Practical No.2

Aim :- Implement XEN for server virtualization.

XEN SERVER

Xen is a hypervisor using a microkernel design, providing services that allow multiple computer operating systems to execute on the same computer hardware concurrently.

The University of Cambridge Computer Laboratory developed the first versions of Xen. The Xen community develops and maintains Xen as free and open-source software, subject to the requirements of the GNU General Public License (GPL), version 2. Xen is currently available for the IA-32, x86-64 and ARM instruction sets

Xen runs in a more privileged CPU state than any other software on the machine.

Responsibilities of the hypervisor include memory management and CPU scheduling of all virtual machines ("domains"), and for launching the most privileged domain ("dom0") - the only virtual machine which by default has direct access to hardware. From the dom0 the hypervisor can be managed and unprivileged domains ("domU") can be launched.

The dom0 domain is typically a version of Linux, or BSD. User domains may either be traditional operating systems, such as Microsoft Windows under which privileged instructions are provided by hardware virtualization instructions (if the host processor supports x86 virtualization, e.g., Intel VT-x and AMD-V), or *para-virtualized* operating system whereby the operating system is aware that it is running inside a virtual machine, and so makes hypercalls directly, rather than issuing privileged instructions.

Xen boots from a bootloader such as GNU GRUB, and then usually loads a paravirtualized host operating system into the host domain (dom0).
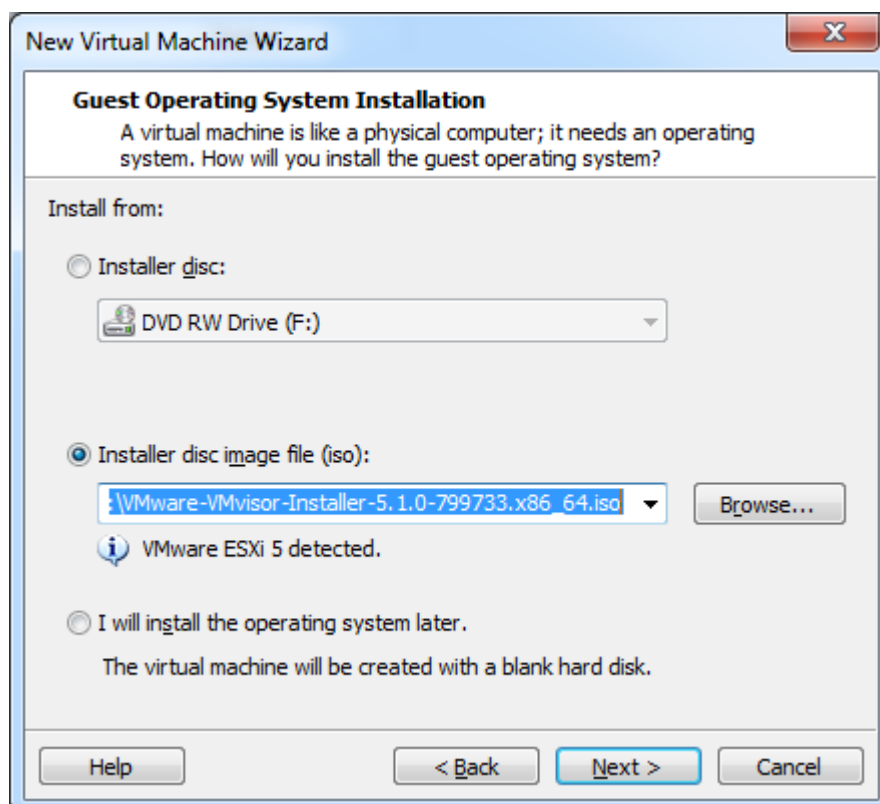
STEP 1: Open the VMware Workstation 10. Go to the File menu. Click on New   Virtual Machine option.
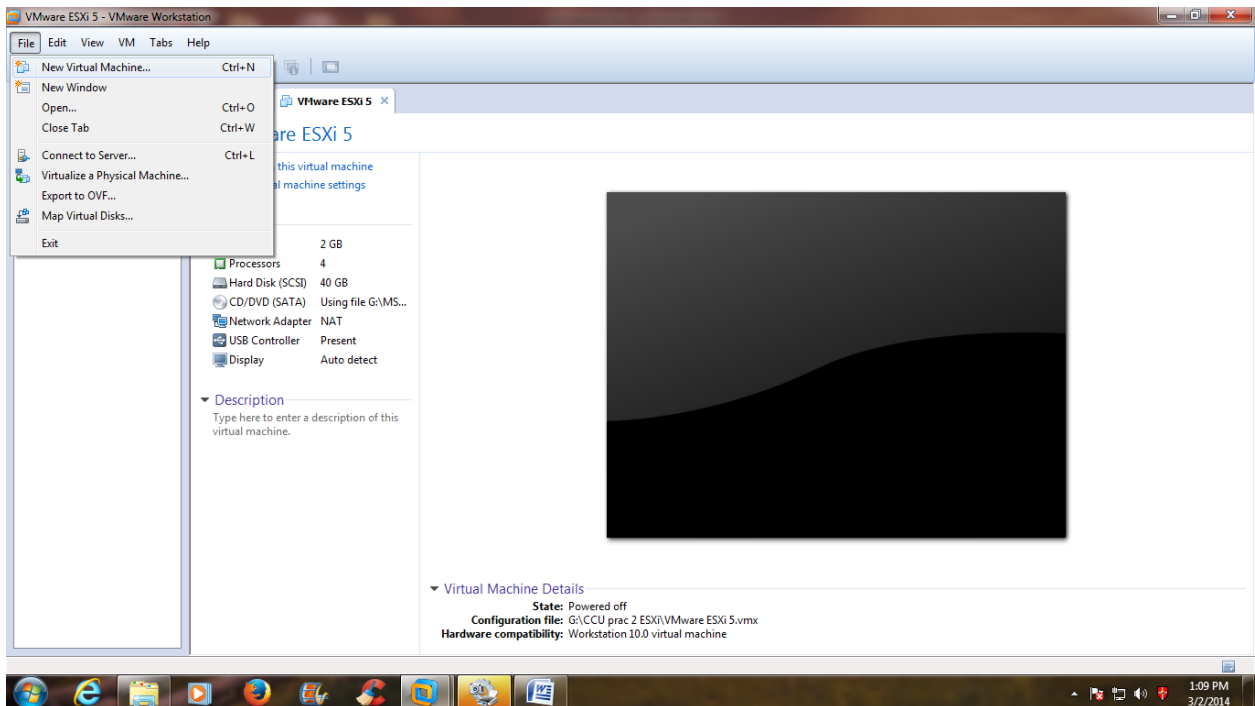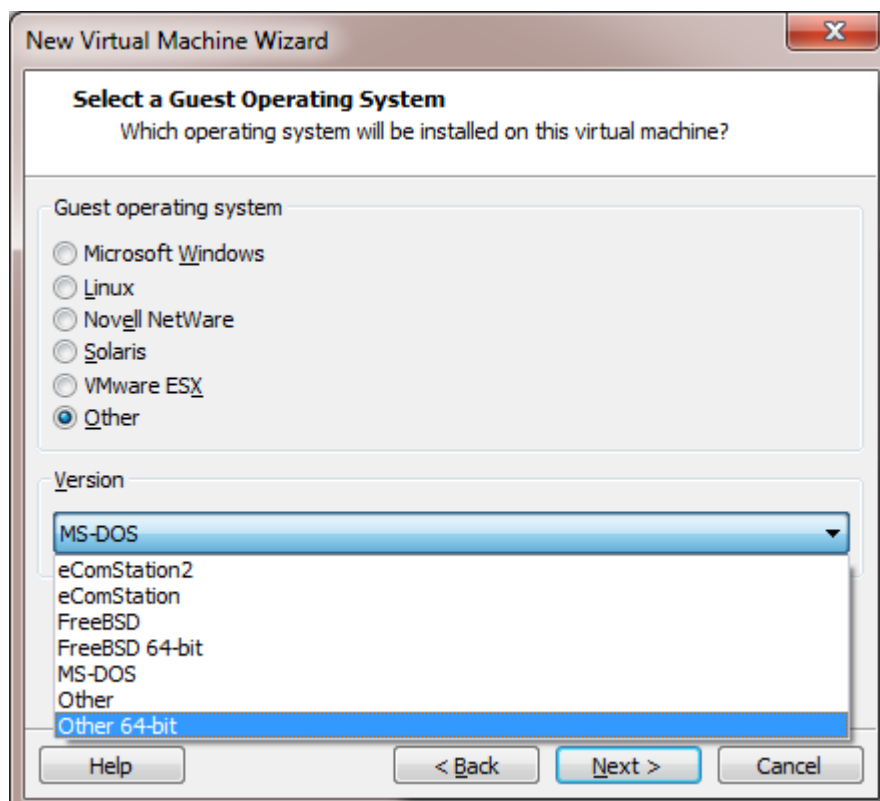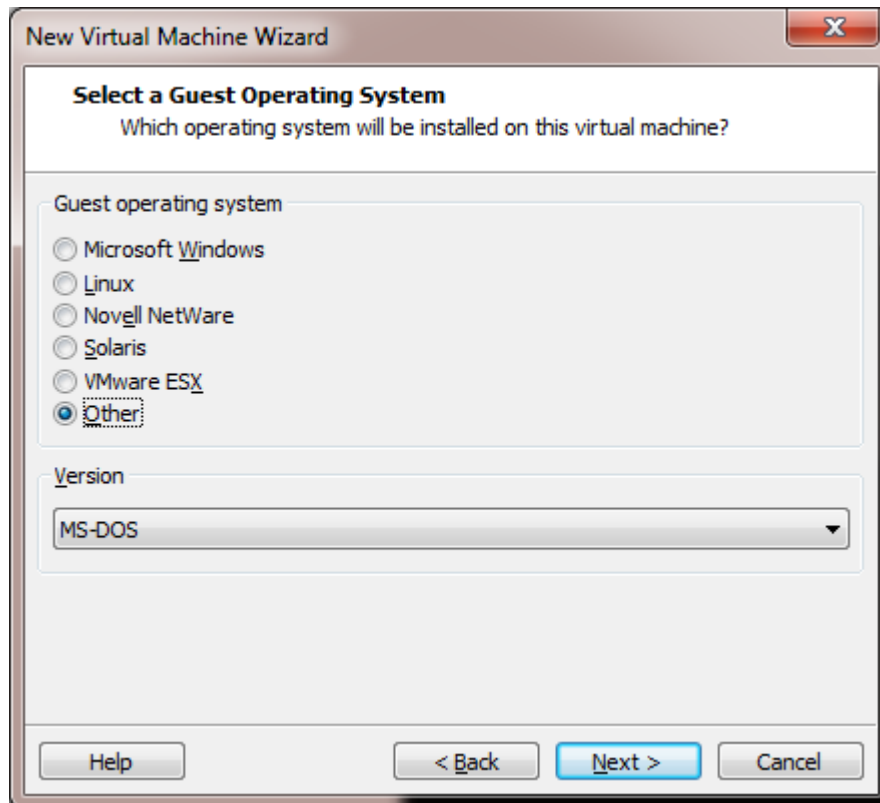
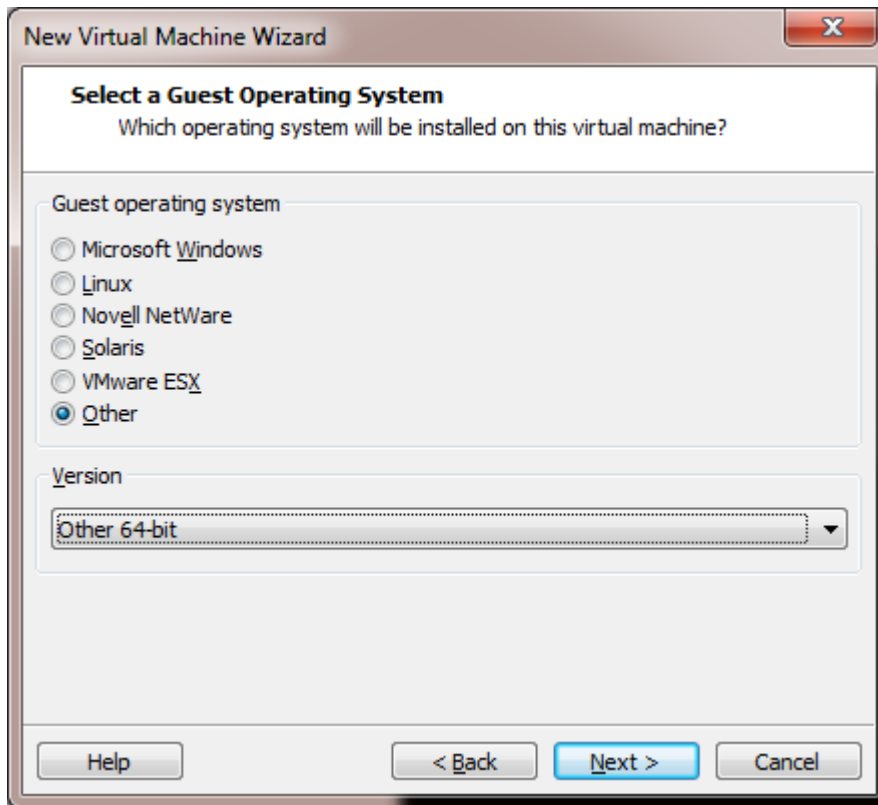**STEP 2:** Click on "Typical" option button & click on Next.

**STEP 3:** Select the option button "Installer disc image file (iso)" & click on Next.

STEP 4: Select the Guest operating system as Other & confirm the version should be Other 64-bit. Then click on Next.
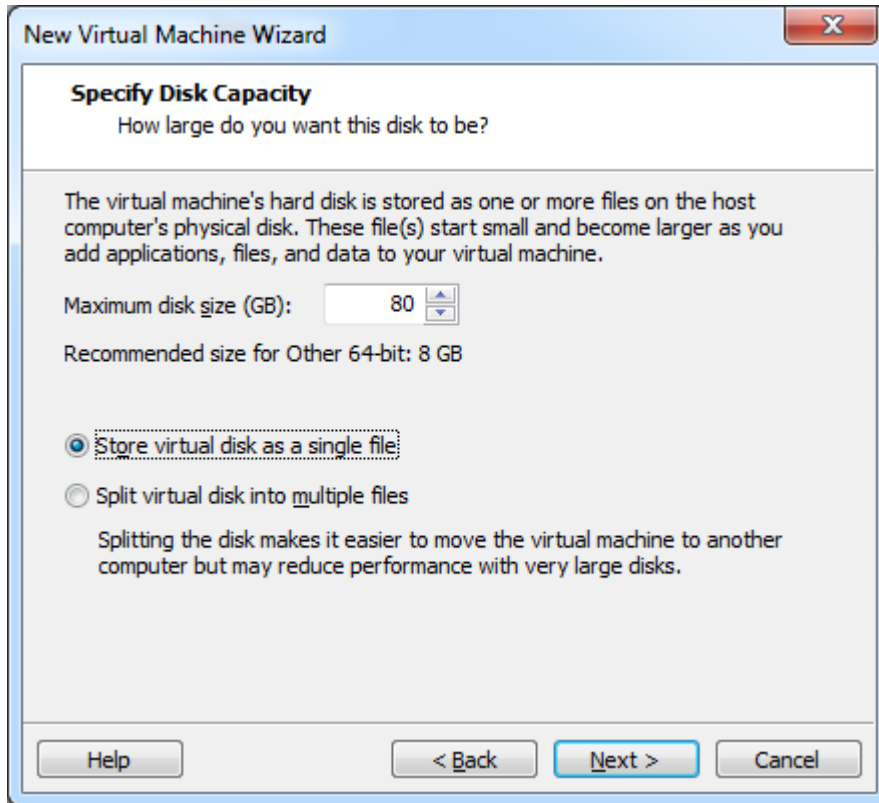
STEP 5: Give the Virtual machine name as Citrix XEN Server & click on the browse for the location & create one separate directory for Citrix XEN Server in your folder & specify the path over here. Then click on Next.
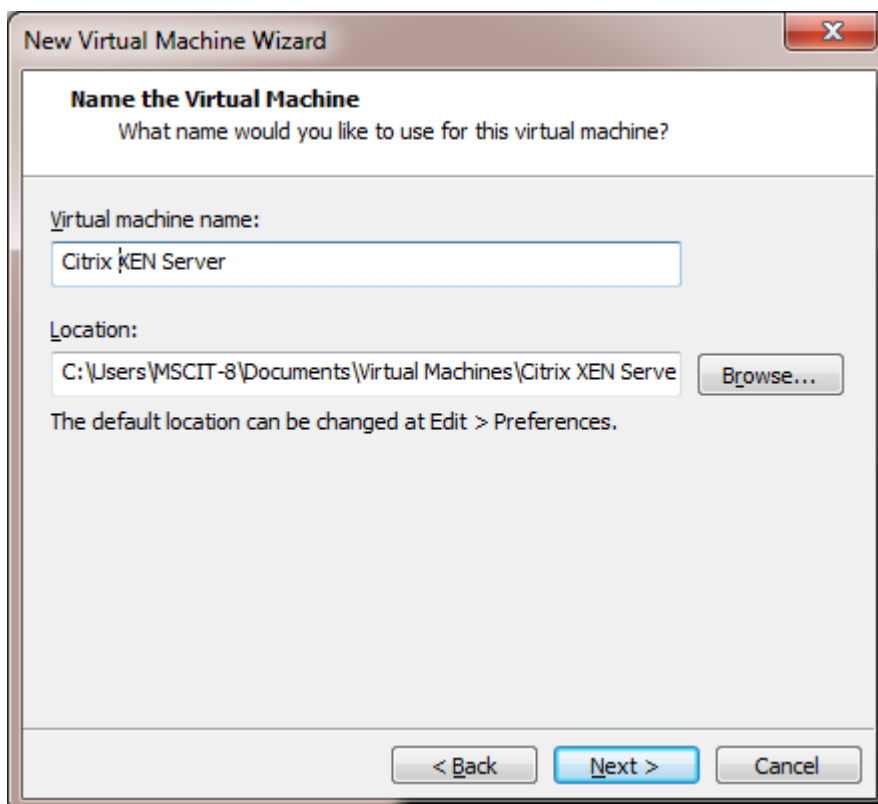
**STEP 6:** You have to specify the size of virtual hard-disk used for Citrix XEN Server. By default it is 80 GB. Click on Next.

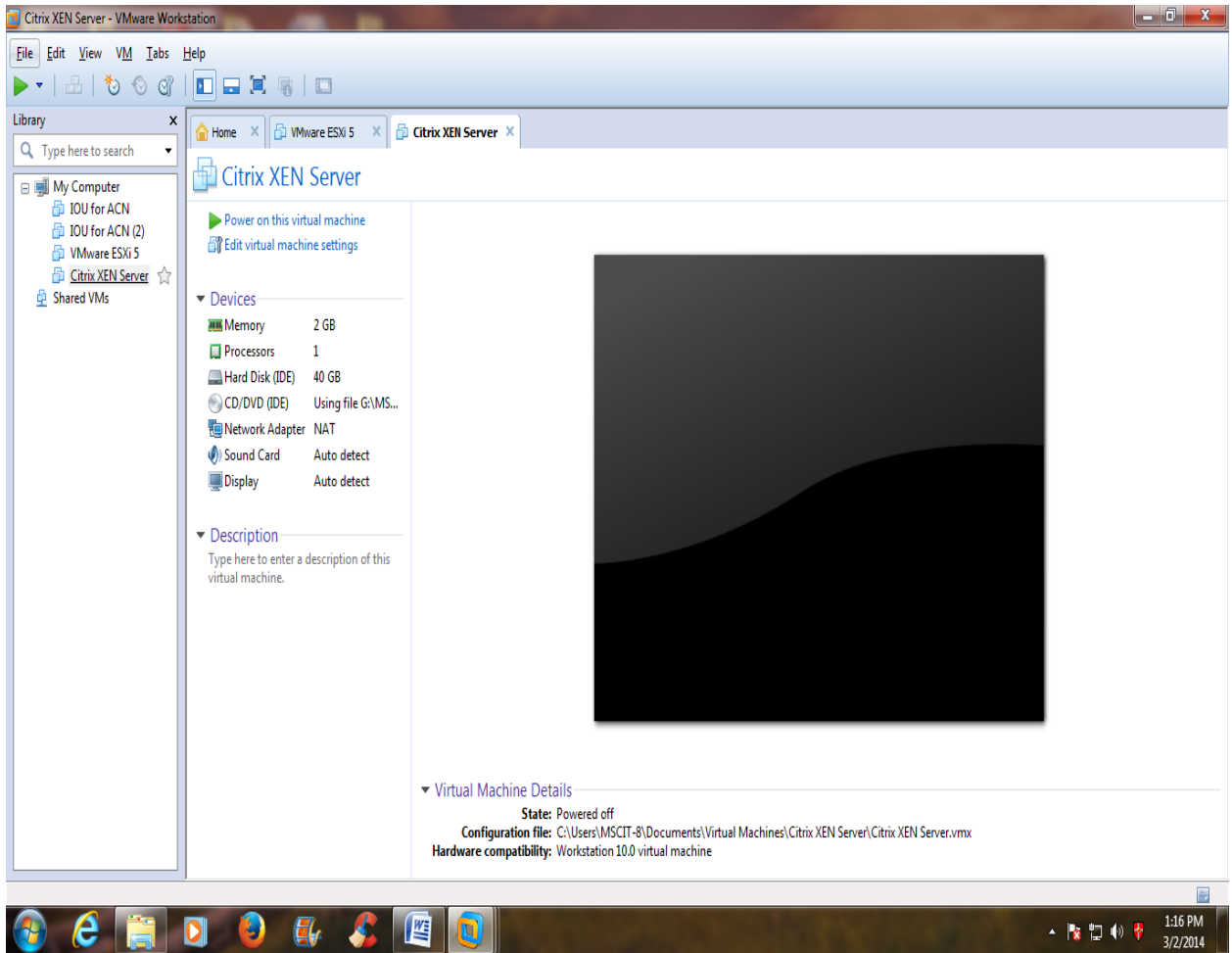**STEP 7:** Then it will display the whole hardware information for Citrix XEN Server. Click on Customize Hardware button.
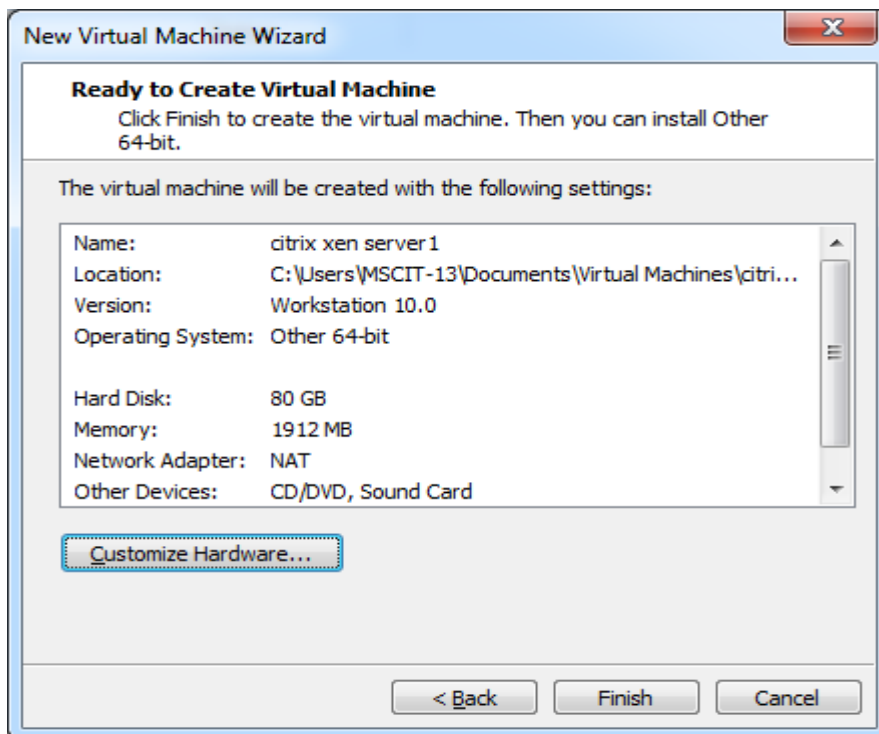
STEP 8: The virtual machine settings will display, by default, memory 256 MB; Select the memory option & from the slider at the right side, make the memory as 2 GB. Then click on Close.
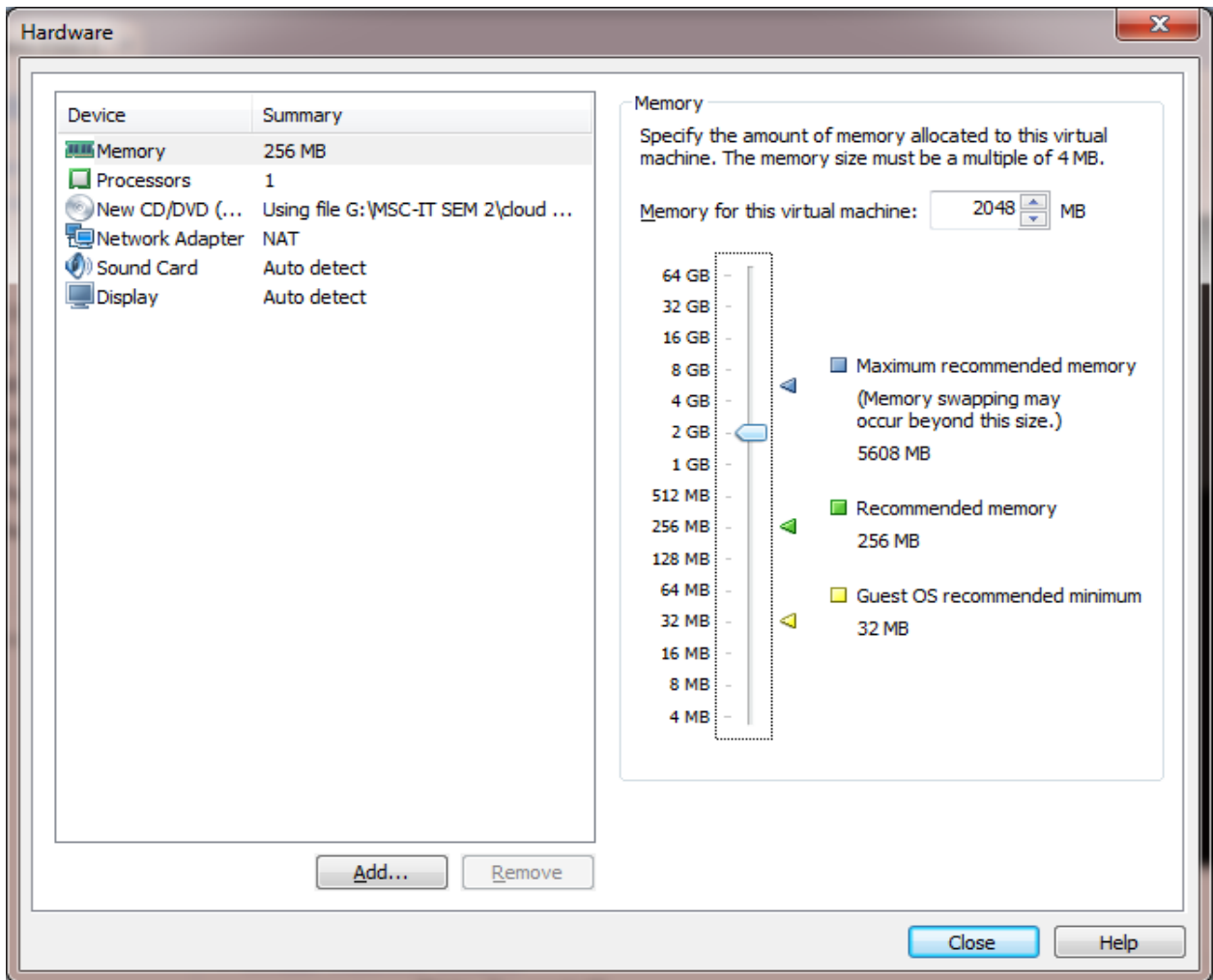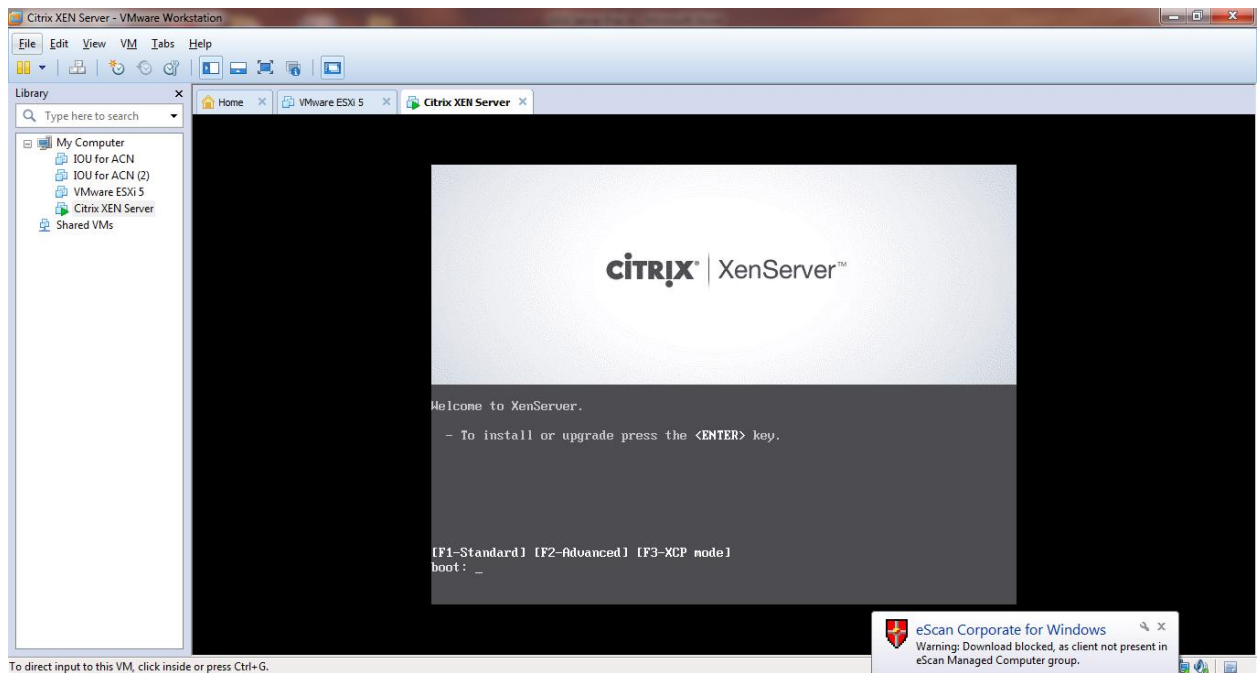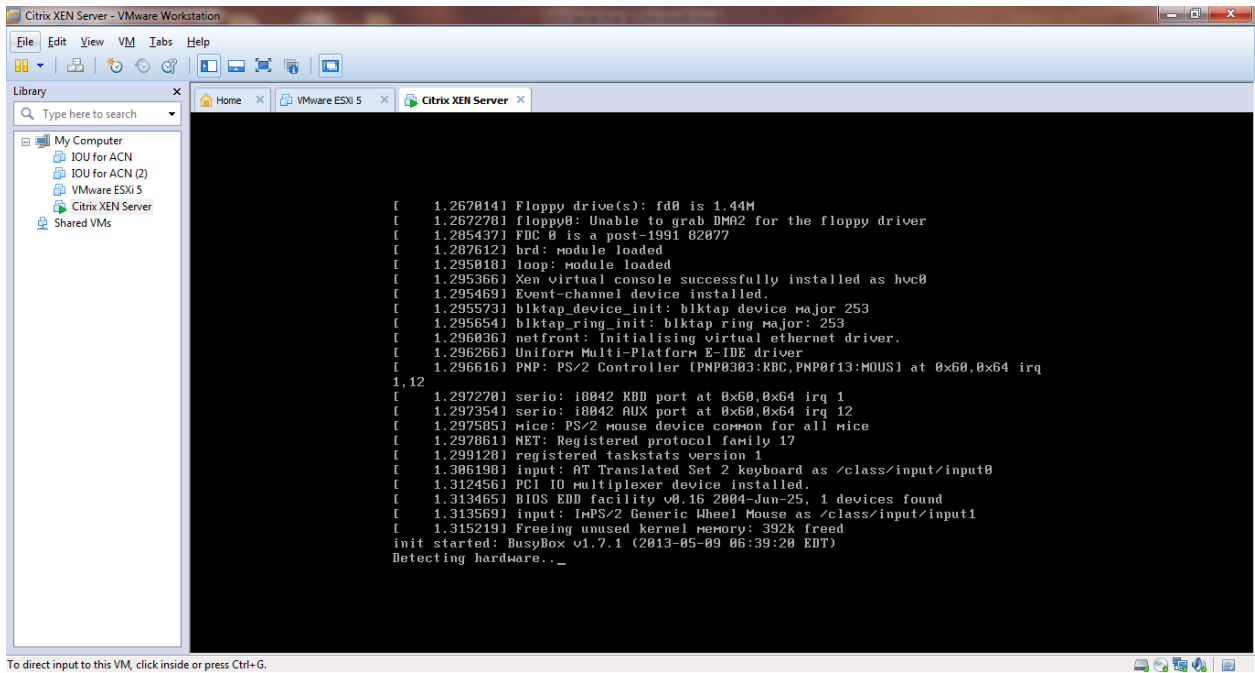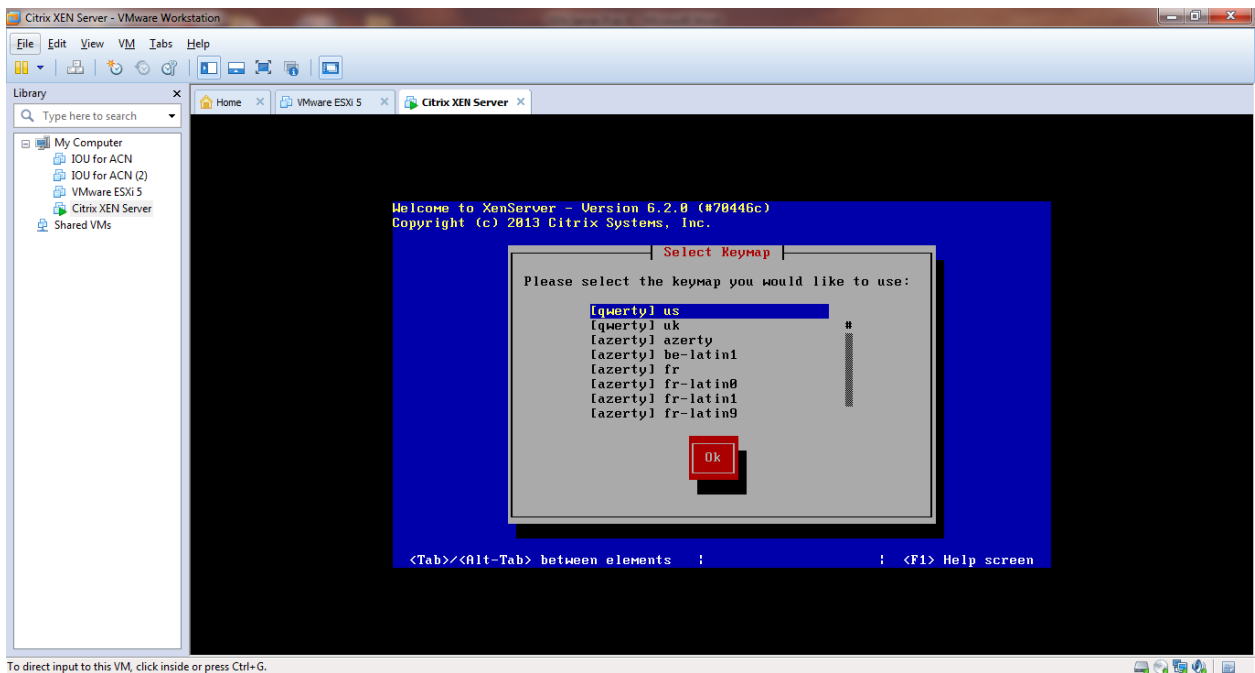

STEP 9: Click on Finish.
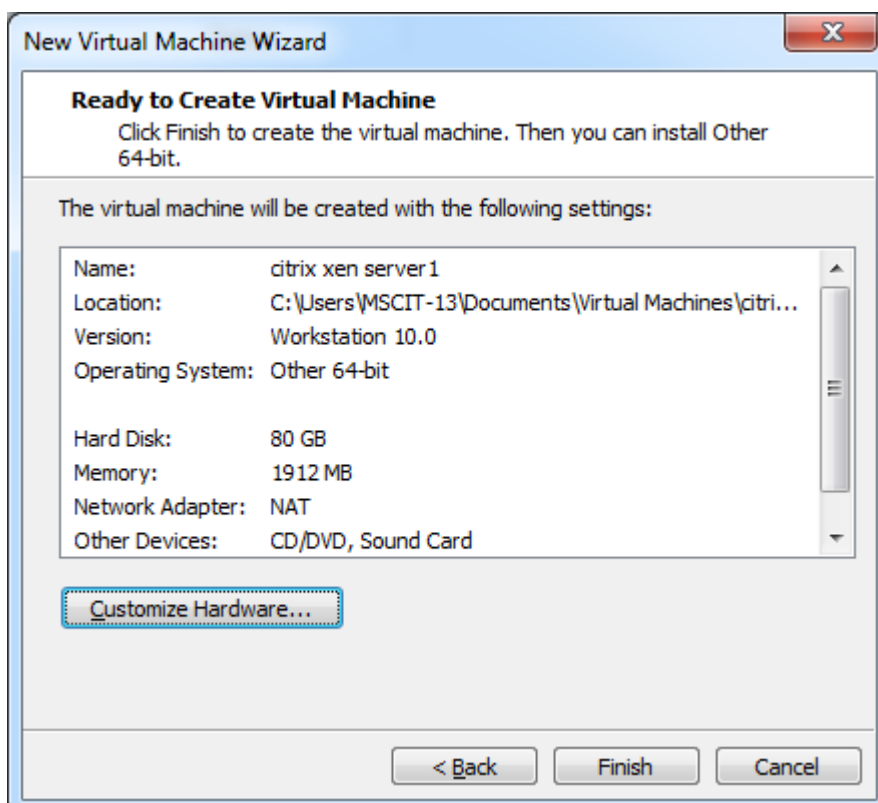
STEP 10: Click on Citrix XEN Server and Power on this virtual machine.

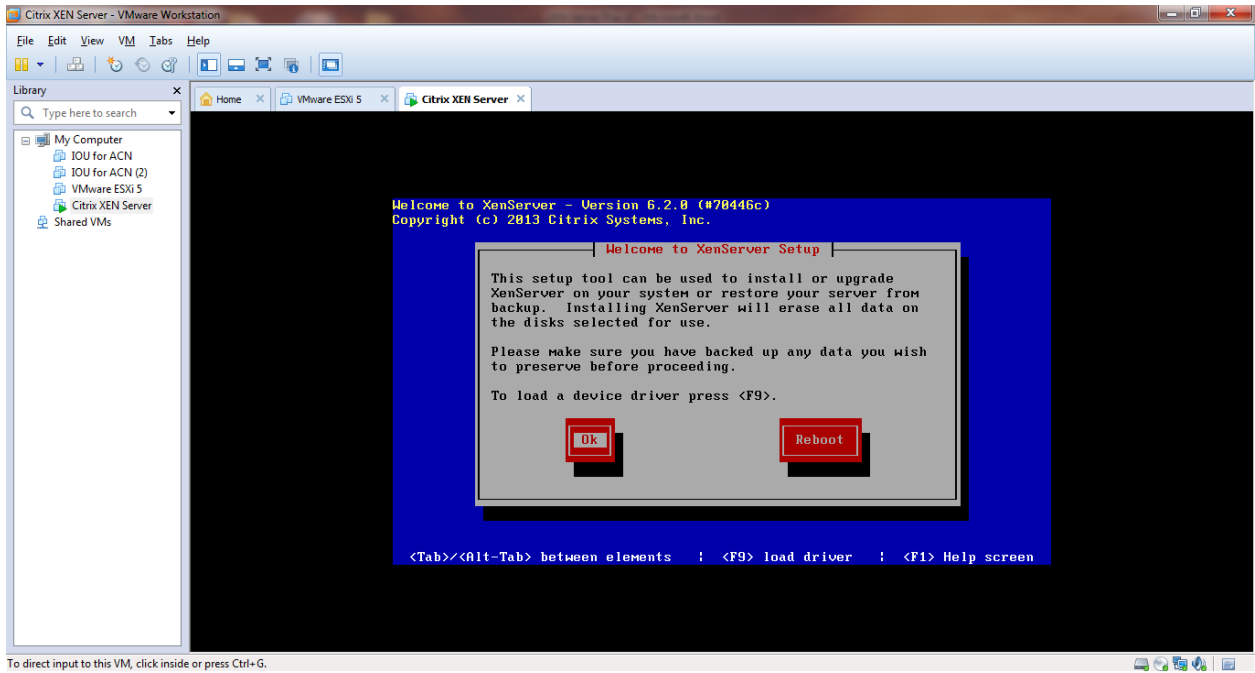**STEP 11:** Double click on Citrix XEN Server to install it. It will load the XEN installer.

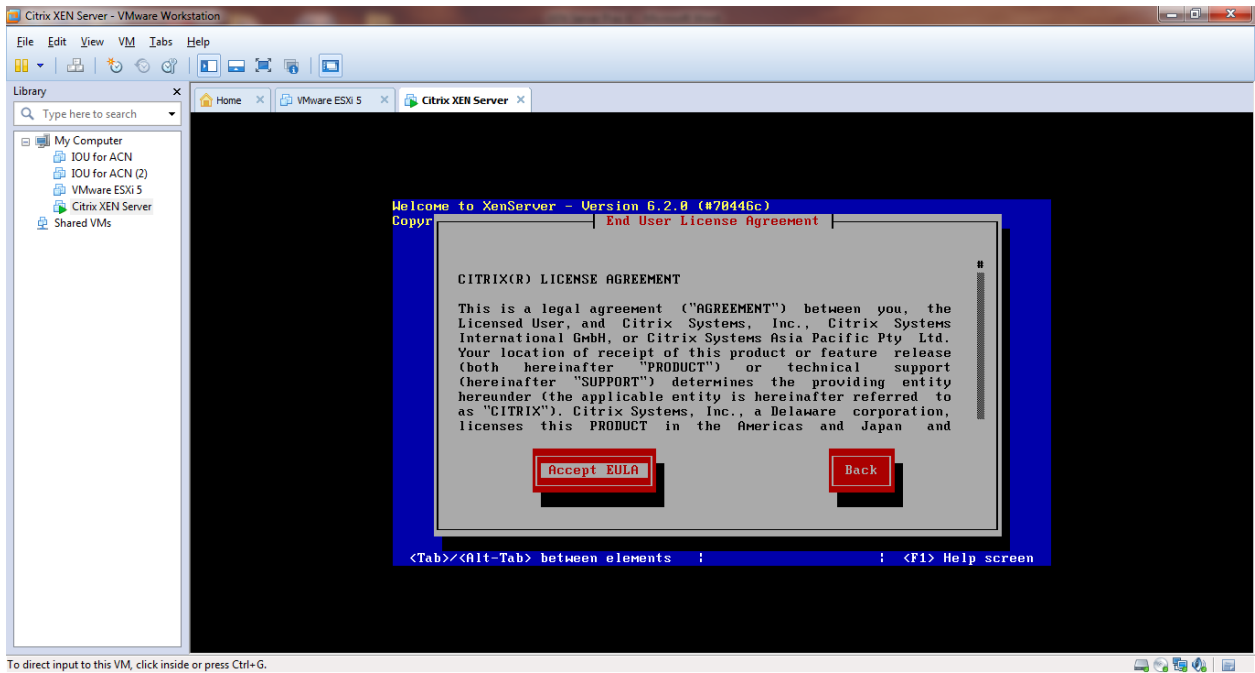**STEP 12:** We begin by choosing the keymap.

STEP 13: Assuming you have backed up your data or are doing an install to a fresh disk (or just don't care about what's on there), we hit OK.


**STEP 14:** It will display End User License Agreement screen. Hit on Accept EULA.

STEP 15: Here we choose which disk to install to. In a similar way to ESXi, we don't have the option of software RAID, so here we choose a single disk or available hardware RAID volume. Press space to select a drive. Since we are using a NFS datastore on the network to store virtual machines, this is OK. Moving on.
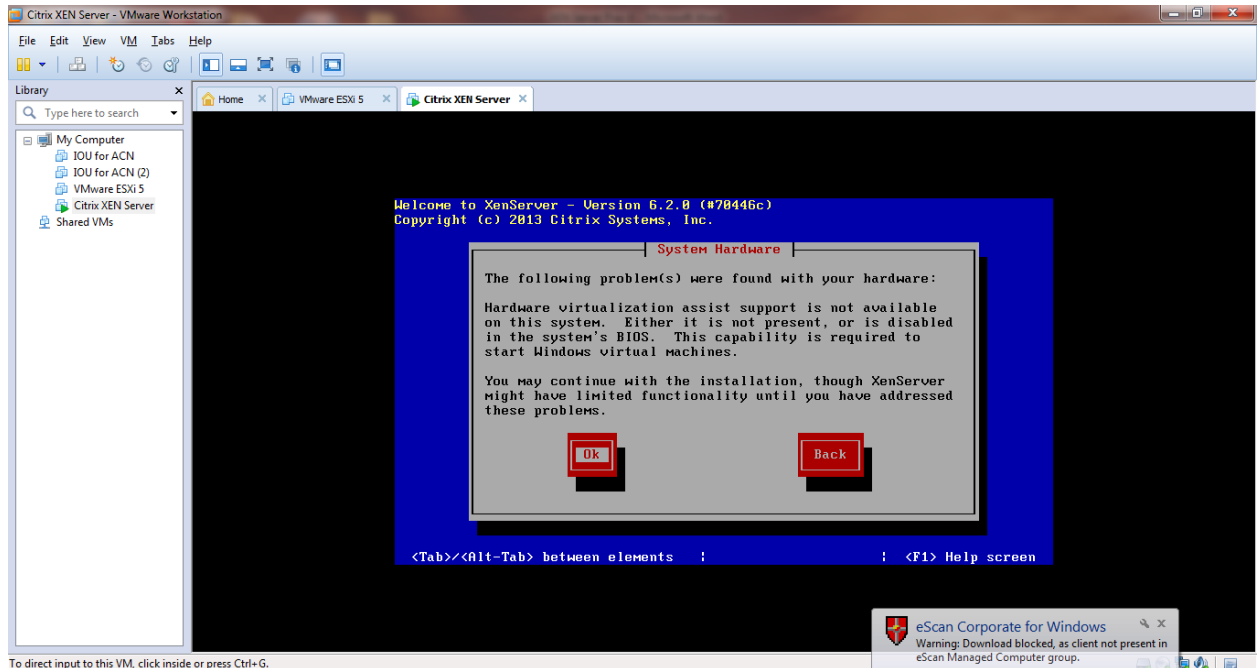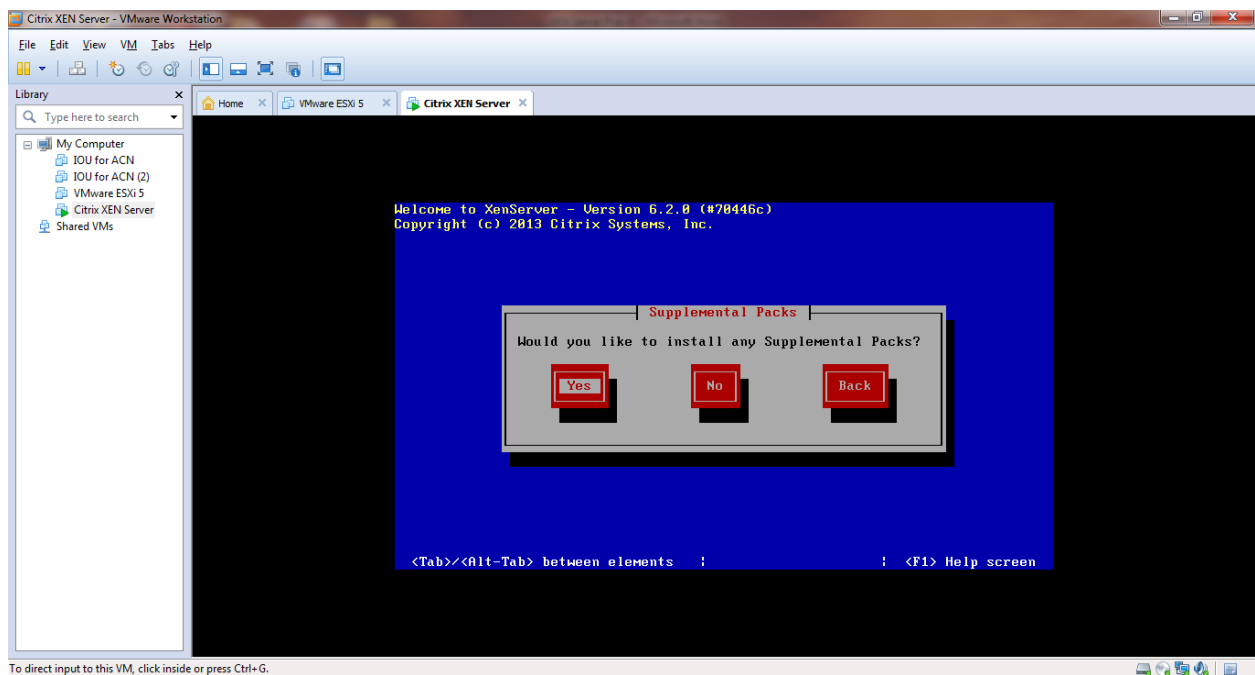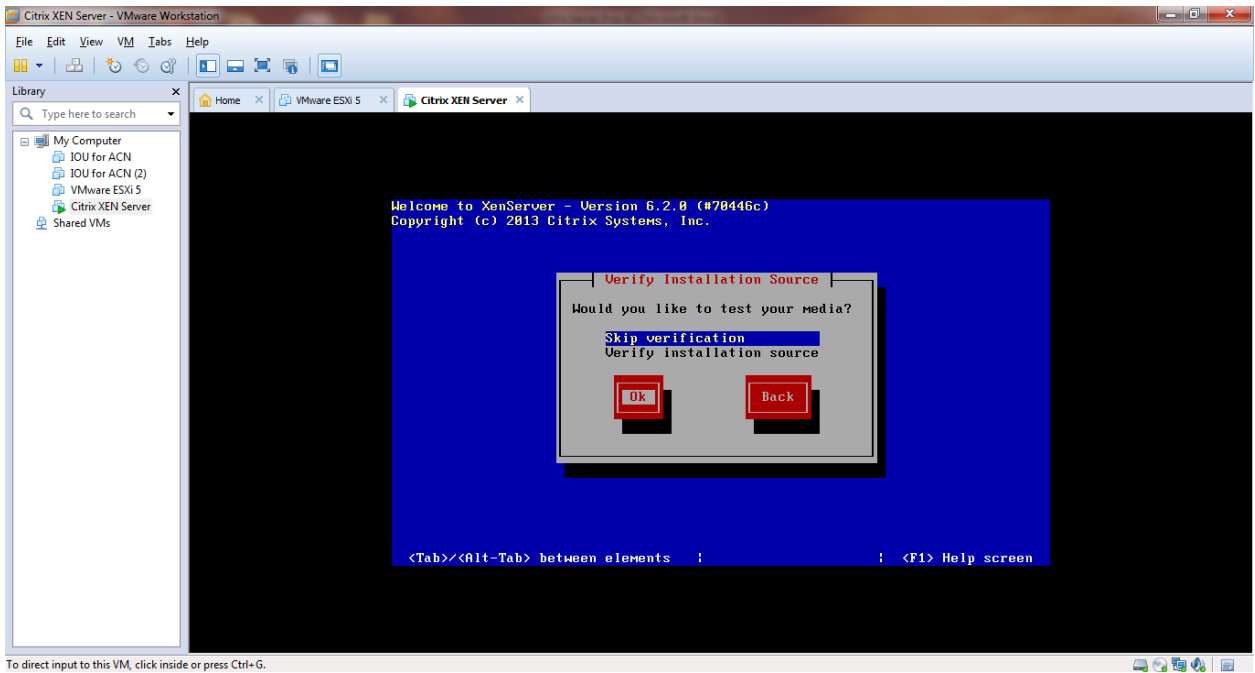

STEP 16: Now we can key down to OK.
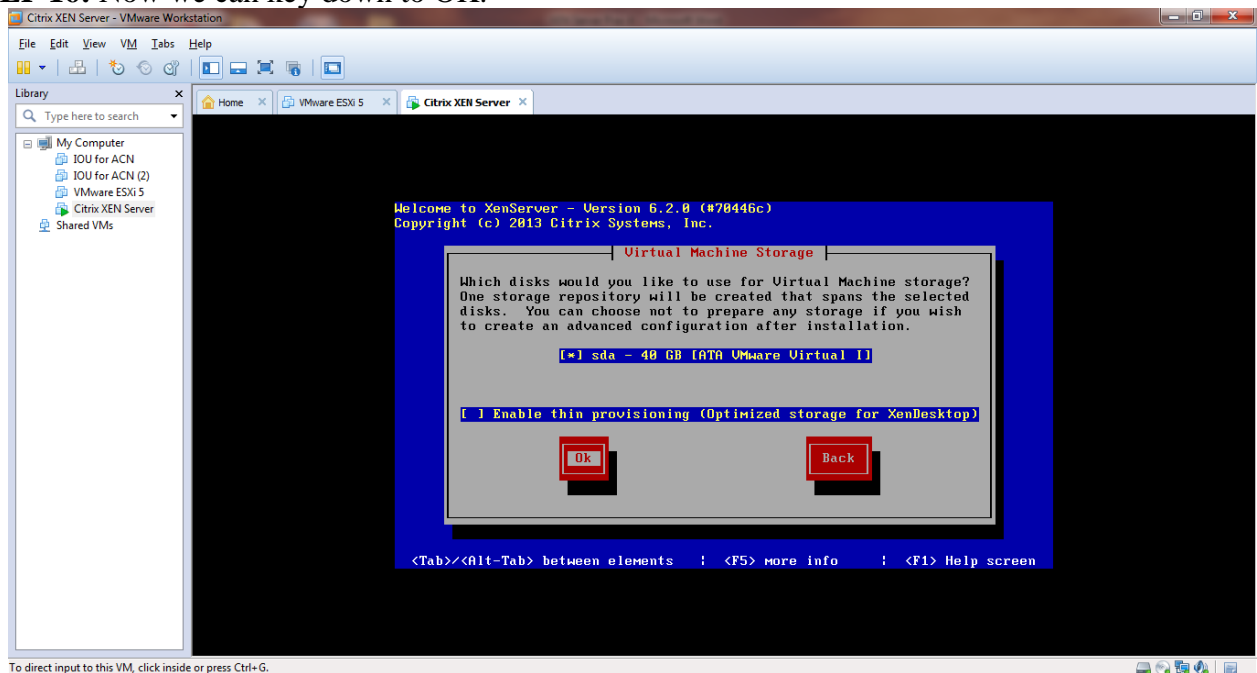
STEP 17: We have the install media here so we will use the Local Media option.
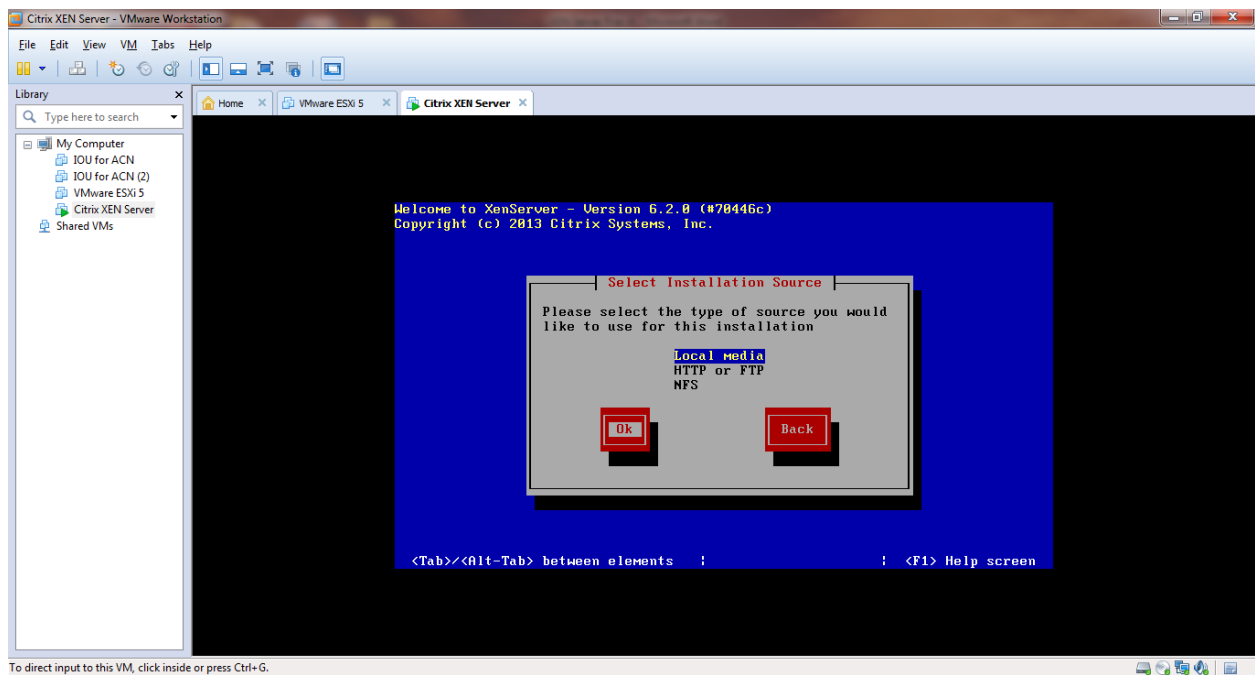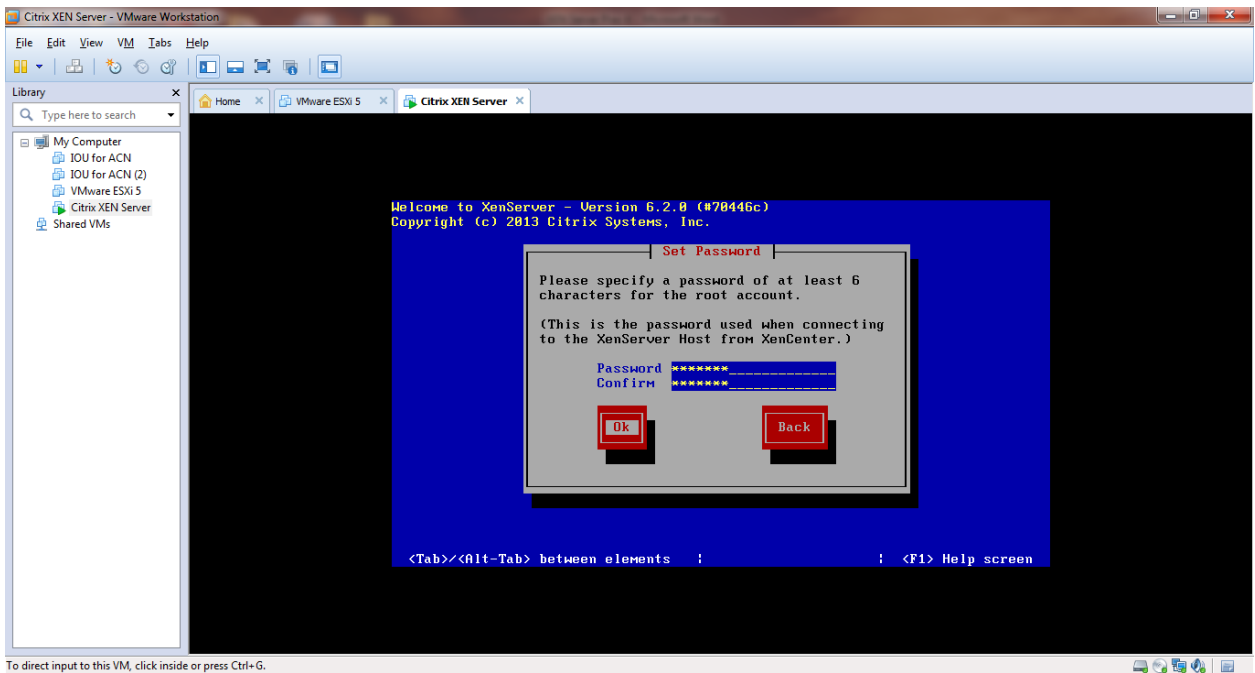

STEP 18: If you have to ask what a Supplemental Pack is, you don't have one. Select No. If you select Yes and don't have one don't worry, it won't harm anything.

**STEP 19:** You can Skip verification.

STEP 20: It will display the screen for setting the password for root user. Just enter the password & confirm the password. Then hit on Ok.

STEP 21: The motherboard we are installing to have two Ethernet ports, both of which are supported by XEN Server. Choose the one you wish to use for the management network – you can change this later. Here we get to choose the networking settings for our management network. This is the IP address used for logging in to manage the XEN Server.
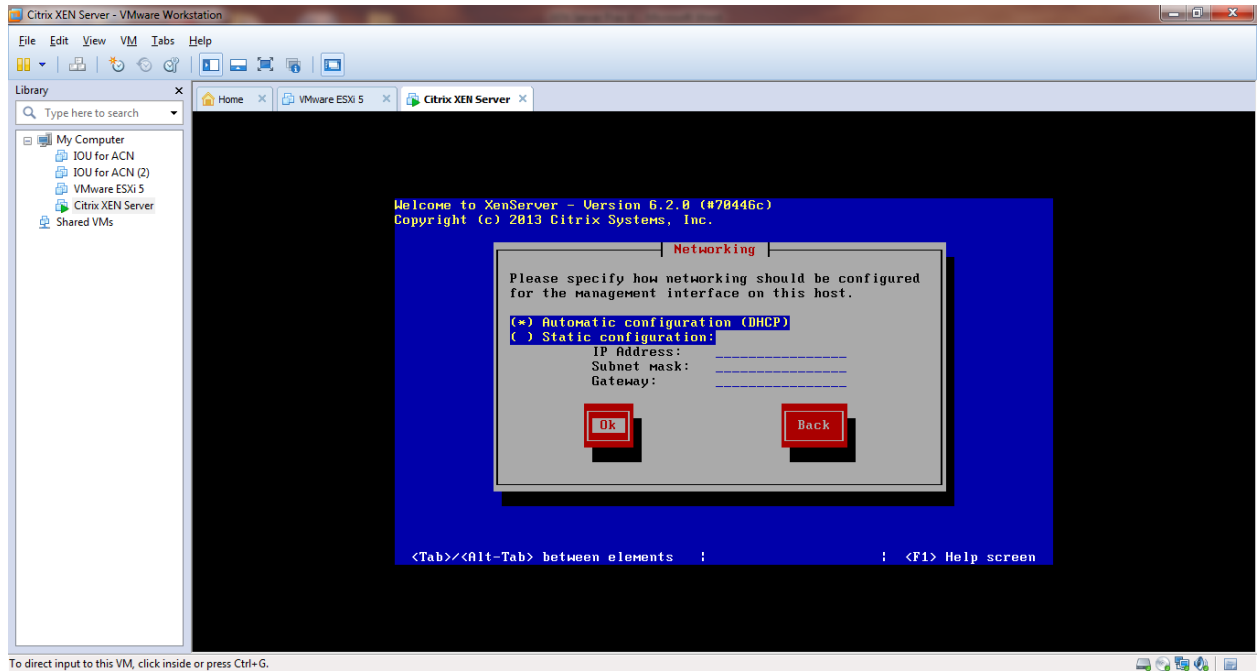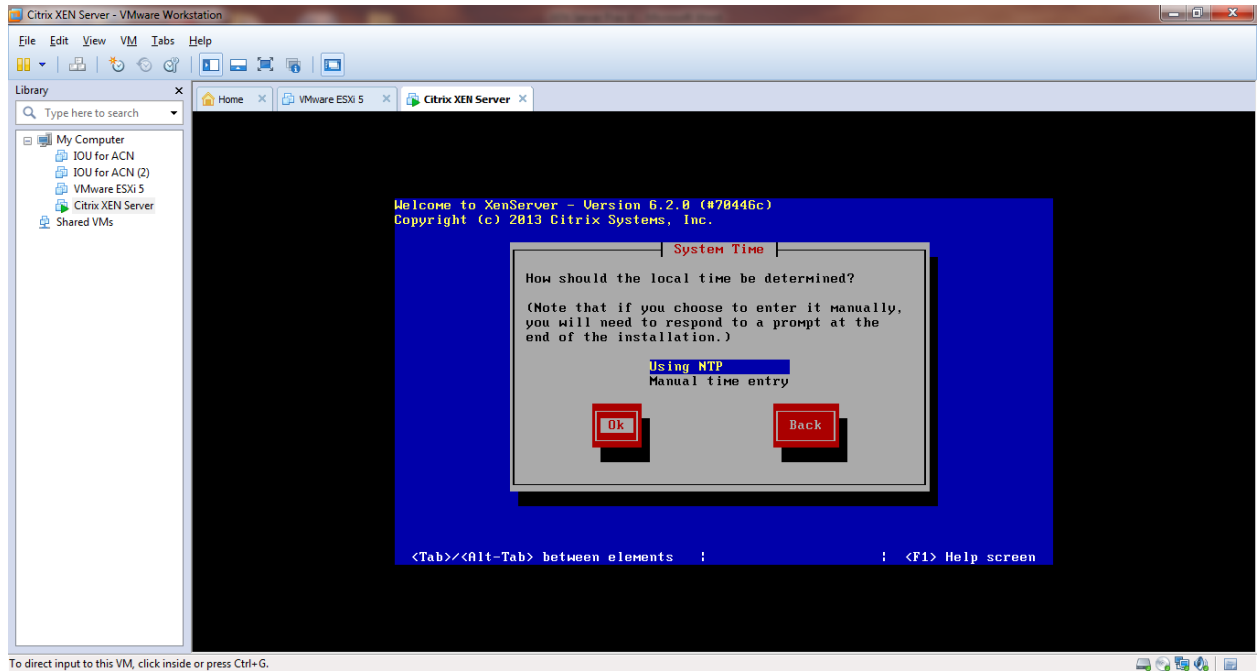

STEP 22: Next we choose the hostname and the DNS server settings – if you're at home you likely use your gateway IP address.
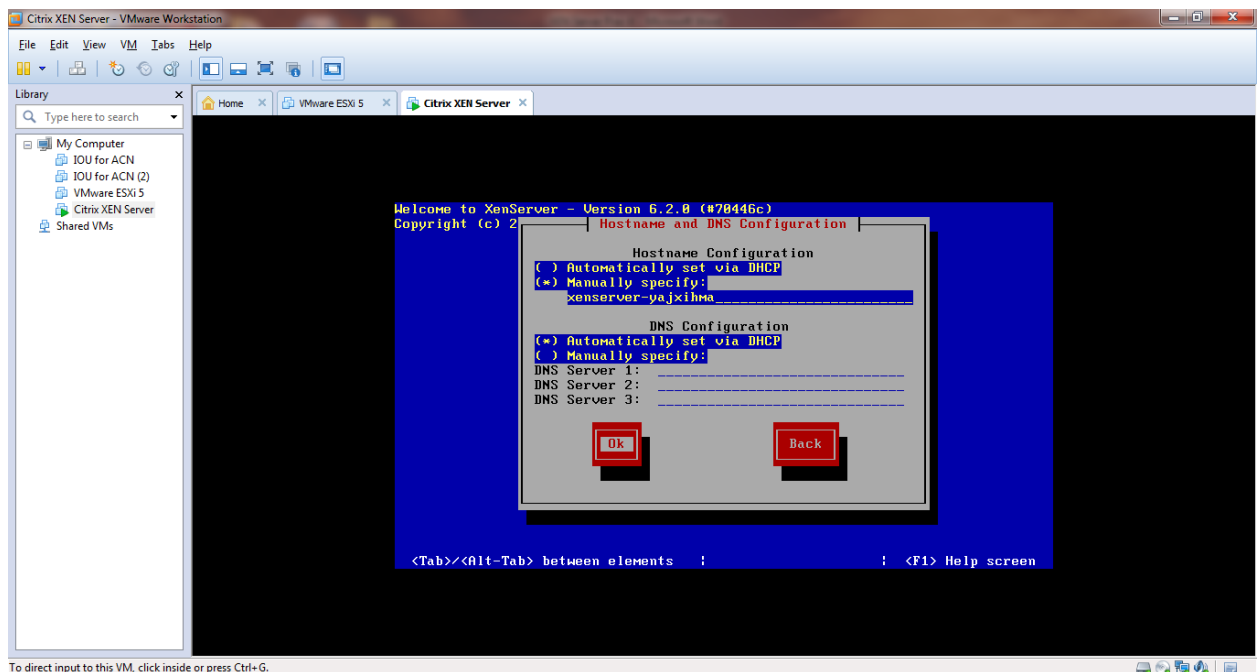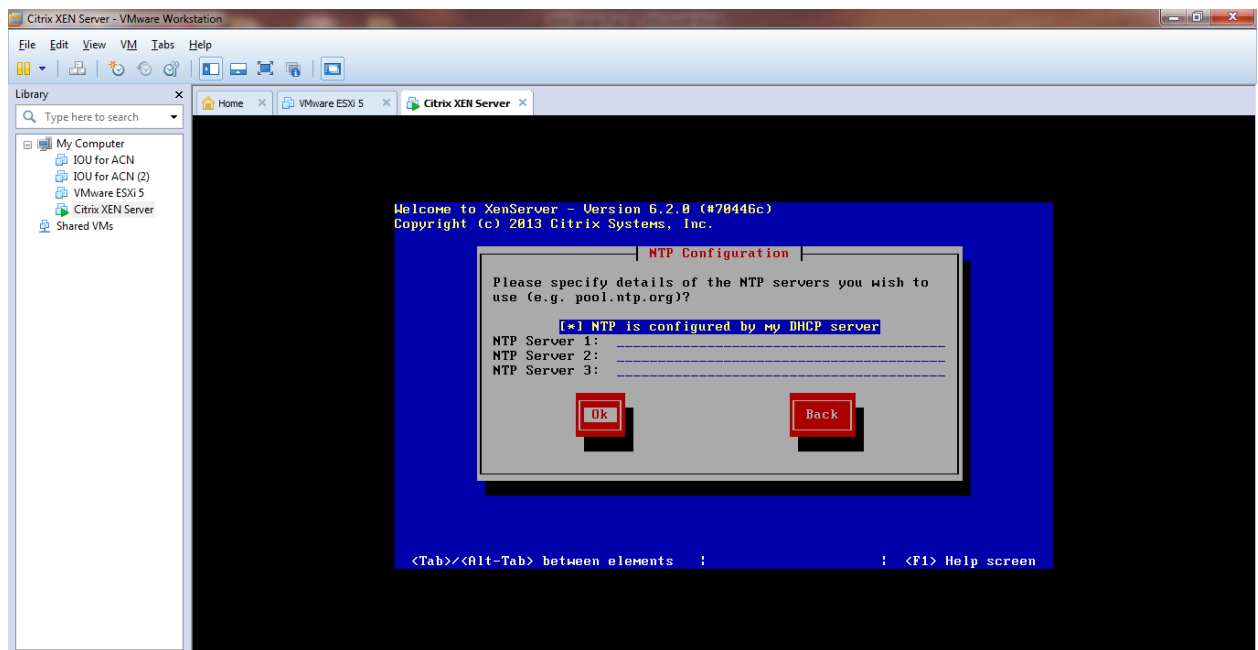
STEP 23: Pick your country name & then city name.
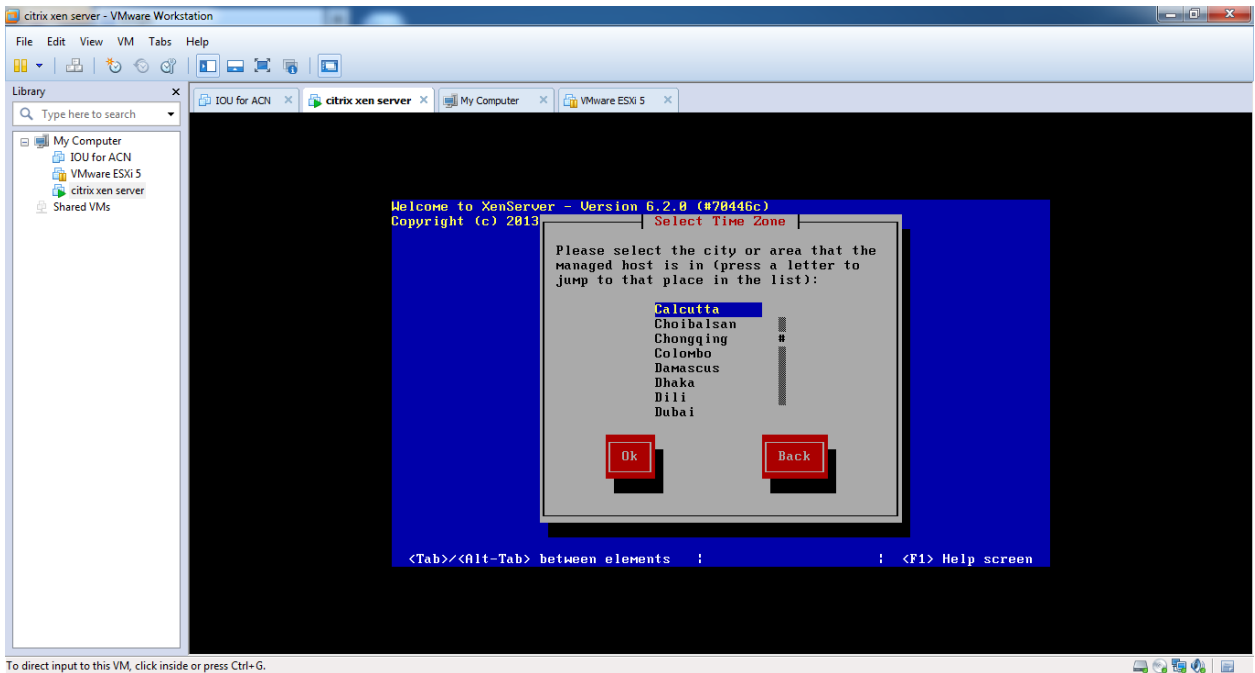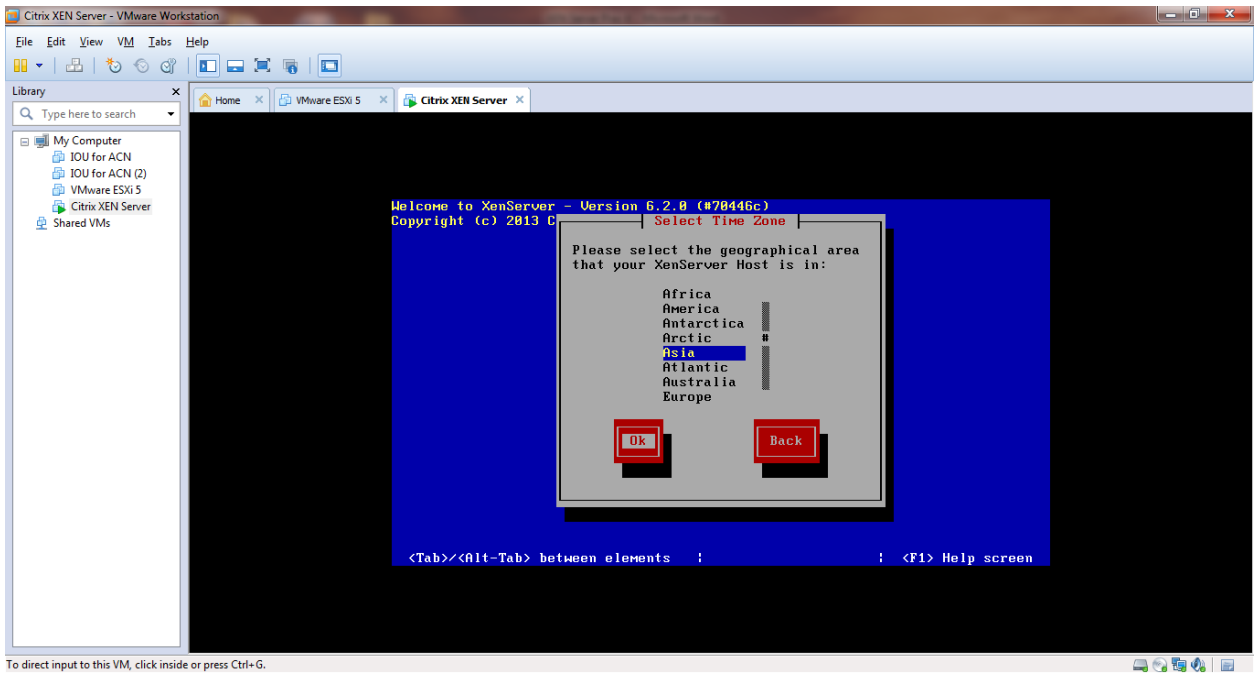
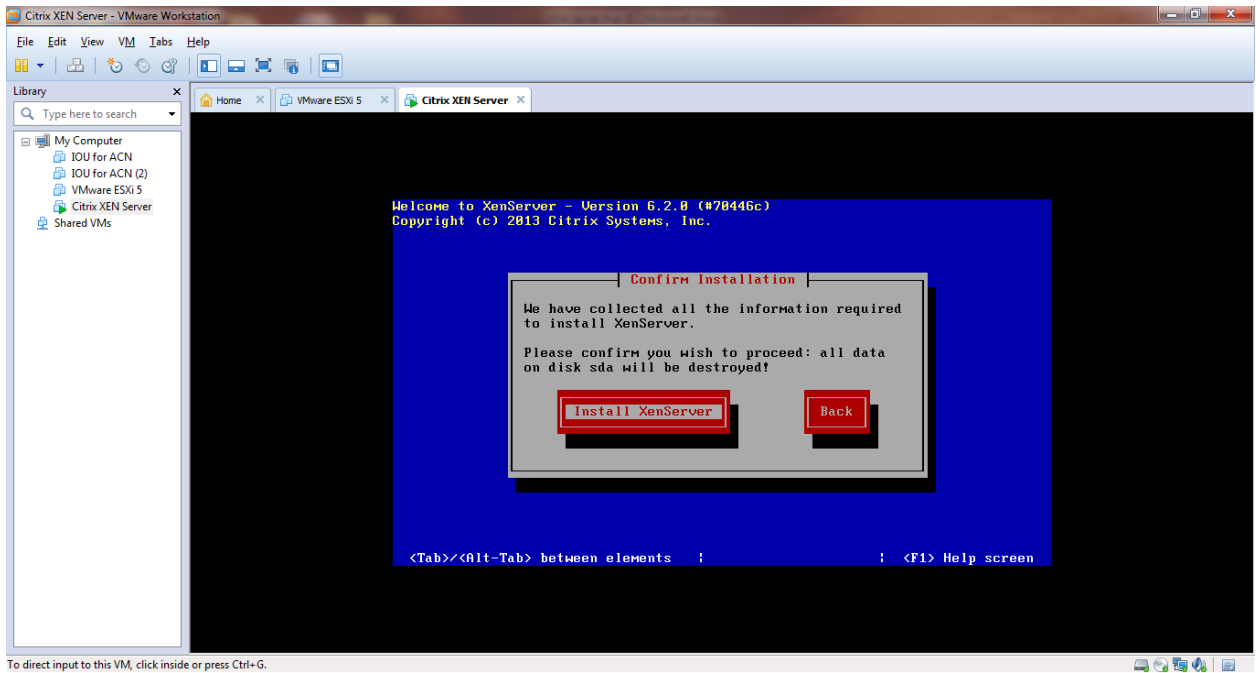**STEP 24:** Now choose whether to set your time based on an NTP server or on your manual input.
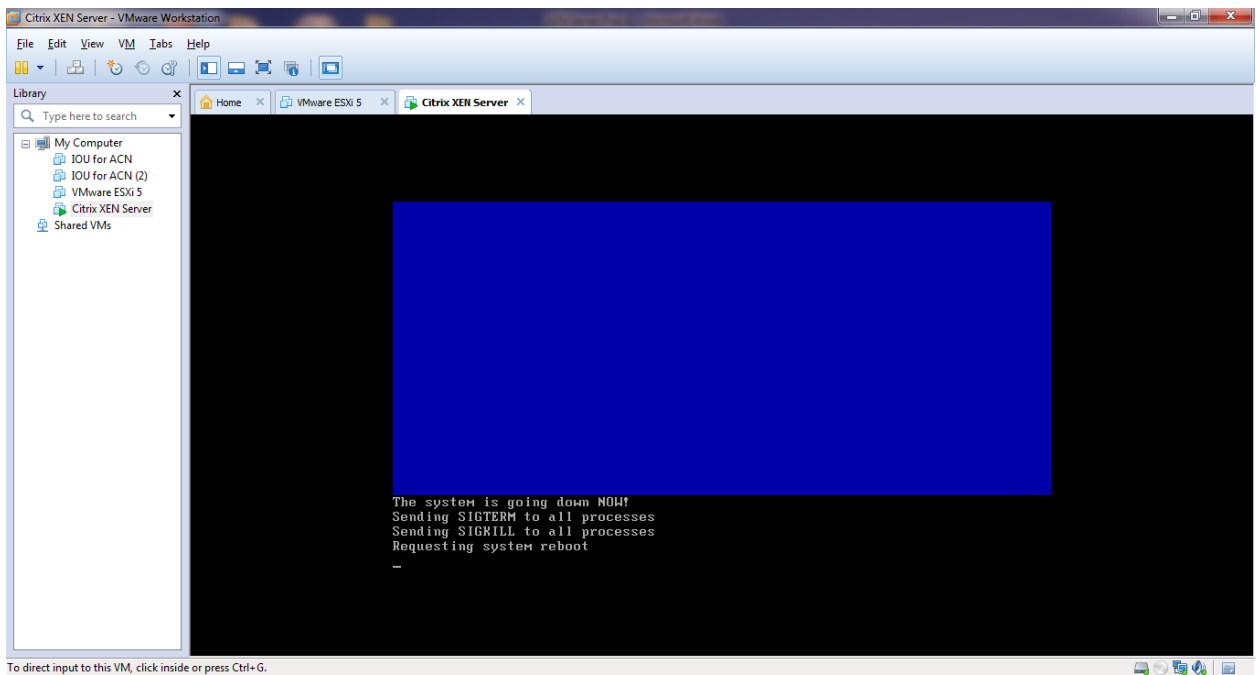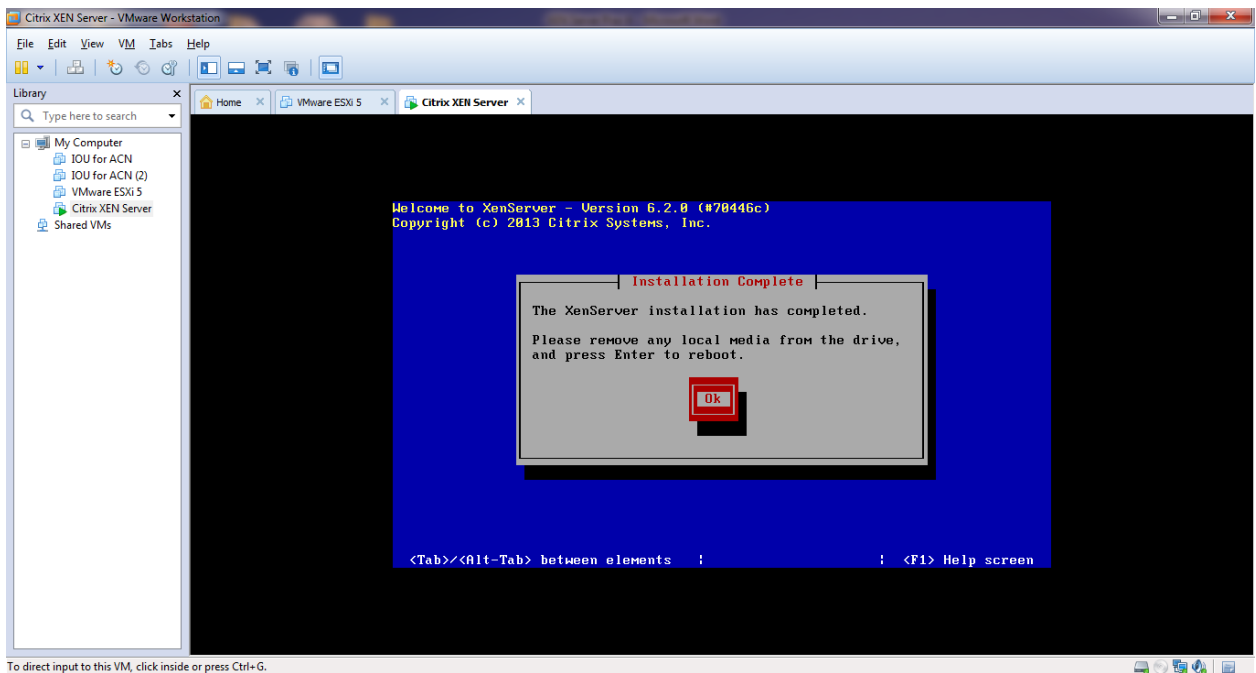
STEP 25: Hit on Install XenServer.

STEP 26: It will show a progress bar so you can see where the install is up to. Once it has done, if you said you did have supplemental packs you should see.
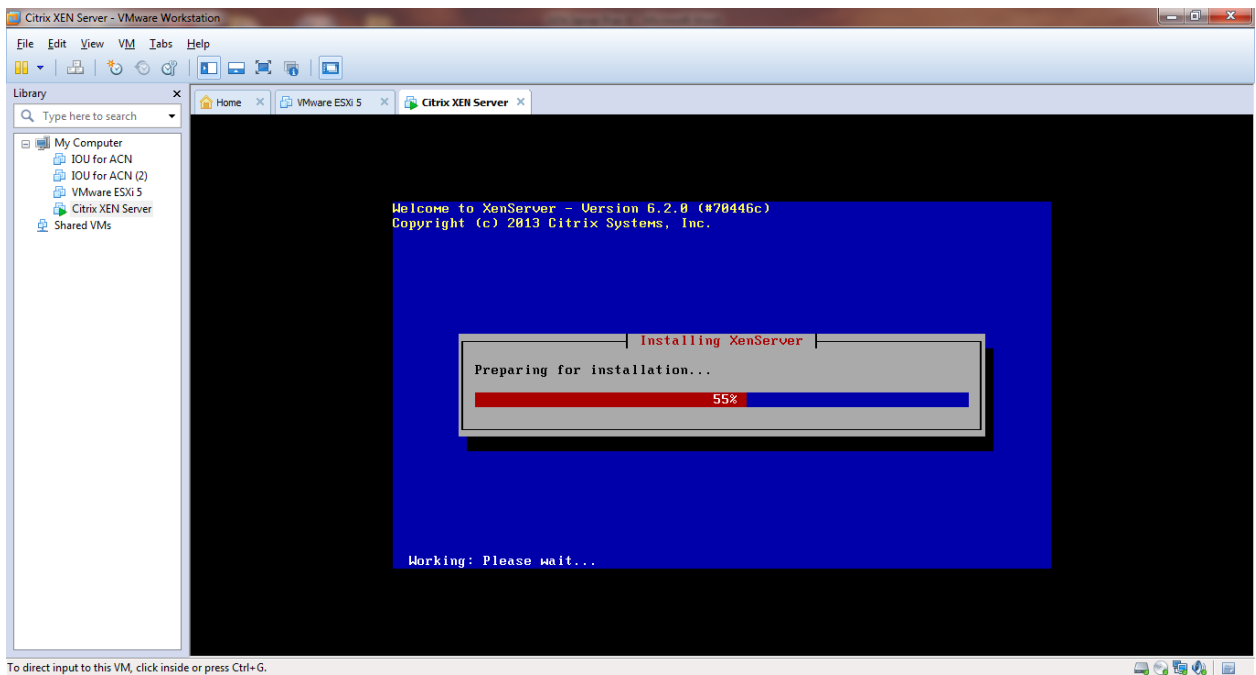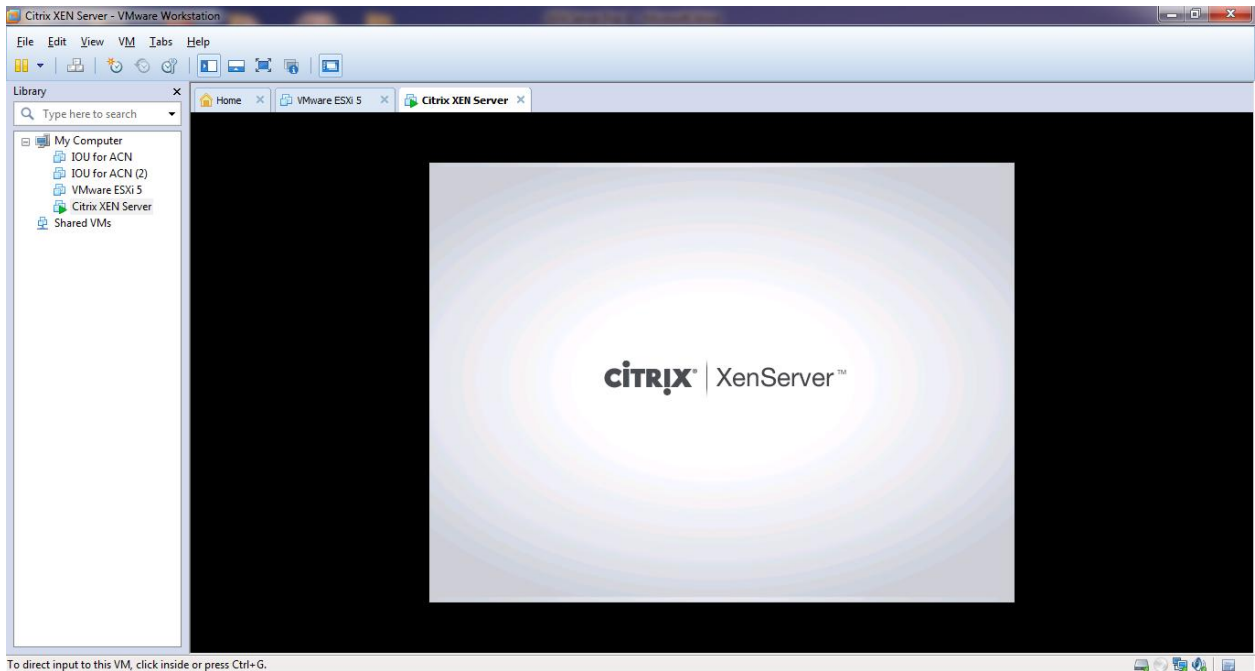
STEP 27: Hit Ok to reboot.

STEP 28: The above is the loading screen for your new XenServer 6.2 install.

STEP 29: Note down IP Address 192.168.232.129.This is the console screen for XenServer 6.2.Installing virtual machine using XenCenter. Open Citrix XenCenter.