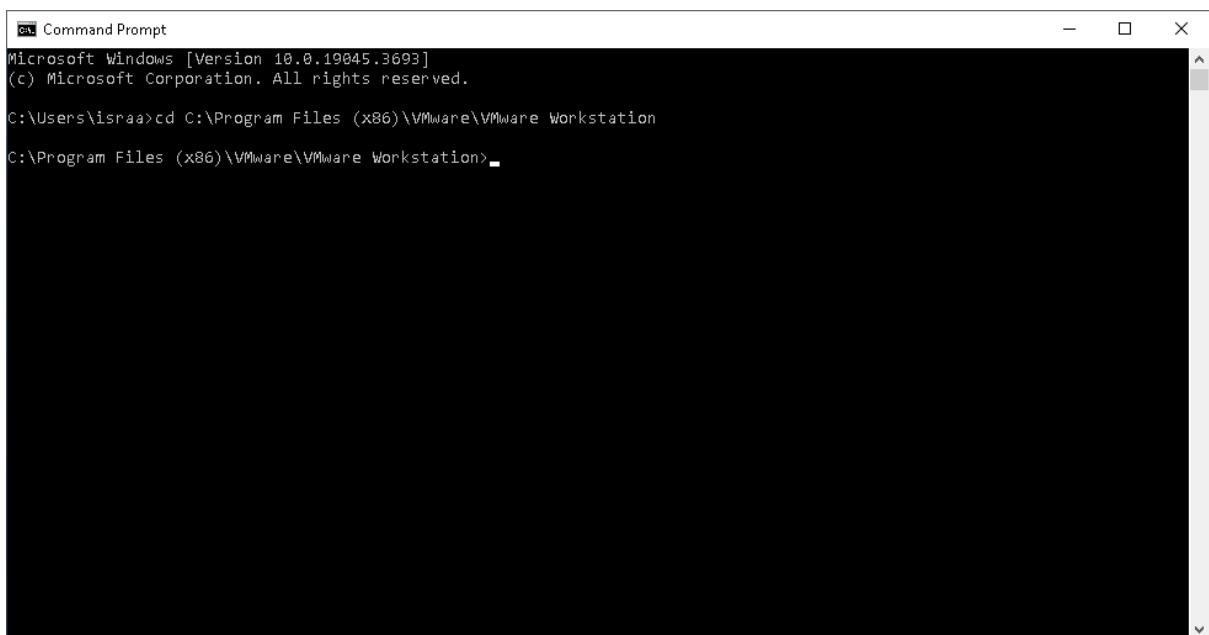Then, using the cmd command line of the host machine
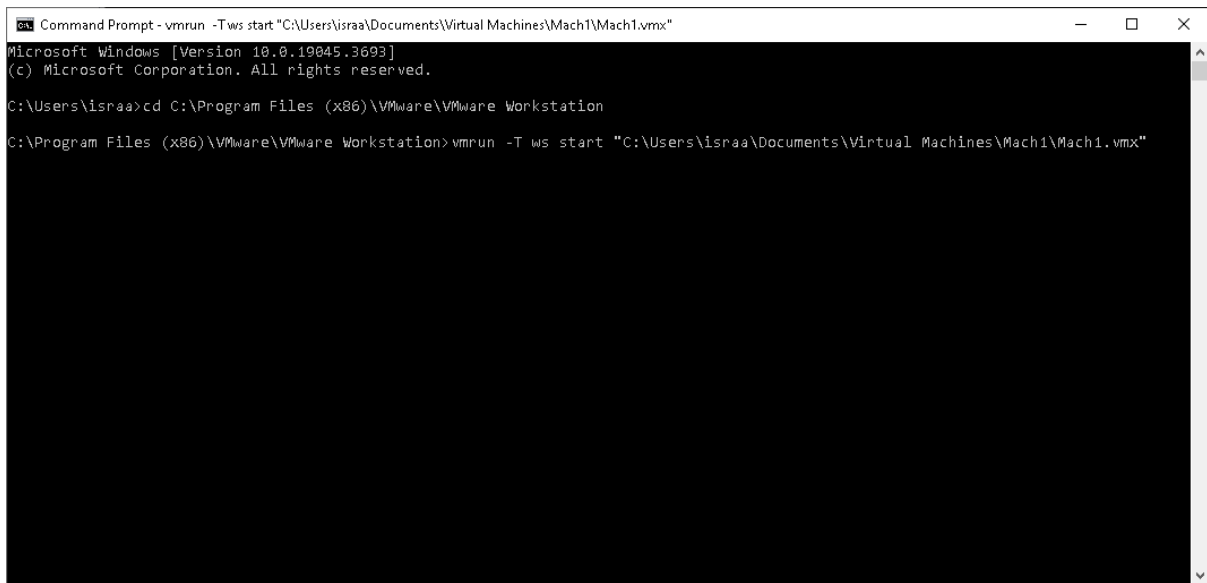
Then , writhe the command on the Dos screen as below:
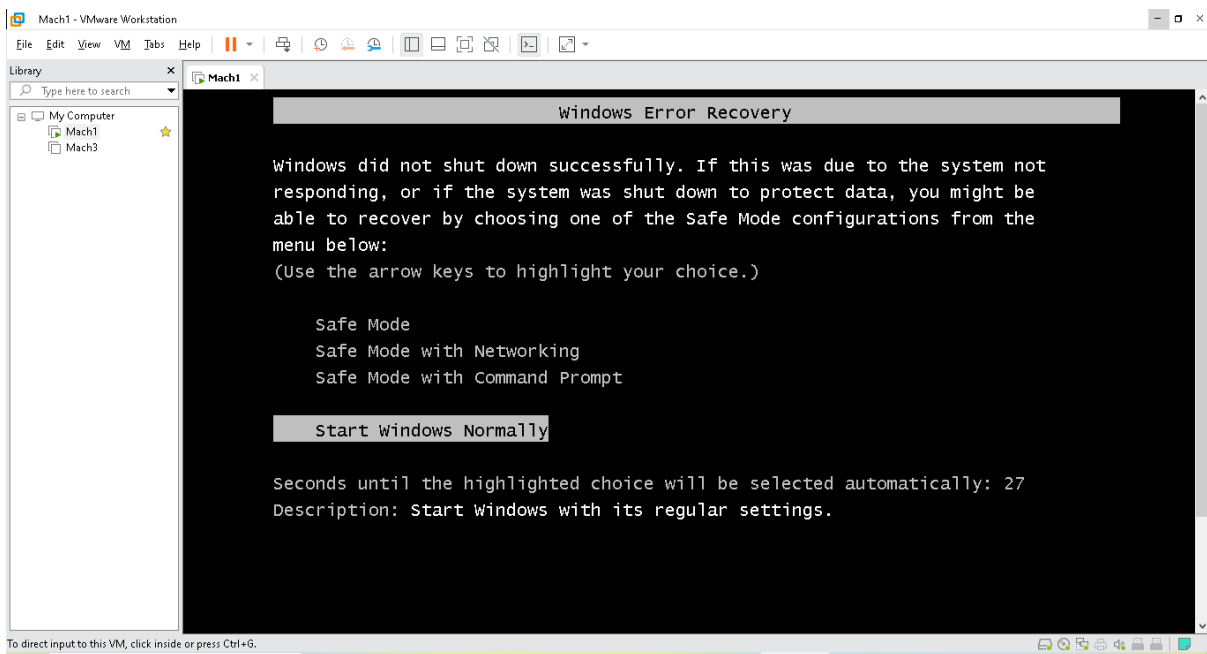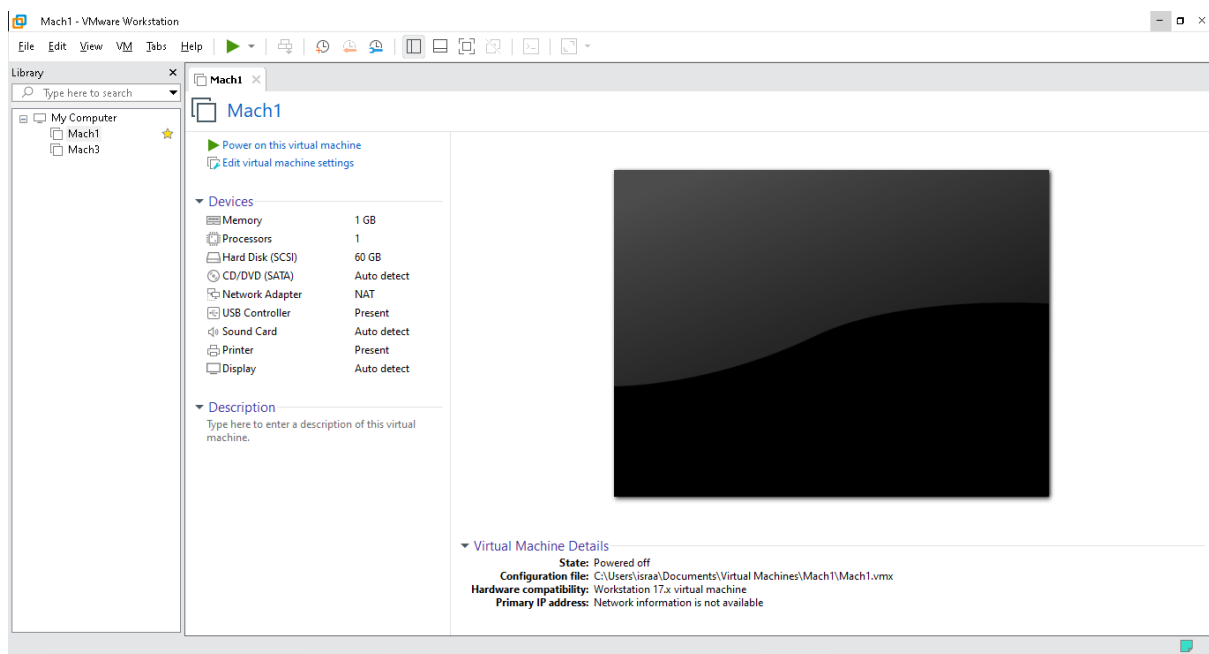
cd C:\Program Files (x86)\ VMware\VMware Workstation

8- Shutting downd VM by using cmd command line

Follow the same instructions in number 7, but use the below command in order to shut down the VM:

9- Reset VM by using cmd command line

In order to reset an opened VM machine , use the below command :

The VM machine should be turned on.

```
                    Windows Error Recovery

Windows did not shut down successfully. If this was due to the system not
responding, or if the system was shut down to protect data, you might be
able to recover by choosing one of the Safe Mode configurations from the
menu below:
(Use the arrow keys to highlight your choice.)


    Safe Mode
    Safe Mode with Networking
    Safe Mode with Command Prompt


    Start Windows Normally


Seconds until the highlighted choice will be selected automatically: 28
Description: Start Windows with its regular settings.












ENTER=Choose
```

10- How to get the IP of Host and Guest machines

Use the cmd command line:

ipconfig

```
Command Prompt                                                            —  □  ×

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::3c0a:c22a:5f0e:9505%21
   IPv4 Address. . . . . . . . . . . : 192.168.203.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :

Ethernet adapter VMware Network Adapter VMnet8:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::d013:d842:ce07:5ee7%14
   IPv4 Address. . . . . . . . . . . : 192.168.153.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :

Wireless LAN adapter Wi-Fi:

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::b36e:c014:9592:30a0%11
   IPv4 Address. . . . . . . . . . . : 192.168.100.6
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : fe80::1%11
                                       192.168.100.1

Ethernet adapter Bluetooth Network Connection:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

C:\Users\israa>_
```
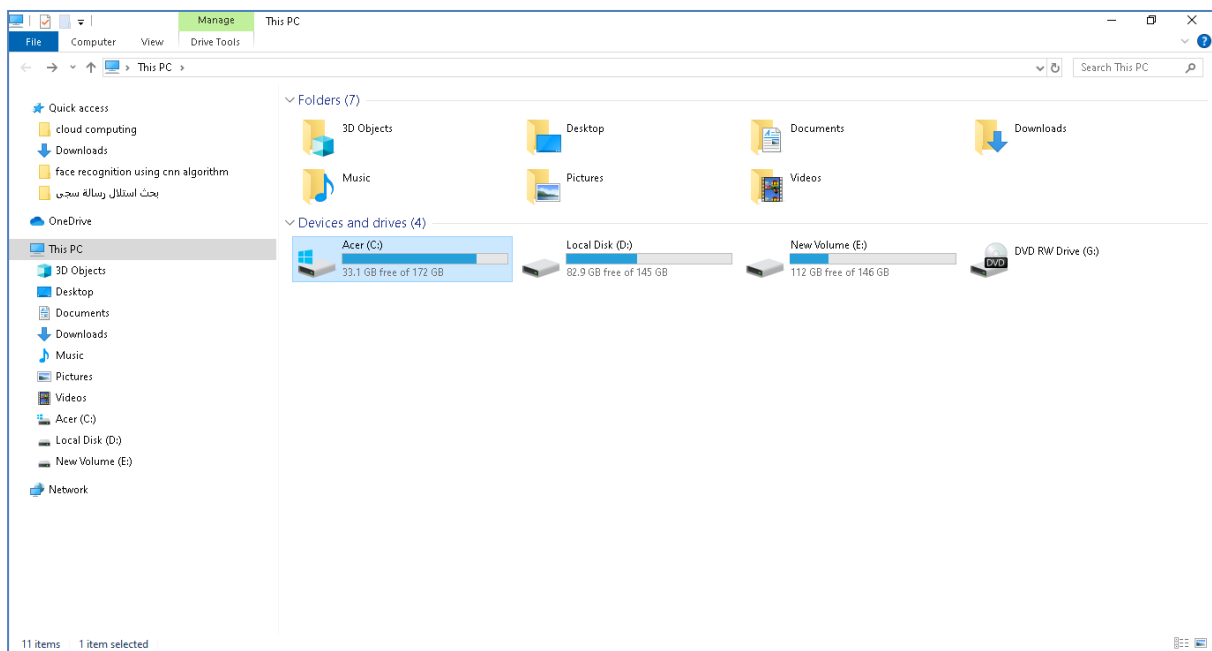
11- Startup the VM automatically with the OS of the host machine

In order to make the virtual machine works automatically while the initial starting of the OS of the host machine , follow the instructions below:
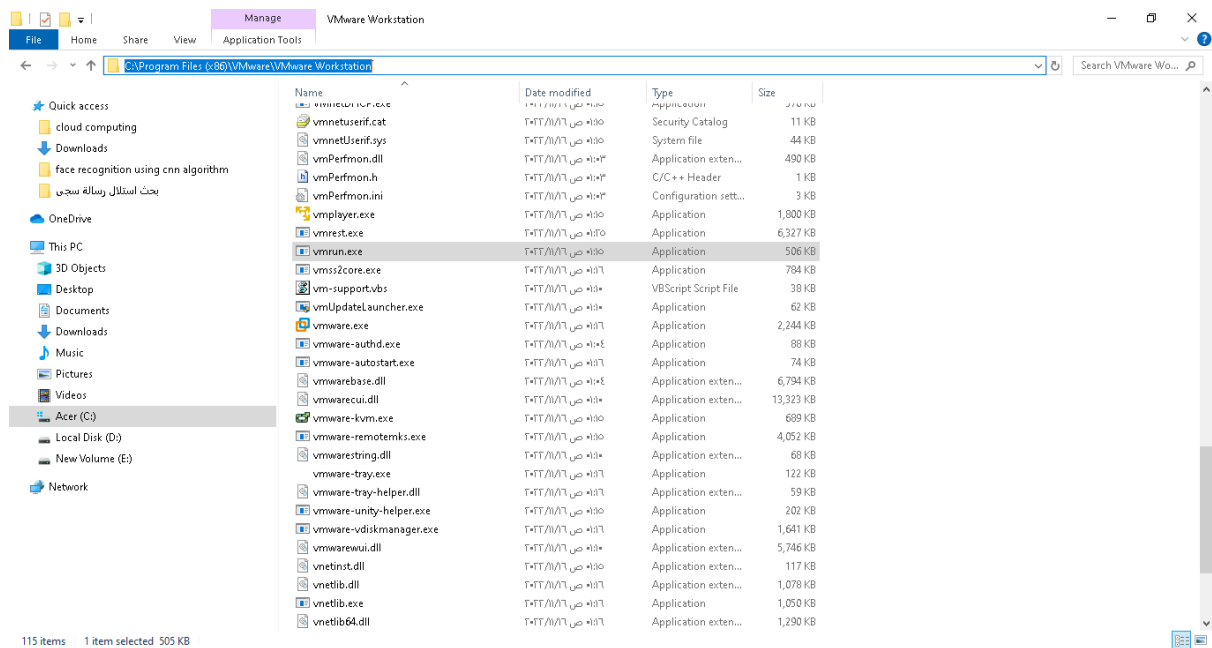
First, go to the main folder of the VM as it is already installed in the host machine , then copy the full path of the VM directory.

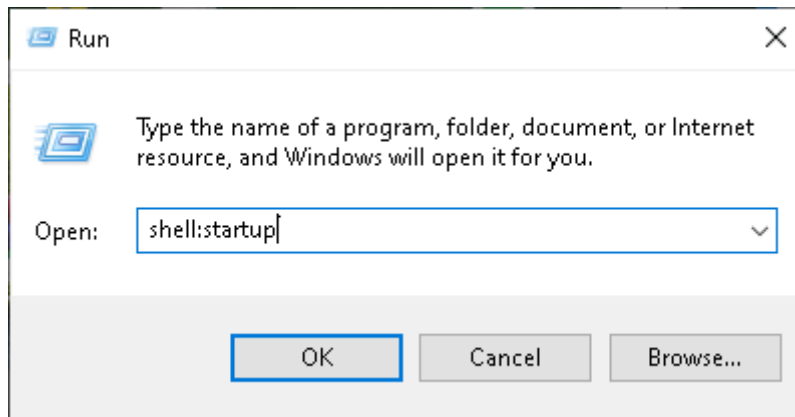Then, make sure that the file (vmrun.exe) is available there.
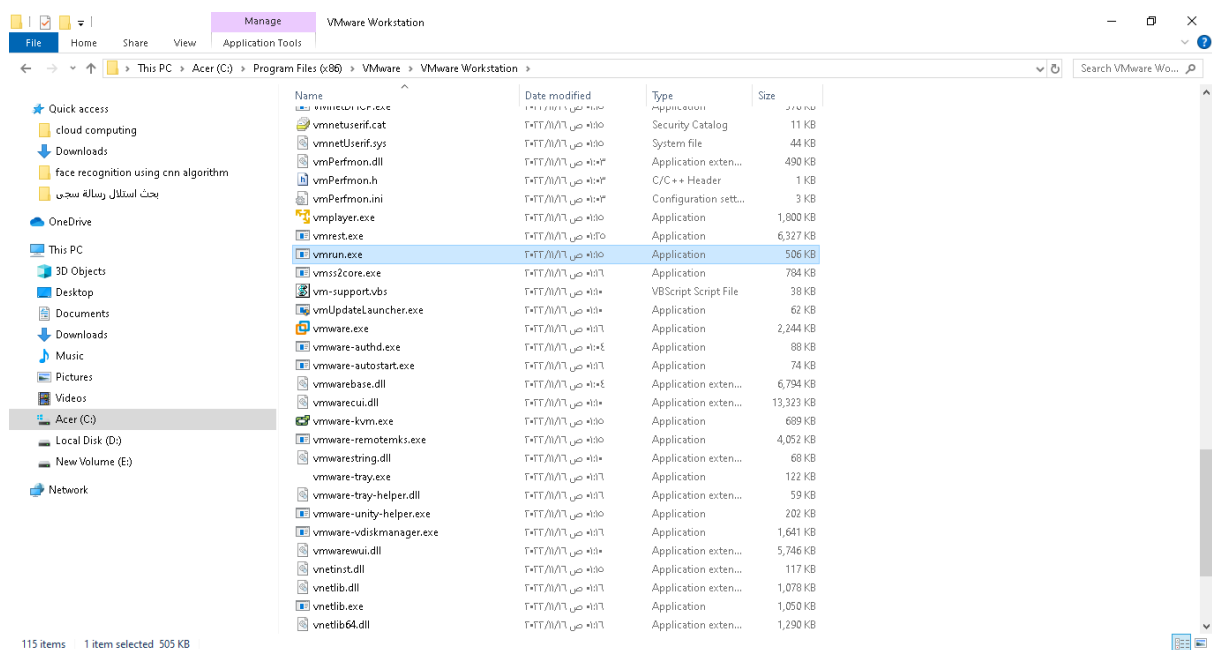
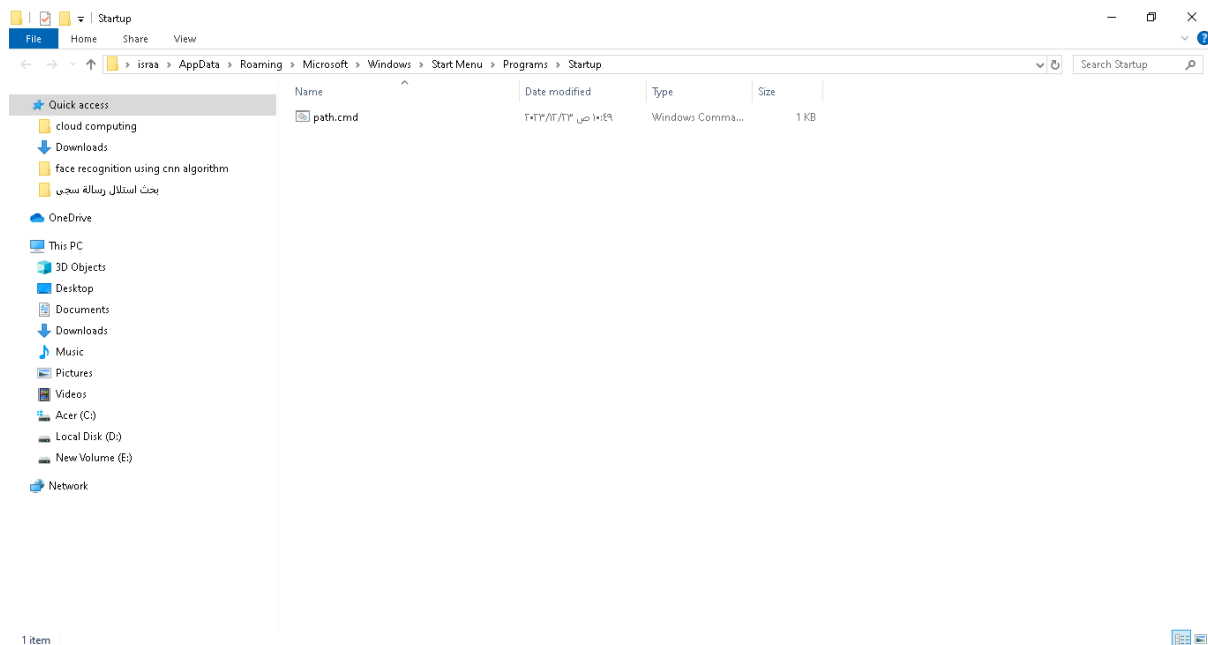Then, copy the full path of the VM on the host machine.

Make a .txt file on the desktop of the host machine. Then, paste the full path of the VM.

Then, save the .txt file as .cmd file. By using Run screen, write the instruction :

shell:startup

Then, take the path.cmd file and put it inside the startup folder.


Then , restart your host machine , you will see the VM will be launched automatically after loading the OS.

12- Making backup of the existing VM by using Snapshoot

In order to make a backup of an existing VM. The VM should be powered off first. Then, right click on the VM. Choose the **Snapshot** task and Take a **Snapshot** .
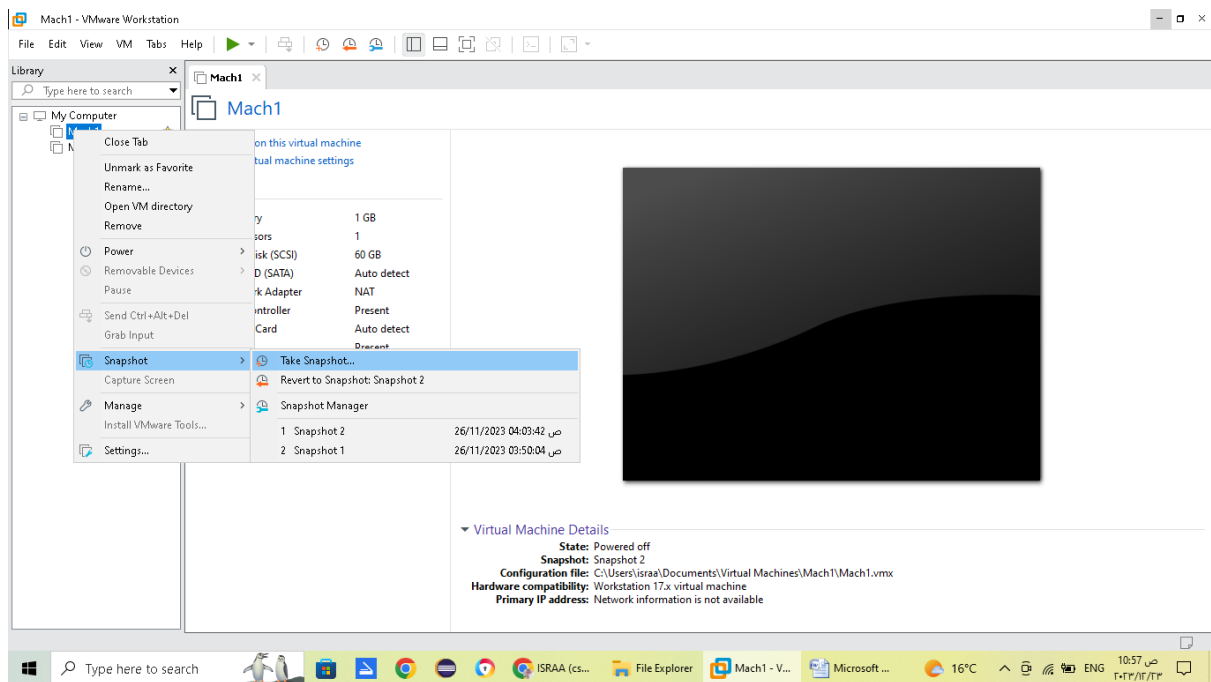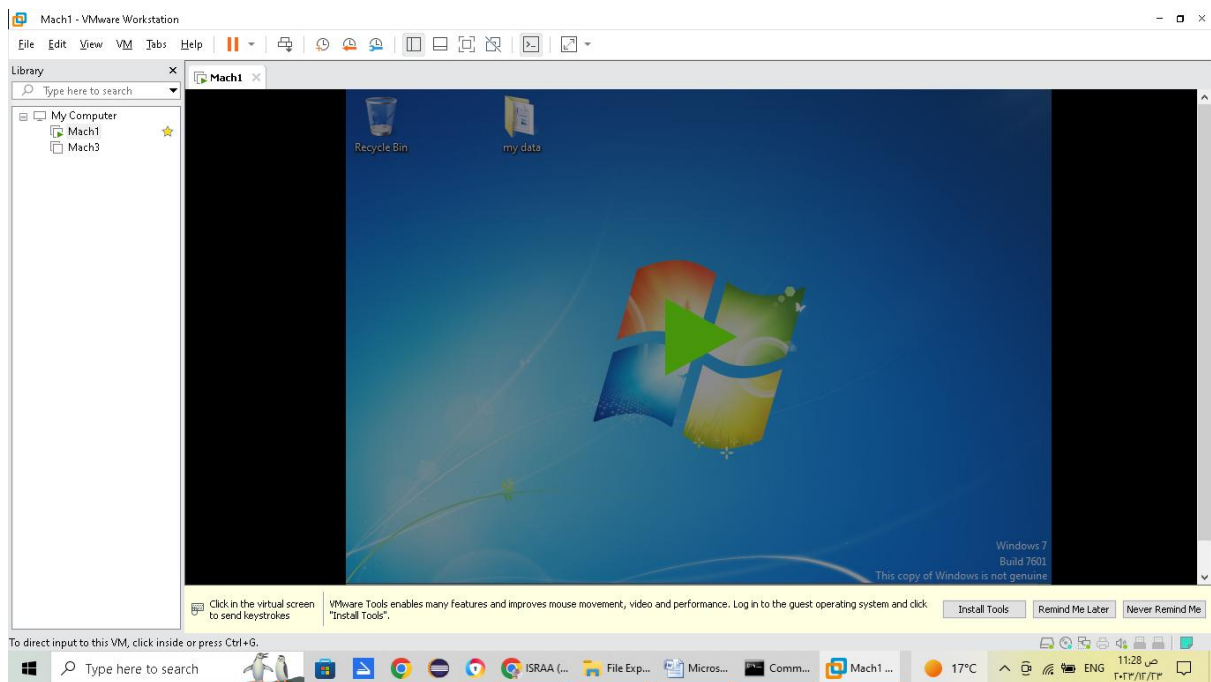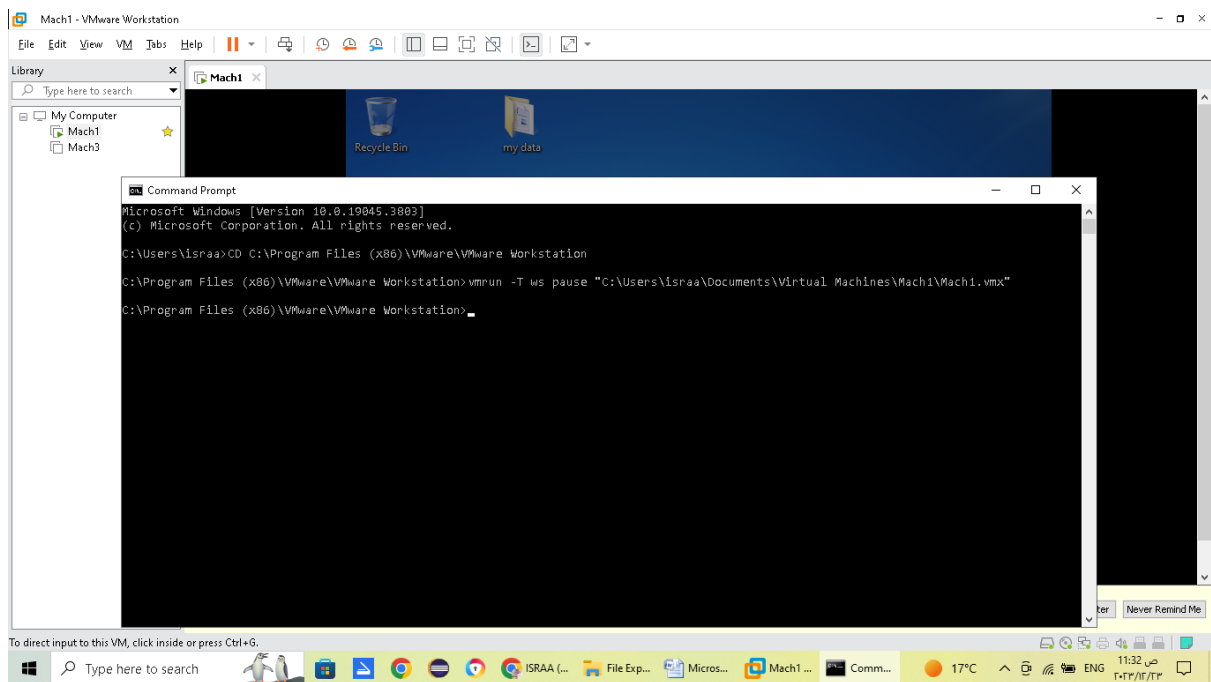
After that, choose a name of the backup copy of the VM and click on Take Snapshot.
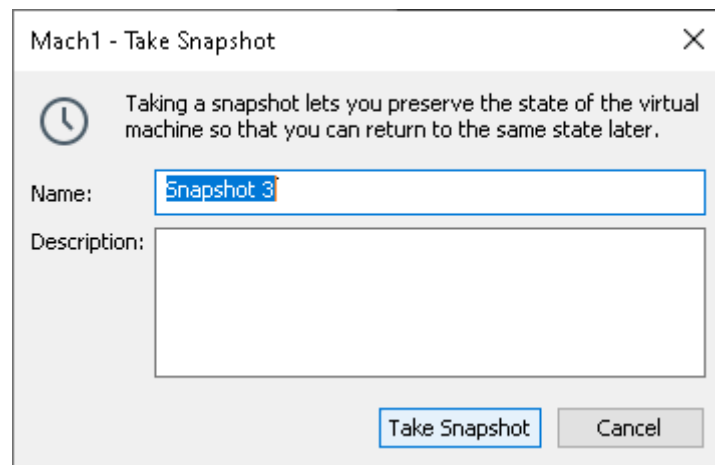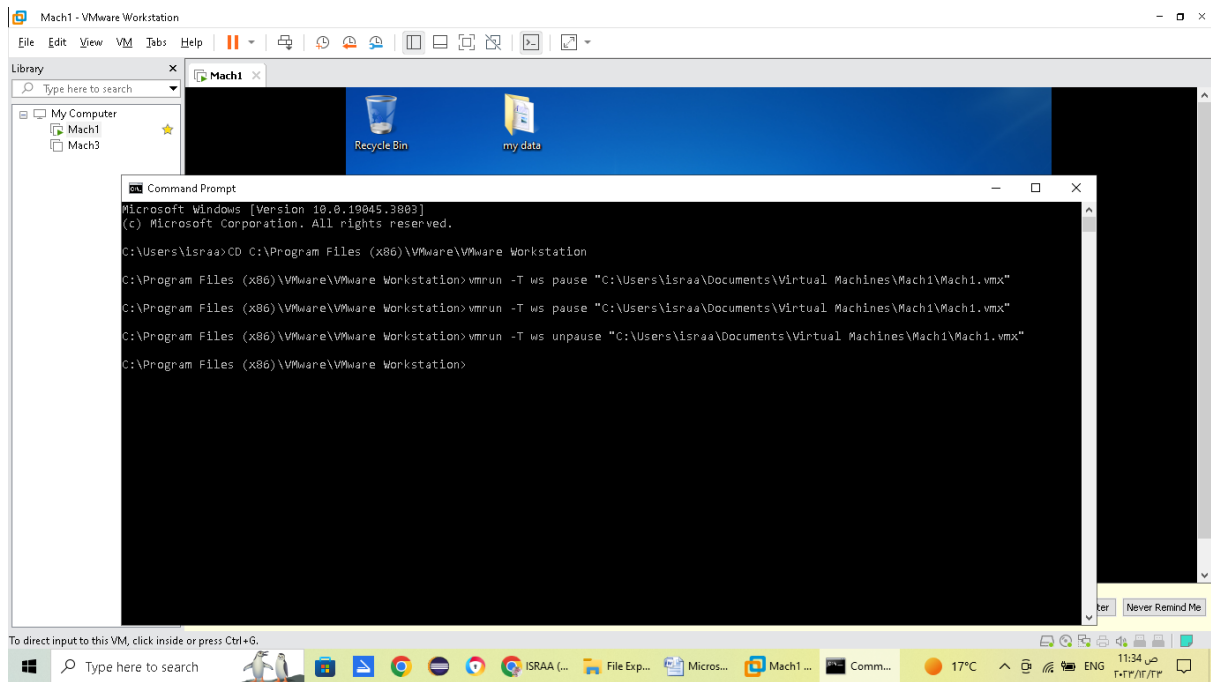

13- Using the Control instructions of the VM,(pause, unpause and Suspend)

1- Pause command: this command will pause the VM for a while.

2- unpause: this command will unpause the VM.

3- Suspend: This command will close the VM for a while.