

## **Running VMLite XP Mode with VMLite Workstation**

### **A How-to Guide for Average PC User**

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#### **Part 1: Introduction to VMLite XP Mode for Windows**

##### *1) What is VMLite XP Mode?*

According on wikipedia, Virtual machine (VM) is a software implementation of a machine (computer) that executes programs like a real machine, and platform virtualization separates an operating system from the underlying platform resources.

VMLite Workstation is a virtualization component that allows you to run more than one operating system (OS) at the same time on a single physical computer. VMLite Workstation runs the operating system and applications directly on top of an existing operating system without any modification.

VMLite XP Mode (VXP) is a virtualization engine derived from VMLite Workstation, and it allows Microsoft Windows XP runs seamlessly on different OS platforms. In another word, it generates XP virtual machine that runs seamlessly on different OS platforms. Right now, the host operating system it supports includes Windows 2000/XP/Vista/7.

##### *2) Why VMLite XP Mode is needed?*

Owing to the Wintel alliance, Windows had approximately 93% of the market share of the PC operating systems while Windows XP is still powering 71 percent of business PCs. Recent release of Windows Vista was a disaster for Microsoft. It lacks of proper drivers and has lots of application compatibility issues. As of today, 92 percent of PC software developers are ignoring it. Industry expects Windows XP will continue to play significant role after Windows 7 release to avoid similar issues caused by Windows Vista.

To improve application compatibility on Windows 7, and to ease the transition from older Windows operating systems to Windows 7, is crucial for the success of Windows 7, and Microsoft has done tremendous works to achieve such a goal. First, Windows 7 ships a large number of device drivers to for better hardware support. Microsoft also provides a free tool call "Windows 7 Upgrade Adviser" that will run on your current PC prior to Windows 7 upgrade and it predicts if there are known incompatibilities with third-party programs and hardware. For those are reliant on their legacy applications, Windows 7

adds a new feature called Windows XP Mode allows applications that are only compatible with XP run as virtual applications in Windows 7 in the same desktop.

The limitations of Windows XP Mode are significant. According to Microsoft website, “Windows XP Mode will only run on Windows 7 Professional and Windows 7 Ultimate editions”. It also “requires a CPU with the Intel® Virtualization Technology or AMD-V™ feature turned on.” The latter requirement creates 2 major drawbacks for PC users: first, most PC chips in the market including majority of Core 2 Duo CPUs do not support this feature, and second, this feature is disabled by default on most supporting CPUs, which means a trip into the BIOS to enable hardware virtualization is needed. As conclusion, users want to benefit from Windows XP Mode will have to buy new hardware, even though this solution may not work.

VMLite is releasing VMLite XP Mode to do the same things as Windows XP Mode does. VMLite XP Mode supports Intel® Virtualization Technology or AMD-V™ feature, but it does not require such feature. VMLite XP Mode, as a XP Mode for every PC, could ease consumers on the transition from legacy Windows OSs to Windows 7.

Coming soon is our VMLite MyOldPCs product, which turns all files, file structure, and working environment on a single PC into a plug-and-play portable file, that allows user access and operate on such file as if on the old PC.

VMLite believes its offer of VMLite XP Mode with MyOldPCs combination provide the optimal solution for PC OS migration, including upgrade to Windows 7.

### *3) Requirements of VMLite XP Mode*

- Windows 95/98/Me/2000/XP/Vista/7
- Additional 256MB of RAM
- Additional 2GB of available disk space
- No requirement on processors with hardware-assisted virtualization feature

For more information on VMLite Workstation and VMLite XP Mode, please visit: <http://www.vmlite.com/>

### *4) Features*

Besides its light-weight characteristic, VMLite XP Mode offers superior performance on the following features:

• **Easy to Set Up:** With the necessary files in place, with just a few clicks followed a simple setup wizard from VMLite Workstation, an average PC user can set up VMLite XP Mode in 10 minutes.

• **Seamless Applications:** applications installed on VMLite XP Mode can be published and launched directly from the host Windows PC.

- **Network Gateway and Printer Redirection:** as long as the host had been configured for networking and printing, one can go networking and print directly under VMLite XP Mode as if from the host.
- **Clipboard Sharing:** bi-directional clipboard sharing as cut and paste between Windows host and any VMLite XP Mode environment is allowed. It can be changed to no or one-directional sharing.
- **Files' and Folders' Transparent Separation between Host and Guest:** Unless specified, the files and their following changes under VMLite XP Mode environment are not saved on the same logical space of host PC. However, both host and XP Mode environment can easily share same files by specify the files and folders as shared ones. The sharing of files and folders can be limited to read-only.
- **USB Support:** at this moment, user can access USB devices attached to the host by allowing USB devices shared between the host and VMLite XP Mode.
- **Host Registry and Malware Protection:** The Windows Registry is of uttermost importance to the Windows operating system. Malicious software makes use of the capacities of the Windows Registry. Because VMLite XP Mode uses VMLite virtualization technology, it creates a separate registry from host registry for each VMLite XP Mode environment. Registry penetration caused by malware can be limited on XP Mode environment naturally. Once the sharing of host C: drive is limited to read-only, malware introduced from every day usage of VMLite XP Mode environment will not produce any damage on host PC files and file structure. VMLite XP Mode environment can be a perfect sandbox for such malware. Owing to VMLite's light weight characteristic, for better protection, a user can generate a couple VMLite XP Mode environments from one PC, and dedicate each of them for particular purpose.
- **Instantaneous XP Mode Snapshot and Recovery:** It takes a few seconds and a couple kilobytes to make a snapshot and save as a recovery point of VMLite XP Mode current status. To go back to a recovery point as defined by any of snapshots taken, it only takes another few seconds. It is definitely a booster for developers' productivity. With the popularity of malwares, the forever discovered Windows operating system security loopholes and corresponding continuous delivered security patches, the separation between host and virtualized environment is critical. For home use, each VMLite XP Mode can be used as a ghost substitute to protect against malwares, as the registry, files and folders on the host are intact. In case of system crash or malware attack, one can just shutdown or kill the current VXP instance, and go back to any snapshot preset.

## **Part 2: Get Ready for Installation**

To install VMLite XP Mode, it needs

- 1) VMLite Workstation and
- 2) a licensed copy of Windows XP in virtualized image file format. A licensed copy of virtualized Windows XP image file can be the one provided by Microsoft, or prepared by VMLite Workstation or 3rd party vendor such as VMWare from licensed Windows XP in factory CD/DVD.

For illustration purpose, here we use Microsoft provided virtualized Windows XP image file to describe the installation steps.

- 1) VMLite Workstation is available from [www.vmlite.com](http://www.vmlite.com)

VMLite Workstation supports both 32-bit and 64-bit Windows system.

- 2) Microsoft provides a licensed copy of Windows XP in virtualized image file format named “Windows XP Mode PC”. Be sure to choose the right language and right type of Windows 7 system you are using.

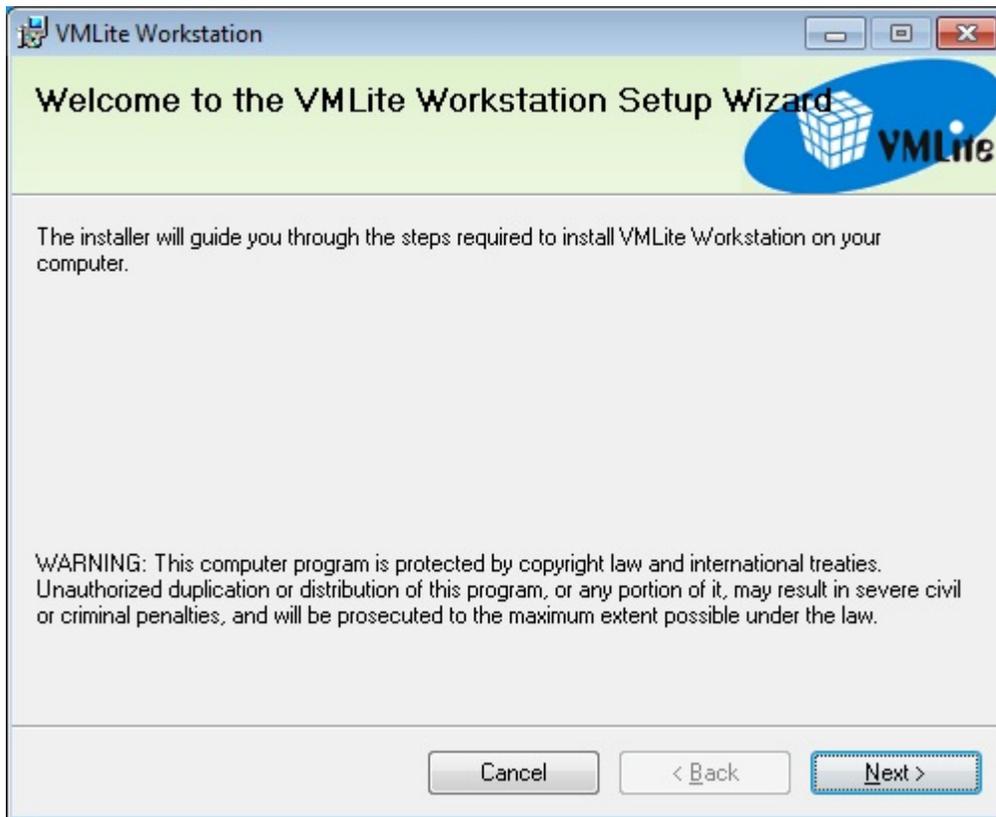
<http://www.microsoft.com/windows/virtual-pc/download.aspx>

Once you get both VMLite Workstation and a licensed copy of Windows XP in virtualized image file format, you are good to go.

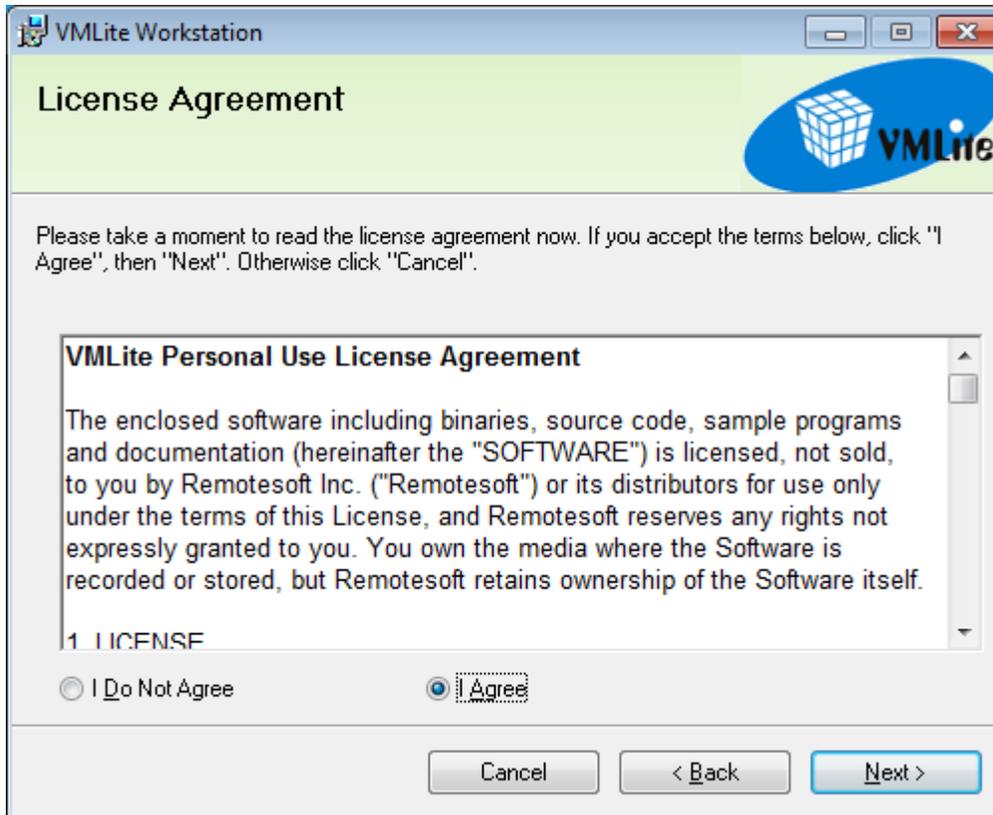
### Part 3: VMLite XP Mode Installation

#### 1) Installation of VMLite Workstation

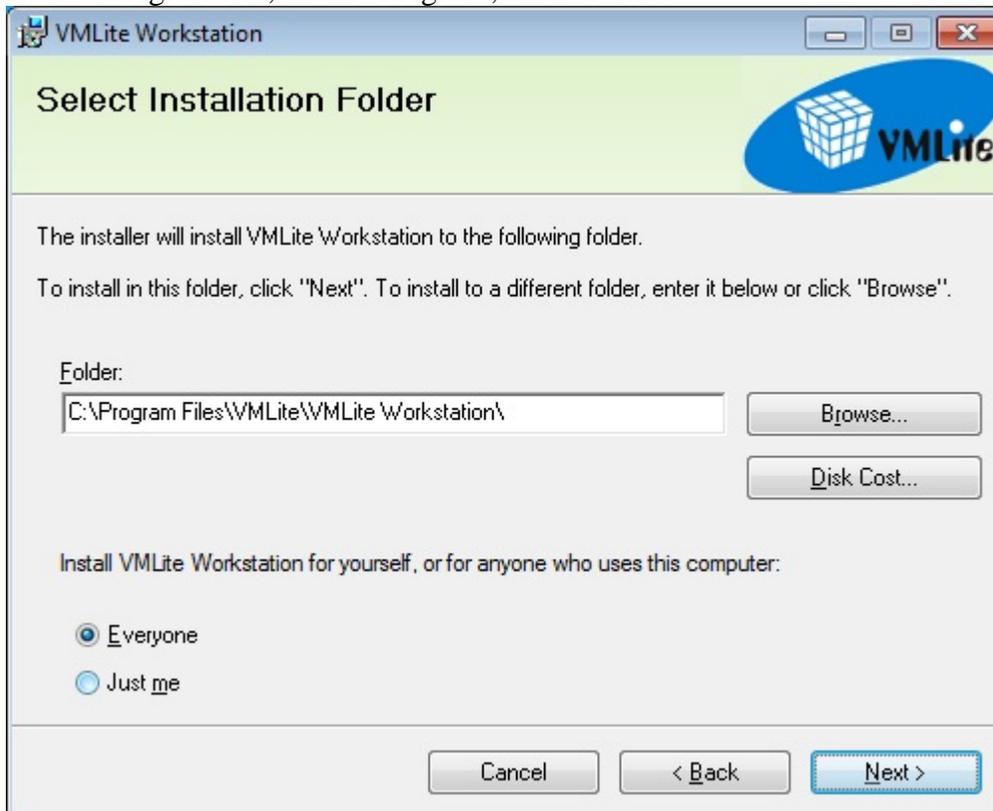
Double click the VMLite Workstation Setup file.



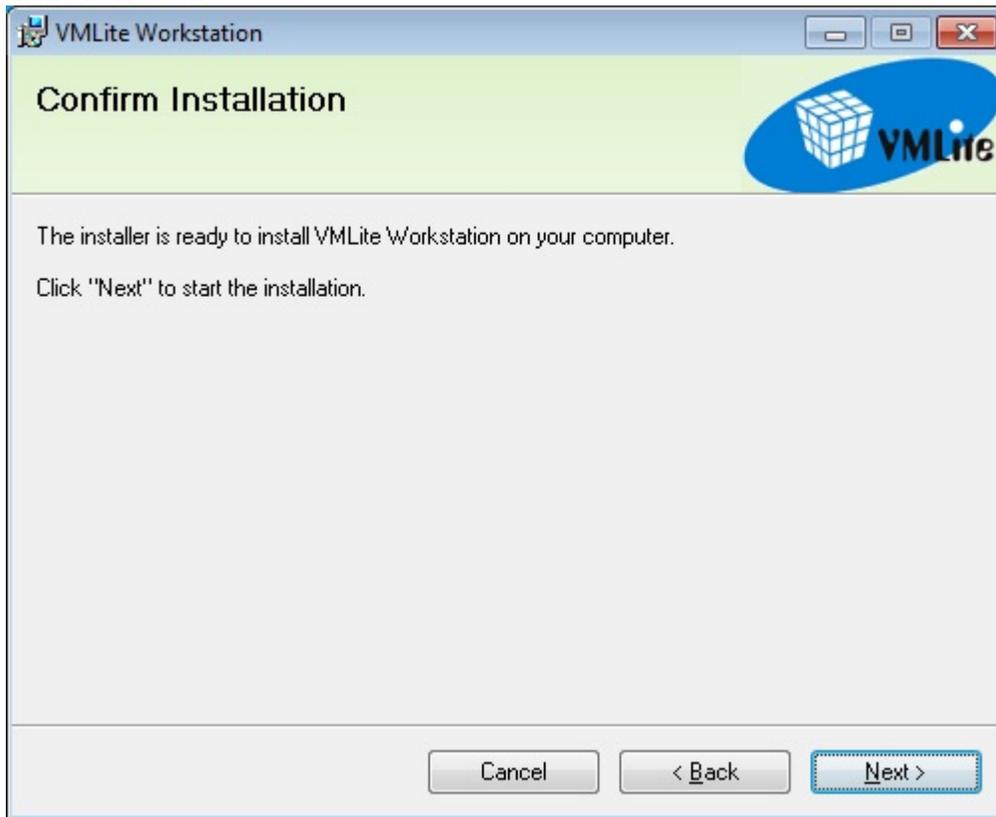
Click "Next"



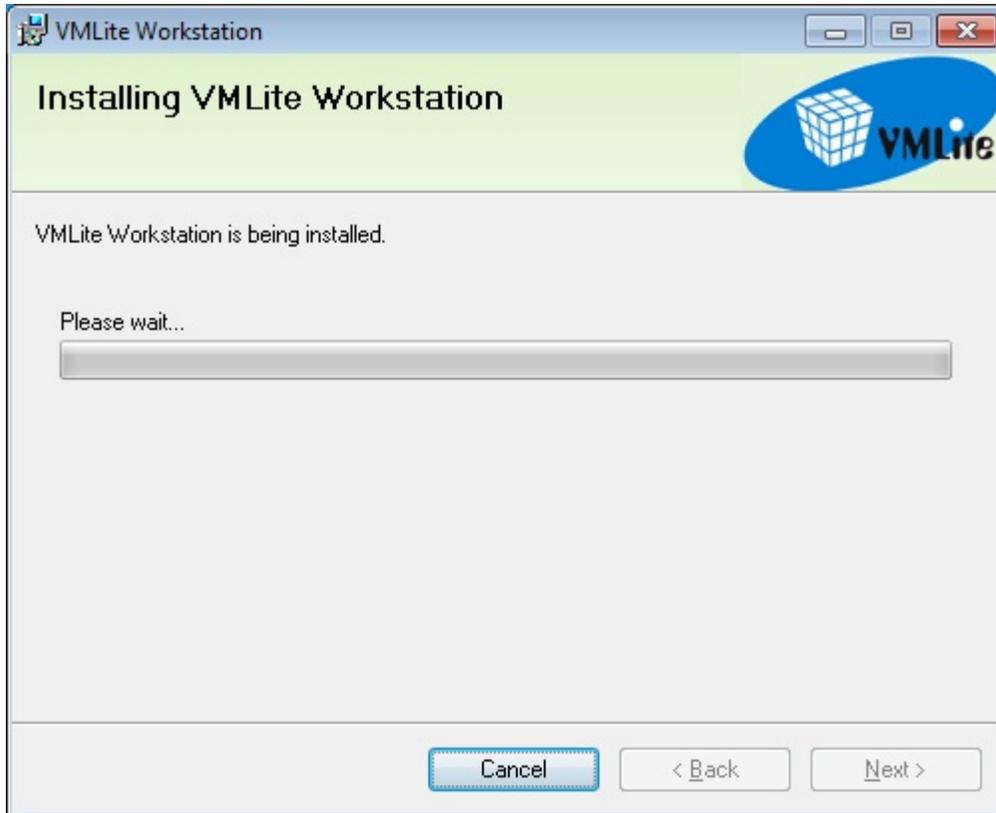
Read the Agreement, check "I Agree", click "Next".



Decide if VMLite XP Mode is available to yourself only or to all users of this computer, then click “Next”.



Click “Next”



Then wait.



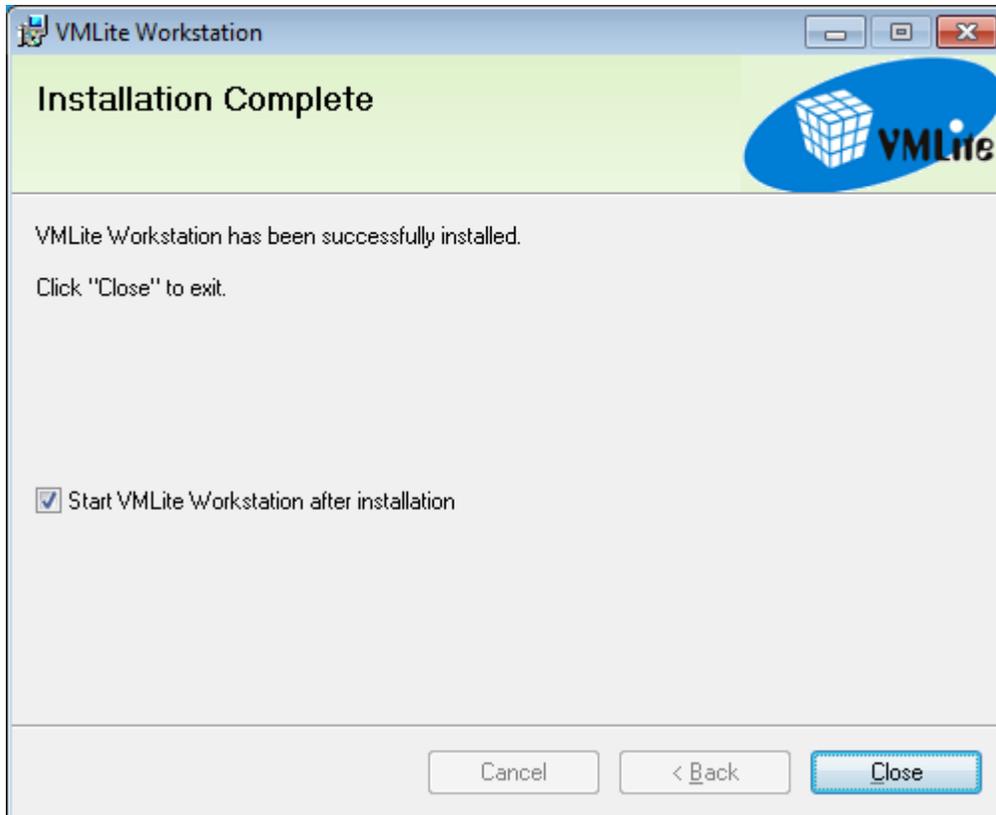
VMLite uses its proprietary codes to make sure VMLite Workstation works seamless with Microsoft Windows systems. During this installation, you will experience the security warnings of software non-compatibility similar to the one shown above a couple times. Just ignore those warnings. Click "Install"



Click "Install"



Click "Install"

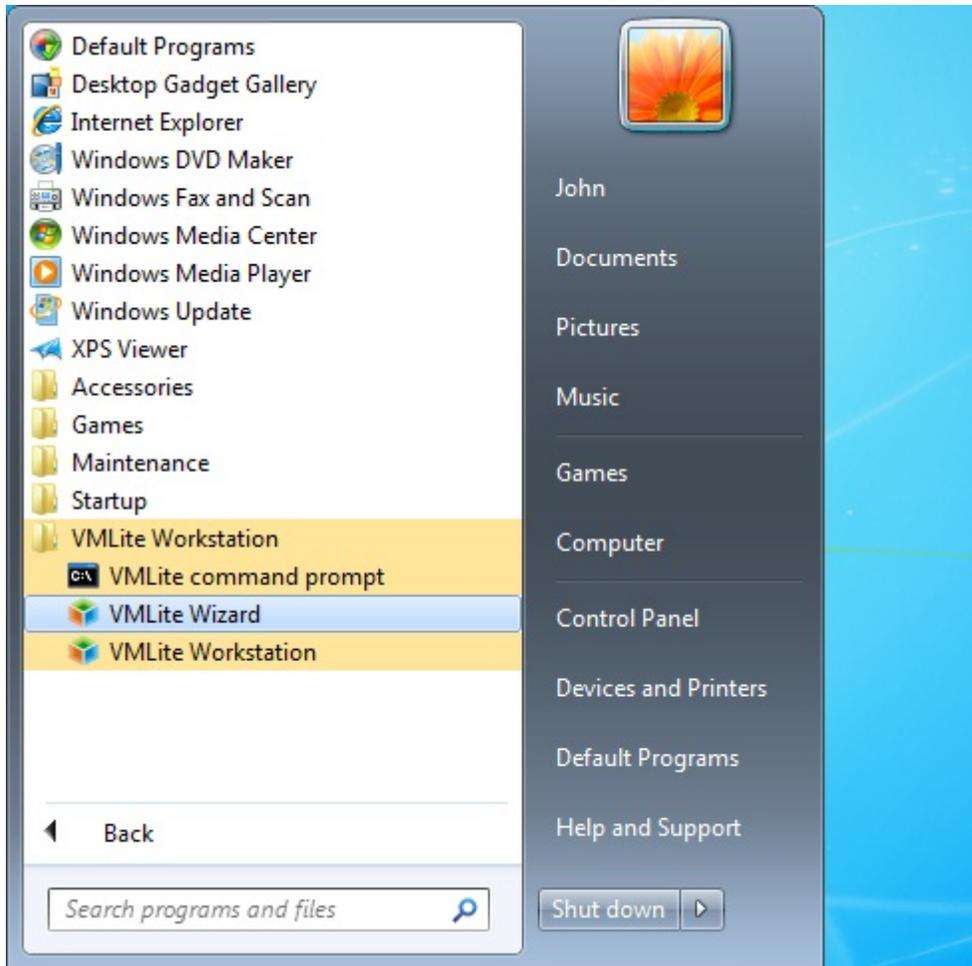


Click "Close".

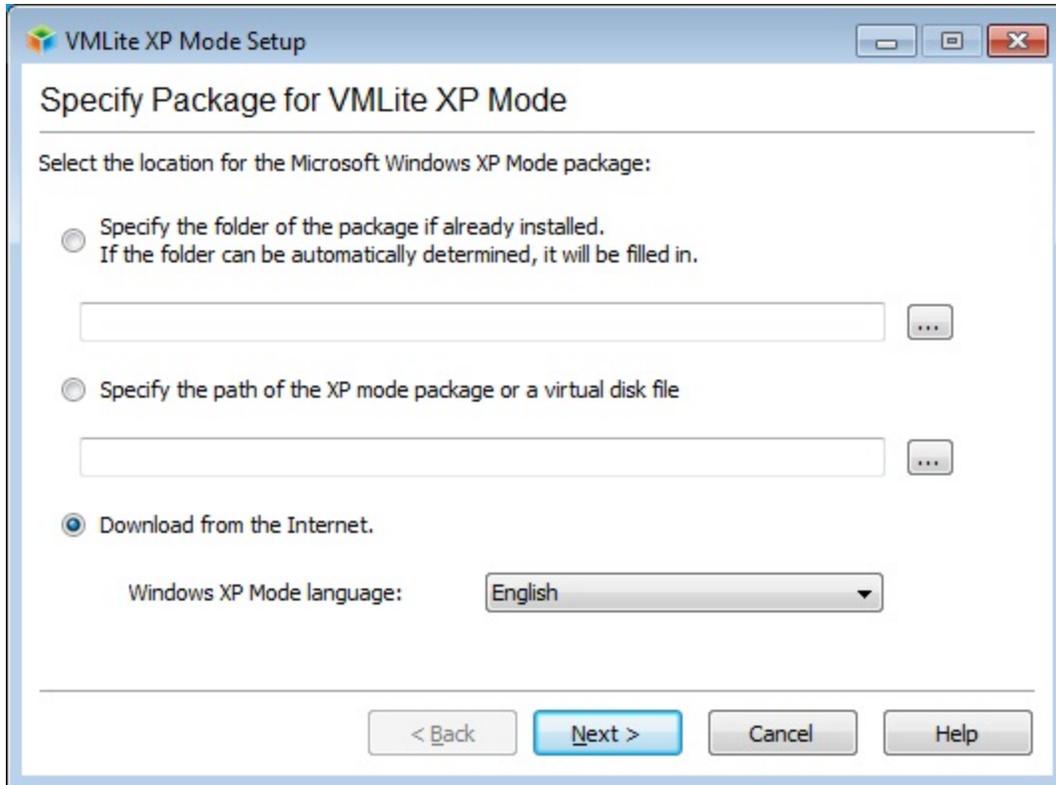
The installation of VMLite workstation is now completed.

## ***2) Installation of licensed virtualized XP under VMLite Workstation.***

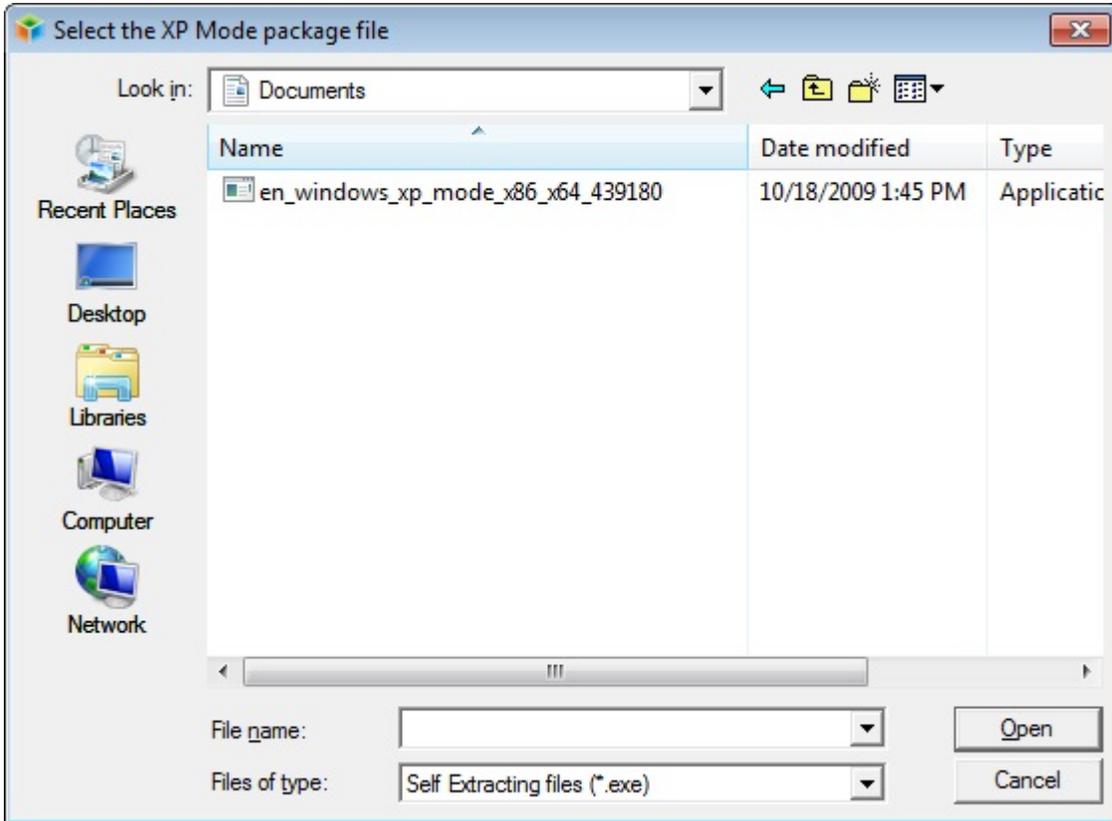
Go to the "Start" icon at the lower left corner of Windows 7, check "All Programs", then check "VMLite Workstation"



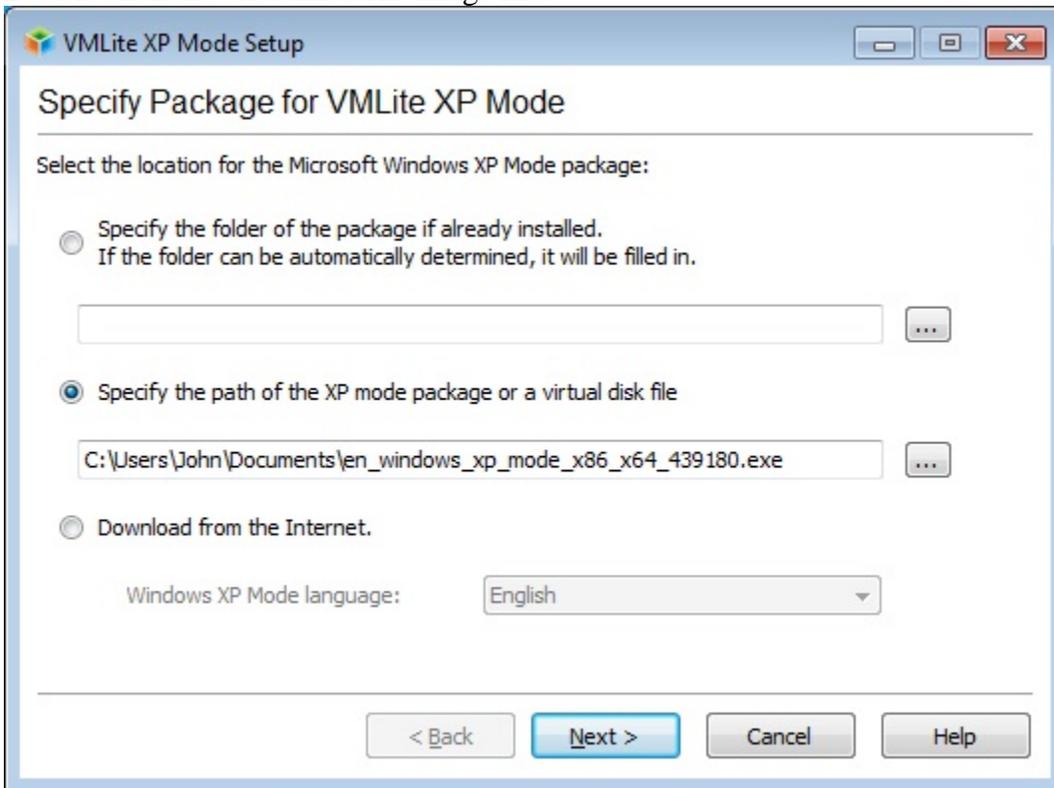
Choose “VMLite Wizard”.



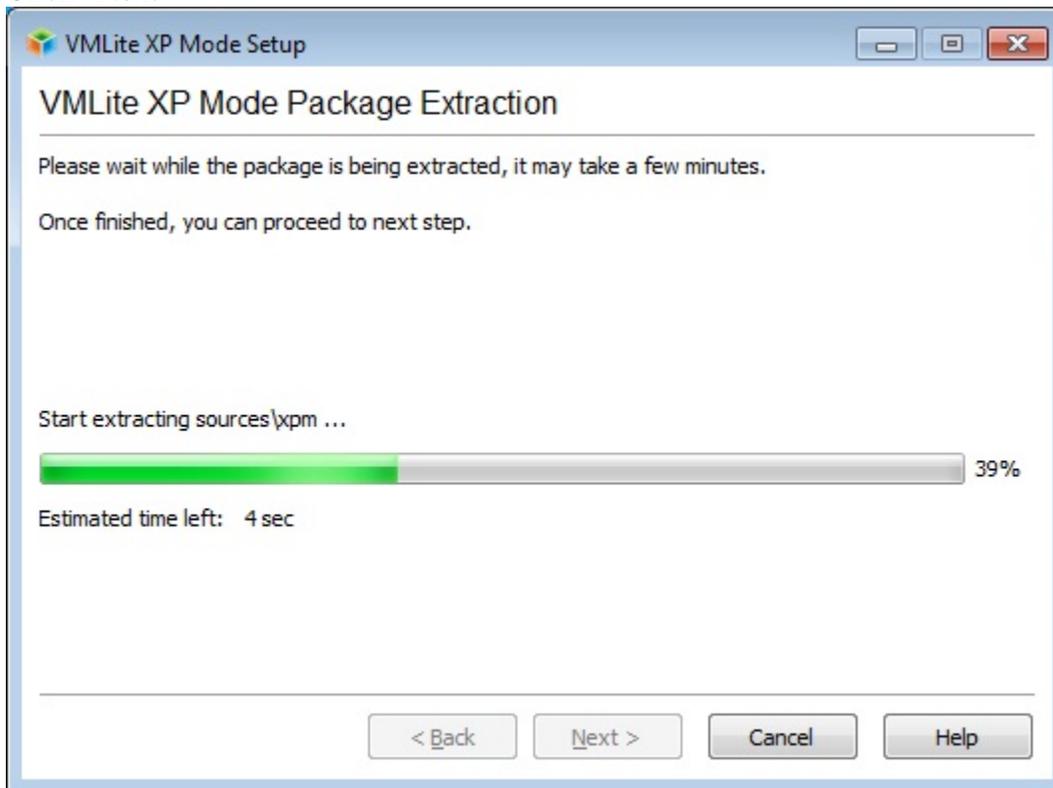
Select “Specify the path of the WindowsXPMode\_xx-xx.exe file if downloaded” and click “...” icon. Find the location where you save the licensed virtualized XP image file.



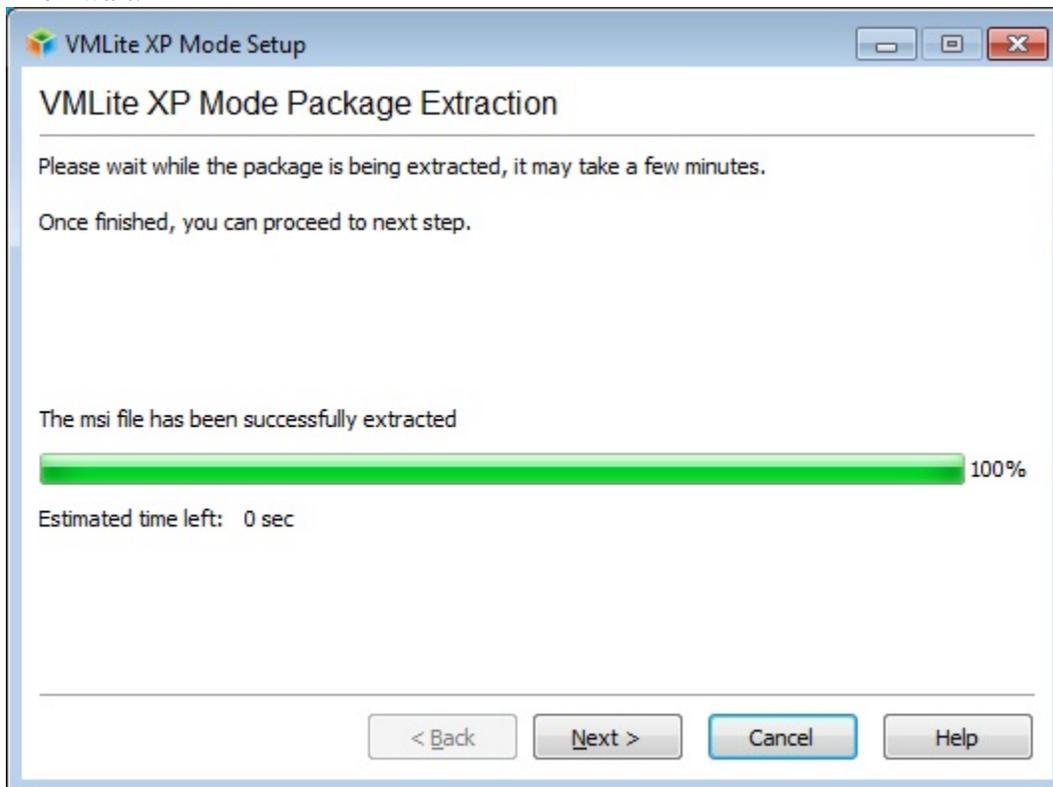
Double click the virtualized XP image file.



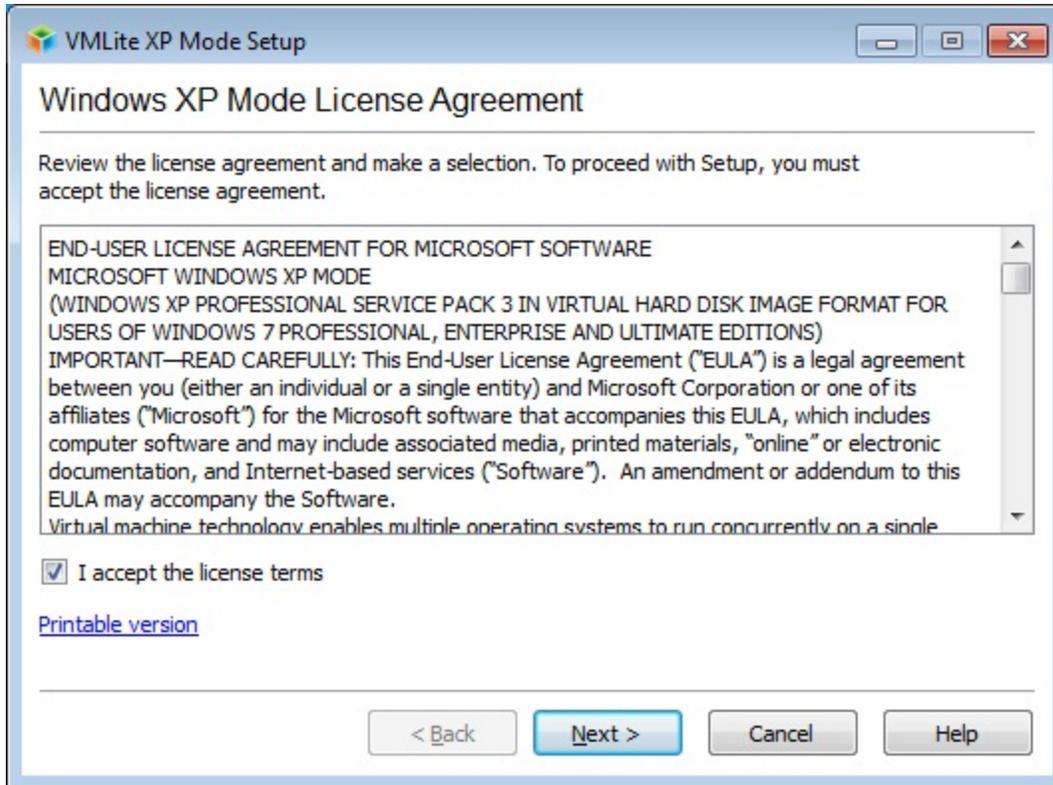
Click “Next”



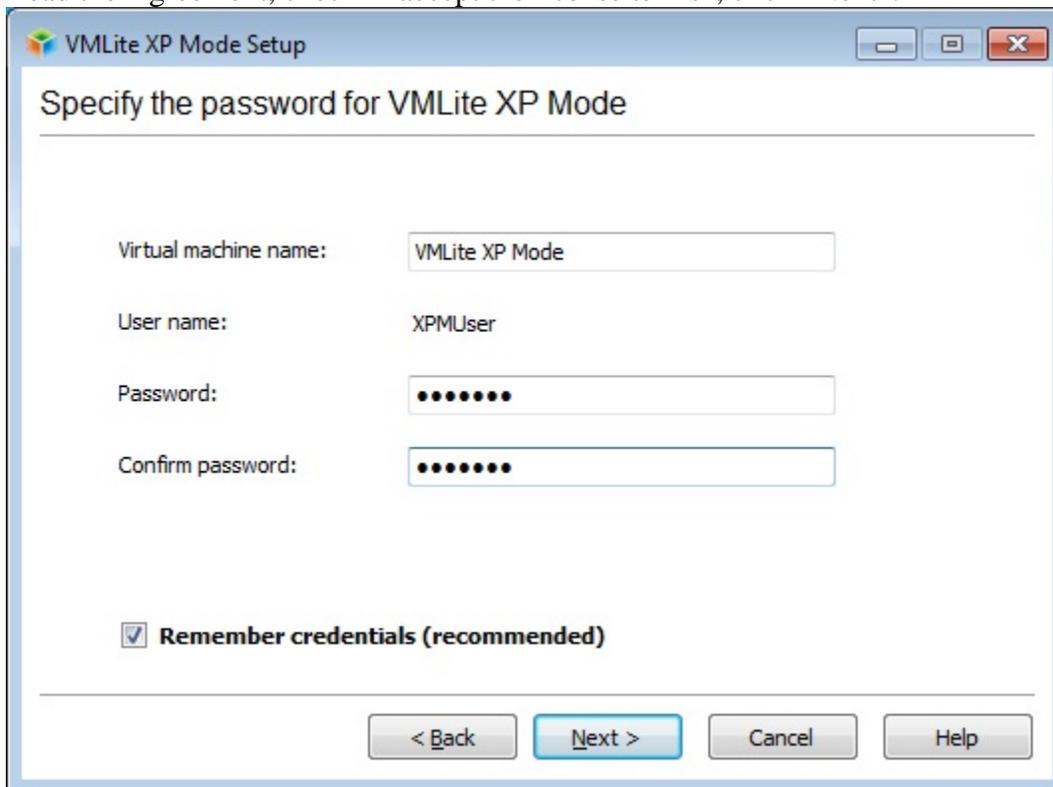
Then wait.



Click “Next”.



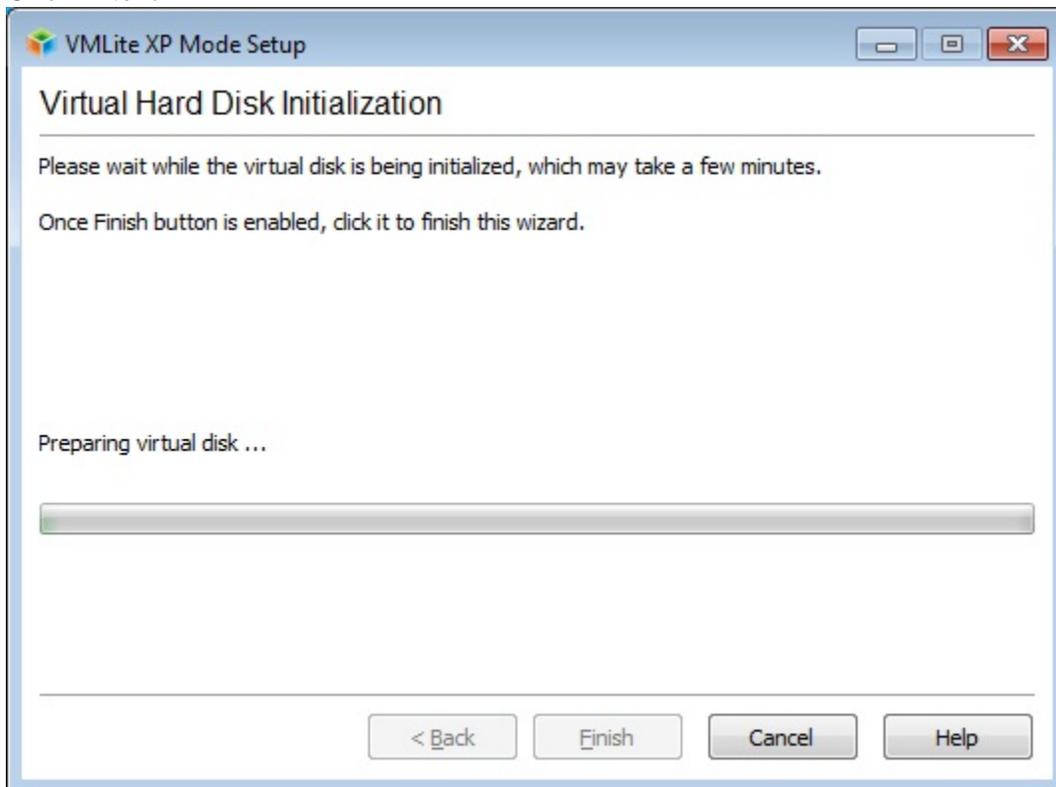
Read the Agreement, check "I accept the license terms", click "Next".



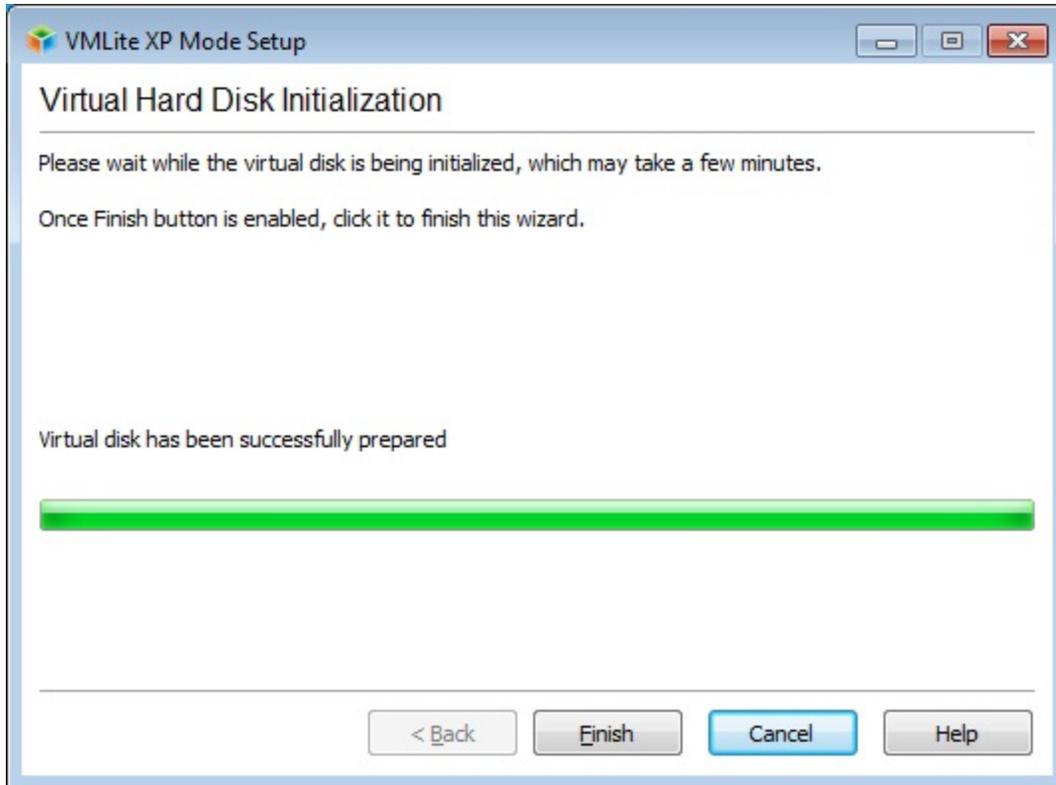
Input and remember your password, click "Next".



Click “Next”

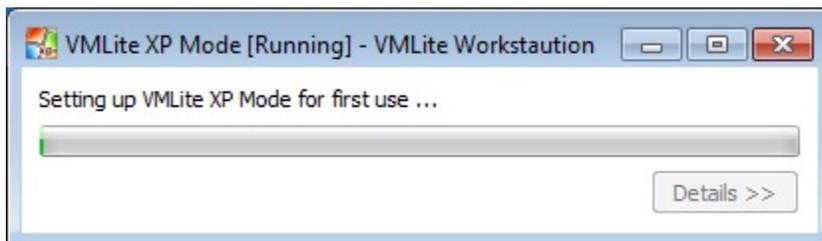


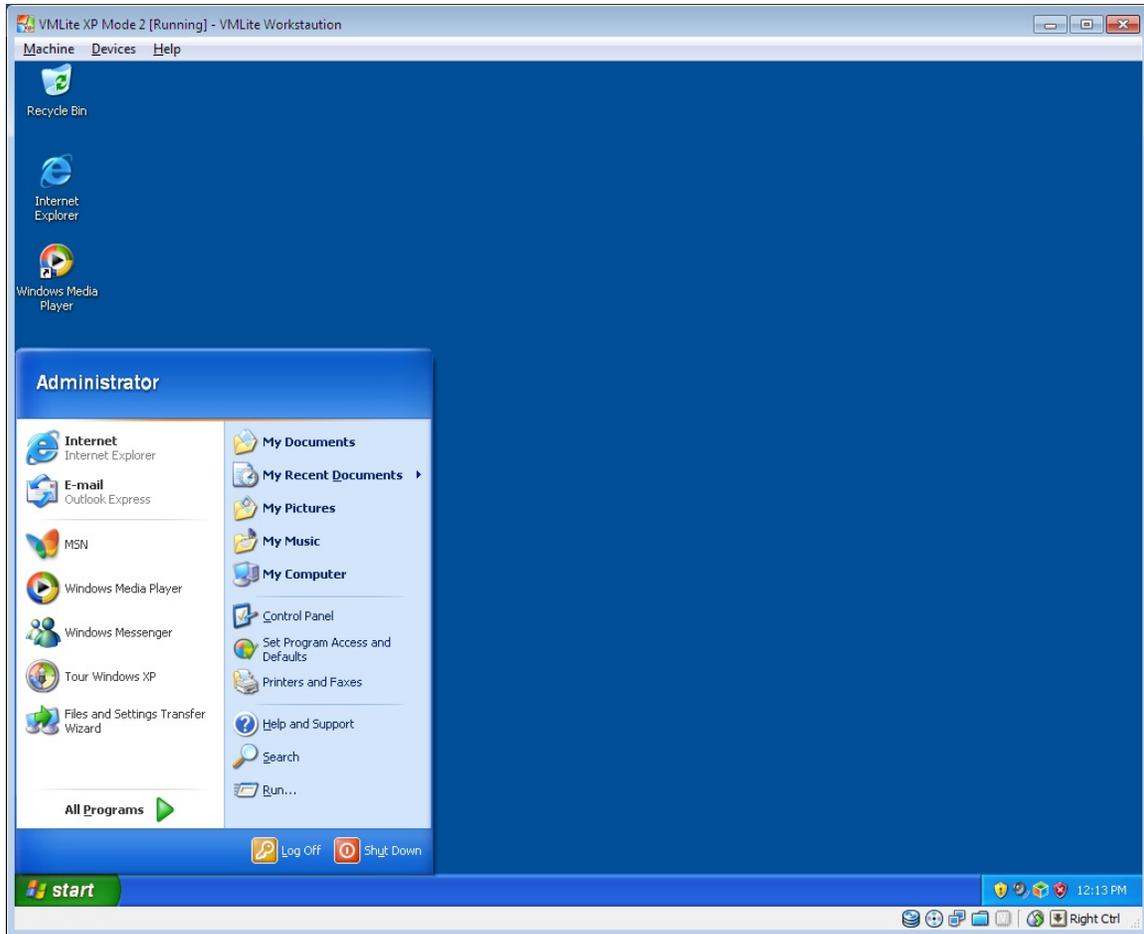
Then wait.



Click "Finish".

You may see a popup window like the following. Please be patient



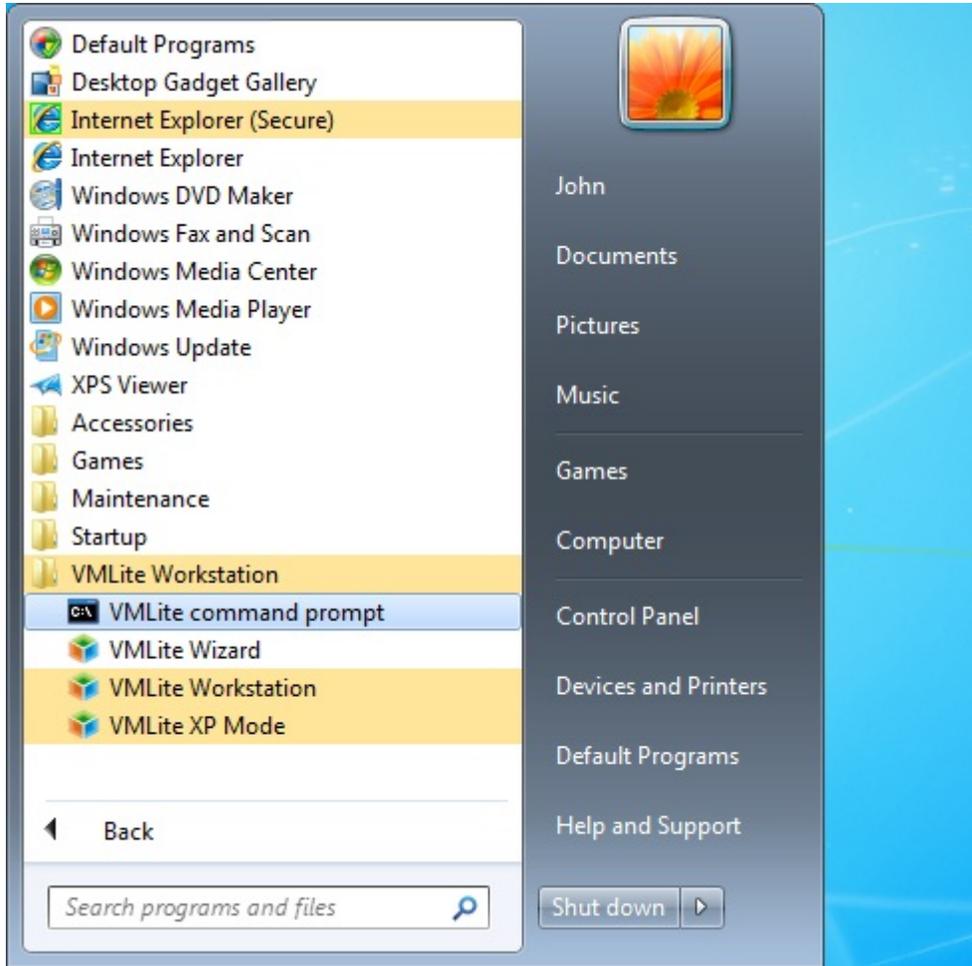


Once you see the popup window like this, the installation of VMLite XP Mode is finished and is ready to use.

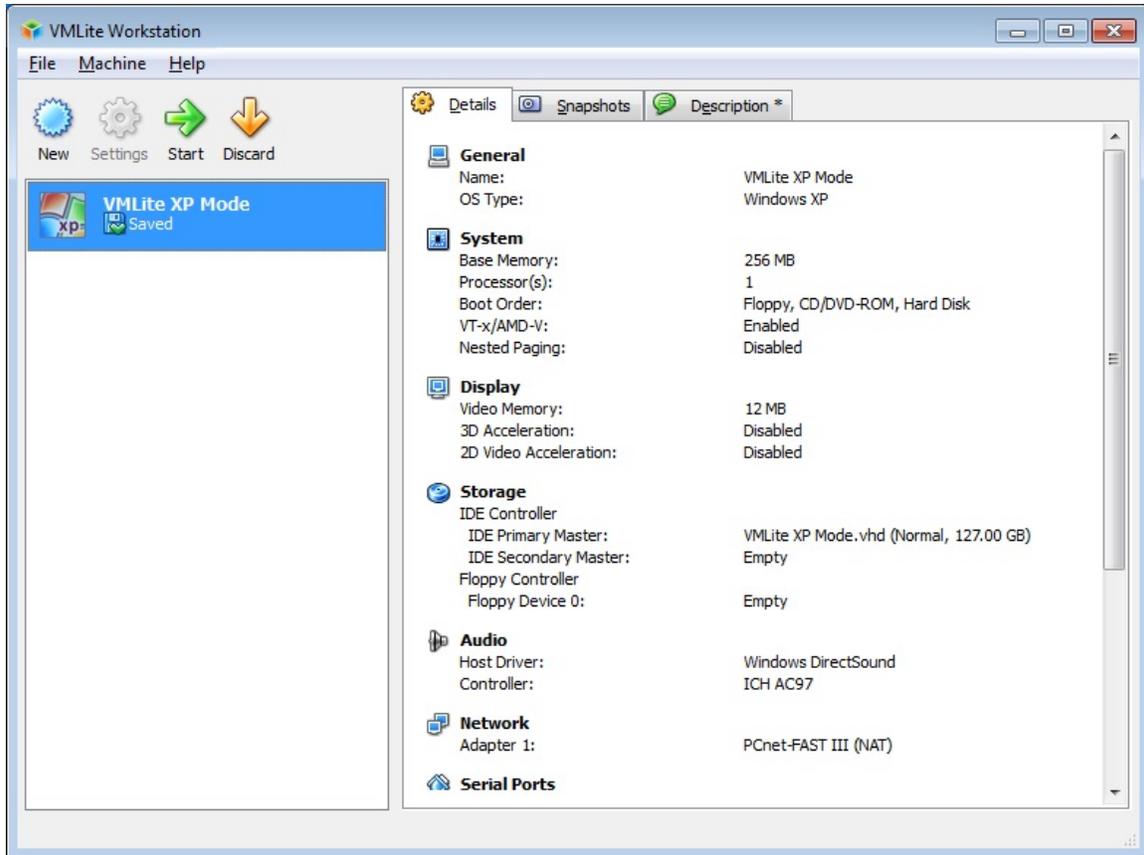
#### **Part 4: Working with VMLite XP Mode**

##### *1) Launch and Shutdown of VMLite XP Mode*

- i) VMLite XP Mode can be launched through 4 different ways.
  - a) Double click the “VMLite XP Mode” icon on the desktop
  - b) Double click the “Internet Explorer (Secure) icon on the desktop
  - c) Launch “VMLite XP Mode” from “VMLite Workstation” group from the “Start” button as following.



- d) Launch “VMLite Workstation ” from “VMLite Workstation” group from the “Start” button as shown above. Select “VMLite XP Mode” created as following, then select “Start”

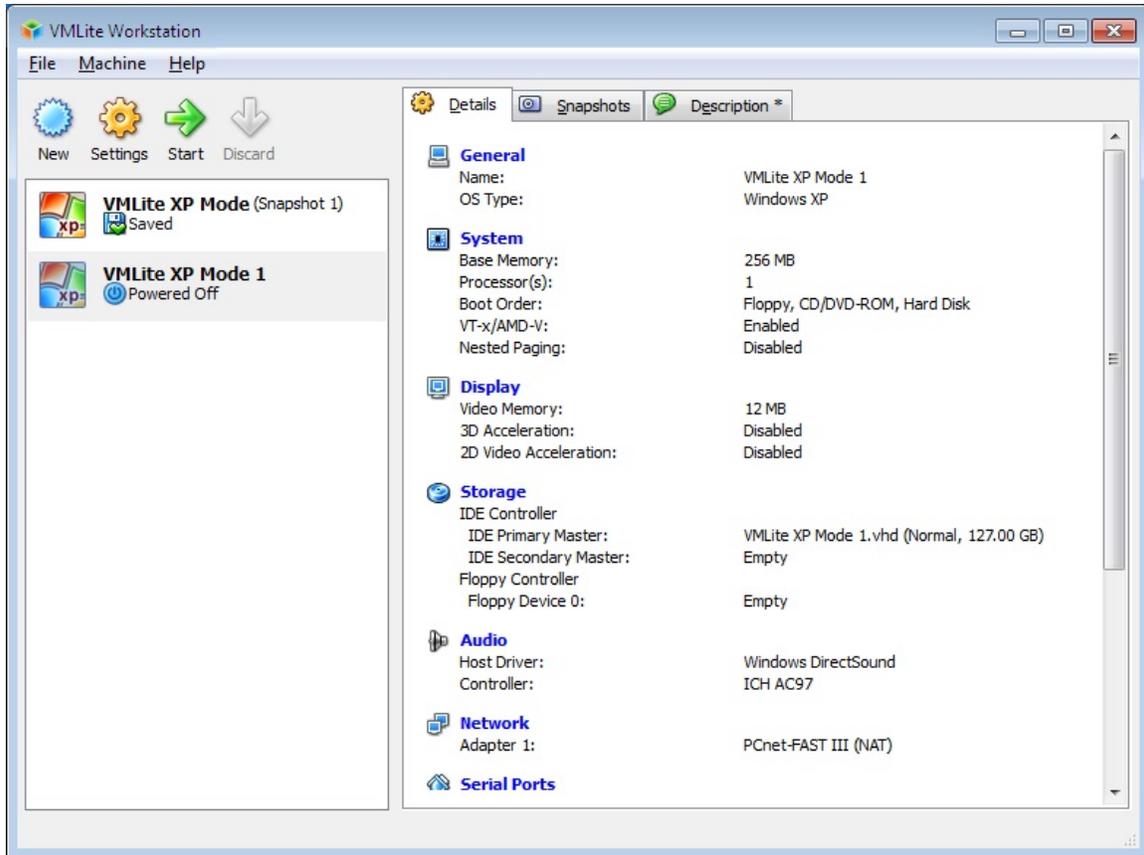


## ii) Shutdown of VMLite XP Mode

If click the red check mark on the VMLite XP Mode popup window, by default, the system will treat the virtual machine as hibernating, and save the current working environment of virtual machine upon exit. Then the status of VMLite XP Mode will marked as “Saved”, as shown above.

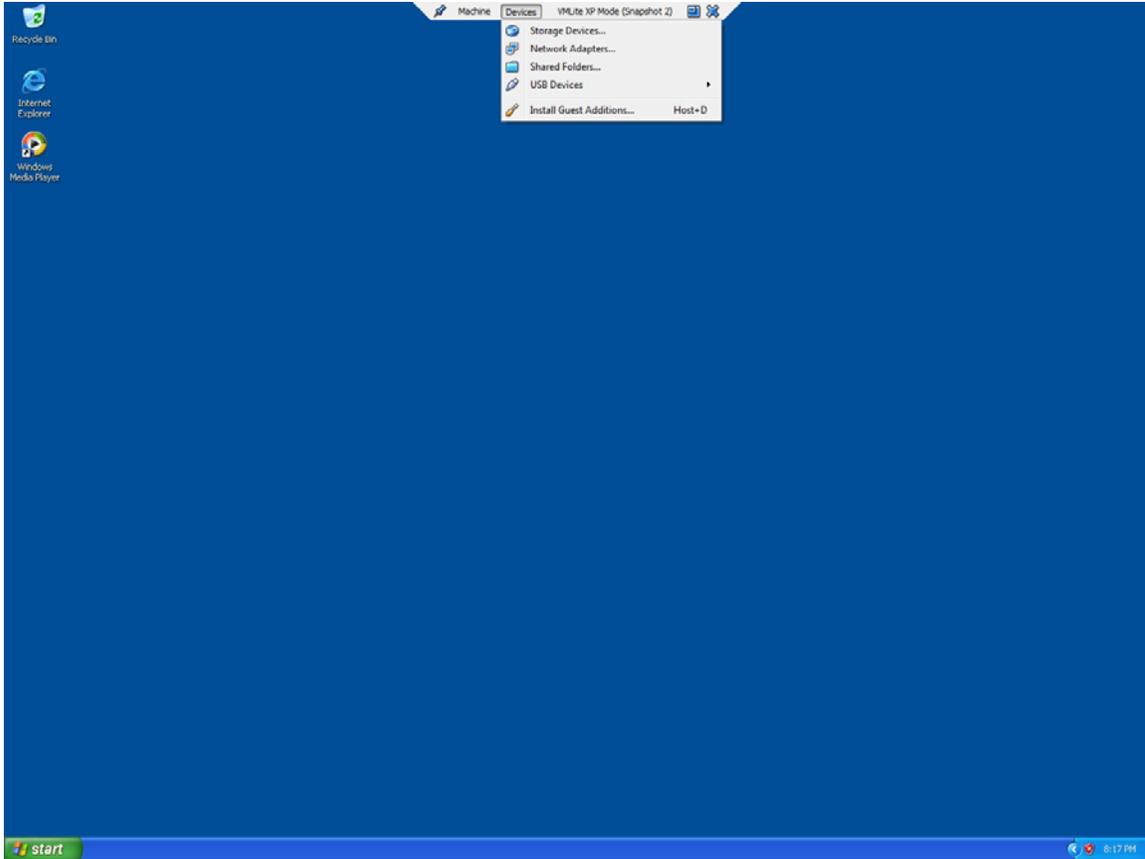
For example, if user is watching Youtube flash, then s/he shut down VMLite XP Mode this way in the middle of watching. Next time, when the user re-launch VMLite XP Mode, it goes right back to the moment of flash watched when it was quitted. Same thing if user is in the middle of editing a Word file.

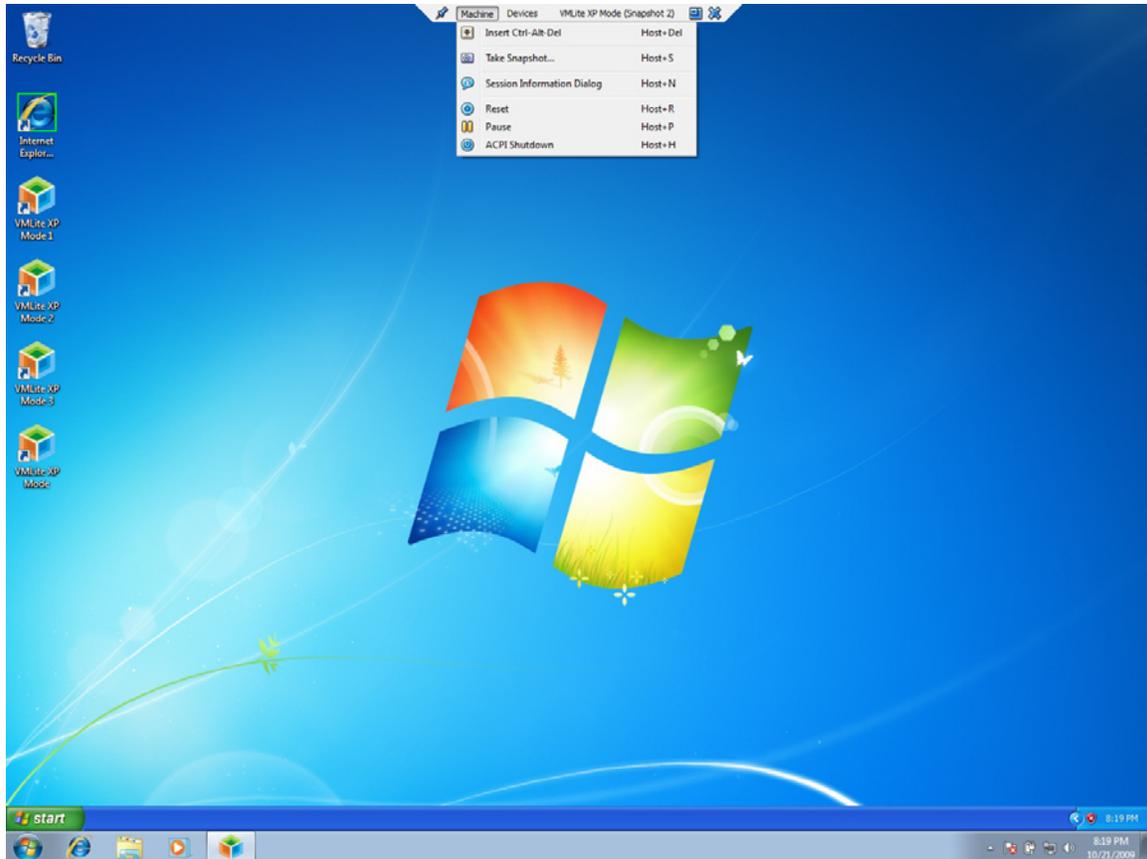
If VMLite XP Mode is shutdown by choosing “Shut Down” through the “Start” button of virtual machine, then the system will treat the command as normal exit, and it will not save the current working environment of virtual machine upon exit. Then the status of VMLite XP Mode will marked as “Powered Off”, as shown following for “VMLite XP Mode 1”.



## 2) Display of VMLite XP Mode

By playing around the command “Fullscreen Mode”, “Seamless Mode” and/or the maximize/restore button at the VMLite XP Mode frame, user can also get different displays as full screen mode, seamless mode as followings show respectively.

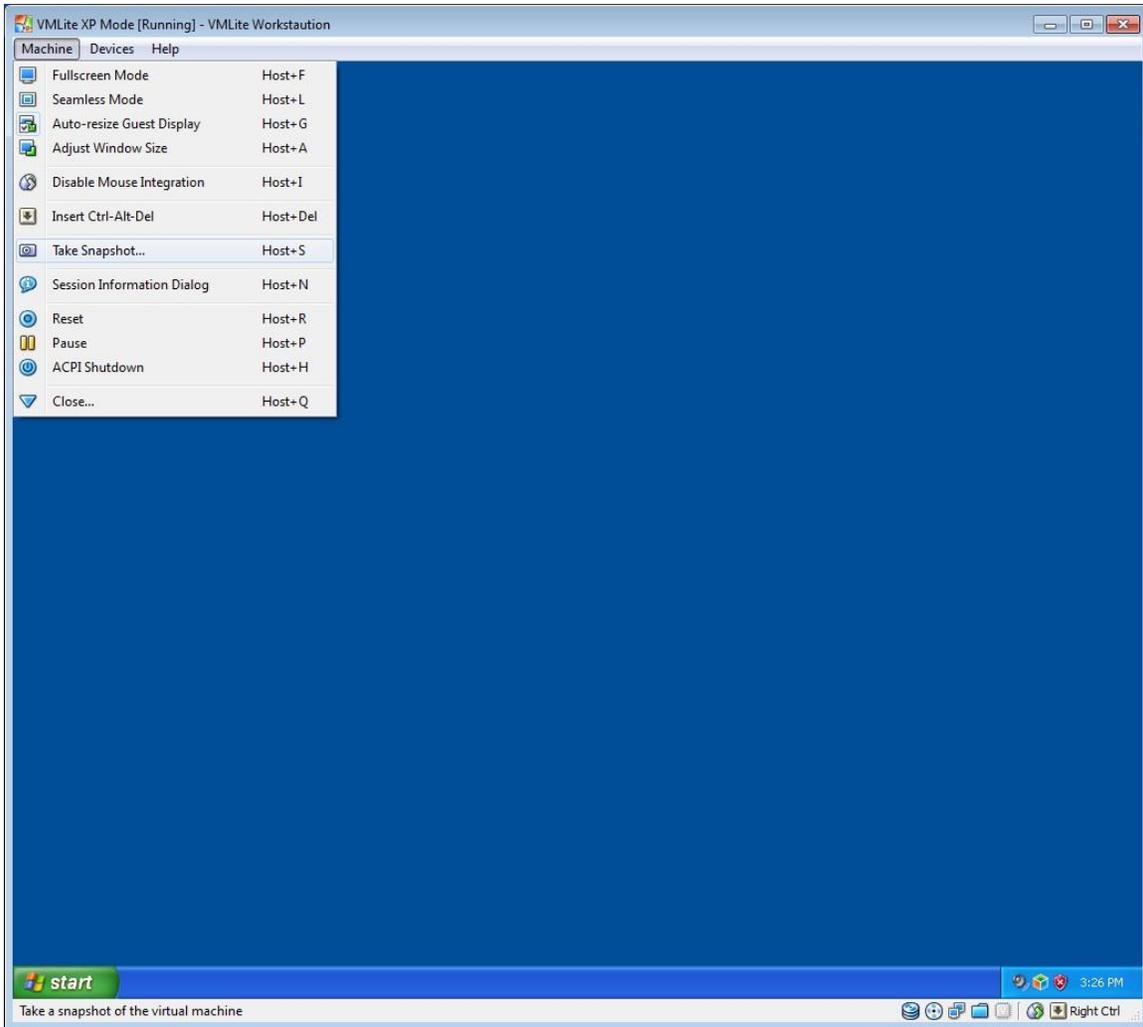




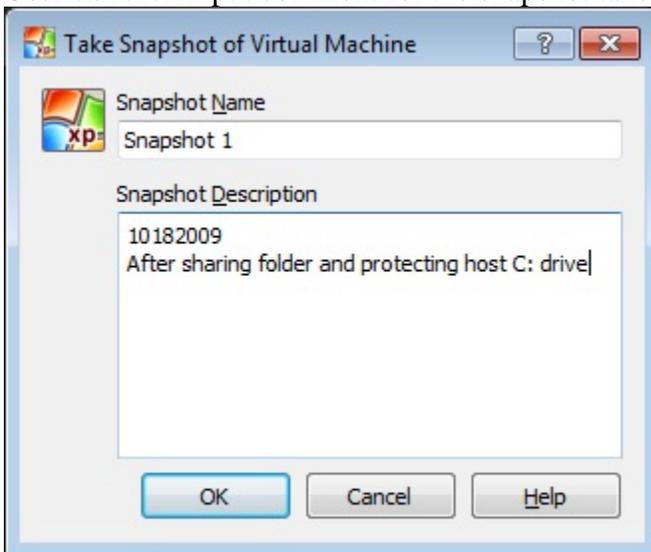
### 3) Taking snapshot of VMLite XP Mode and Recovery

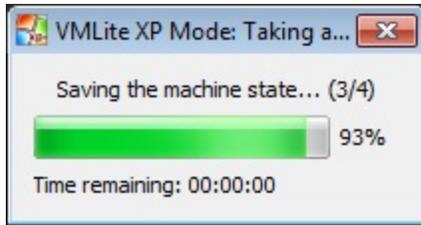
Snapshot is saved as a recovery point of VMLite XP Mode. To take snapshot of virtualized environment could never be easier under VMLite XP Mode. A snapshot of VMLite XP Mode only takes very tiny space, a couple kilobytes, and can be done in seconds. By default, system always saves the current status upon exit. In case of virtualized environment crash or under attack of malicious software attacks, one can shut down XP mode, go back to preset recovery point right away.

To take snapshot, go to the virtualized machine menu, select “Take Snapshot...”.



User can then input comment for the snapshot taken.





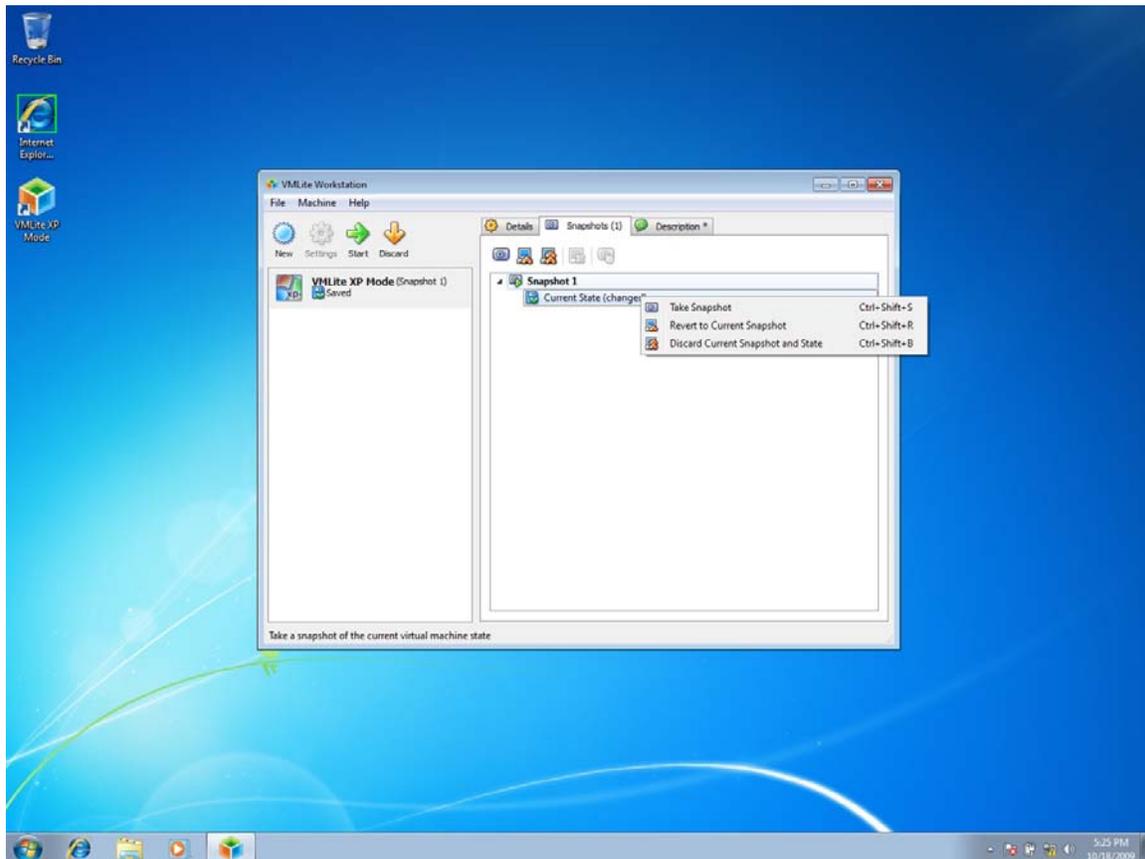
To go back to the latest recovery point of virtualized environment, shut down the virtual machine first. Next step, on host PC, select “VMLite Workstation” under “VMLite Workstation” program group. In the following case, some work had been done after the first snapshot was taken.

Right click the “Current State (changed)”, there are 3 options available: “Take Snapshot”, “Revert to Current Snapshot”, and “Discard Current Snapshot and State”.

“Take Snapshot” allows generation of next snapshot. In this case, it will be Snap Shot 2.

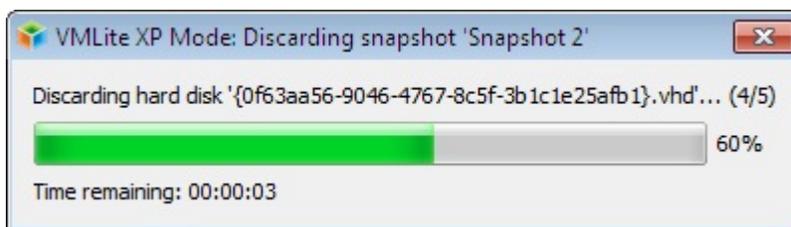
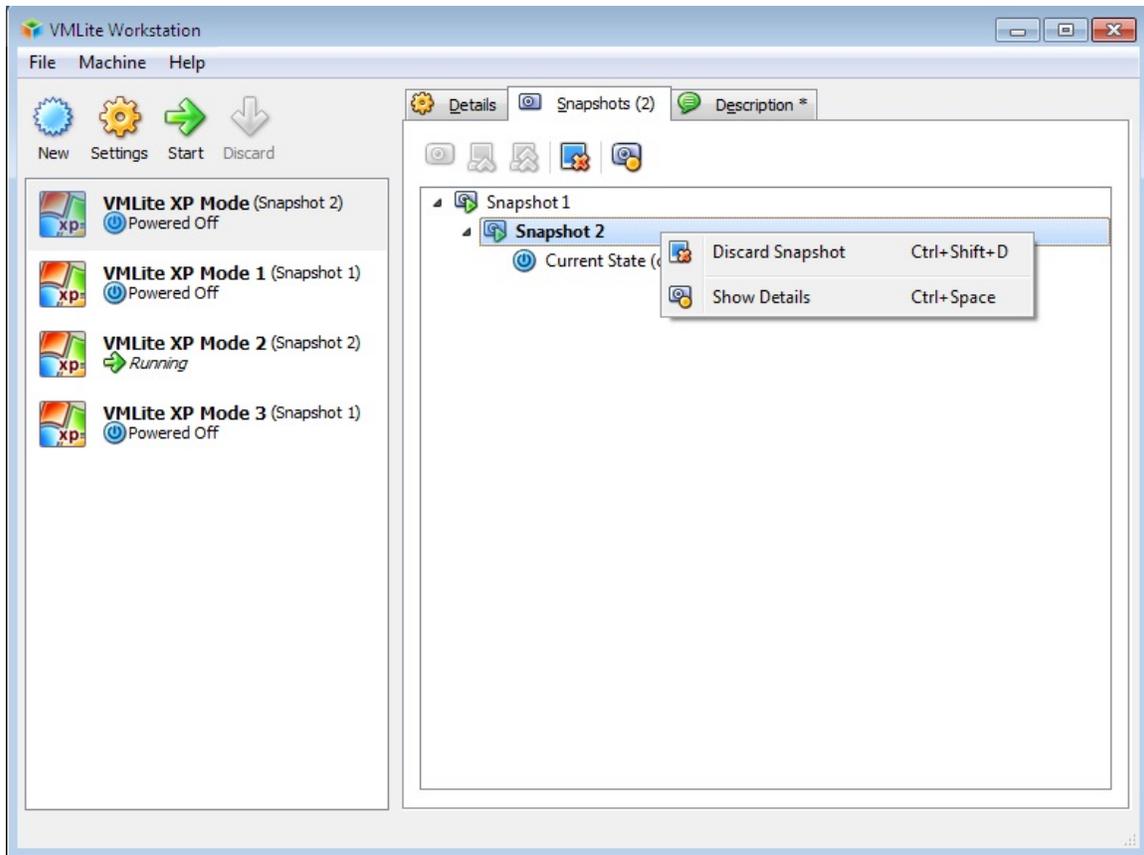
“Revert to Current Snapshot” means go back to the state of the latest snapshot and the system discard the latest changes after it, which is Snap Shot 1.

To choose “Discard Current Snapshot and State”, system will discard the latest changes and the latest snapshot, and go back to the recovery point when the second latest snapshot was taken.



If more than 1 snapshots are present, in order to go back to earlier recovery point as preset by earlier snapshot, use will need to “Discard Current Snapshot and State” of the latest snapshot one at a time. In the following example, to go back to Snap Shot 1, one will have to discard Snap Shot 2 first.

The action of taking snapshot, restore VMLite XP Mode, discarding snapshot is fast and easy. However, the snapshot, once discarded, is not recoverable. Please use carefully with this feature.

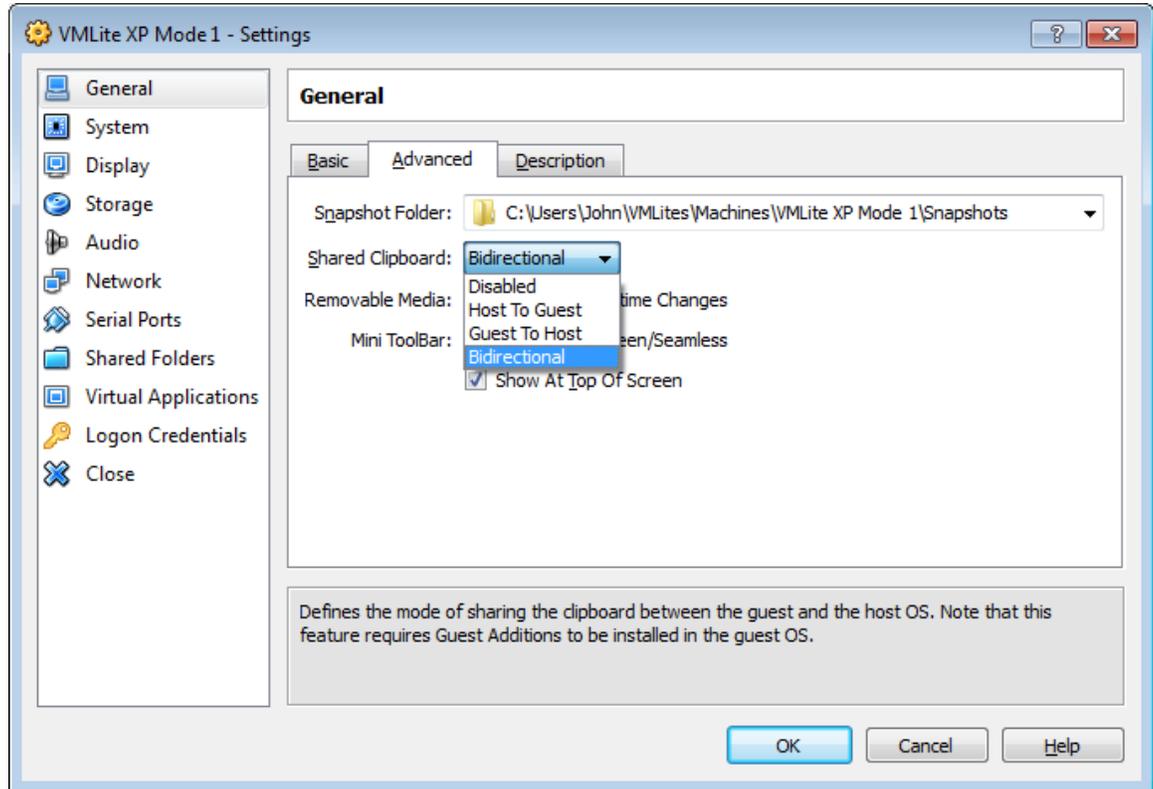


#### 4) File Sharing and Access

VMLite Workstation provides transparent separation between the host PC and the virtualized environment. It creates an independent registry and file system for the XP Mode environment. The sharing of two environments is easy and safe.

i) Clipboard, printer, and network connection

By default, Clipboard content is shared bi-directionally between host and guest. One can use traditional copy-and-paste back and forth between the host PC and XP Mode. The sharing can be disabled, or changed to one direction as host to guest, or guest to host. Conventional control-C/control-V feature is provided to copy and paste files between VM and host.

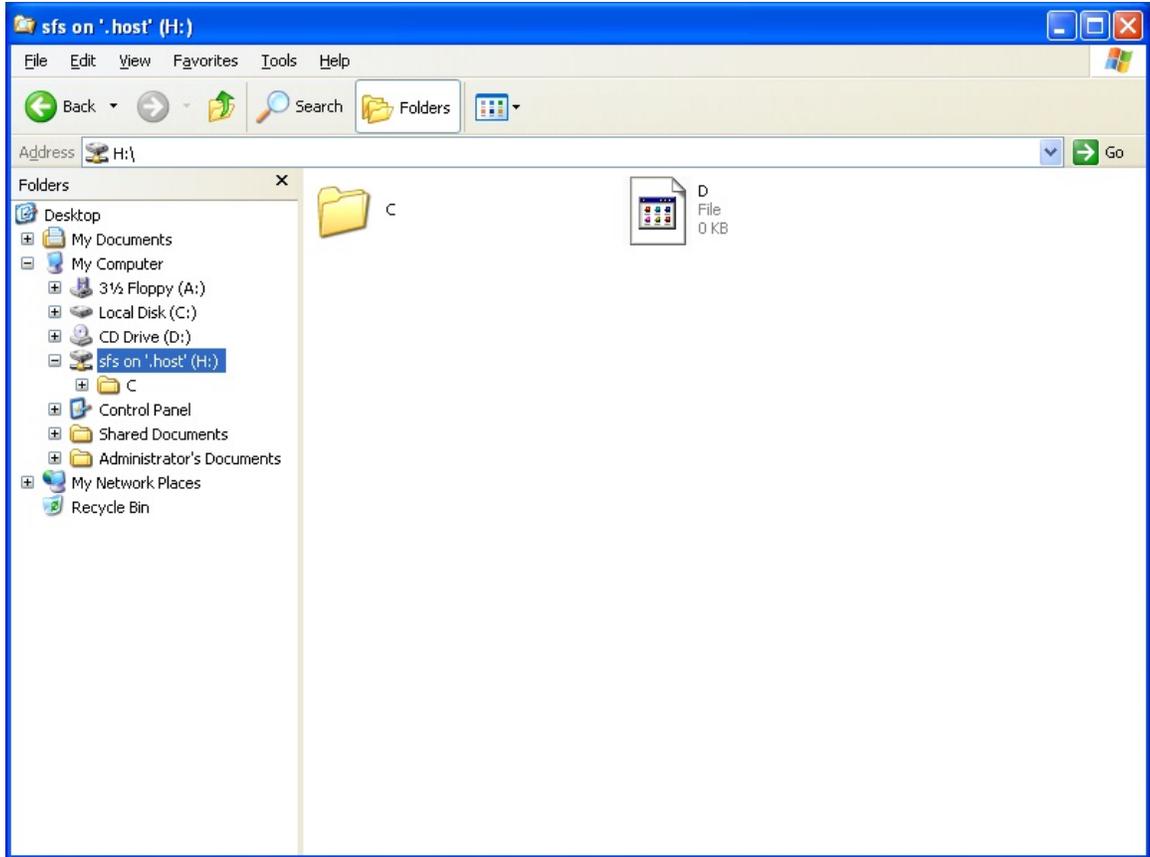


VMLite Workstation automatically configures the network connection and printing setup of XP Mode to use the setup of host PC's counterparts. As long as the host PC was configured for proper networking and printing, one can go networking and print directly under VMLite XP Mode as if from the host PC.

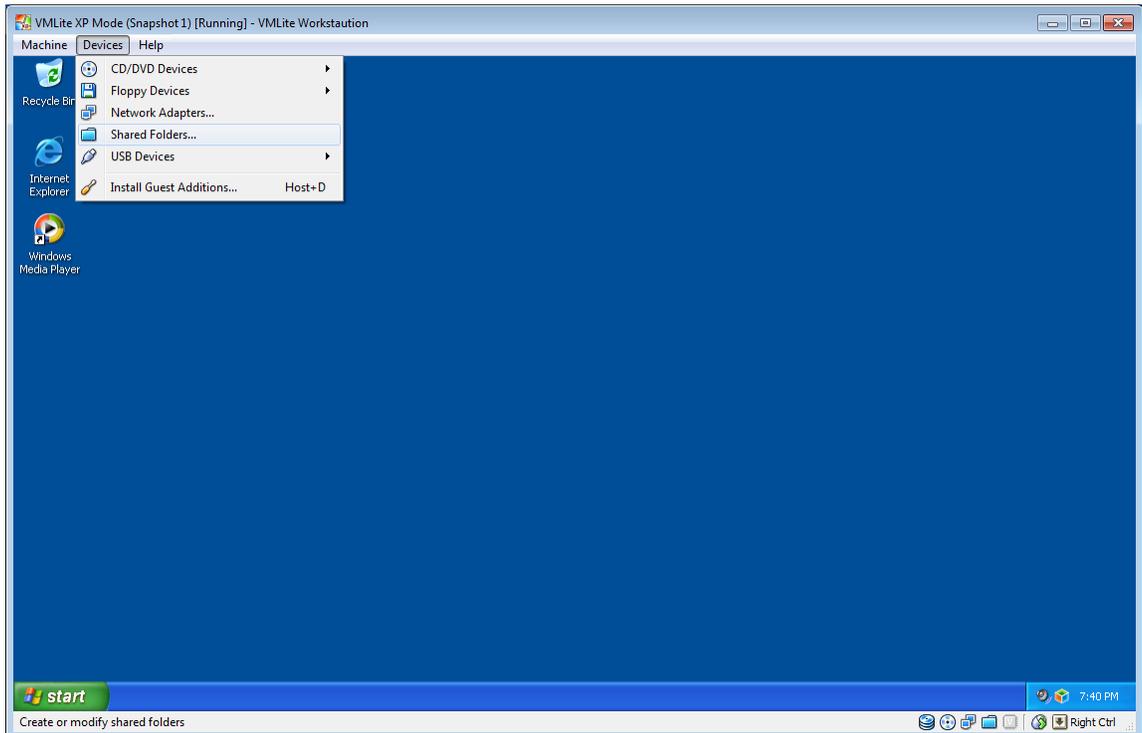
ii) Access to host PC C: drive

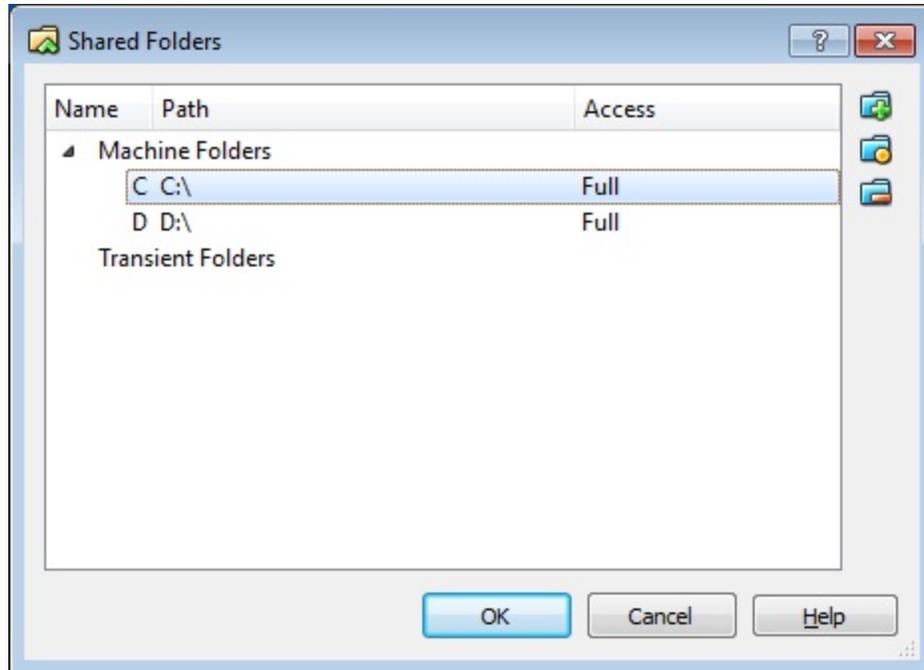
By default, Host PC C: drive is fully shared between host and guest. It is listed under "sfs on '.host'(H:)" if viewed by Windows Explorer.

Due to security reason, to share host PC's C: drive with virtualized environment is not recommended. User can limit the sharing of host PC's C: drive to be read only from guest side.

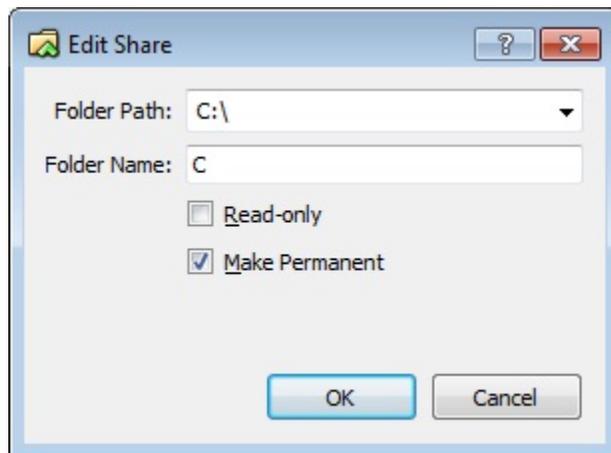


To change the sharing privilege, select “Share Folder...” under “Devices” menu.

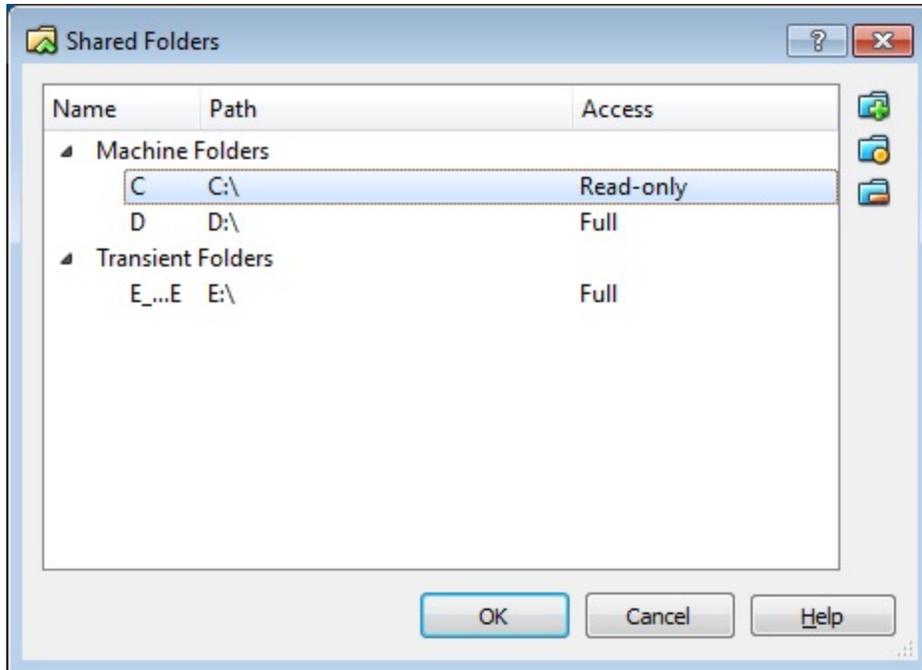




The “Machine Folders” as shown above refer to the folders on host PC. Select “C C:\” and click the middle folder icon “.” on the right hand side to edit.



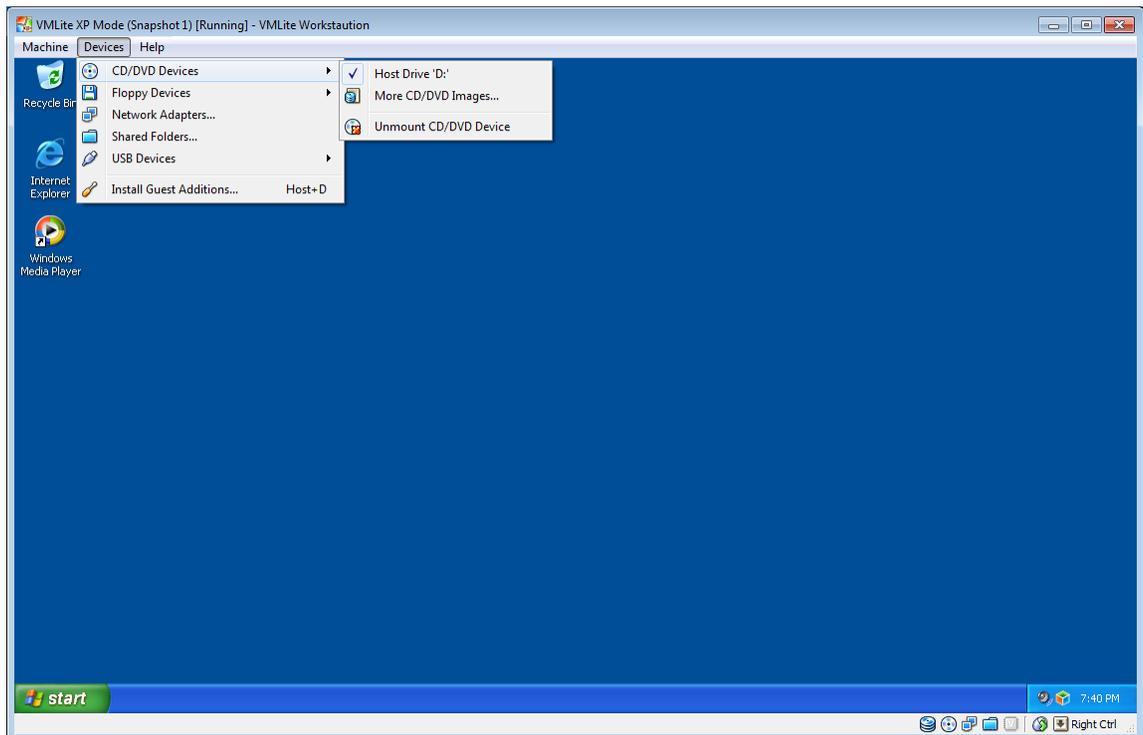
Check “Read-only” and click “OK”.



Then it limits the host PC's C: drive to be Read-only from guest side.

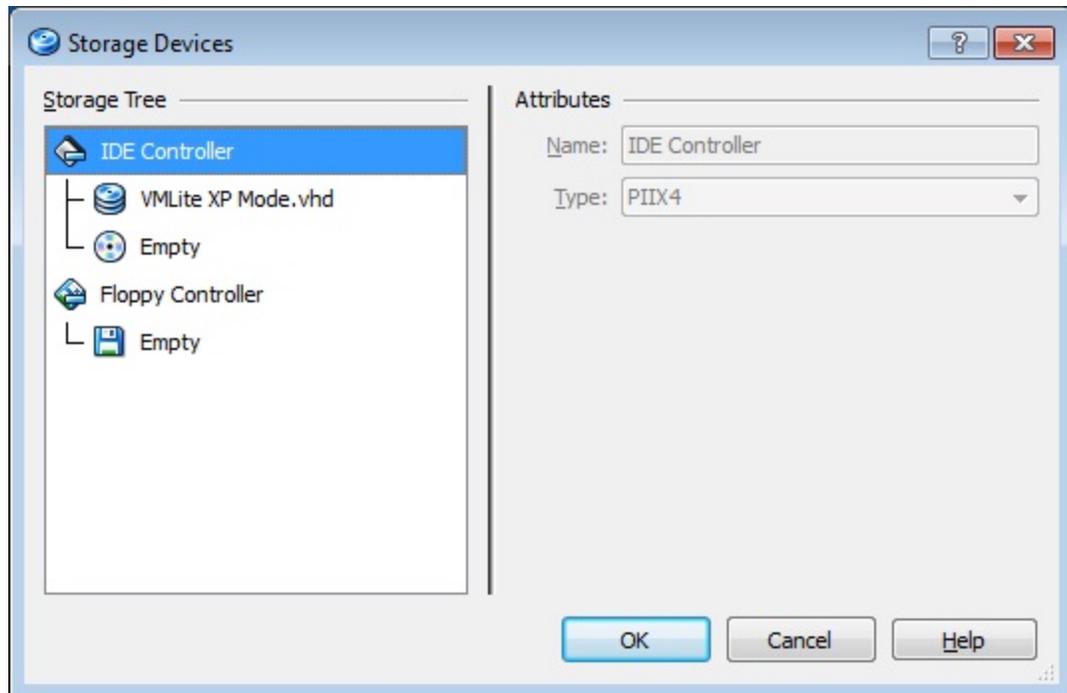
### iii) Access to CD/DVD Drive

VMLite XP Mode automatically recognizes the optical drive(s) on the host PC. See the following screenshot.

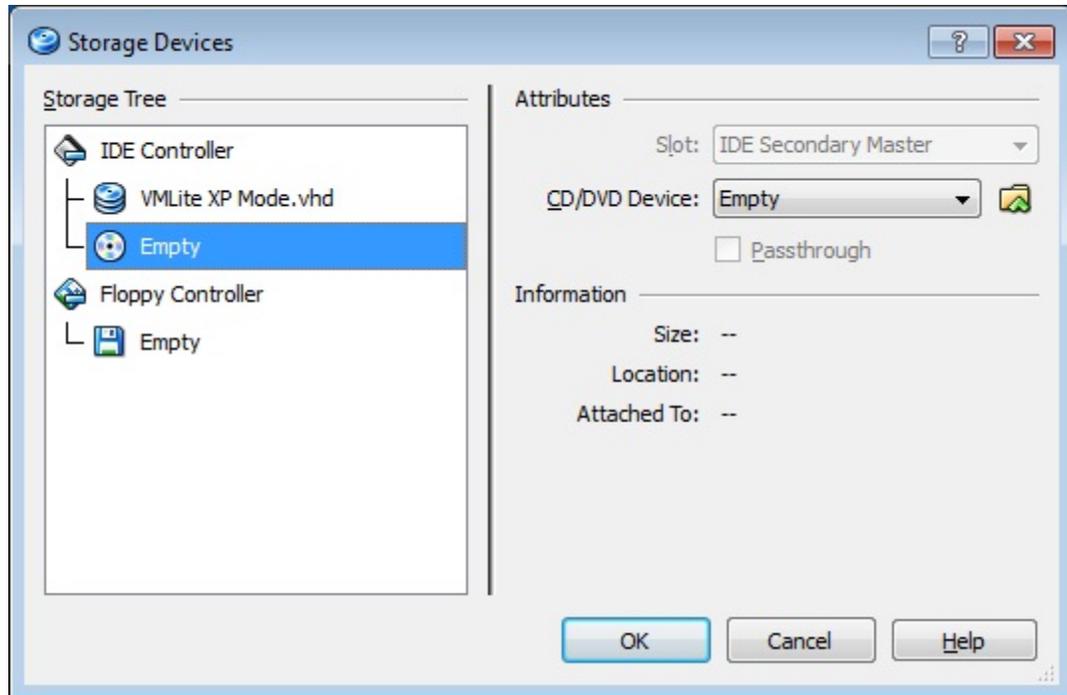


In rare case you do not see your CDROM/DVD drive, you can do the following to get it mounted:

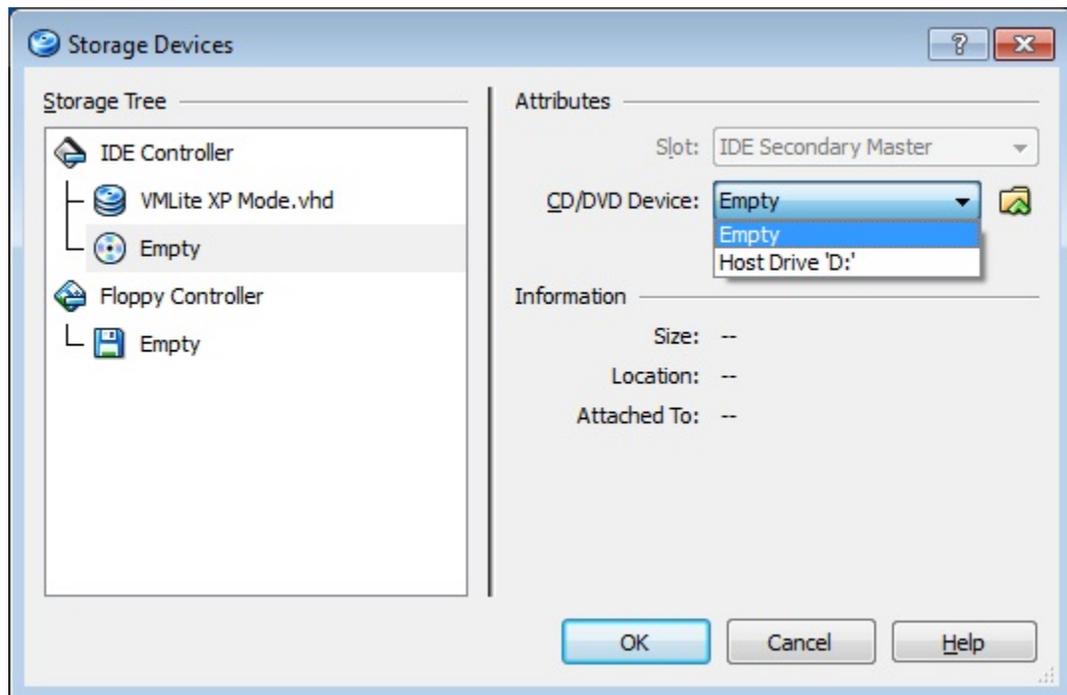
Pick “Storage Devices...” from “Device” Menu.



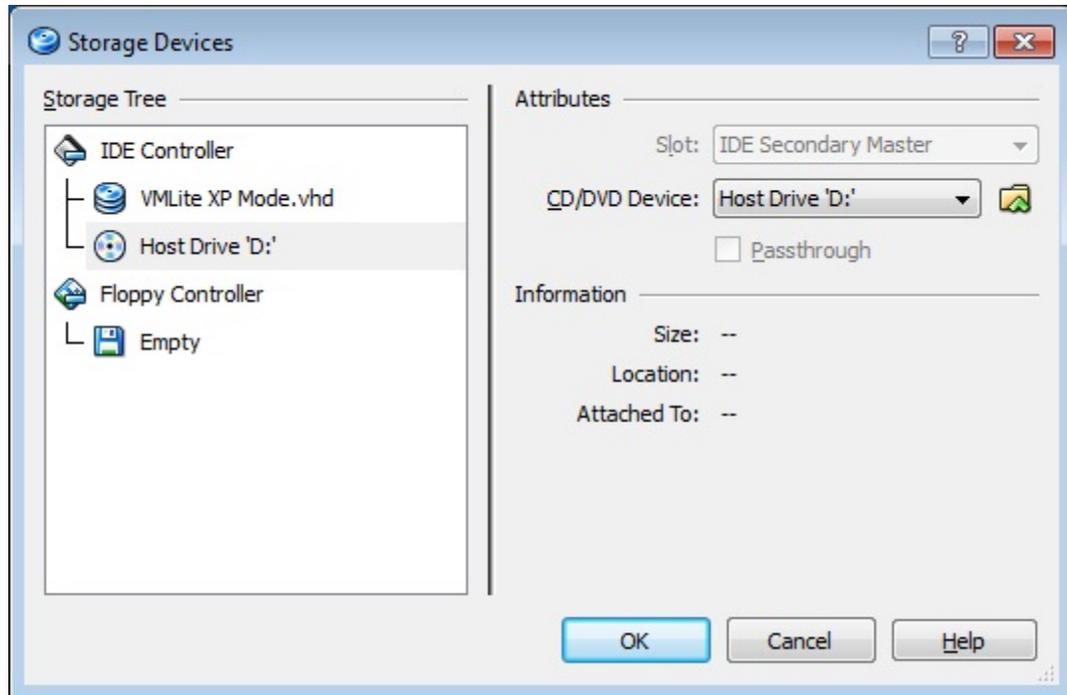
Pick the icon of CD-ROM



Pick the drop-down menu of “Empty” on the right hand panel.



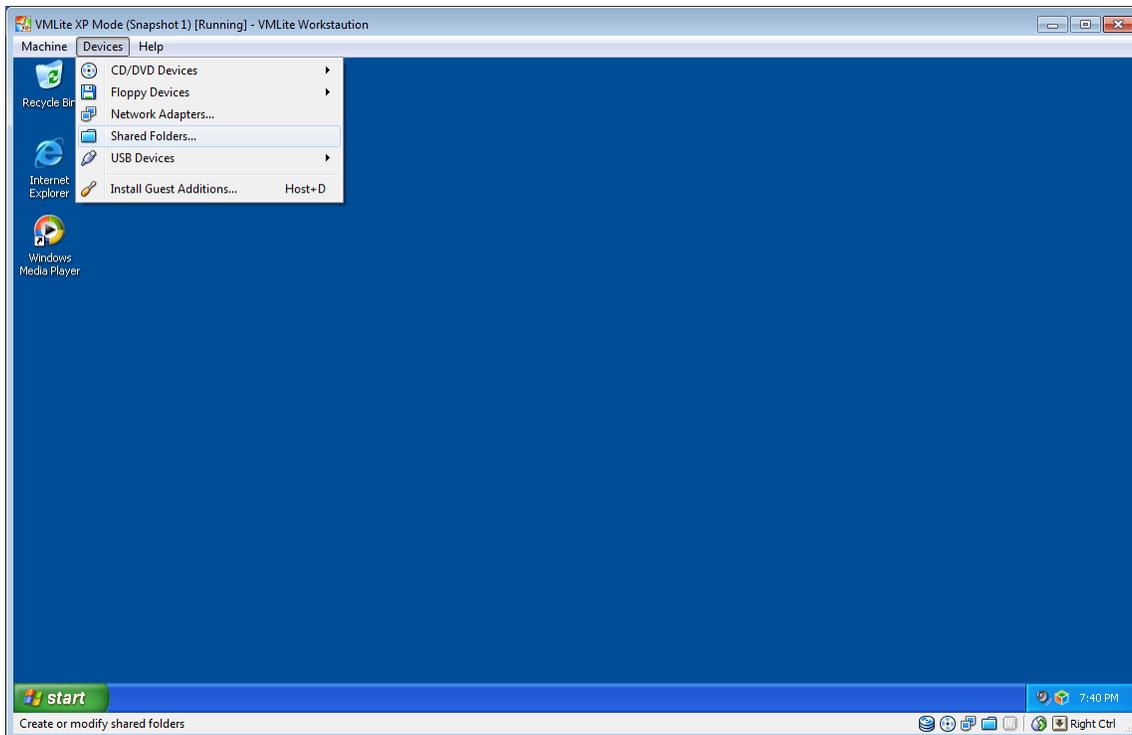
Select “Host Drive ‘D:’”.



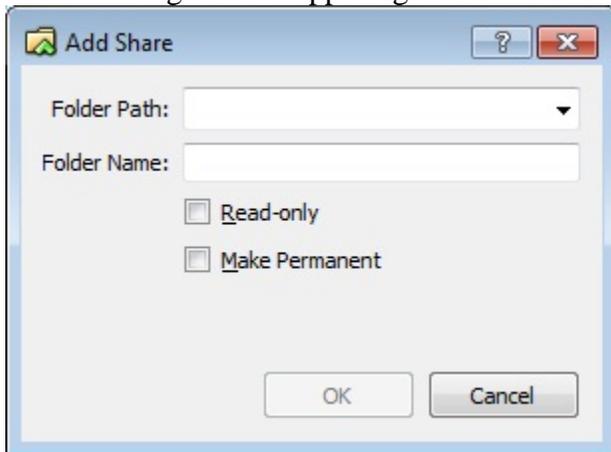
Click “OK”.

iv) Access to USB drive from XP Mode for the first time also needs to make USB drive shared. For security reason, the sharing of USB drive can be limited to selected file or file folder from VMLite XP Mode side. In the following, we show the sharing of whole USB flash drive between host and guest.

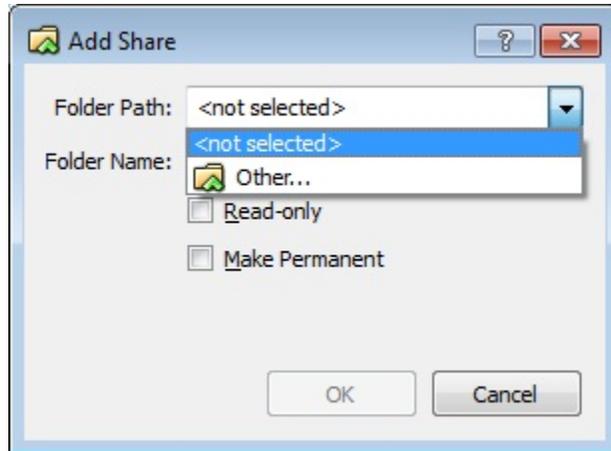
Pick “Shared Folders...” from “Devices” menu.



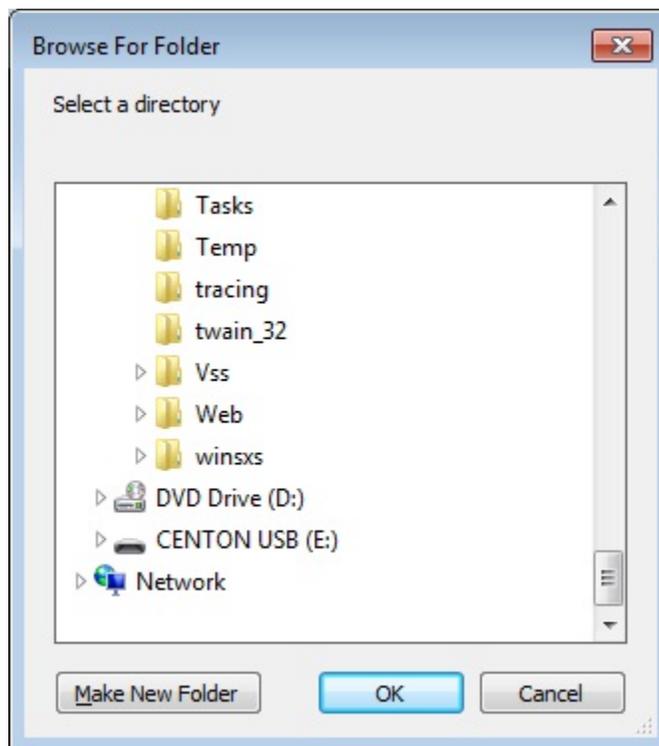
Select “+” sign on the upper right hand corner of popup window.



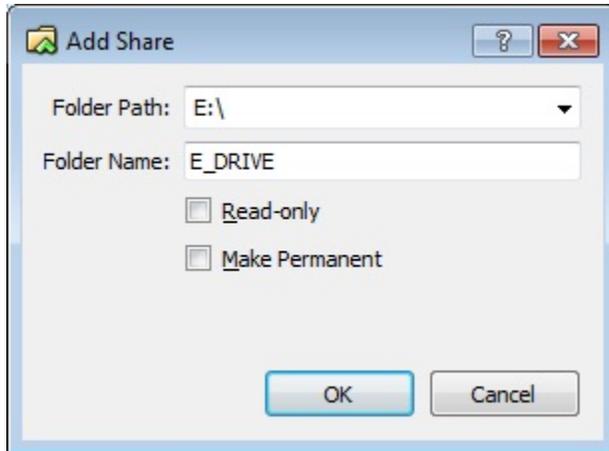
Click the downward arrow.



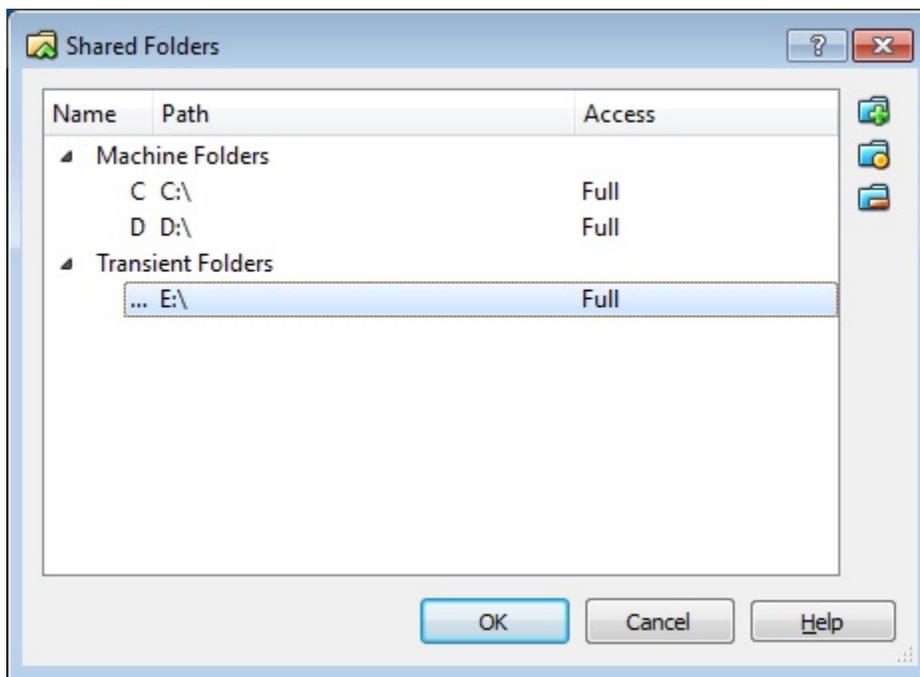
Select “Other”



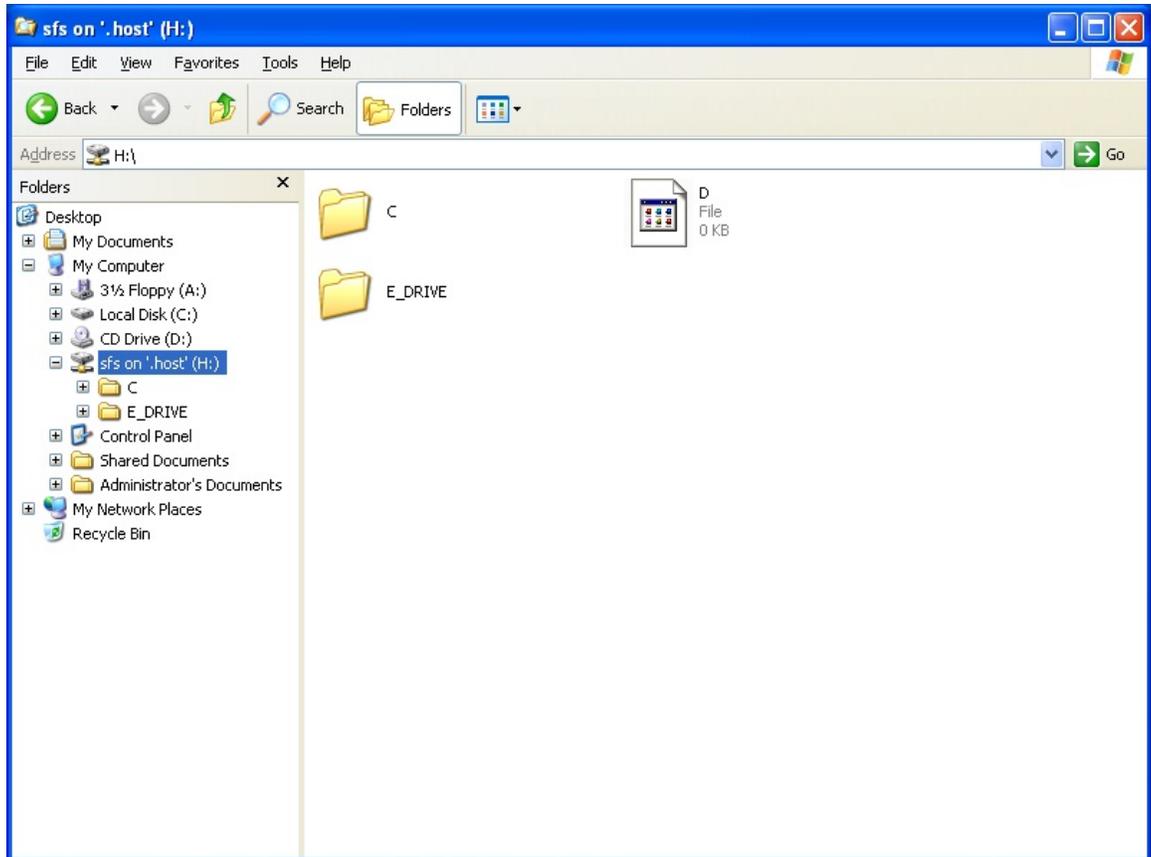
Select USB drive, which has the same label on the host drive. Click “OK”.



Click “OK”.



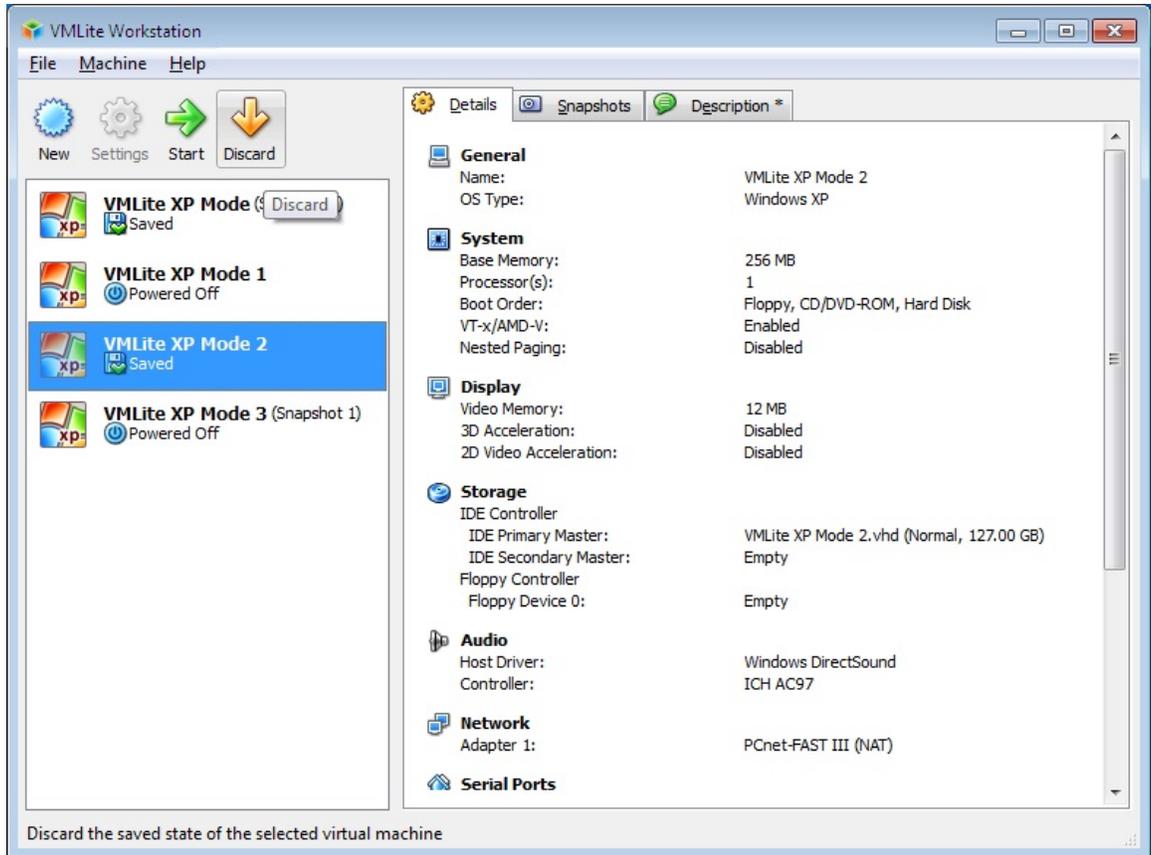
Click “OK” to confirm. The drives shows up on Windows Explorer.



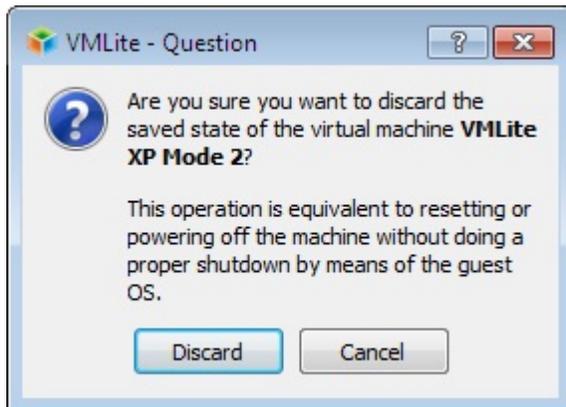
#### v) Setting of VMLite XP Mode

The setting VMLite XP Mode can be changed through VMLite Workstation once VMLite XP Mode had been shut down.

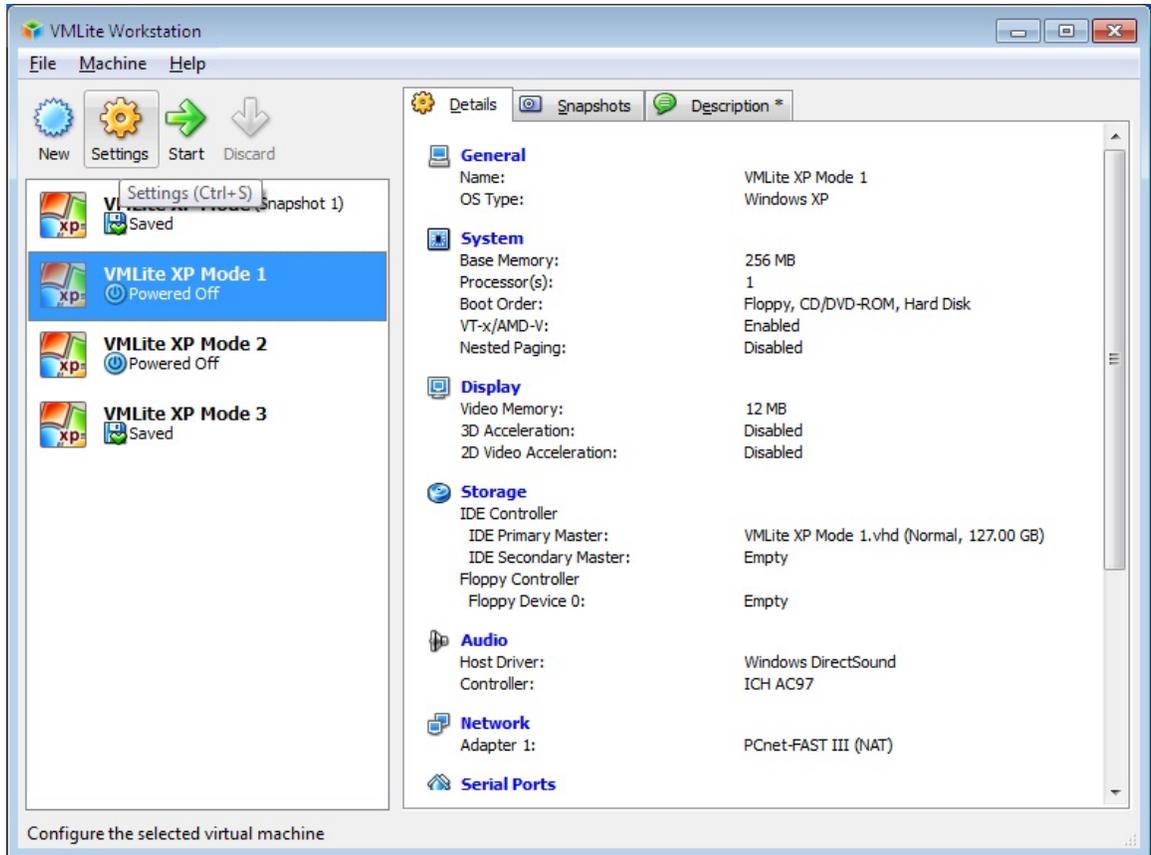
As following shows, the setting is not accessible if the VMLite XP Mode is on "saved" status, which means the guest environment contain saved working environment information prior to exit. User has to discard such information in order to change setting of VMLite XP Mode. Those information once discarded is not recoverable.



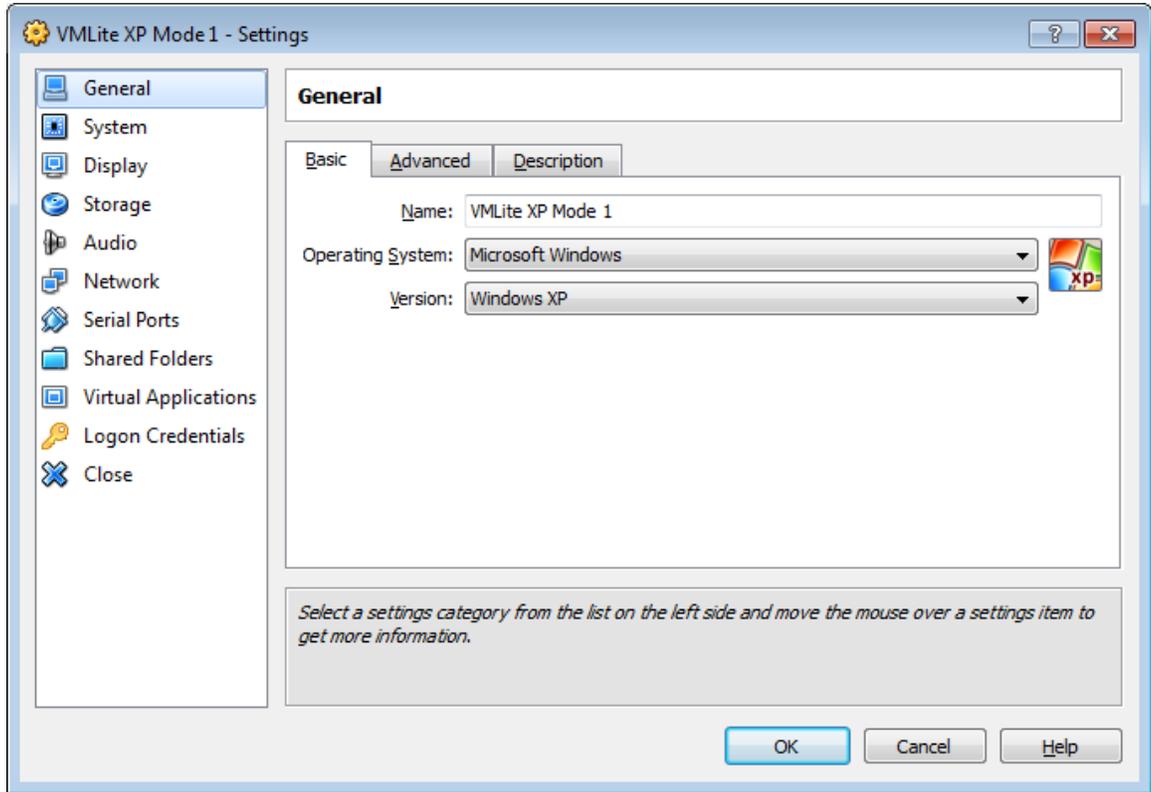
Pick “VMLite XP Mode 2”, click the yellow “Discard” button.



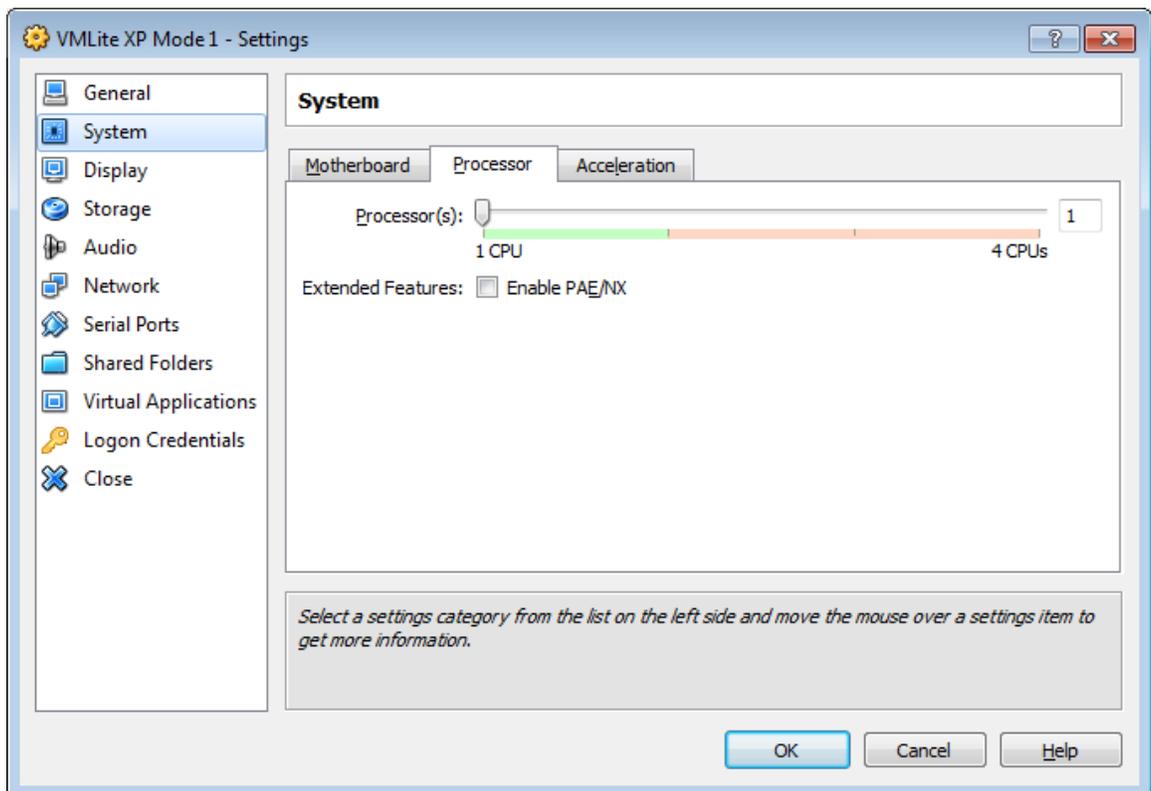
Click “Discard”.



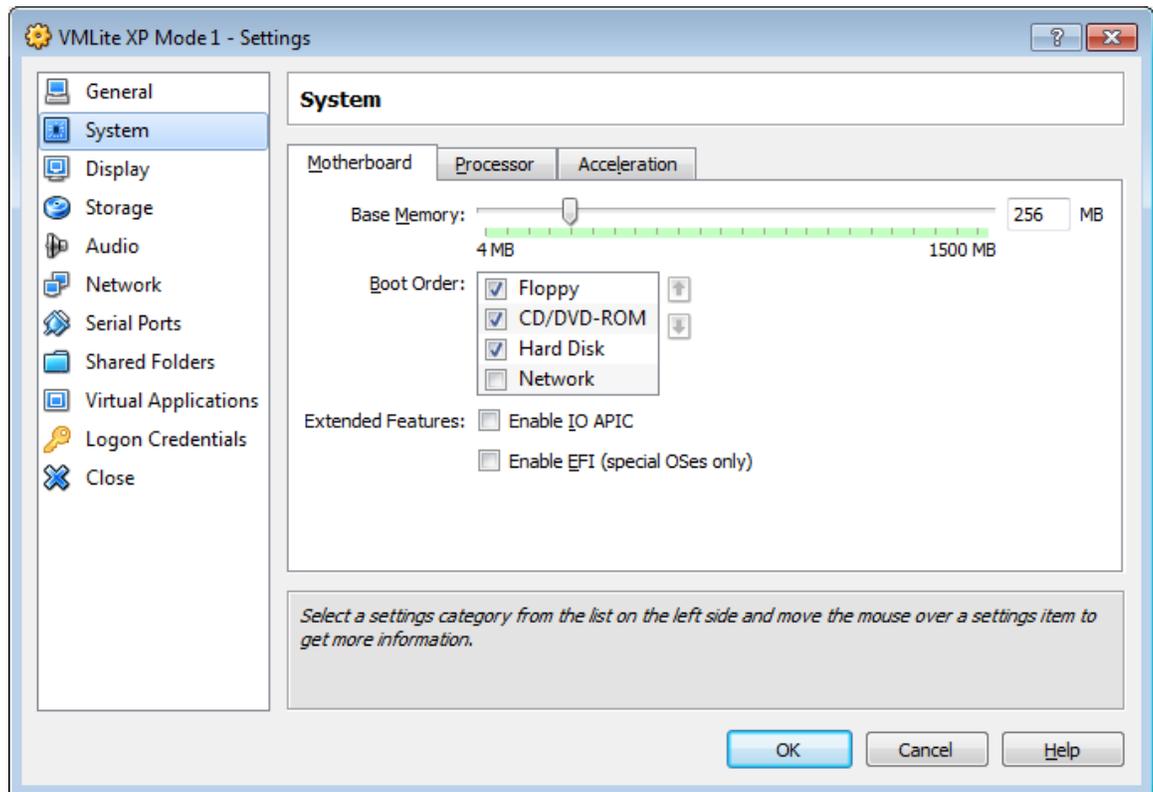
For VMLite XP Mode marked with “Powered Off”, click “Setting” to change the setting of guest environment.



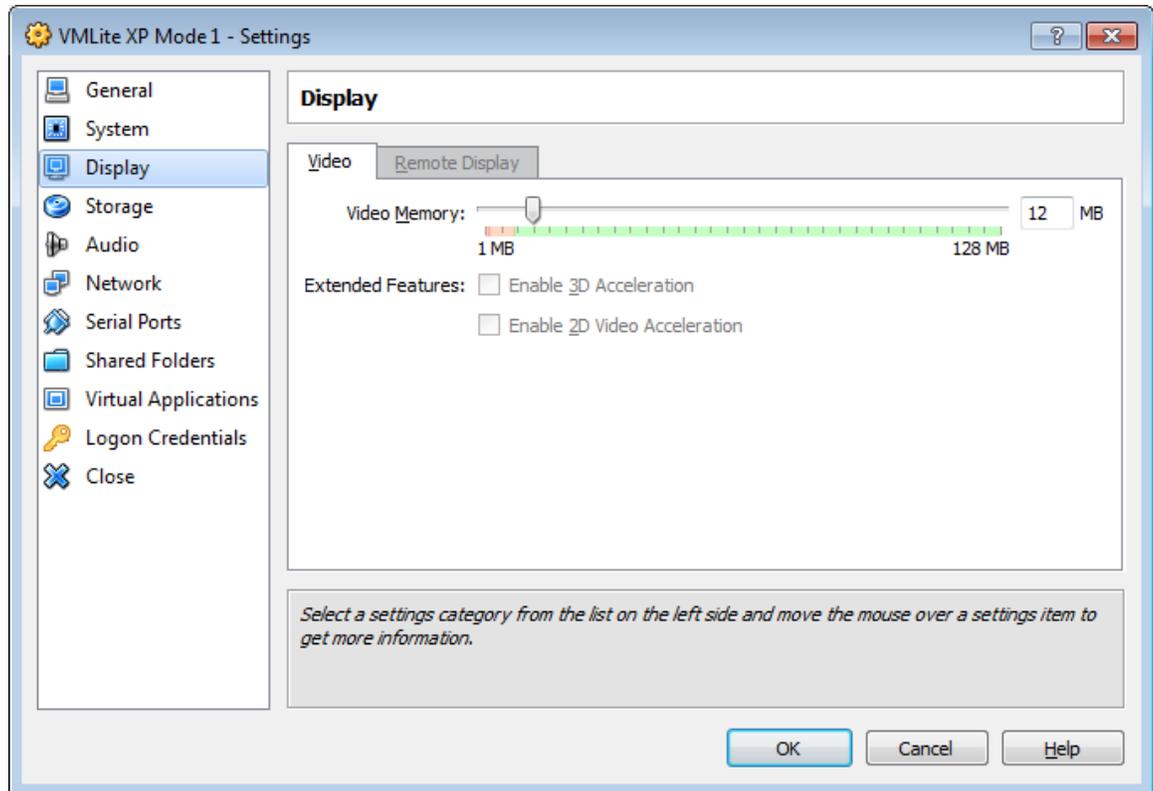
Under “System”, the number of CPU can be changed only if host PC with AMD-V or Intel-VT CPU feature turned on.



The default size of memory allocated for VMLite XP Mode is 256MB.

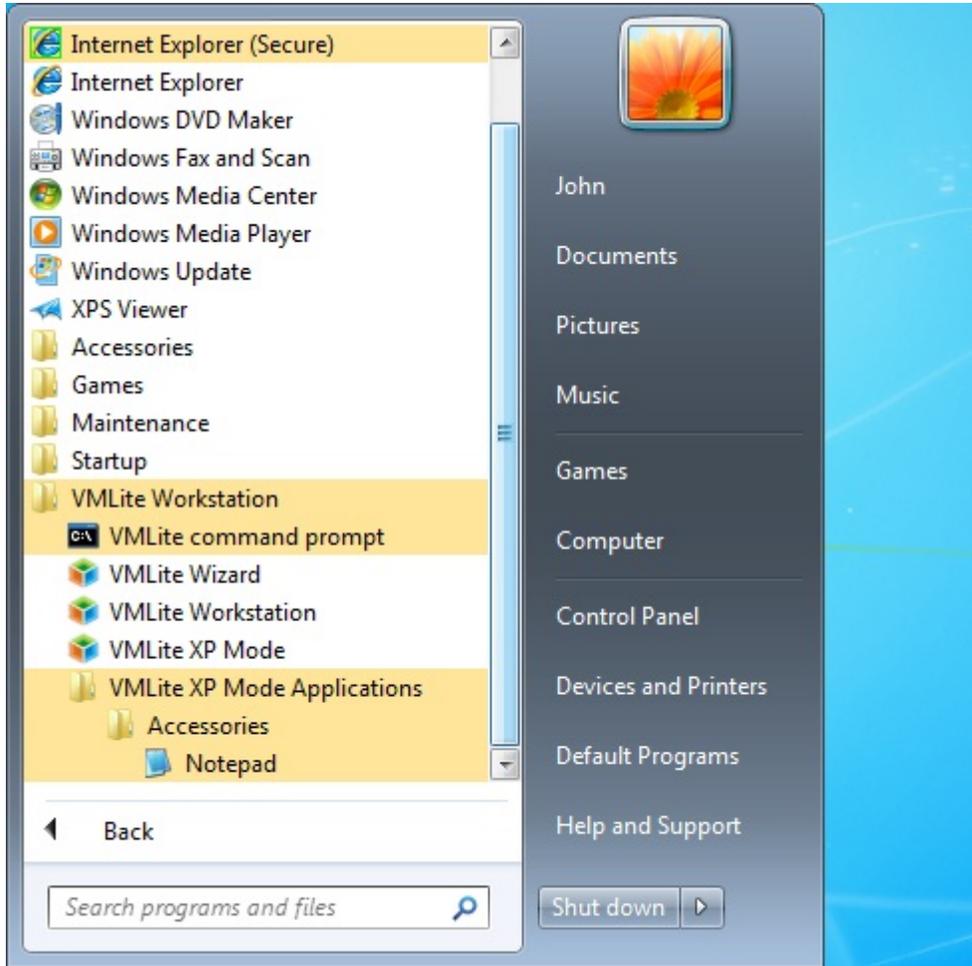


By default, the video memory under “Display” is 12MB.



## Part 5: Using Windows XP Applications in the Virtual Environment

Once an application under VMLite XP Mode is used, its icon will be published under “VMLite Workstation” program group on host PC. One can launch program under guest environment directly from desktop. For example, the Notepad program in VMLite XP Mode as shown following.



The following case shows the push to extreme. 4 VMLite XP Mode were generated on the same desktop. Each of them contains different program.

VMLite XP Mode: Microsoft Office  
VMLite XP Mode 1: Firefox  
VMLite XP Mode 2: Skype  
VMLite XP Mode 3: BitTorrent

As shown by the following screenshots, VMLite XP Mode produces seamless applications.



Besides the above convenient benefit, VMLite Workstation actually turns a single desktop into multiple PCs. Owing to the protection from the transparent separation of registry and file system by VMLite XP Mode, each VMLite XP environment can be used for dedicated purpose without extra expense.