

## **LAB-2 VIRTUALIZATION**

### **3.1 Introduction**

In this lab we will go through installation of Virtual box and VMware. VMware is virtualization software which helps to run multiple operating systems in a single host. VirtualBox is an Oracle tool to provide host-based virtualization in cloud computing environment.

### **3.2 Objective**

Study and Practice on Installation of Oracle Virtual box and create two VMs on your laptop.

### **3.3 Resource/Requirements Used:**

VMWare workstation trial version

### **3.4 Prelab Preparation:**

Students should know about basic concepts of virtualization in cloud computing environment

### **3.5 Background**

Virtualization is the creation of a virtual (rather than actual) version resources such as a server, a desktop, a storage device, an operating system or network resources. Creation of a virtual machine over existing operating system and hardware is known as Hardware Virtualization. A Virtual machine provides an environment that is logically separated from the underlying hardware.

### **3.6 Procedure**

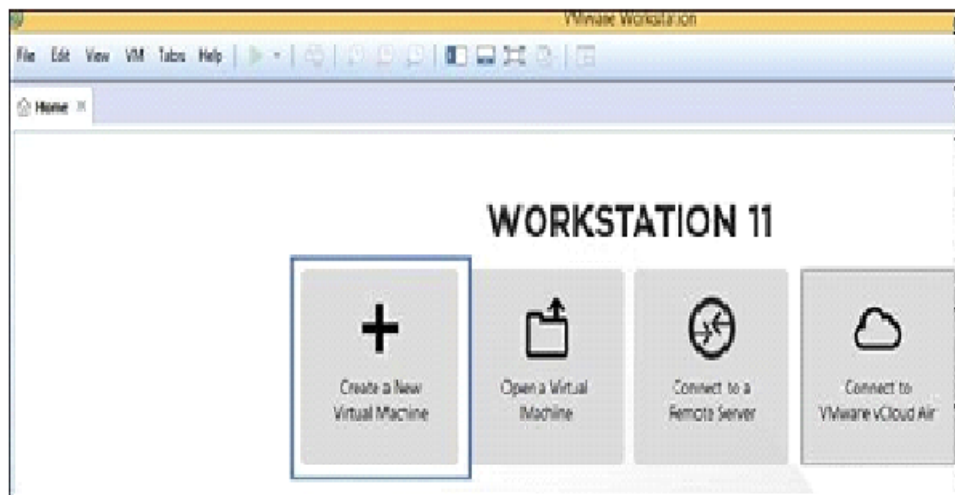
Points to Consider before installing Virtual Machine (VM):

1. Decide which applications you are going to install on your virtual machine. According to that install 32 or 64-bit Operating system in VM. Some applications are not compatible with old operating systems. E.g. If you are going to use UFT 12.01 it doesn't work with Windows XP. So you should install higher version of Windows to work with UFT. Check OS compatibility of your required application before proceeding with operating system installation.
2. Is your Processor supports Virtualization? Almost all of the new processors support virtualization but it is a good idea to check manufacturer's website to know the details. E.g. Intel Pentium Dual Core T2390 processor doesn't support virtualization for a 64-bit operating system. So, in that case, you should install 32-bit operating system compulsory.

3. VMWare also provides a trial period. So you should have a key or serial number to keep using it further.
4. We are going to use VMWare Virtualization software for demonstration

Steps to install and configure VMWare:

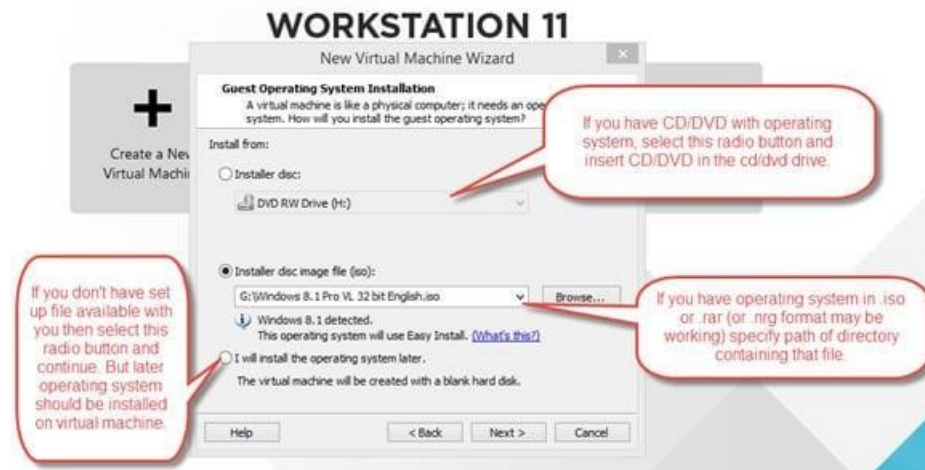
1. Download VMWare workstation trial version setup file from here. Set up is around 307 MB. Currently, version 12 is available. Please note we have set up screens on version 11.
2. Install VMWare on your machine. Setup is simple and requires to click Next button couple of times.
3. After installation open VMWare workstation by using either start menu or shortcut created on the desktop.
4. Click on —Create a New Virtual Machine.



5. With default —Typical selected click on Next button



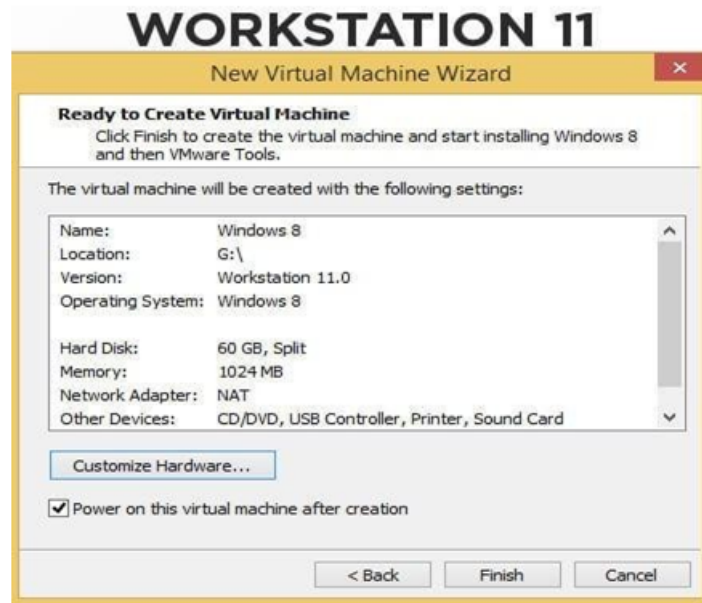
6. Specify the path of the operating system set up file.



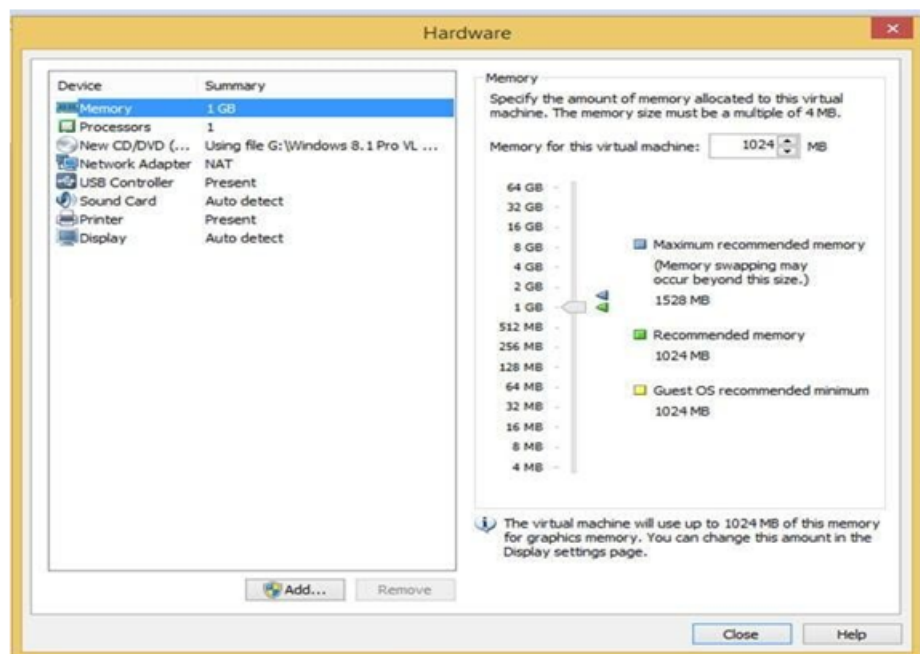
7. In the Next step you need to specify a Key or a serial number of operating system. If you are using trial version then that part can be skipped.
8. Enter the name for the virtual machine and specify a path to the directory where you want to create your virtual machine. It is recommended that the drive you're selecting to install virtual machine should have sufficient space.
9. Specify an amount of disk space you want to allocate for a virtual machine. Allocate disk space according to the size of software you are going to install on the virtual machine.



10. On the next screen it will show configuration you selected for a virtual machine.



11. It will allocate Hardware according to the default settings but you can change it by using Customize Hardware button in the above screen. You can specify what amount of RAM, a processor has to be allocated for a virtual machine. Do not allocate complete RAM or complete Processor for a virtual machine. Also, do not allocate very less RAM or processor. Leave default settings or allocate in such way that your application should be able to run on the virtual machine. Else it will result in a slow virtual machine.



12. Click on the Finish button to create the virtual machine at the specified location and with specified resources. If you have specified a valid file (.iso, .rar., .nrg) for the operating system it will take standard time to complete operating system set up on the virtual machine and then it will be ready to use your regular OS.

**Notes:**

1. If you didn't specify any operating system while creating the virtual machine, later you can install it just like we do for your laptop or desktop machines. We can use CD/DVD or USB devices like Pen Drive or even set up a file on the disk to install the operating system in the VM.
2. If your CD/DVD drive is not working then also it is very simple to install the operating system. Go to VM -> Settings -> select CD/DVD -> in the right half select radio button for use ISO image from' and specify the path on your hard disk where the .iso file is placed. This location will be treated as CD/DVD drive of your machine.
3. Make sure correct boot order is specified in BIOS so installation will start while getting VM power on (in this case guest OS is not installed). **Passing data between host and VM:** Generally, VM is having its own drive and it is not showing drives from host OS in the VM environment. Also, VM drive cannot be used from host OS

### 3.7 Further Probing Experiments

1. Explain the steps to install oracle virtual box?
2. How to create two VMs on your laptop?
3. How to specify an amount of disk space to allocate for a virtual machine?
4. Specify the full names of (.iso, .rar, .nrg) files?

### 3.8 Viva Questions

1. What is meant by virtualization?
2. What does virtual machine do?
3. What is the role of VM Ware in virtual machine?
4. Is 32 bit processor supports Virtual Machine?