



University of Baghdad College of Science for Women

# **Cloud Computer Lab Materials**

# **Department of Computer Science**

4<sup>th</sup> class

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

# 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:

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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.

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Figure 2. Creating a new virtual machine by selecting File menu

Figure 3. Wizard of creating new virtual machine

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### 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.

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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.

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# 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.

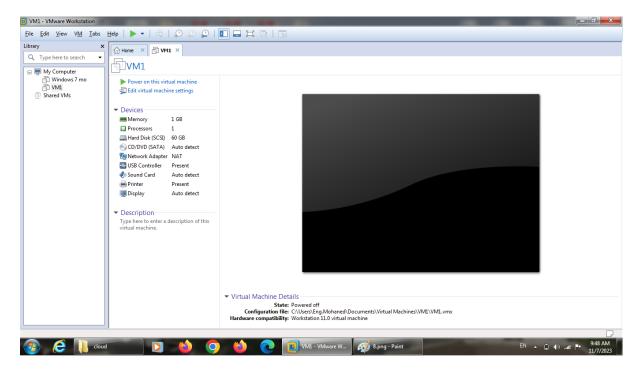
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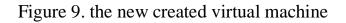
Figure 7. Customize the hardware resources of the virtual machine

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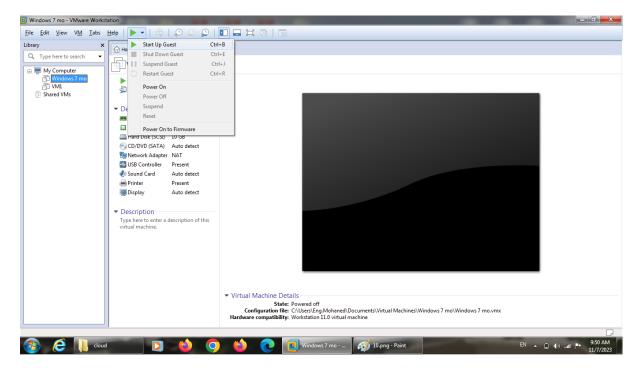
Figure 8. the summary of creating a new virtual machine.

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





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



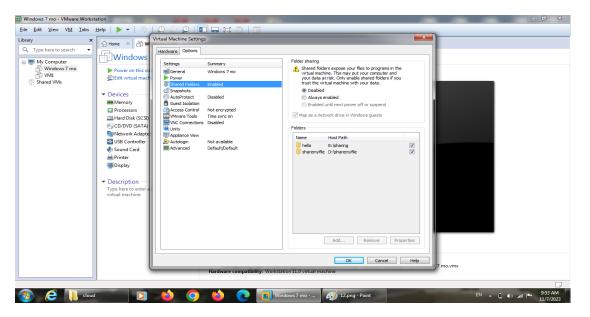
### Figure 10. Start up the virtual machine

### 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.

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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.

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# Figure 13. Enable the shared folder button

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

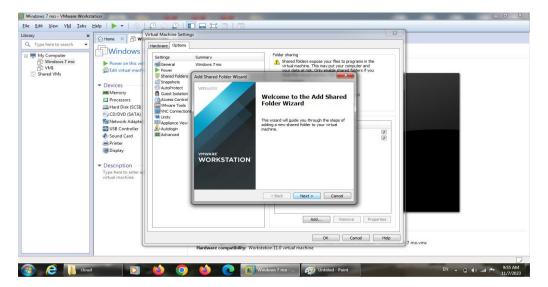


Figure 14.making a shared folder

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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.

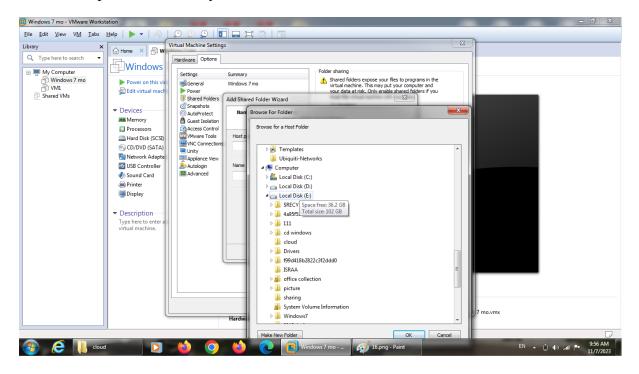


Figure 16. choosing a directory and specify the shared folder place in the host computer

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

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Figure 17. create a shared folder in a specific directory

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

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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.

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# 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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			OK Cancel	Help

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

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	Unity 20 Junity 20 Autologin 22 Advanced	Not available	

By choosing Synchronize time of host and guest.

# 6- Protecting the virtual machine by password

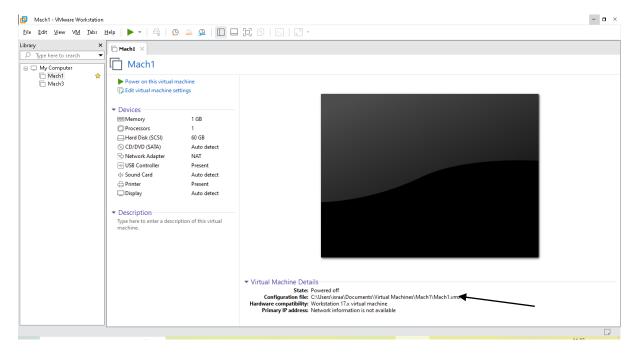
Settings       Summary         General       Mach1         Power       Stared Folders         Shared Folders       Disabled         Shared Folders       Disabled         General       Not encrypted         AutoProtect       Disabled         General       Not encrypted         Mayare Tools       Time sync off         WtXC Connections       Disabled         Punkty       Disabled         Punkty       AutoPortext         AutoPortext       Disabled         Punkty       Disabled         Punkty       Disabled         Punkty       Default/Default	ual Machine Setting	,. ,.	
	Settings General Power Shared Folders Shared Folders Shared Folders Shared Folders AutoProtect Guest Isolation Guest Isolation WWware Tools UNIX WWARE Tools UNIX Appliance View Appliance View Autologin	Mach1 Disabled Disabled Not encrypted Time sync off Disabled Not available	This virtual machine is not encrypted. You can protect this virtual machine's data and configuration with a password.

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

Encrypt Virtual Machine	×
Set the encryption type and password for this virtual machine.	
Choose Encryption Type	
All the files (.vmdk, .vmx, etc) for this virtual machine are encrypted.	
Only the files needed to support a TPM are encrypted. (.nvram, .vmss, .vmem, .vmx, .vmsn)	
Password:	
Remember the password on this machine in Credential Manager	
▲ Make sure to write down this password in a secure location. You will not be able to use this virtua machine without it.	I
Depending on the size of this virtual machine, the encryption process could take from a few minul to a few hours.	es:
Encrypt Cancel	

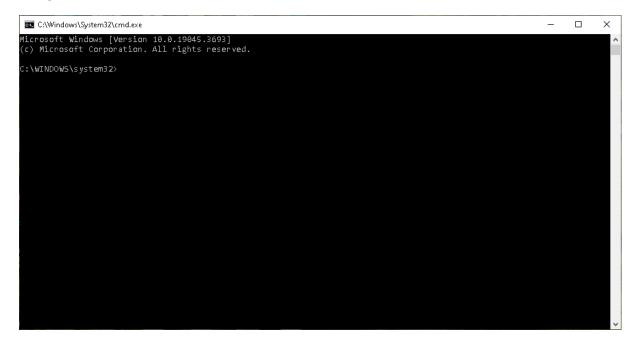
# 7- Starting up VM by using cmd command line

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



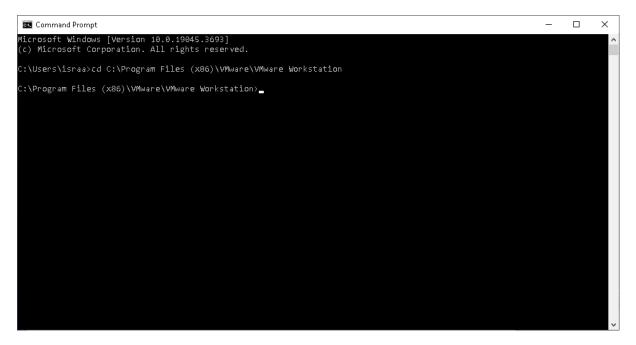
The VM should be turned off.

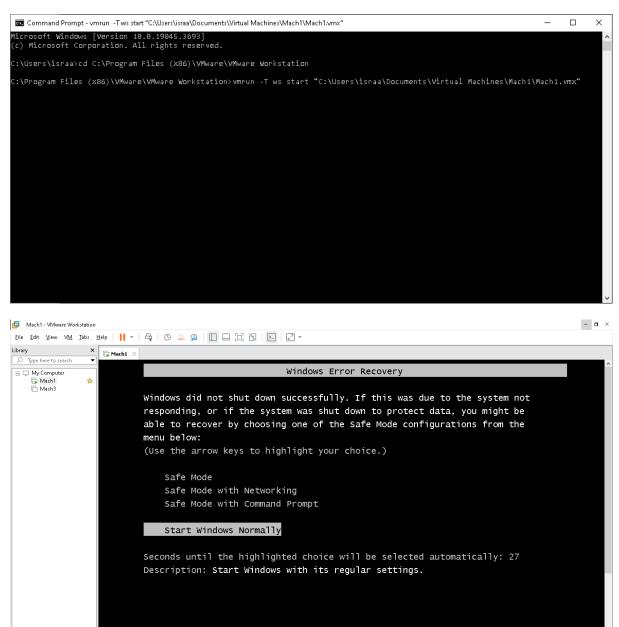
Then, using the cmd command line of the host machine



Then, writhe the command on the Dos screen as below:

cd C:\Program Files (x86)\ VMware\VMware Workstation

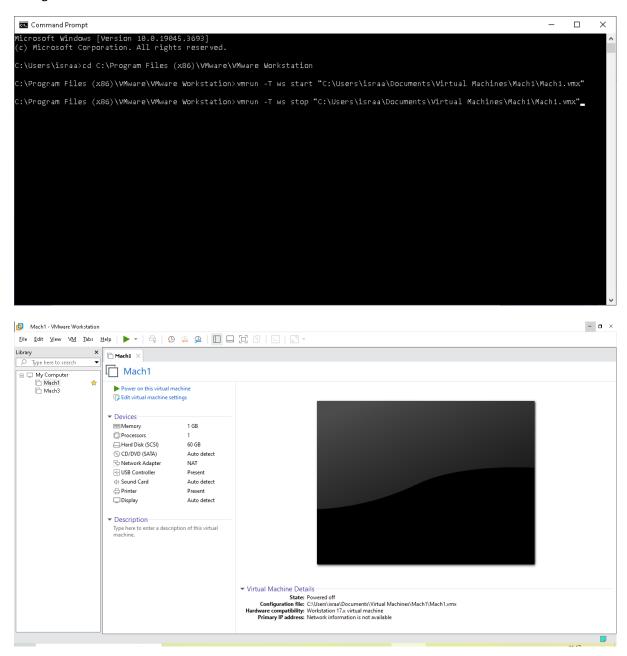




To direct input to this VM, click inside or press Ctrl+G.

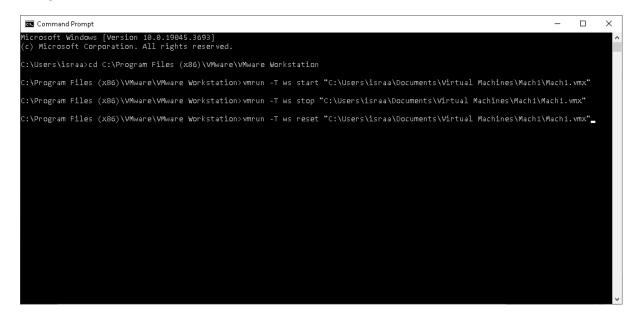
# 8- Shutting downd VM by using cmd command line

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

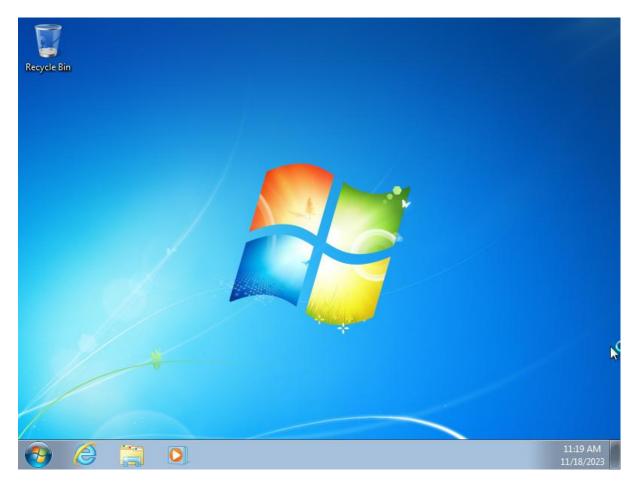


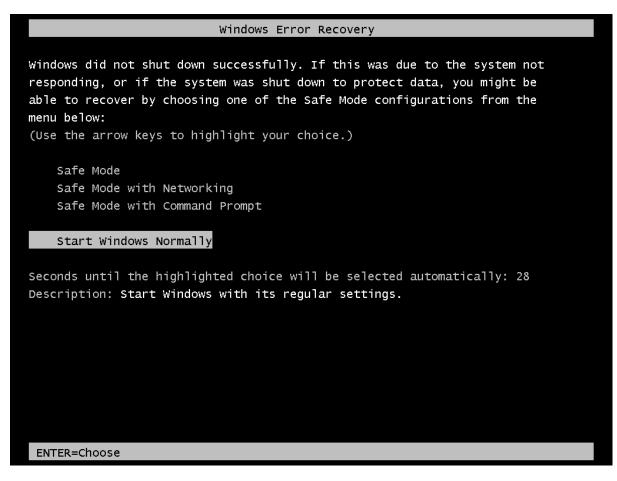
# 9- Reset VM by using cmd command line

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



The VM machine should be turned on.





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

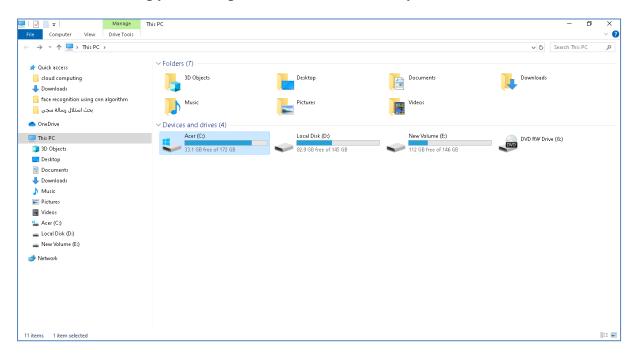
Use the cmd command line:

# ipconfig

# 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.



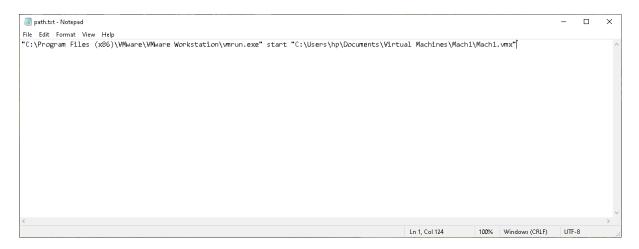
Then, make sure that the file (vmrun.exe) is available there.

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·	📧 vmware-authd.exe	٤=:١= ص ١٦:٨٦	Application	88 KB		
J Music	📧 vmware-autostart.exe	۱:۱۰ ص ۱:۱/۱ ۲ <b>۰</b> ۲۲/۱۱	Application	74 KB		
E Pictures	🔄 vmwarebase.dll	٤=١:• ص ١٦:٨٦	Application exten	6,794 KB		
📕 Videos	🔄 vmwarecui.dll	•۱:۱۰ ص ۲۰/۱۱/۱٦	Application exten	13,323 KB		
L Acer (C:)	😅 vmware-kvm.exe	1:10 ص 1:10/17 م	Application	689 KB		
🕳 Local Disk (D:)	📧 vmware-remotemks.exe	1:10 ص ١:10/١٦	Application	4,052 KB		
👝 New Volume (E:)	🔄 vmwarestring.dll	-۱:۱- ص ۱:۱/۱۲/۱۲	Application exten	68 KB		
	vmware-tray.exe	۱:۱۰ ص ۱:۱۸ می ۲۰۲۲	Application	122 KB		
🎐 Network	🔄 vmware-tray-helper.dll	۱:۱٦ ص ١:١٦/١١/٦	Application exten	59 KB		
	📧 vmware-unity-helper.exe	1:10 ص 1:1/١١ ٣٠	Application	202 KB		
	📧 vmware-vdiskmanager.exe	۱:۱٦ ص ١:١٦/١١	Application	1,641 KB		
	🔄 vmwarewui.dll	∙i:i• ص ٦٦/١١/١٦	Application exten	5,746 KB		
	vnetinst.dll	1:10 ص ١:10/١٦	Application exten	117 KB		
	🚳 vnetlib.dll	۲۰۱۲ ص ۲۱/۱۱/۱ ۱:۱٦ ص	Application exten	1,078 KB		
	📧 vnetlib.exe	۱:۱٦ ص ١٦/١/٦	Application	1,050 KB		
	vnetlib64.dll	רווי ص רו/וו/דיד	Application exten	1,290 KB		

Then, copy the	full path	of the VM	on the host	machine.
	ren pere	01 010 010	011 0110 11000	

	re\//Meare Work station				Search VMware Wo
	Name	Date modified	Type	Size	
🖈 Quick access	INAME INAME UNITED INFRACE	ene mounteu - ne	Abbucacion	3126	
cloud computing	vmnetuserif.cat	۱:۱۰ ص ۲۰۱۲/۱۱/۱۲	Security Catalog	11 KB	
Downloads	vmnetUserif.sys	۵۱:۱۰ ص ٦٦/١١/٦٦	System file	44 KB	
face recognition using cnn algorithm	🗟 vmPerfmon.dll	۳۰:۱۰ ص ۱۱/۱۱/۱۲	Application exten	490 KB	
	🖻 vmPerfmon.h	۳۱:۰۱ ص ۱۱:۰۱ ص	C/C++ Header	1 KB	
بحث استلال رسالة سجى 📙	🔊 vmPerfmon.ini	۳۰:۱۰ ص ۱۱/۱۱/۱۲	Configuration sett	3 KB	
🔷 OneDrive	📆 vmplayer.exe	۵۱:۱۰ ص ٦٦/١١/٦٦	Application	1,800 KB	
	📧 vmrest.exe	i:۲۰ ص ۱:۲۵ م.	Application	6,327 KB	
💻 This PC	💽 vmrun.exe	01:1• ص ٦٦/١١/٦	Application	506 KB	
🗊 3D Objects	📧 vmss2core.exe	۱:۱٦ ص ١:١٦ ٣٠	Application	784 KB	
E Desktop	📓 vm-support.vbs	∙۱:۱۰ ص ٦٦/۱۱/٦	VBScript Script File	38 KB	
Documents	📷 vmUpdateLauncher.exe	•۱:۱• ص ۱:۱/۱۲/۱۲	Application	62 KB	
- Downloads	🔁 vmware.exe	۲۰۱۲۰ ص ۲۱/۱۱/۲۰	Application	2,244 KB	
Music	📧 vmware-authd.exe	٤-١:-٤ ص ٢٠٢/١١/٦٦	Application	88 KB	
· · · · · · · · · · · · · · · · · · ·	vmware-autostart.exe	۱:۱٦ ص ۲۰۱۲/۱۱/۱	Application	74 KB	
Pictures	🔄 vmwarebase.dll	٤=:١٠ ص ١:١/١٦ ص ١:٠٤	Application exten	6,794 KB	
📑 Videos	🗟 vmwarecui.dll	∙۱:۱۰ ص ۲۰۲۲/۱۱/۱۲ ۲	Application exten	13,323 KB	
🛀 Acer (C:)	😅 vmware-kvm.exe	1:10 ص ٦٦/١١/٦	Application	689 KB	
🕳 Local Disk (D:)	📧 vmware-remotemks.exe	۱:۱۰ ص ۲۰۱۲/۱۱/۱۲	Application	4,052 KB	
👝 New Volume (E:)	🔄 vmwarestring.dll	•۱:1• ص ٦/١١/٦٦	Application exten	68 KB	
	vmware-tray.exe	۱:۱٦ ص ۲۰۱۲/۱۱/۱	Application	122 KB	
🎐 Network	🔄 vmware-tray-helper.dll	۱:۱۰ ص ۱:۱٦ ص ۱:۱٦	Application exten	59 KB	
	📧 vmware-unity-helper.exe	۱:۱۰ ص ۲۰۱۲/۱۱/۱۲	Application	202 KB	
	📧 vmware-vdiskmanager.exe	۱:۱٦ ص ١:١٦ ص	Application	1,641 KB	
	🚳 vmwarewui.dll	•ا:ا• ص ٦٦/١١/٦٦	Application exten	5,746 KB	
	🗟 vnetinst.dll	1:10 ص ٦٦/١١/٦	Application exten	117 KB	
	🚳 vnetlib.dll	۱:۱٦ ص ۲۱/۱۱/۱۳	Application exten	1,078 KB	
	📧 vnetlib.exe	۱:۱٦ ص ١٦/١١/٦	Application	1,050 KB	
	vnetlib64.dll	1:11- ص 1:17/II	Application exten	1,290 KB	

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

💷 Run	×
٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:	shell:startup 🗸 🗸
	OK Cancel Browse

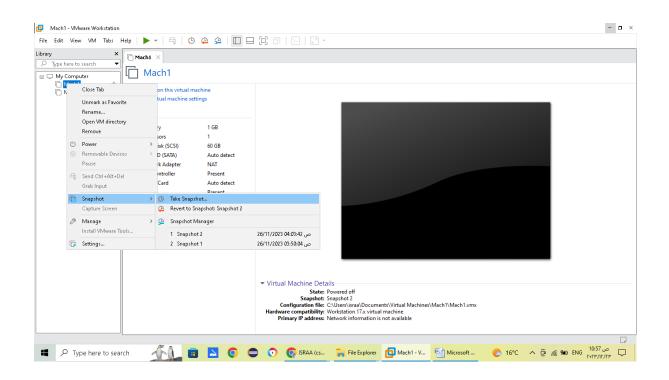
Then, take the path.cmd file and put it inside the startup folder.

→ ↑ ↑ Israa → AppData → Roar	ming > Microsoft > Windows > Start N	_			V 0	Search Startup	م
Quick access	Name	Date modified	Туре	Size			
cloud computing	path.cmd	1=:49 ص ۲۰۳/۱۳/۳	Windows Comma	1 KB			
Downloads							
face recognition using cnn algorithm							
بحث استلال رسالة سجى							
OneDrive							
This PC							
3D Objects							
Desktop							
Documents							
📕 Downloads							
Music							
E Pictures							
🗃 Videos							
📥 Acer (C:)							
🕳 Local Disk (D:)							
New Volume (E:)							
Network							

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**.

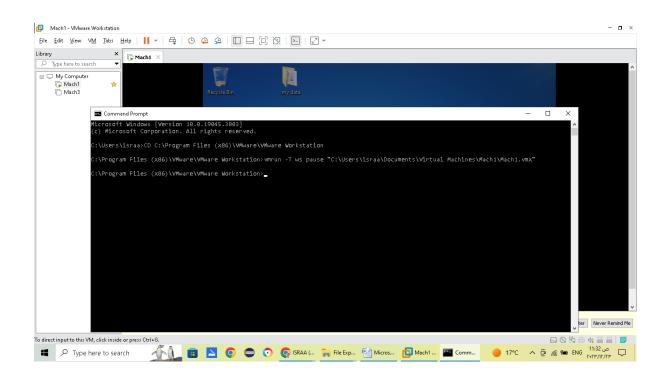


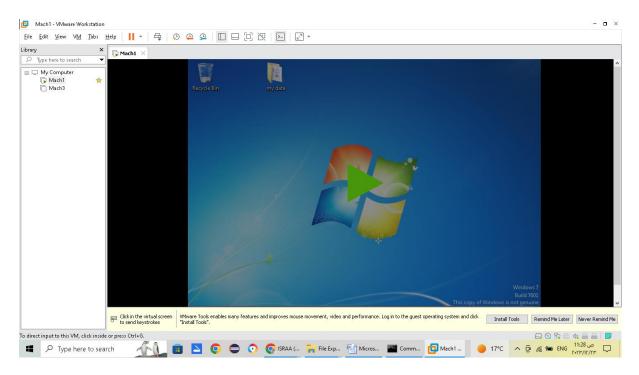
After that, choose a name of the backup copy of the VM and click on Take Snapshot.

Mach1	- Take Snapshot X						
()	king a snapshot lets you preserve the state of the virtual achine so that you can return to the same state later.						
Name:	Snapshot 3						
Descript	ion:						
	Take Snapshot Cancel						

# **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.

Mach1 - VMware Workstation		- <b>o</b> ×
Eile Edit View VM Jabs Help   📙 - 🛱 💭 🗛 💁   🔲 🗆 🖸 🔀   🗗 🖉 -		
Library X 🕞 Mach1 X		
Type here to search		^
I Command Prompt	- 0	×
Microsoft Windows [Version 10.0.19045.3803] (c) Microsoft Corporation. All rights reserved.		^
C:\Users\israa>CD C:\Program Files (x86)\\MMware\WMware Workstation		
C:\Program Files (x86)\VMware\VMware Workstation>vmrun -T ws pause "C:\Users\israa\Documents\Virtual Machines\Mac	h1∖Mach1.vmx"	
C:\Program Files (x86)\VMWare\VMWare Workstation>vmrun -T ws pause "C:\Users\israa\Documents\Virtual Machines\Mac	h1∖Mach1.vmx"	
C:\Program Files (x86)\VMware\VMware Workstation>vmrun -T ws unpause "C:\Users\israa\Documents\Virtual Machines\M	ach1∖Mach1.vmx"	
C:\Program Files (x86)\VMware\VMware Workstation>		
		~
		ter Never Remind Me
To direct input to this VM, click inside or press Ctl+G.		
📲 $P$ Type here to search 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	● 17°C へ D (m)	11.74

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

