



SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

Enterprise Standards and Best Practices for IT Infrastructure

4th Year 2nd Semester 2016

Lab Assignment

Baremetal Virtual machine Installation

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Weekday – IT

Github link - <https://github.com/hasithkaushan/ESBPII>

What is a bare metal environment..?

A bare metal environment is a computer system or network in which a virtual machine is installed directly on hardware rather than within the host operating system (OS). The term "bare metal" refers to a hard disk, the usual medium on which a computer's OS is installed.

In the virtualization process we use a hypervisor which is a kind of a software that allows multiple operating systems (OSs) to run concurrently on a physical machine and to interact directly with the physical hardware.

It has two components

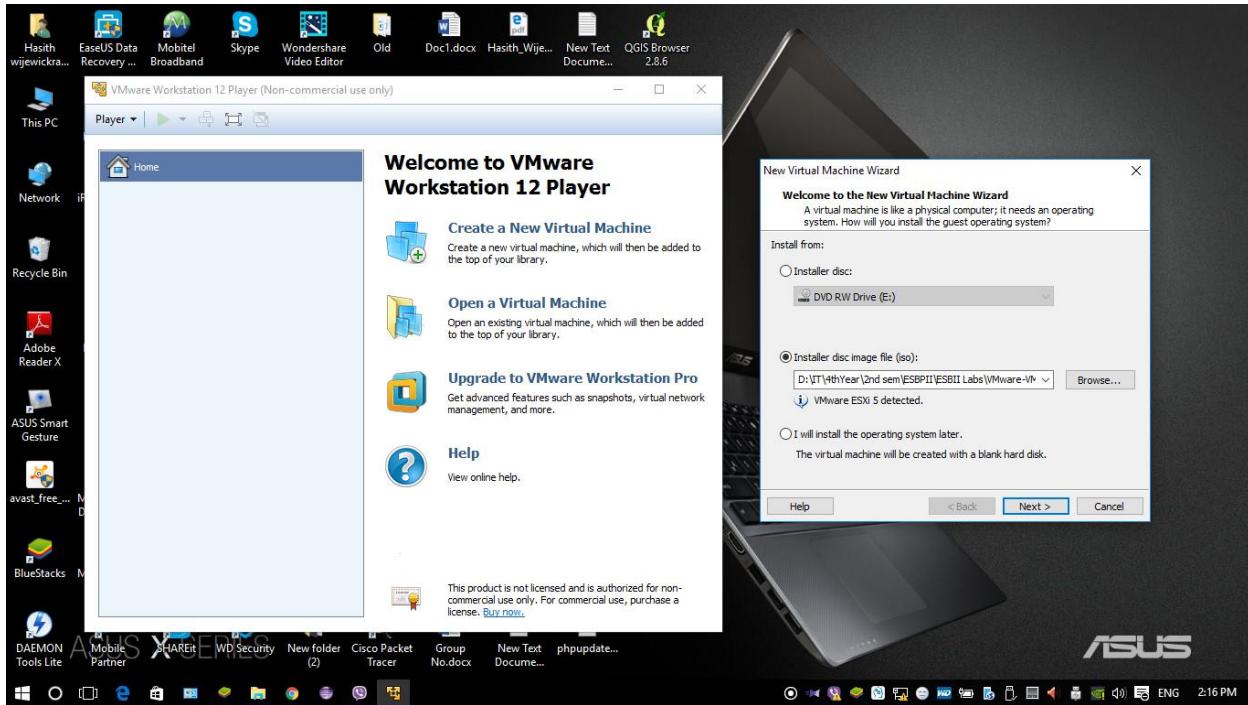
- Kernel
- Virtual Machine Monitor (VMM)

Types of Hypervisor

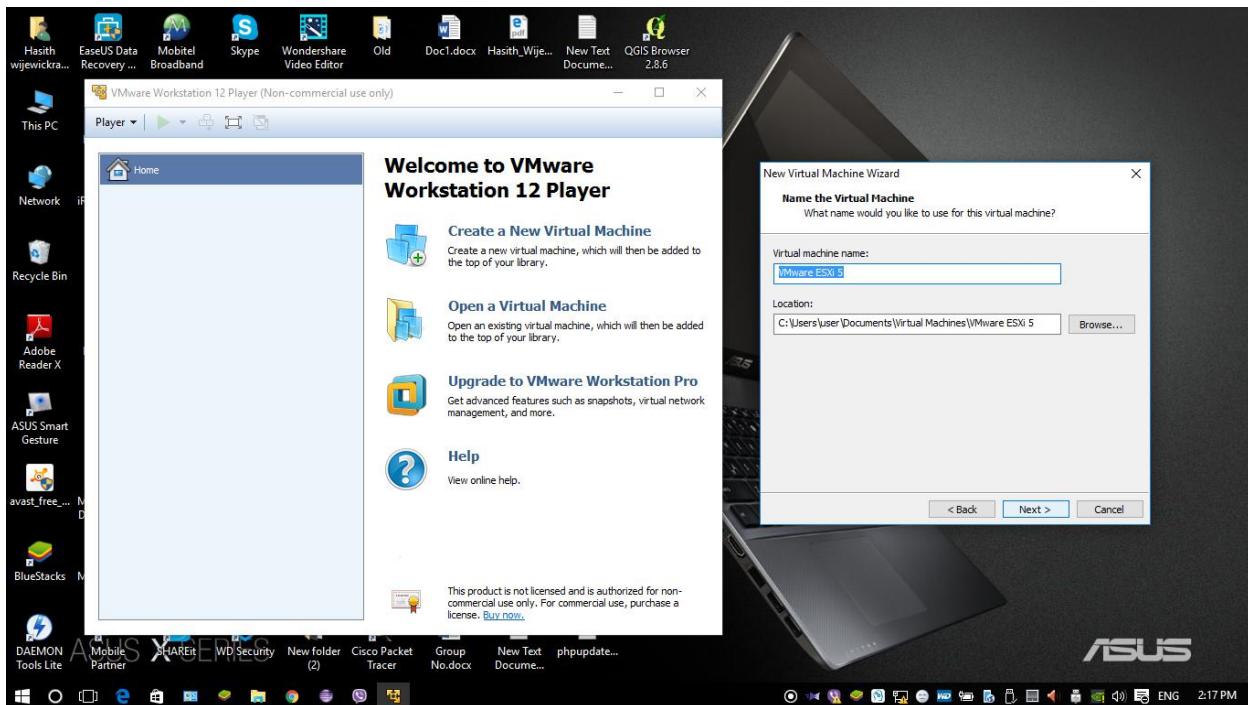
- Bare metal hypervisor
 - It is an operating system (OS)
 - It installs and runs on x86 bare-metal hardware
 - It requires certified hardware
- Hosted hypervisor
 - It installs and runs as an application
 - It relies on operating system (OS) running on physical machine for device support and physical resource management

Here I am going to demonstrate how to do the bare metal installation. Normally to do that we need a computer without an OS. So then we can directly install the hypervisor on top of the hardware and after that we can create multiple VMs on the hypervisor. Since I don't have a machine without an OS I am going to install the hypervisor in the VMware by creating a virtual machine inside the VMware.

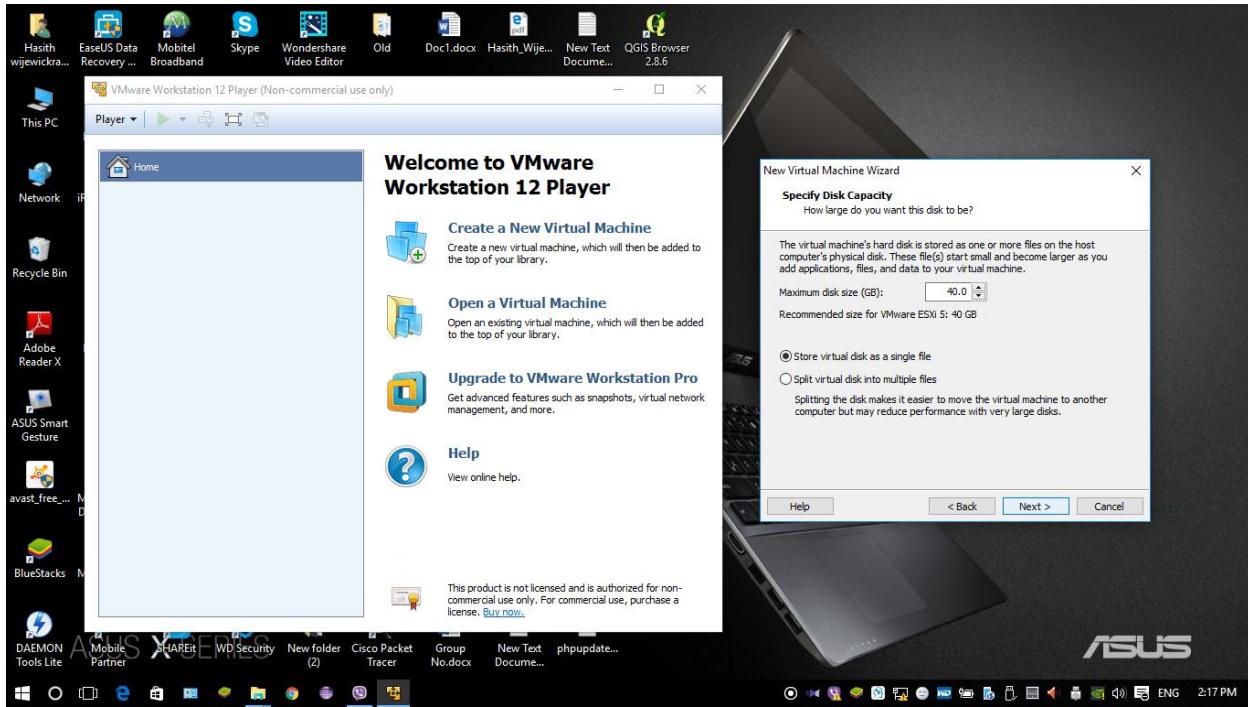
Open VMware and give the disk image path. (VMware ESXI 5)



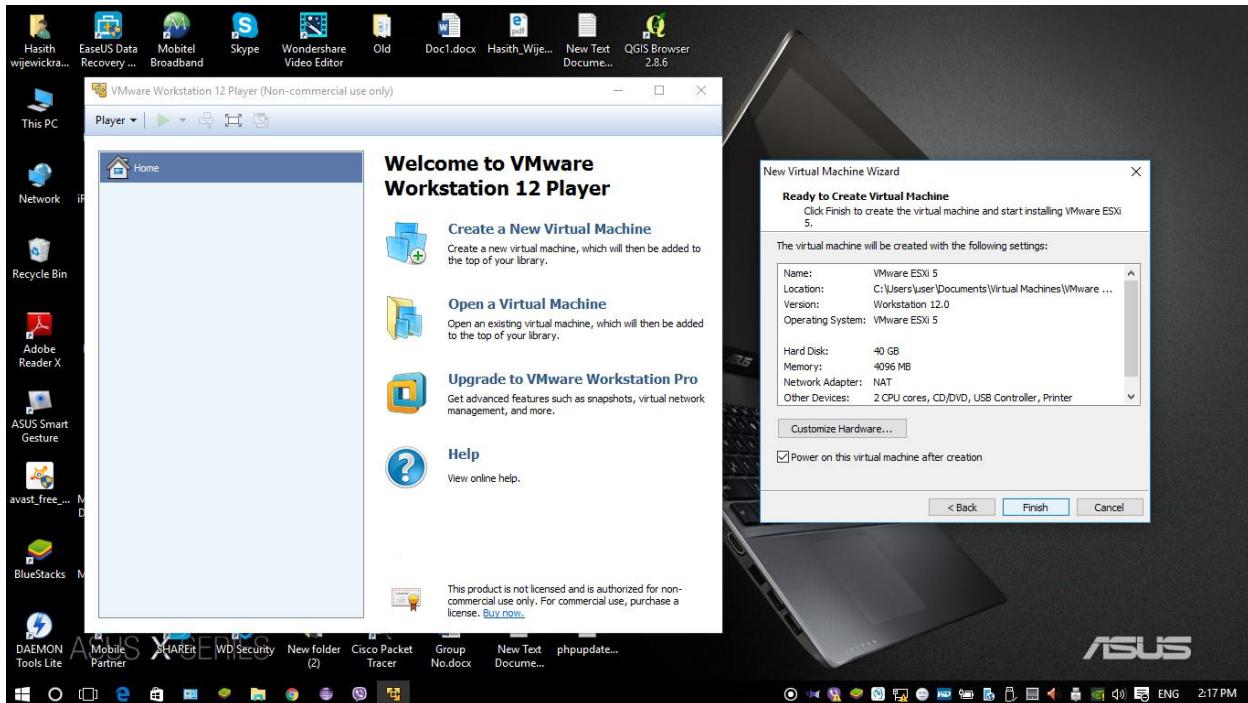
Provide a name.



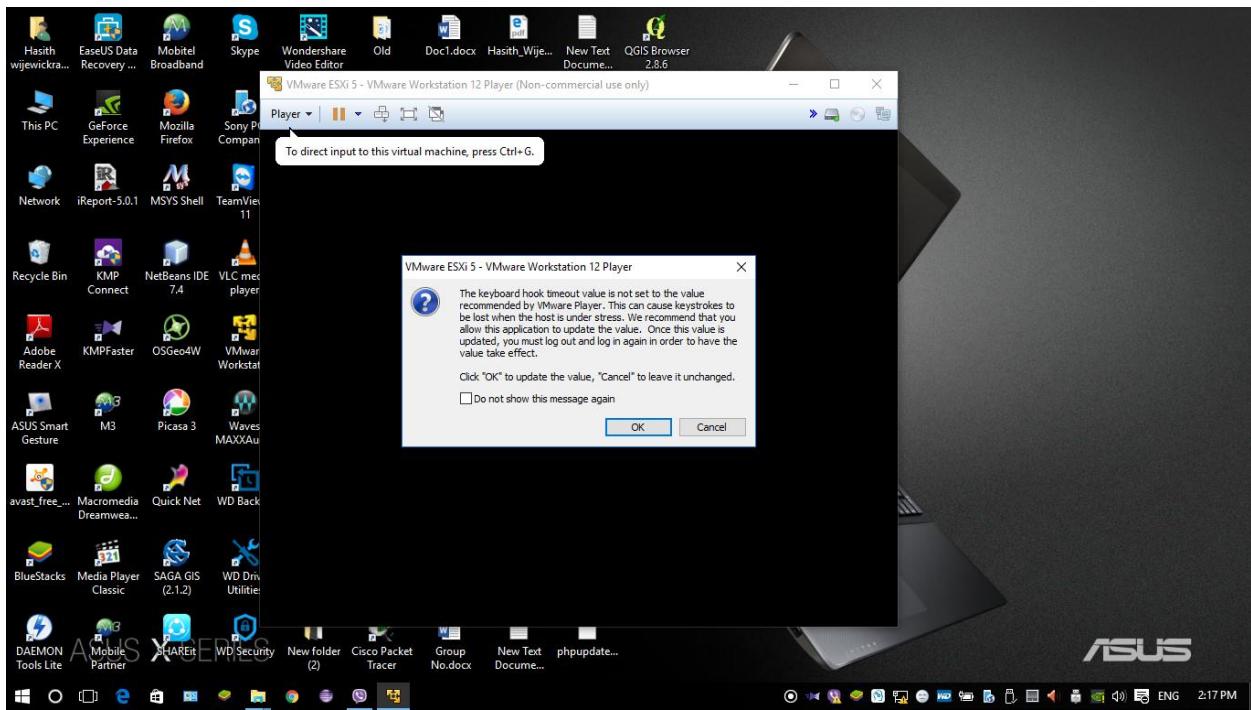
Keep the disk size as it is. (40 GB)



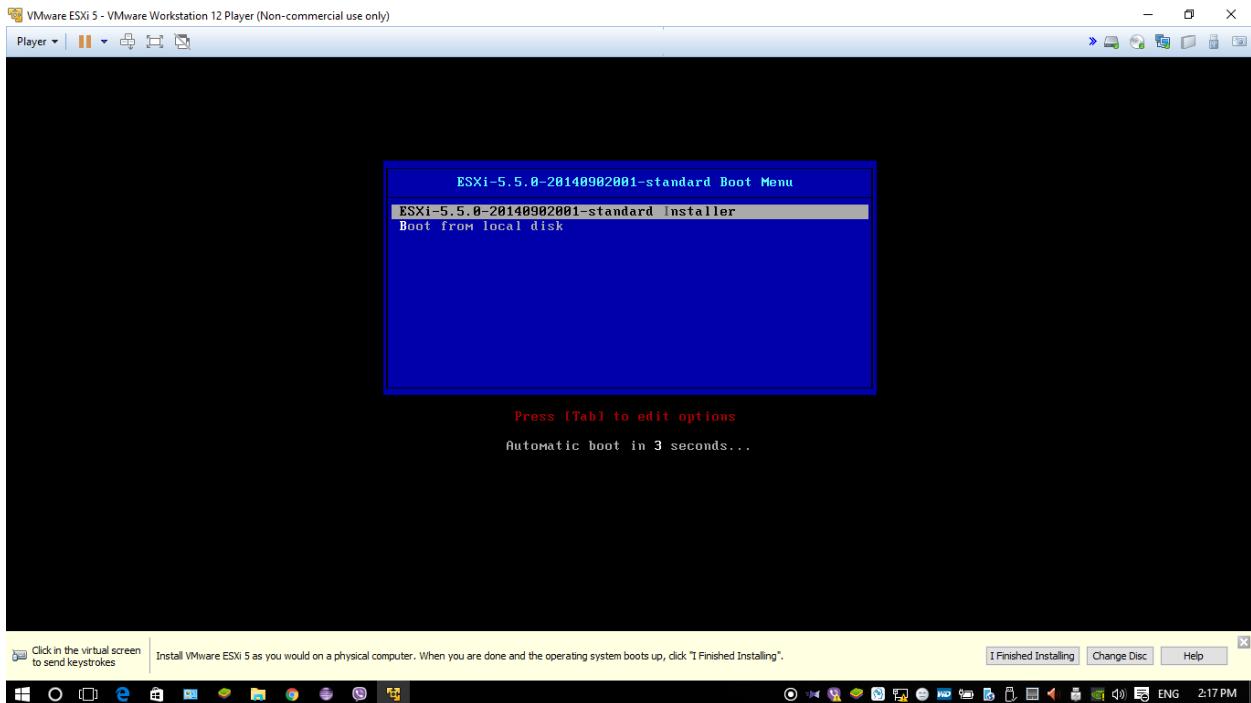
Create the virtual machine.

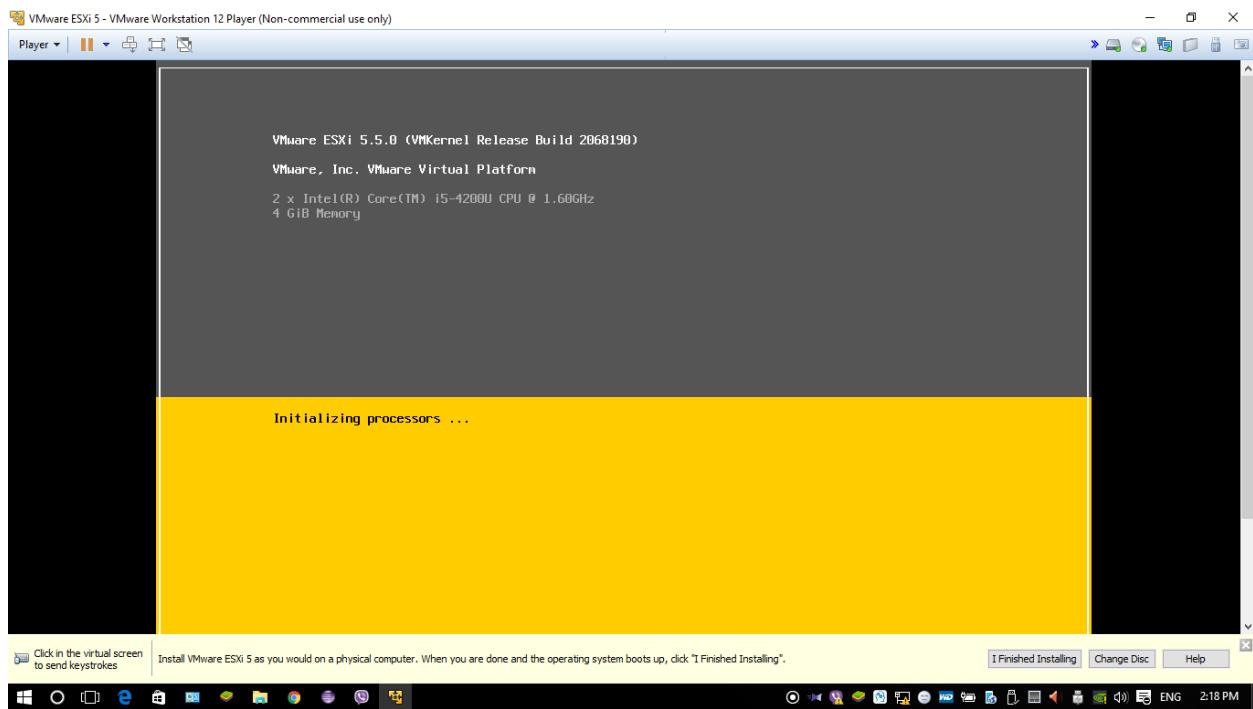
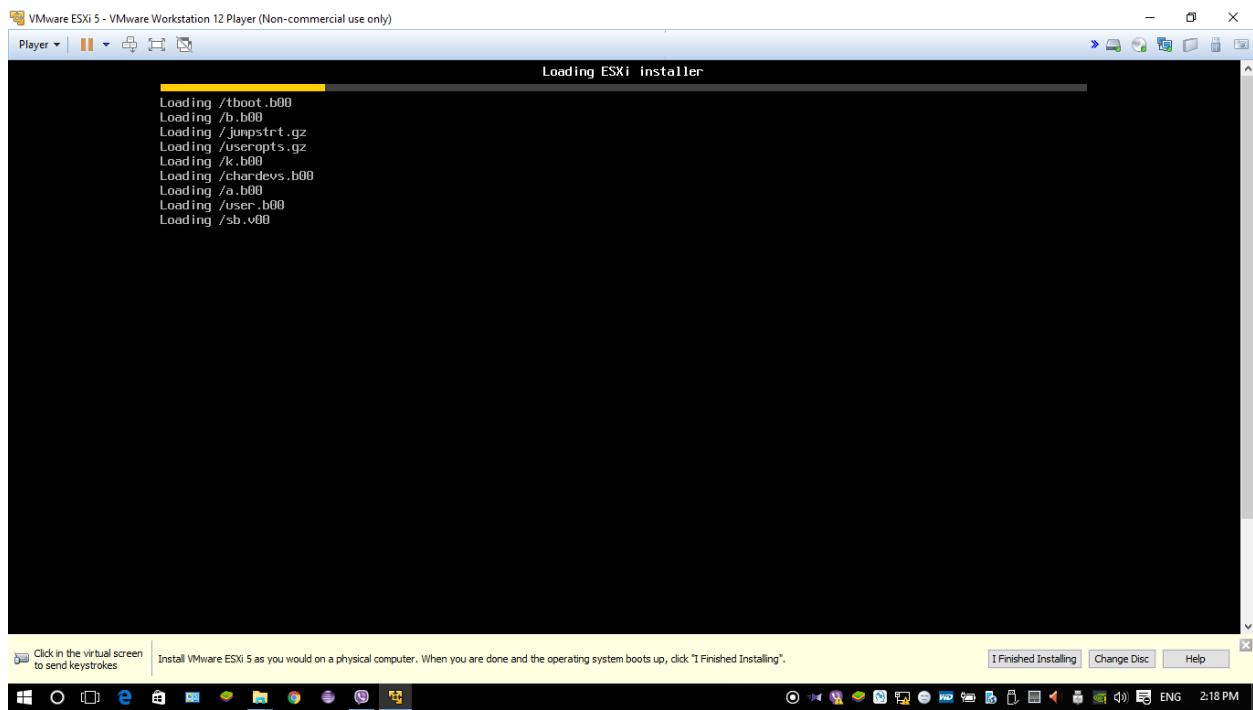


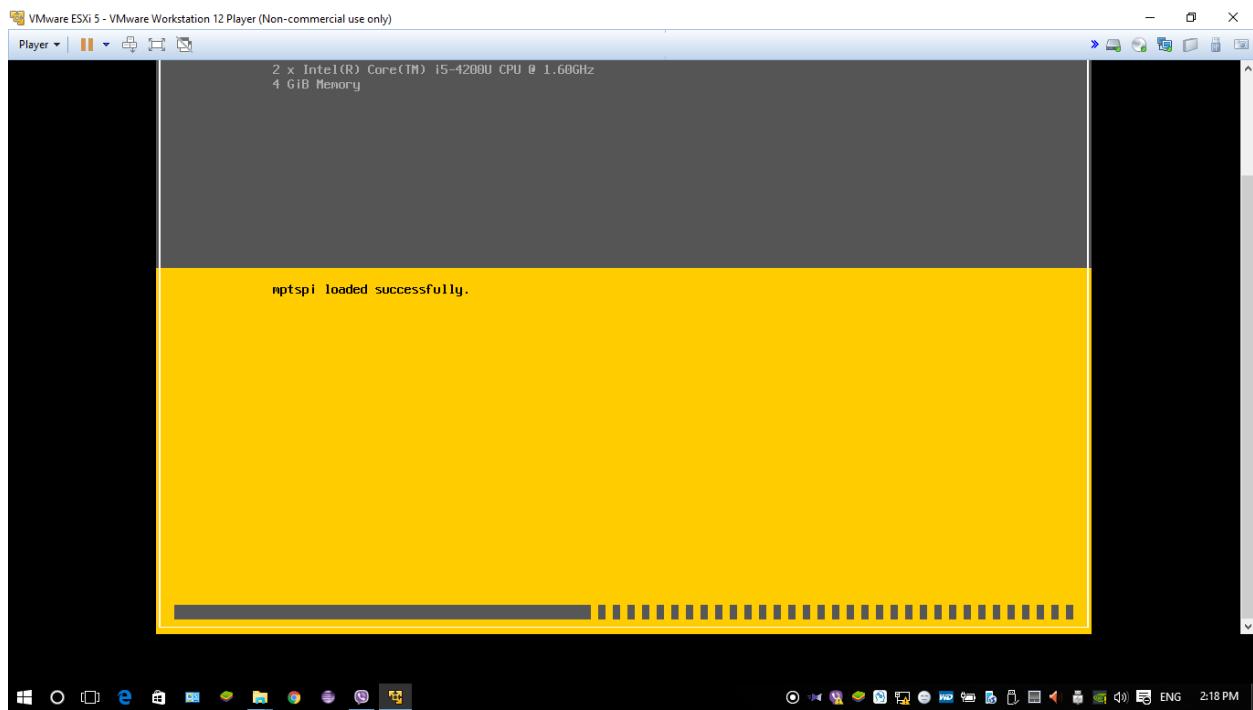
Power on the virtual machine.



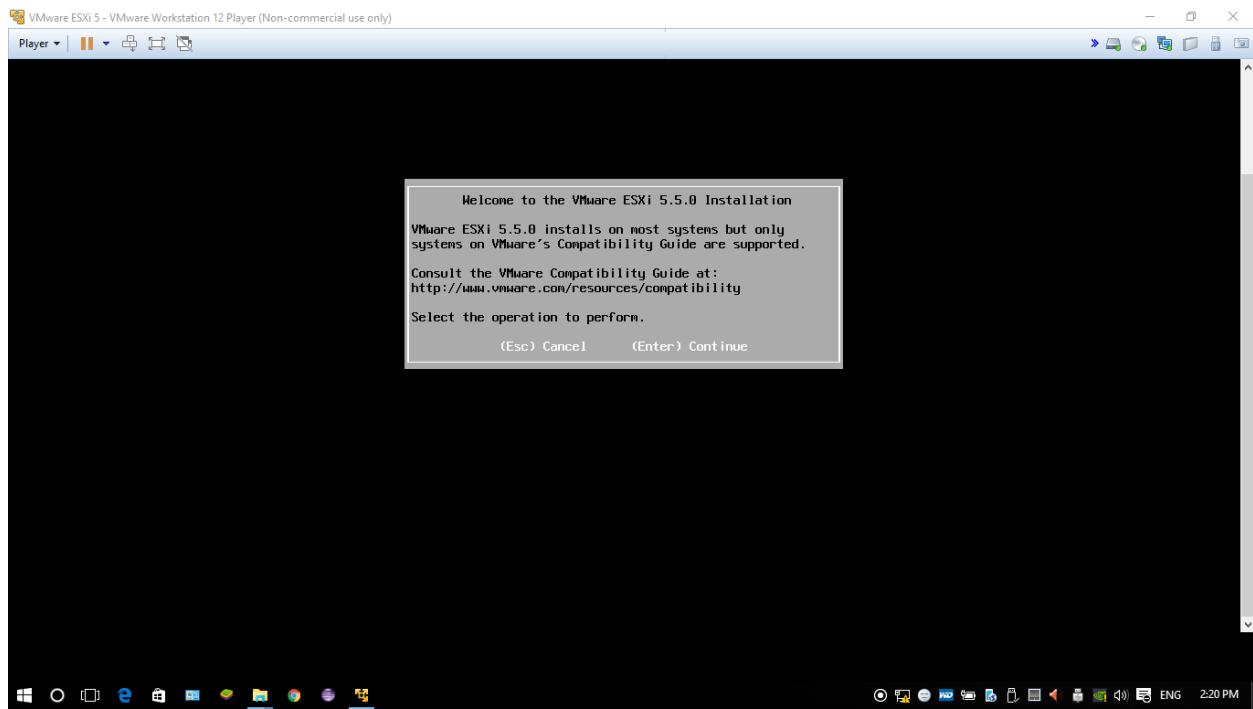
Choose the standard installer.



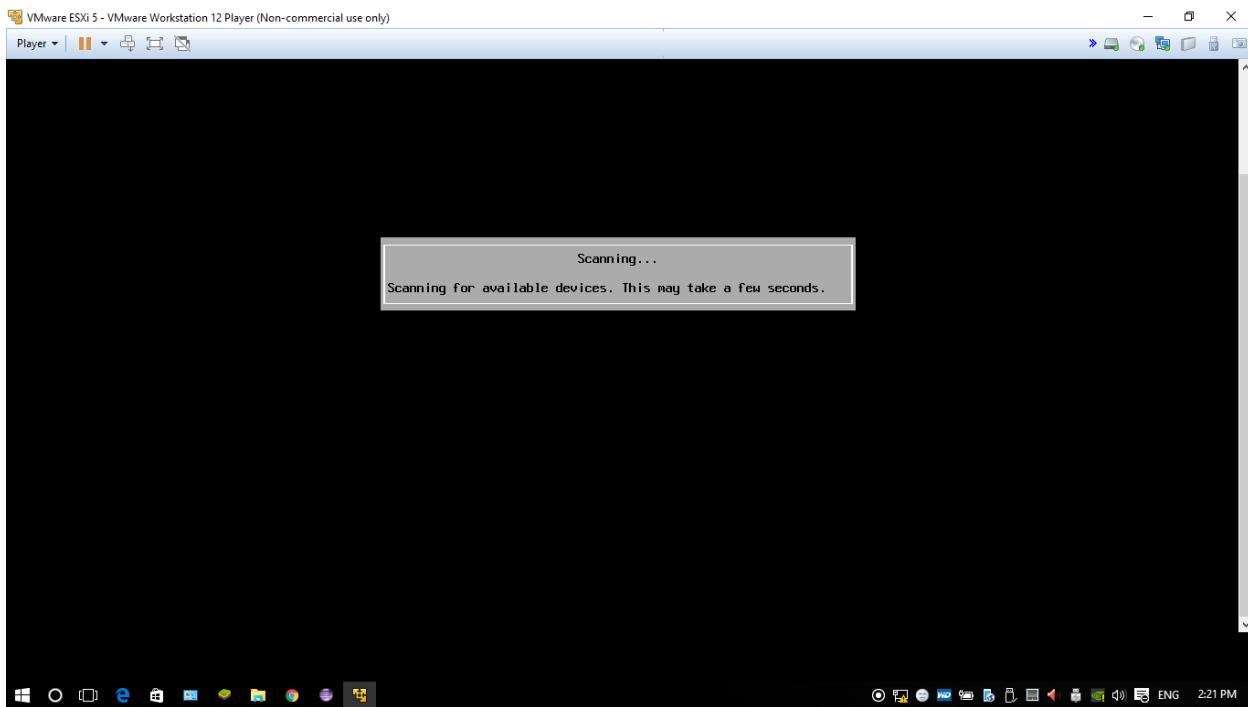
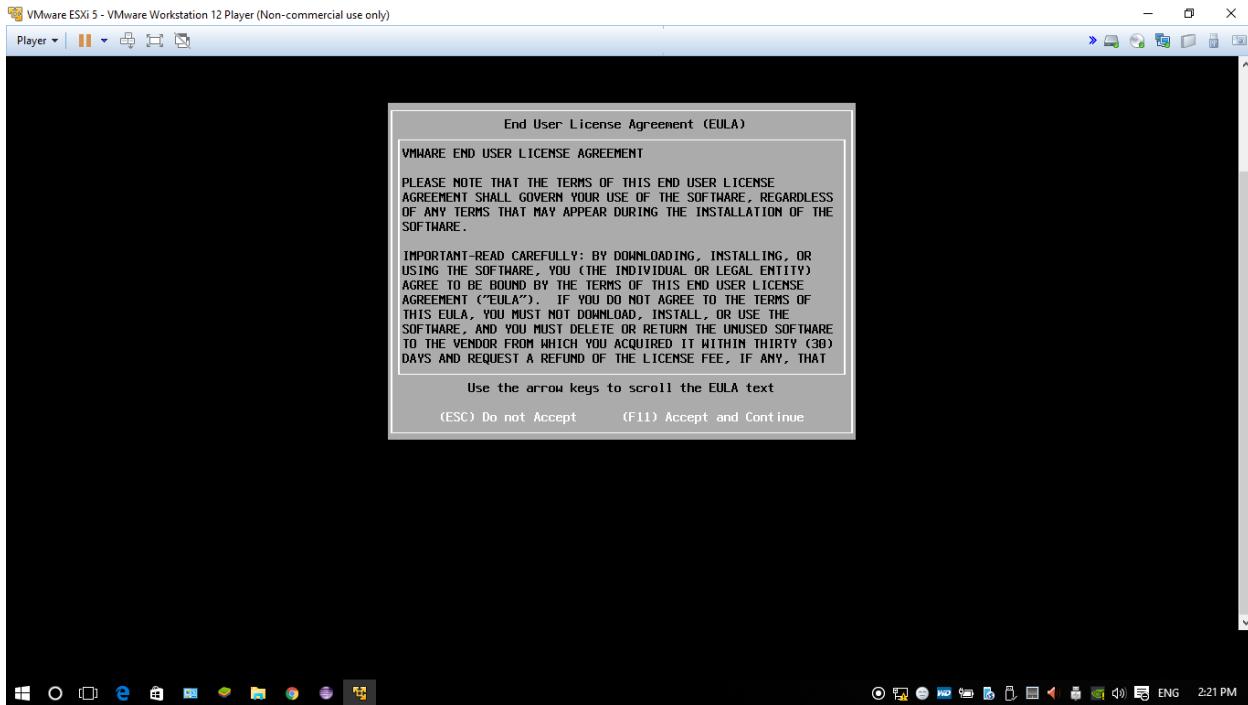




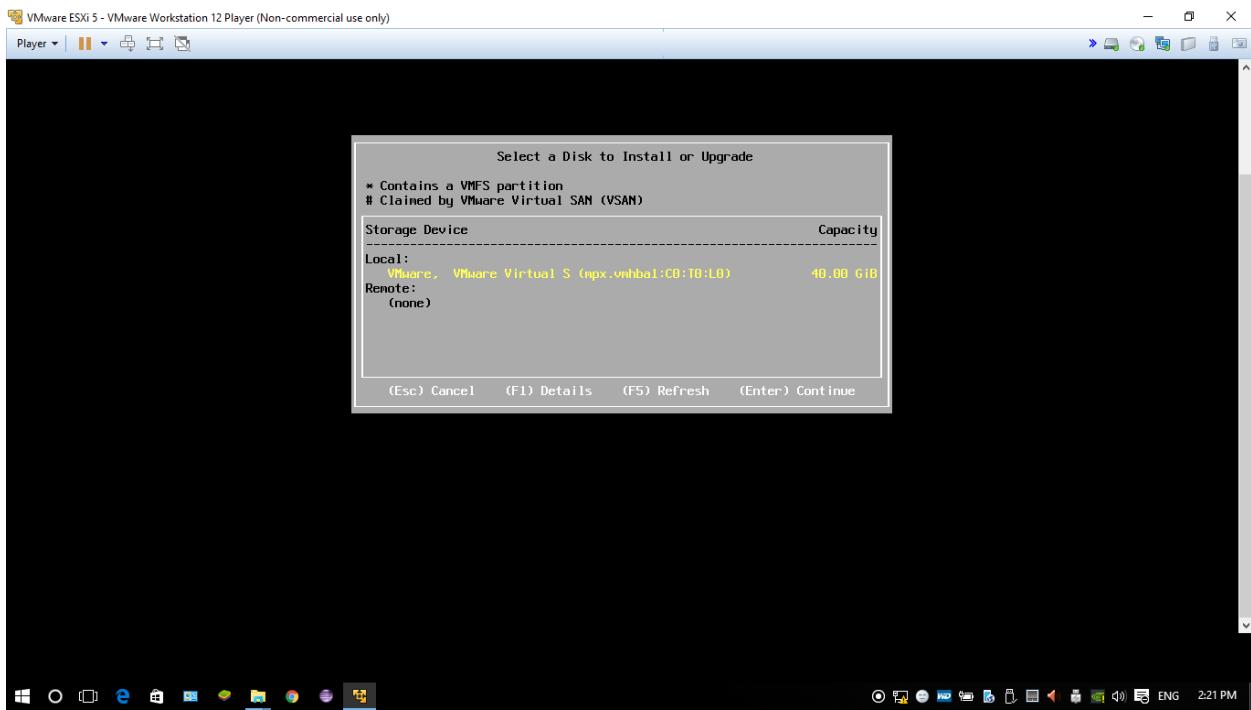
Continue to the process.



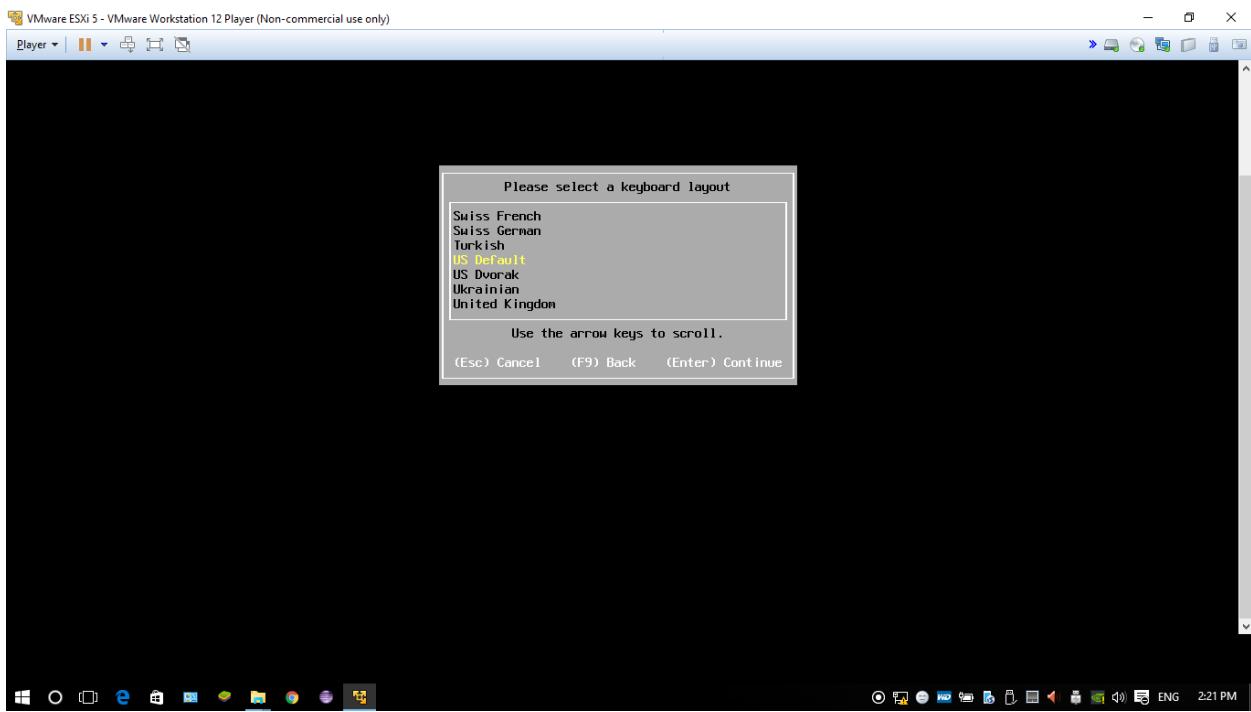
Accept and continue.



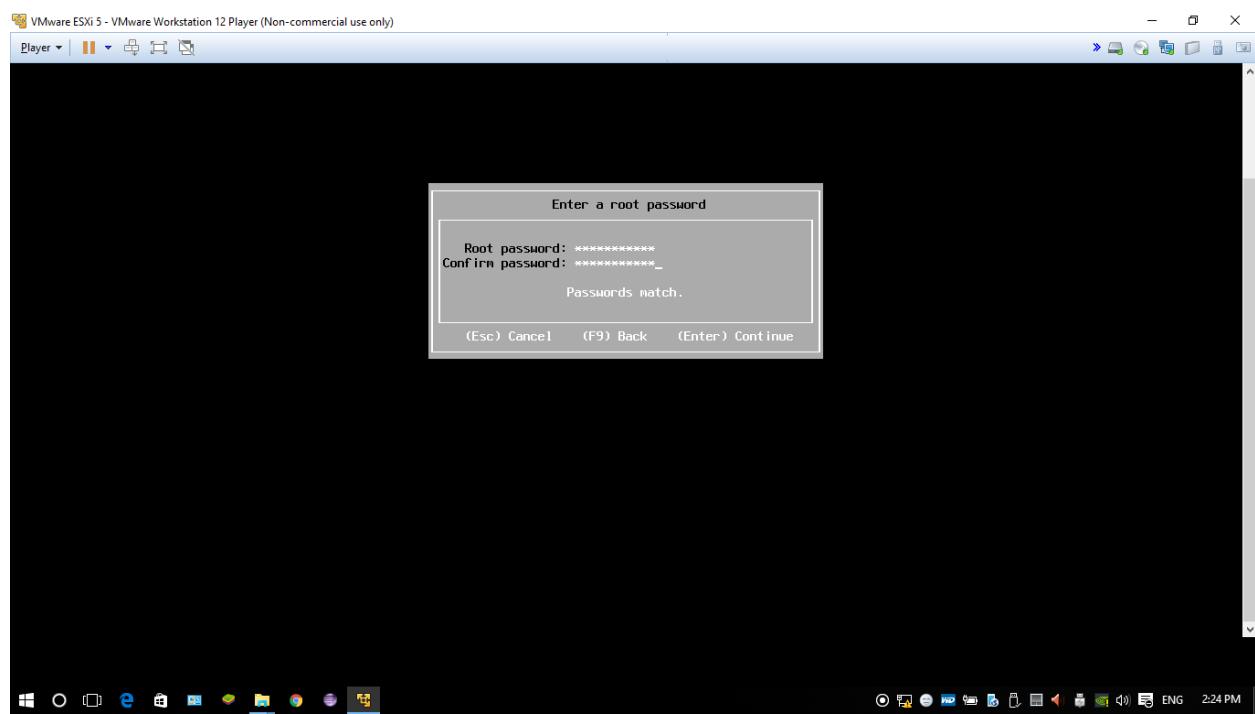
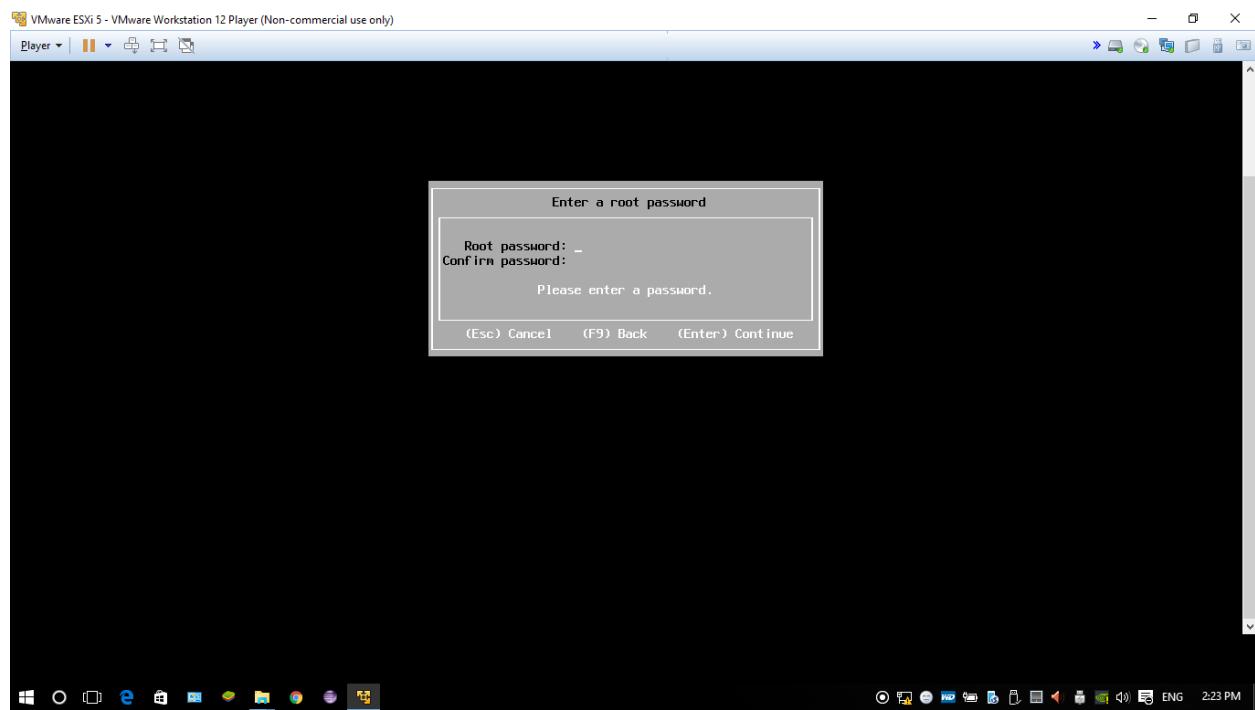
Continue.

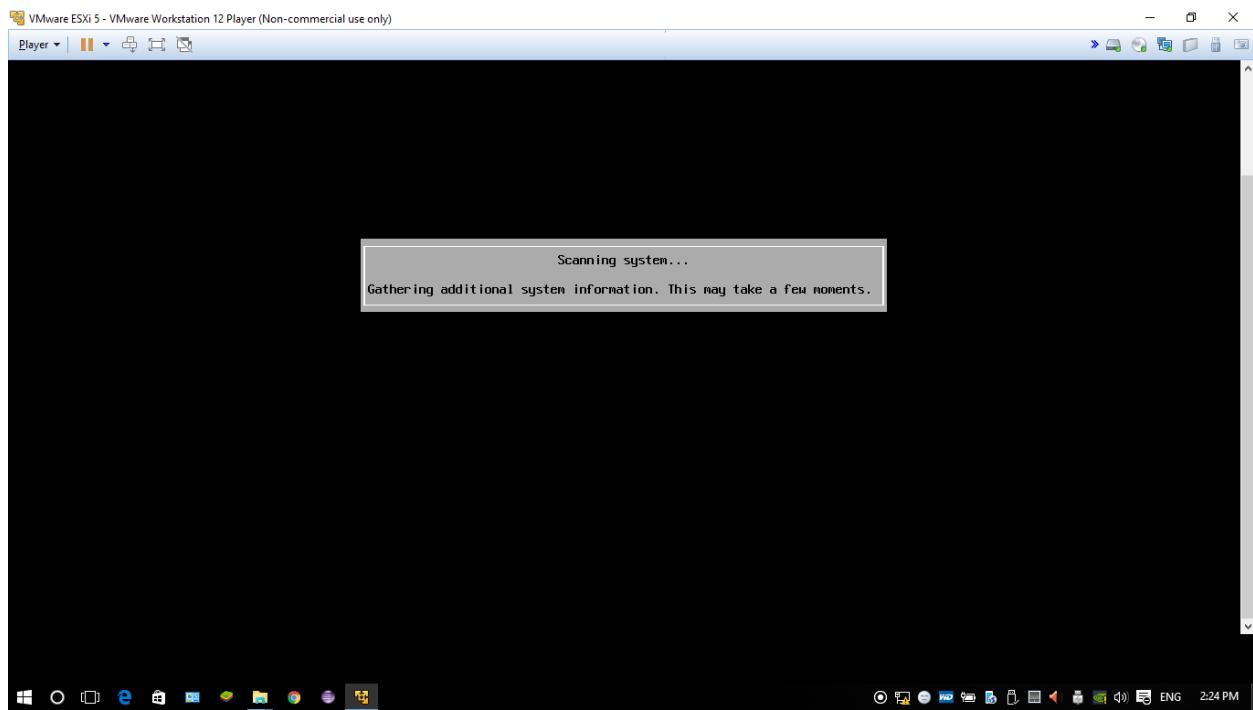


Select the language as US Default.

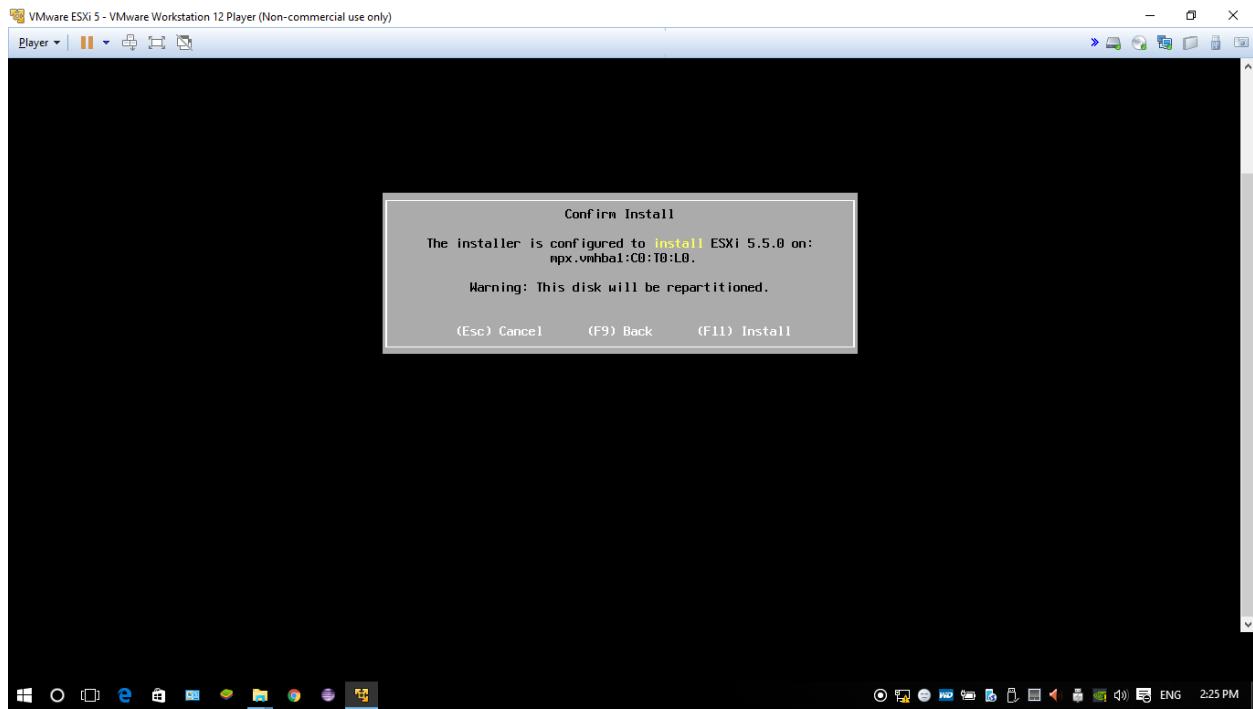


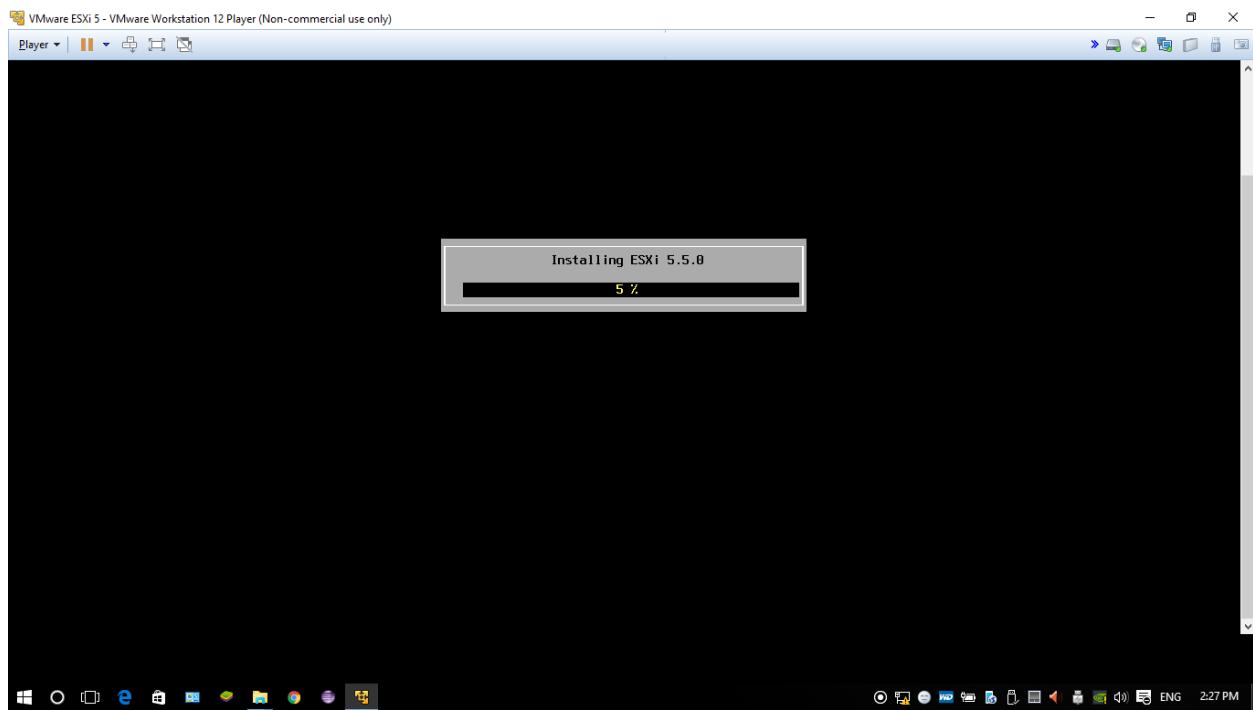
Enter a password and continue.



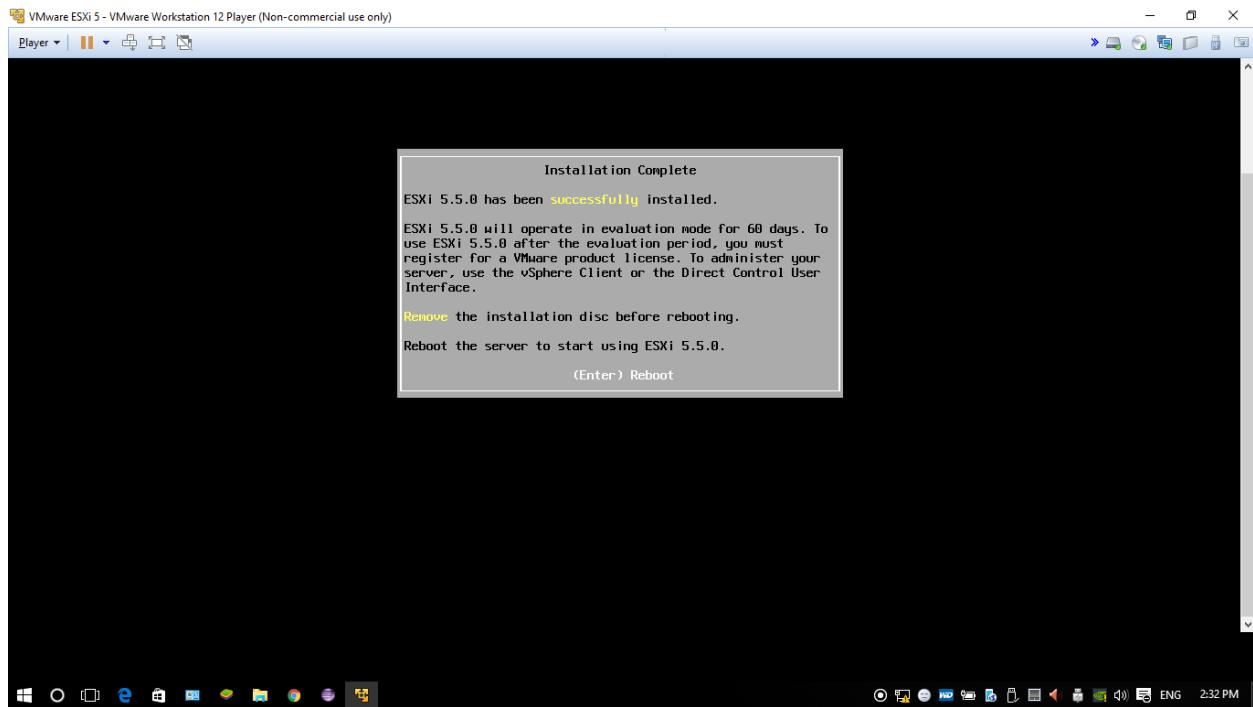


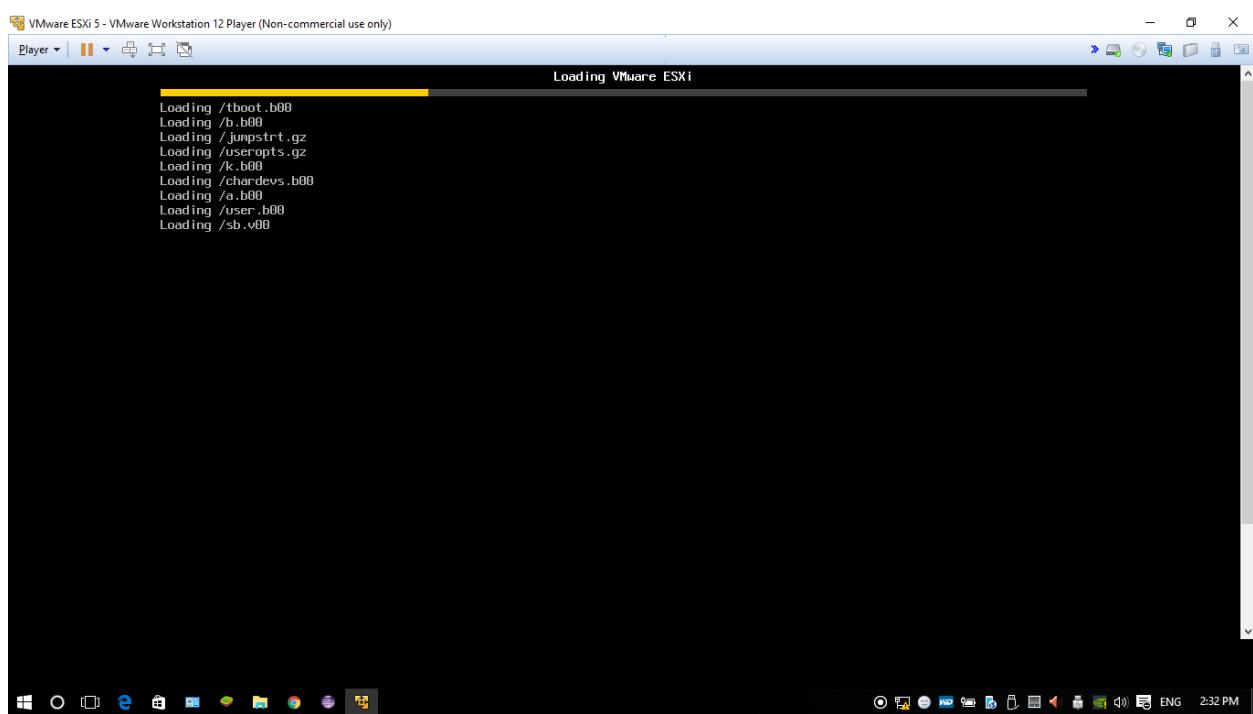
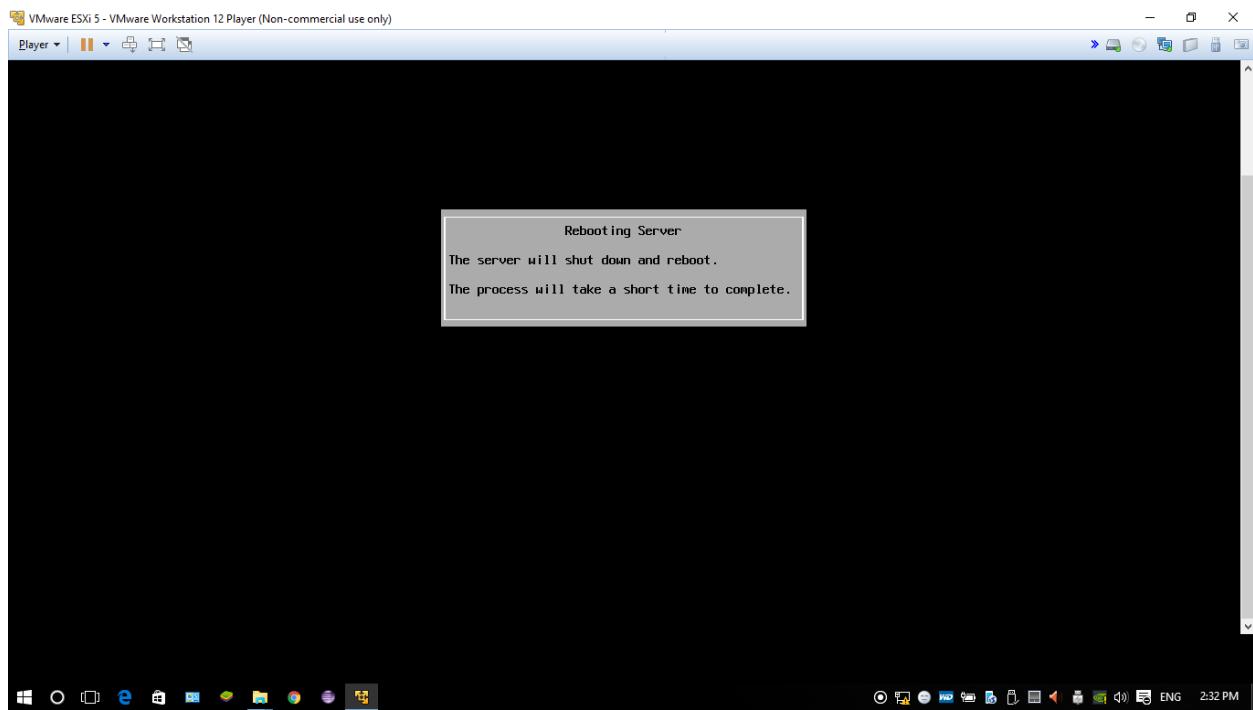
Press install.

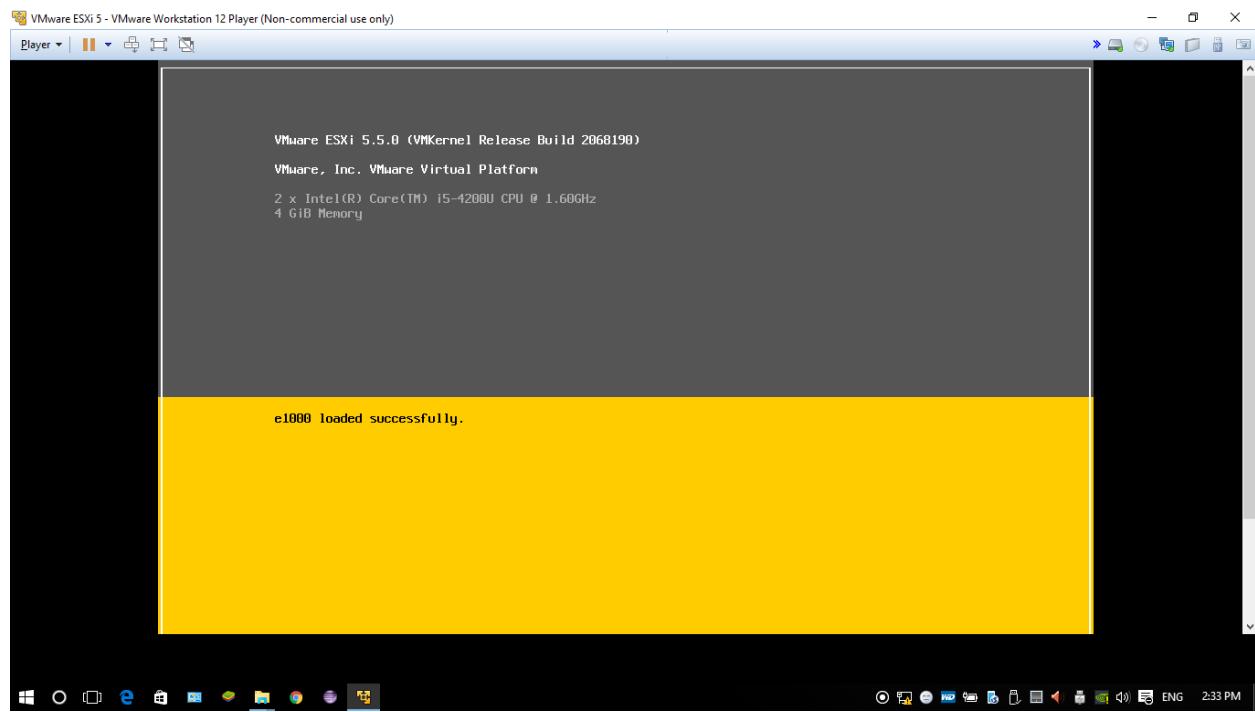




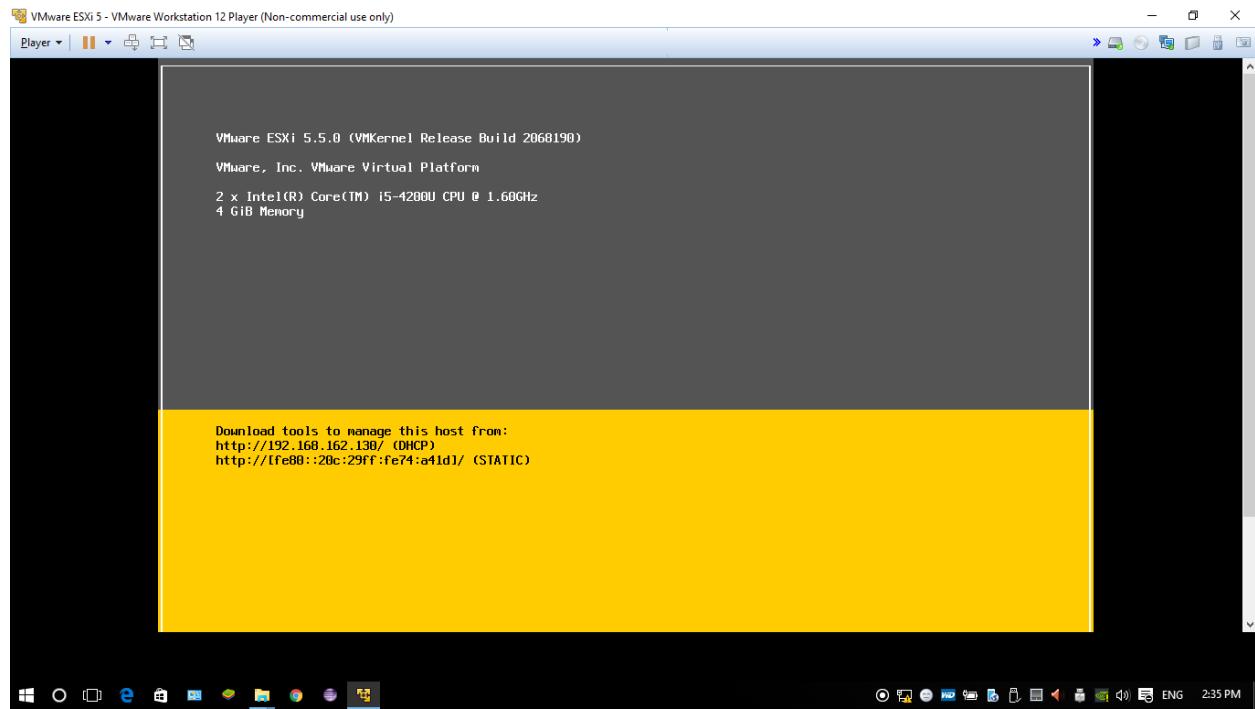
Reboot the server.



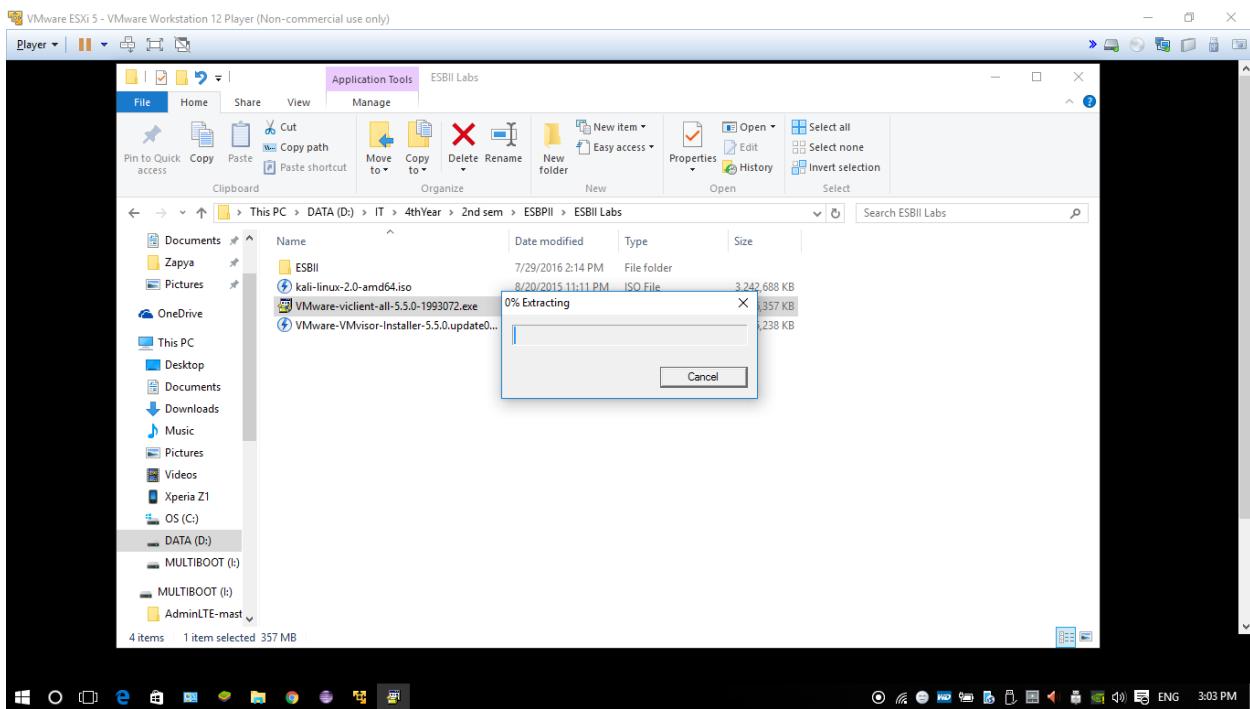
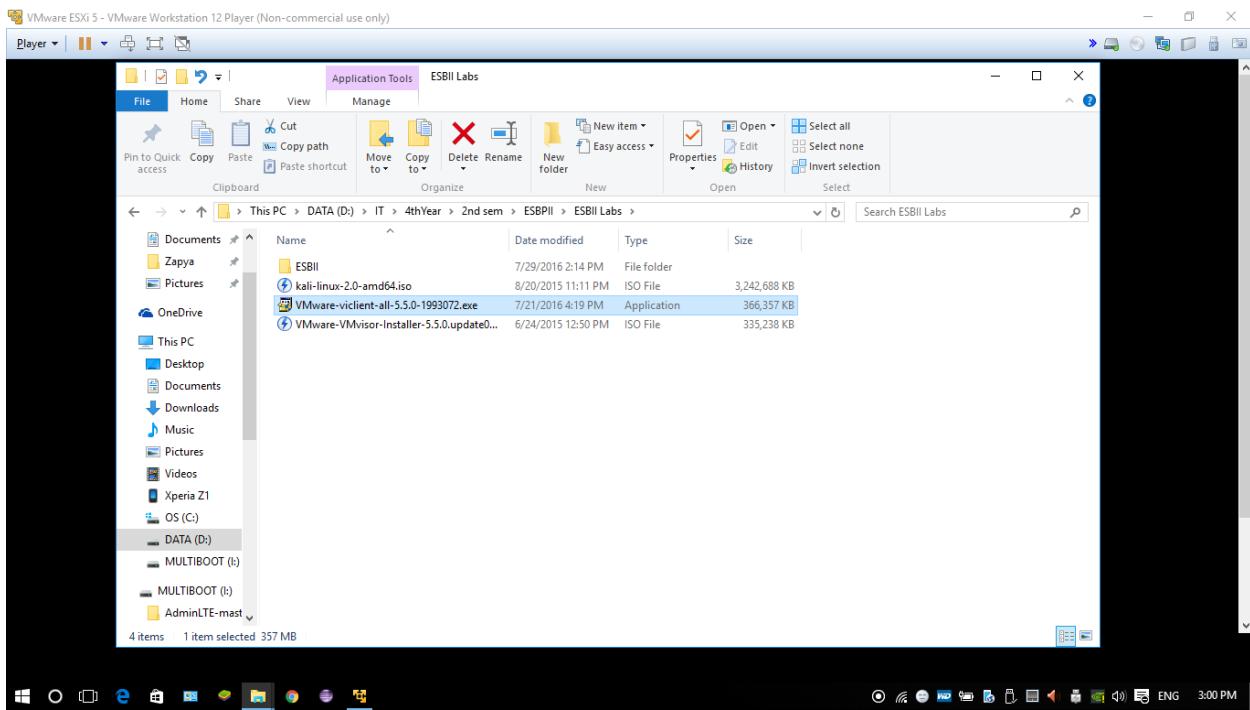


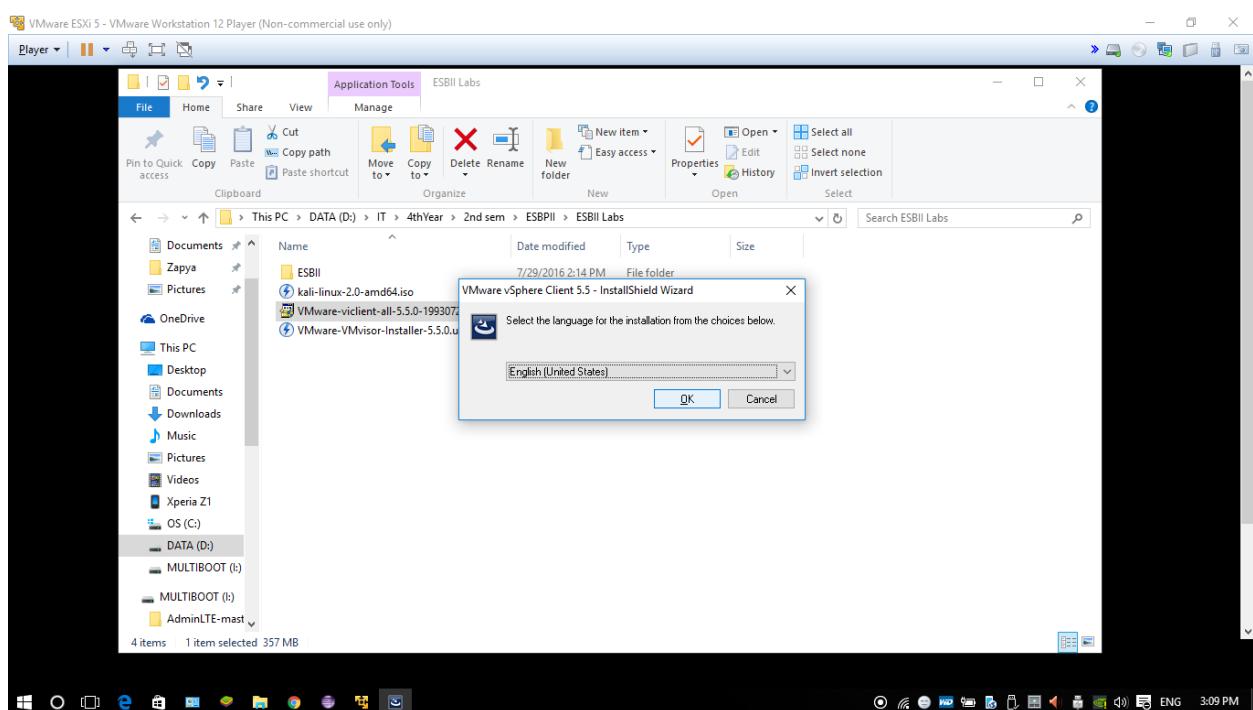
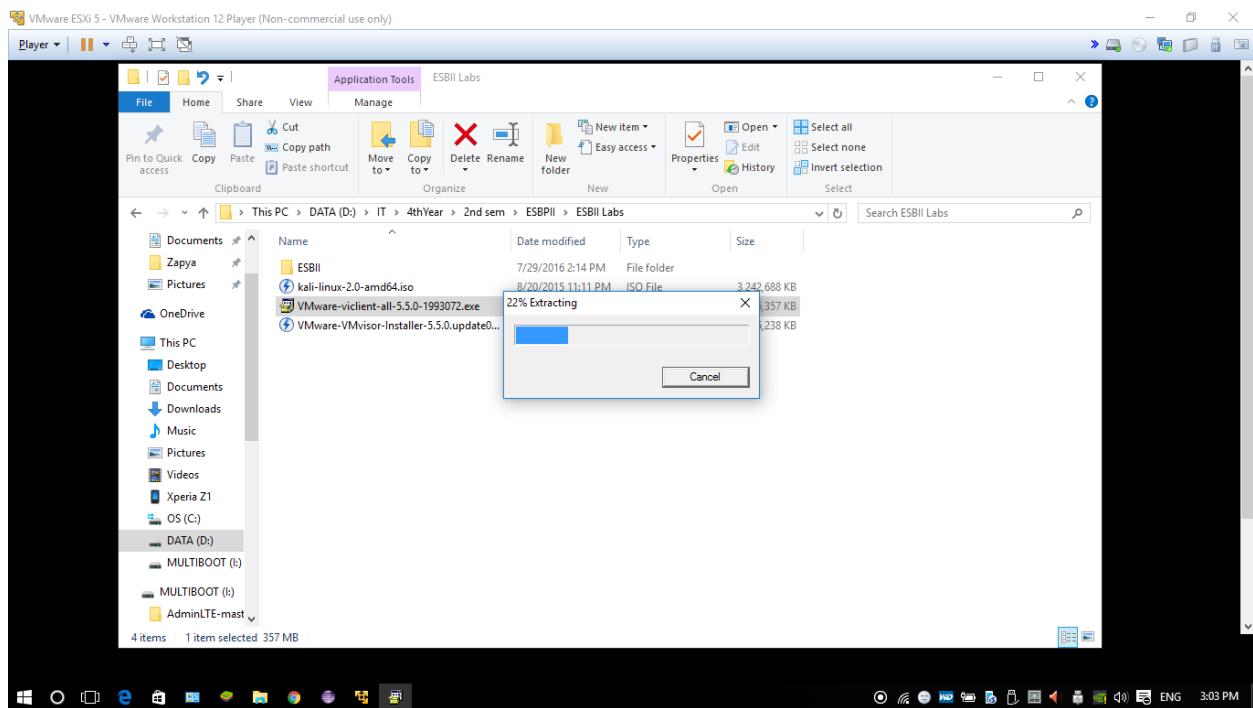


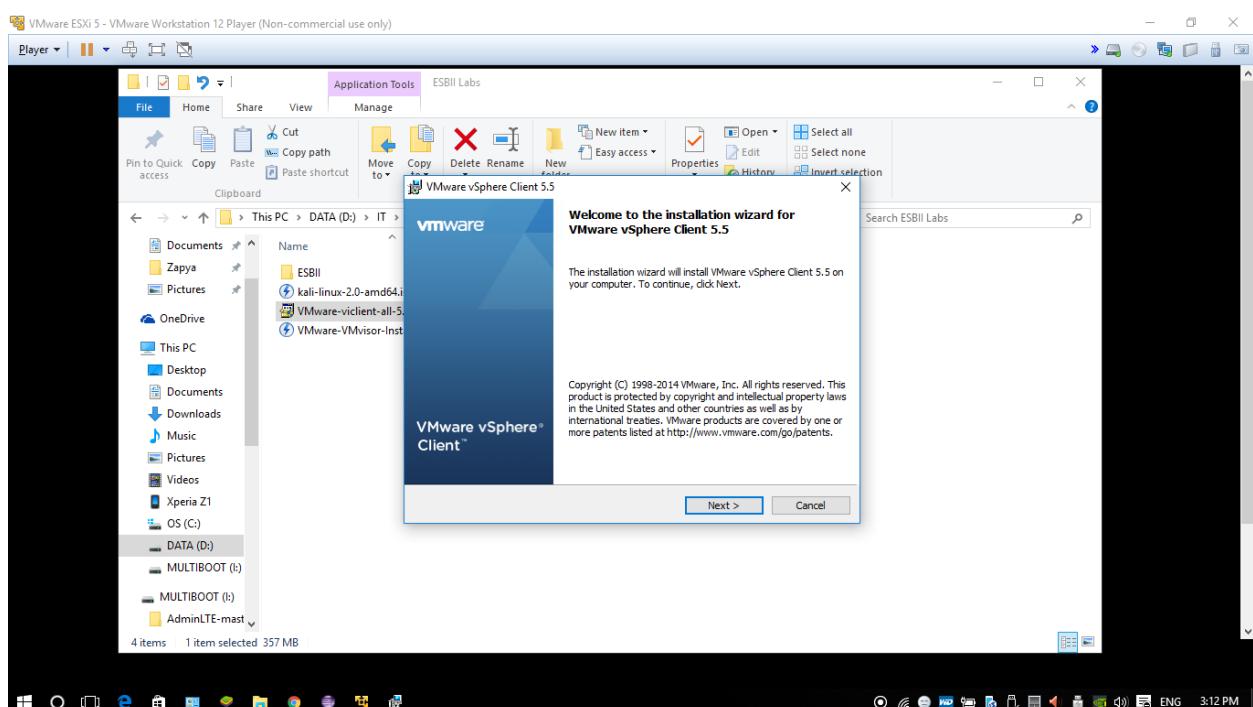
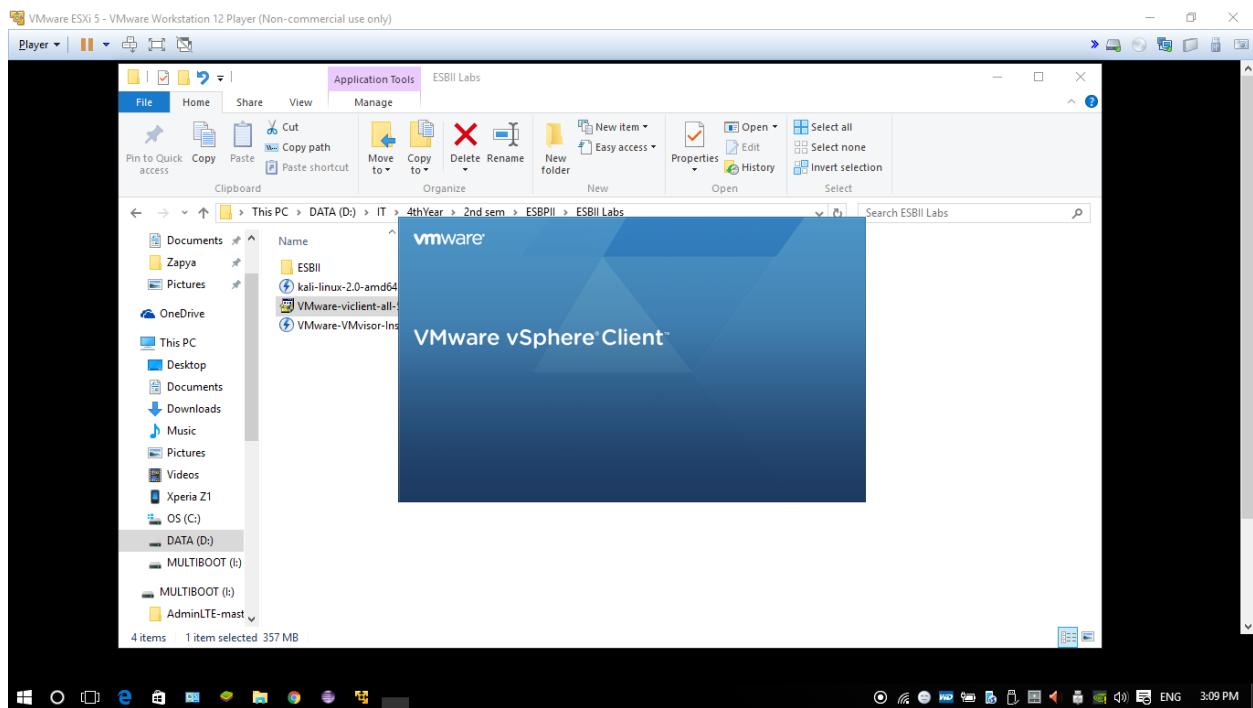
Now we have installed the hypervisor and it is ready to install virtual machines on top of that.

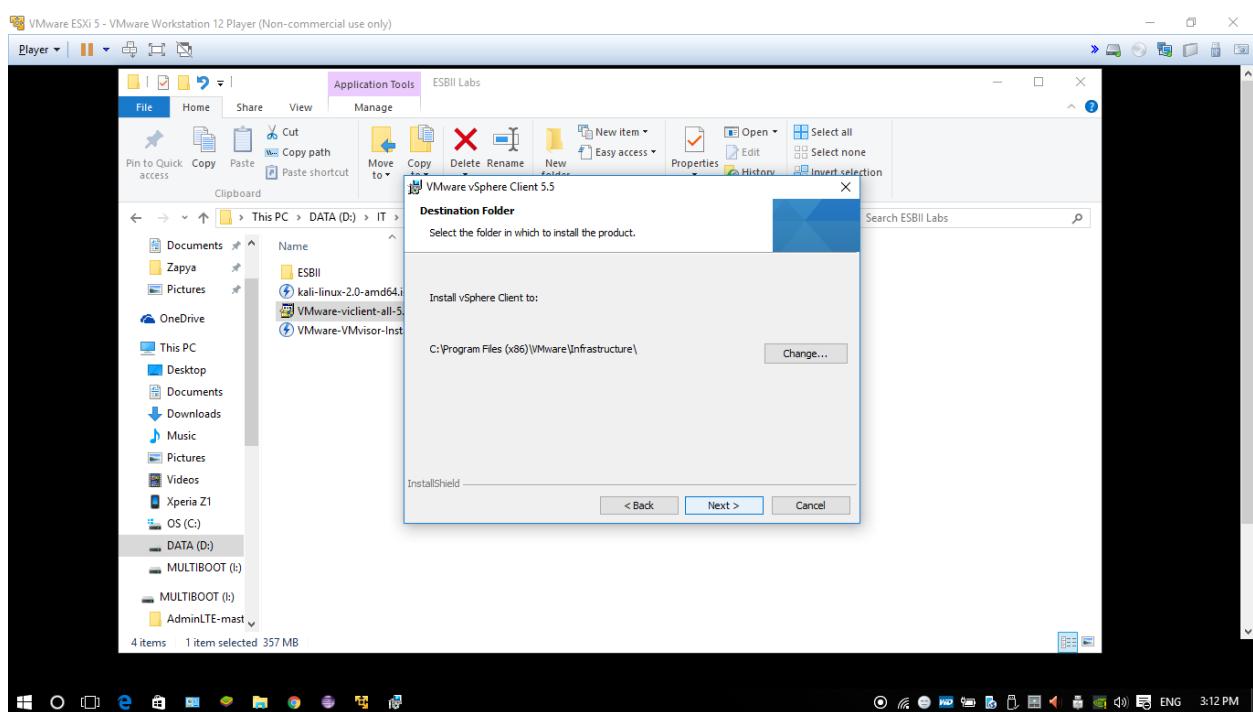
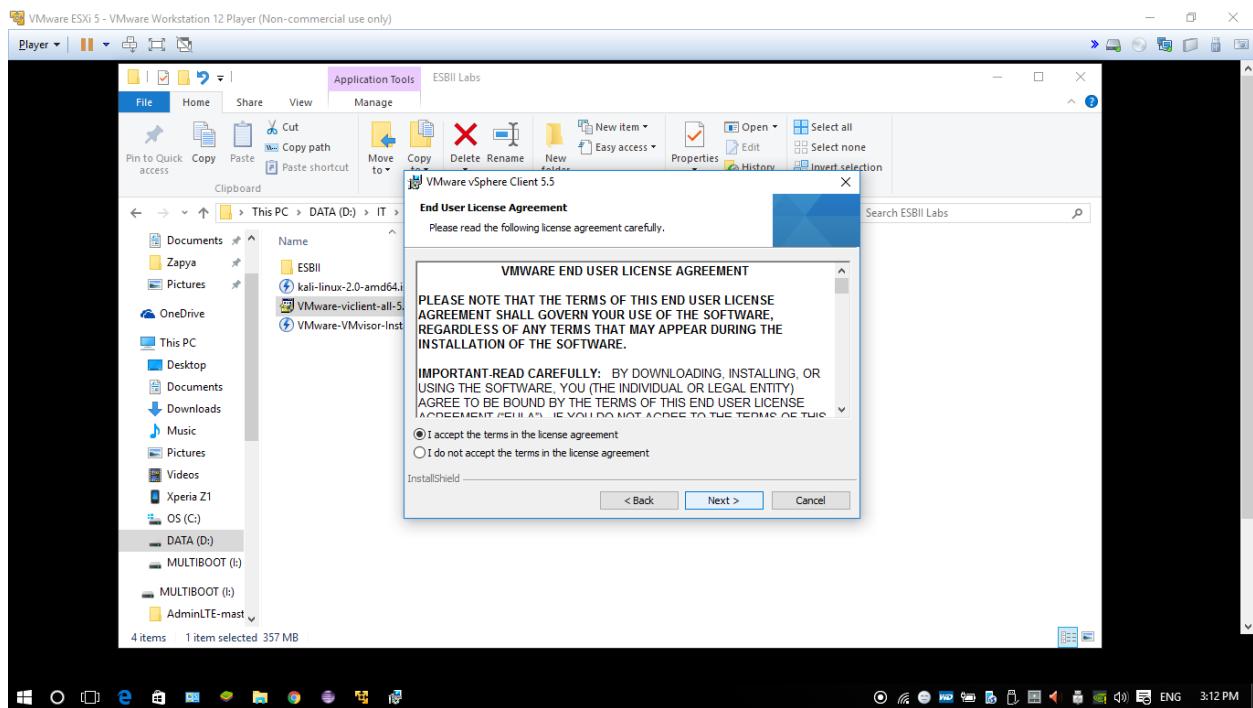


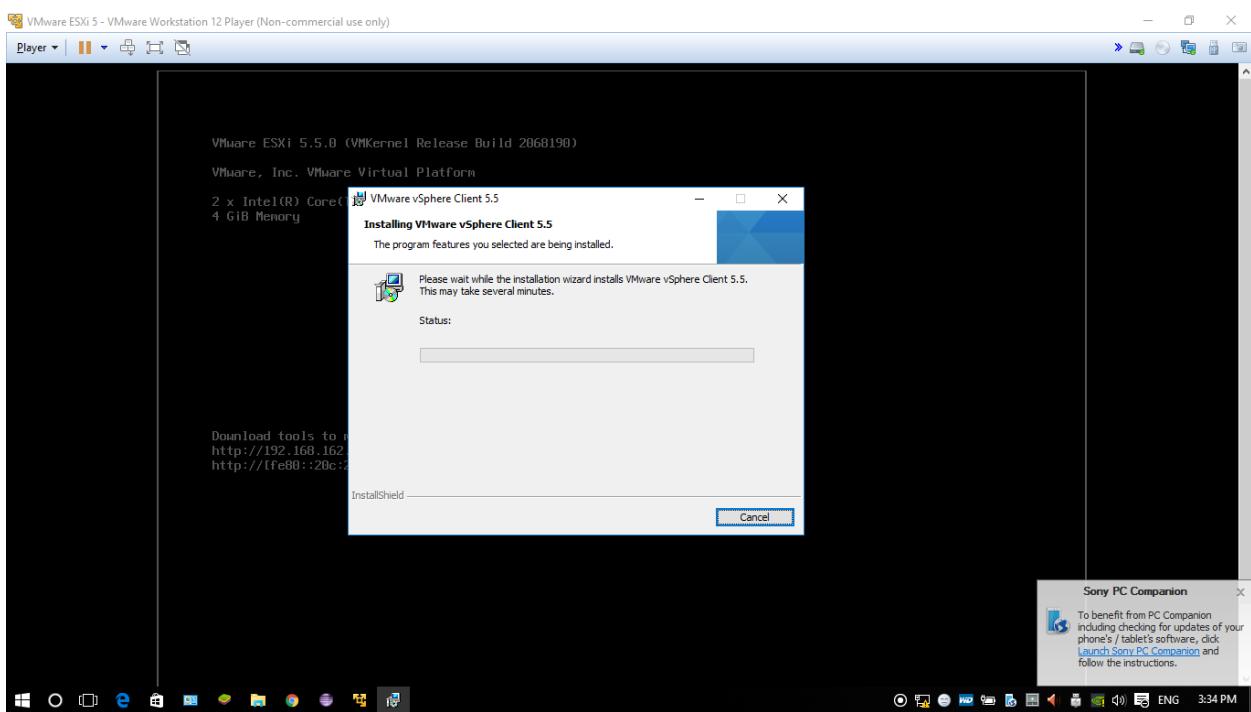
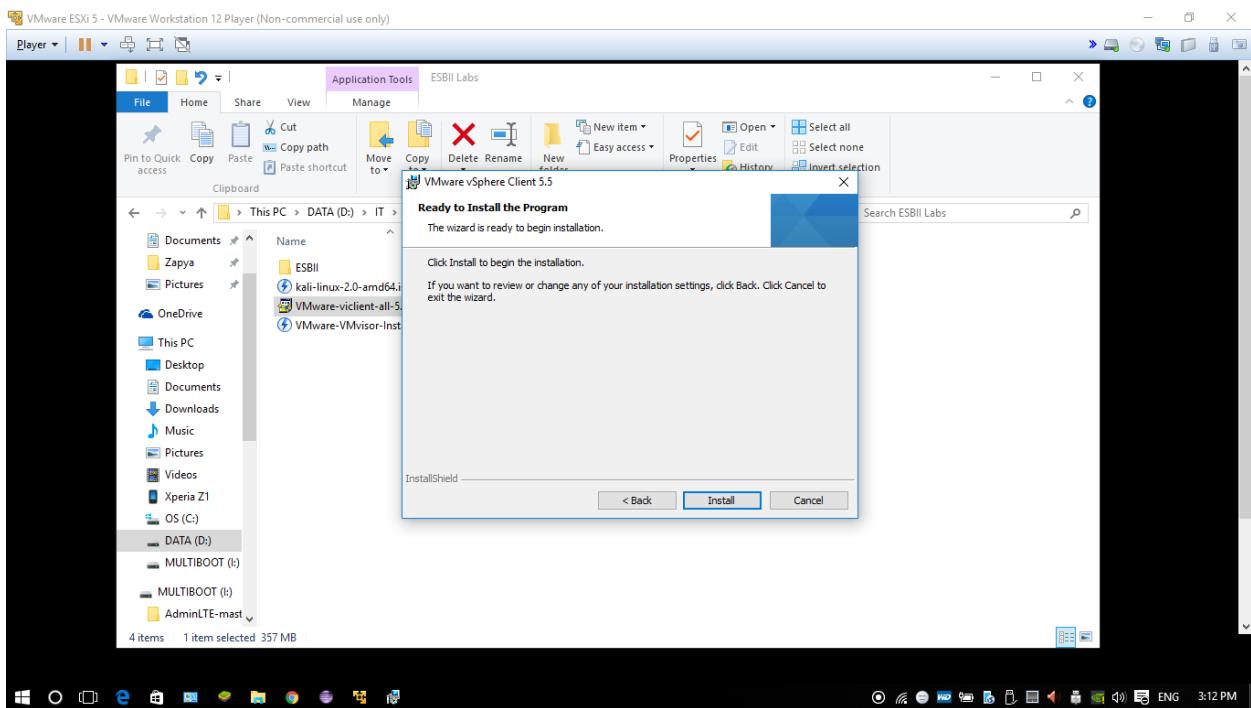
Now I am going to install VMware Vsphere client. VMware vSphere Client allows users to remotely connect to ESXi or vCenter Server from any Windows PC.

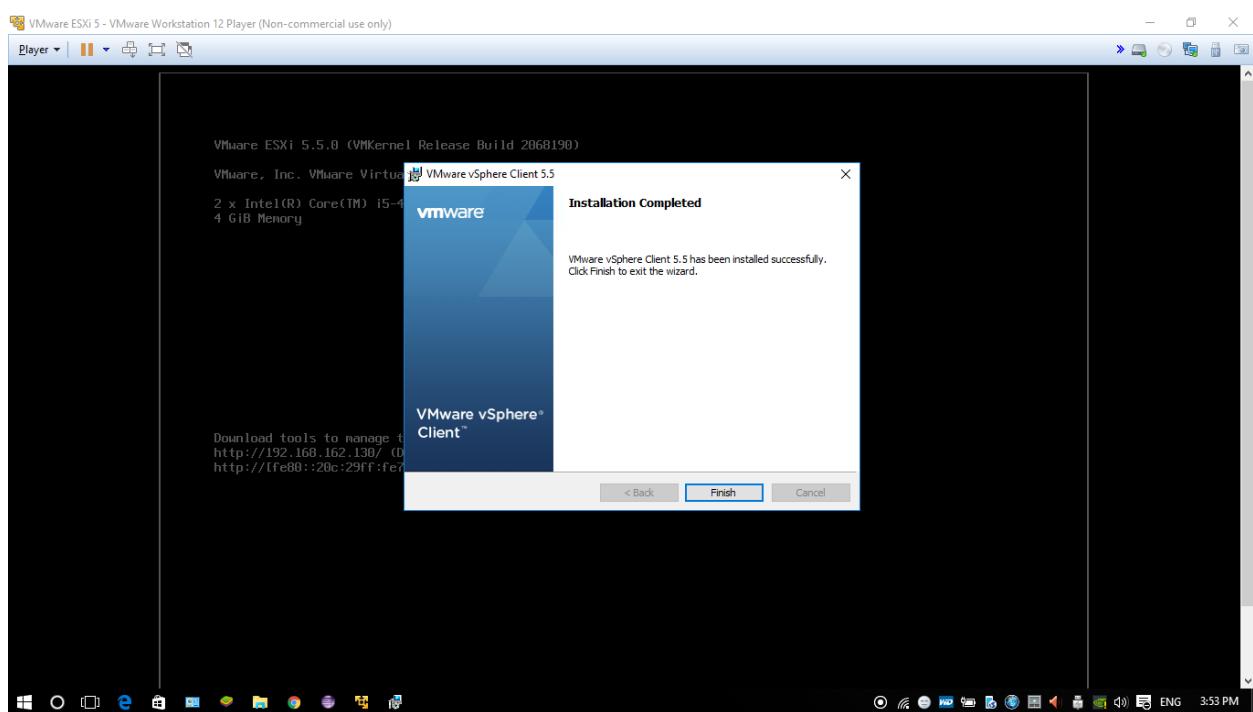
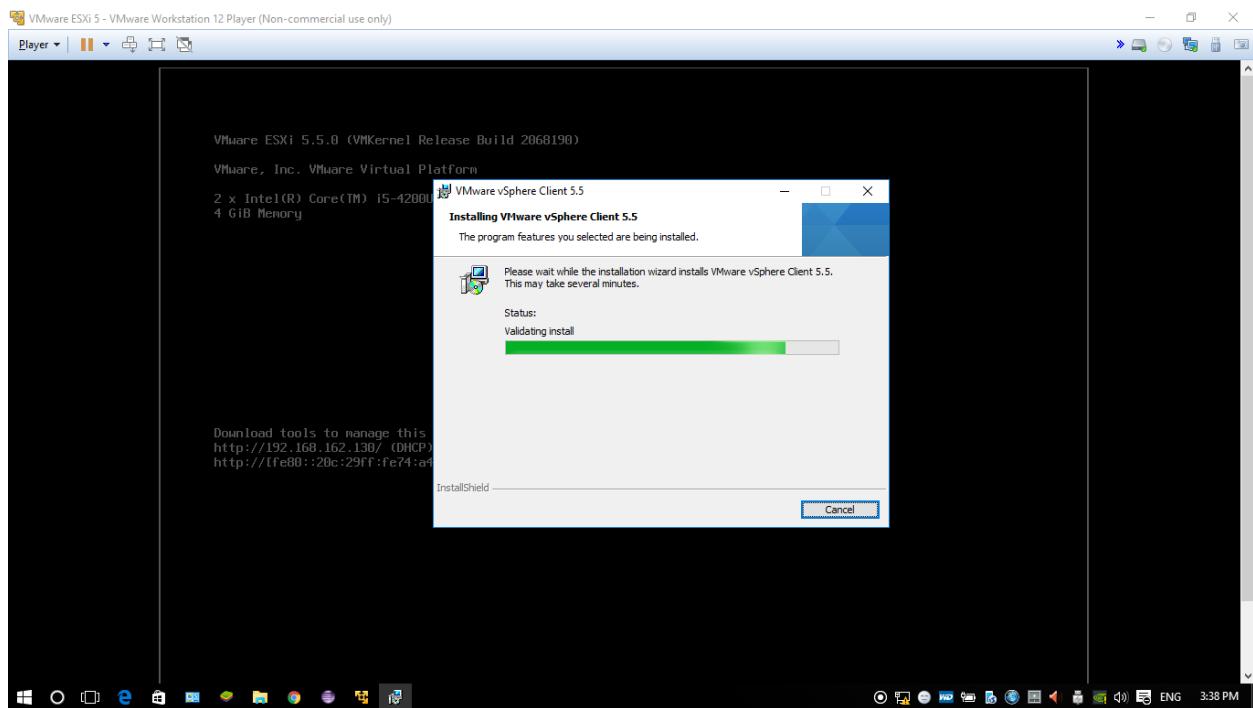


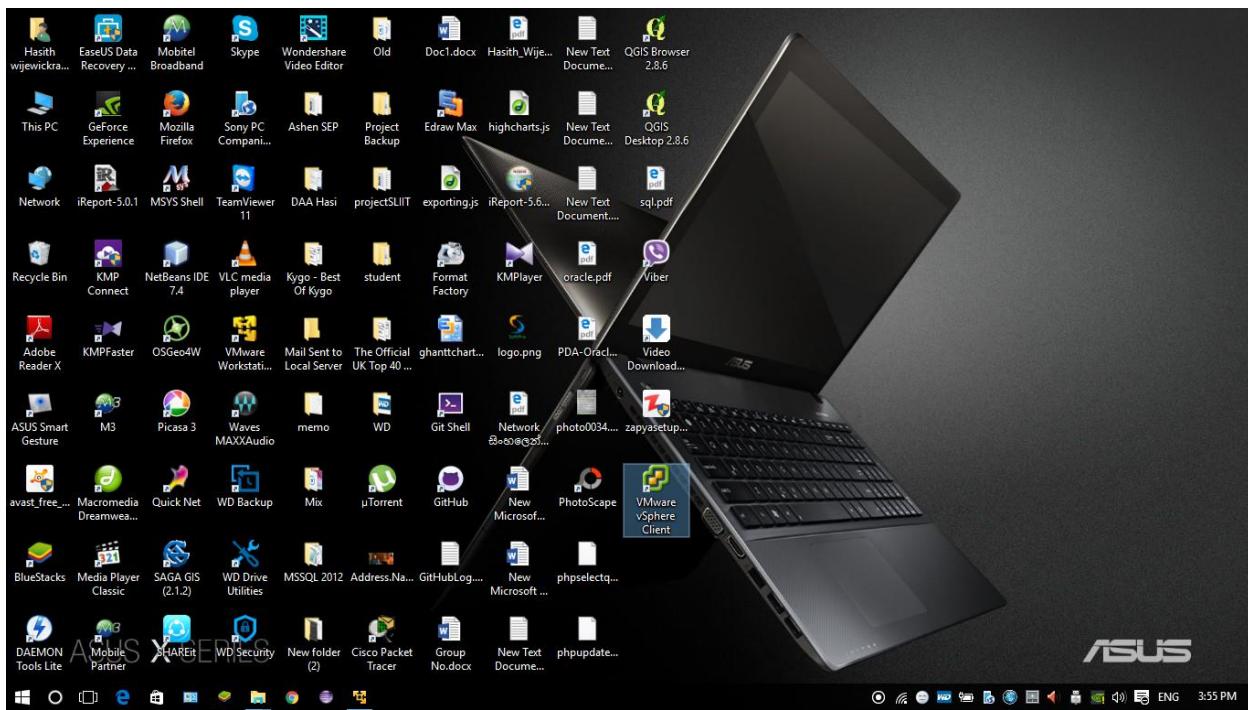




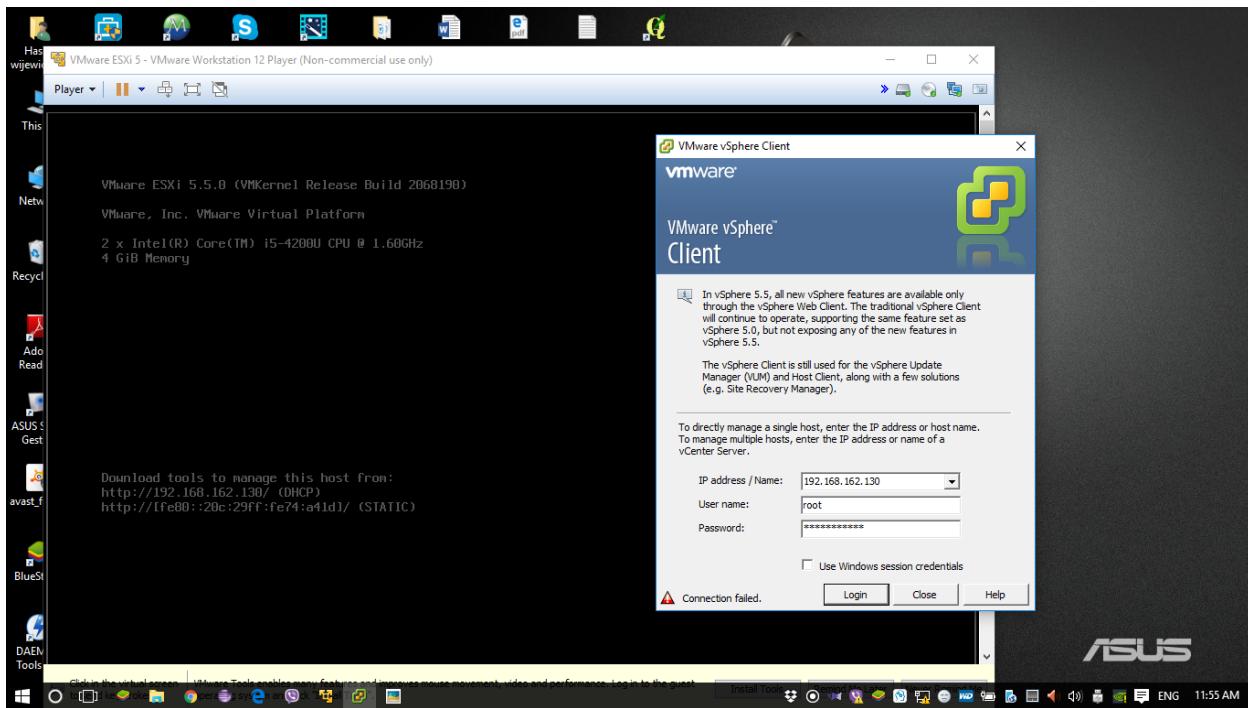


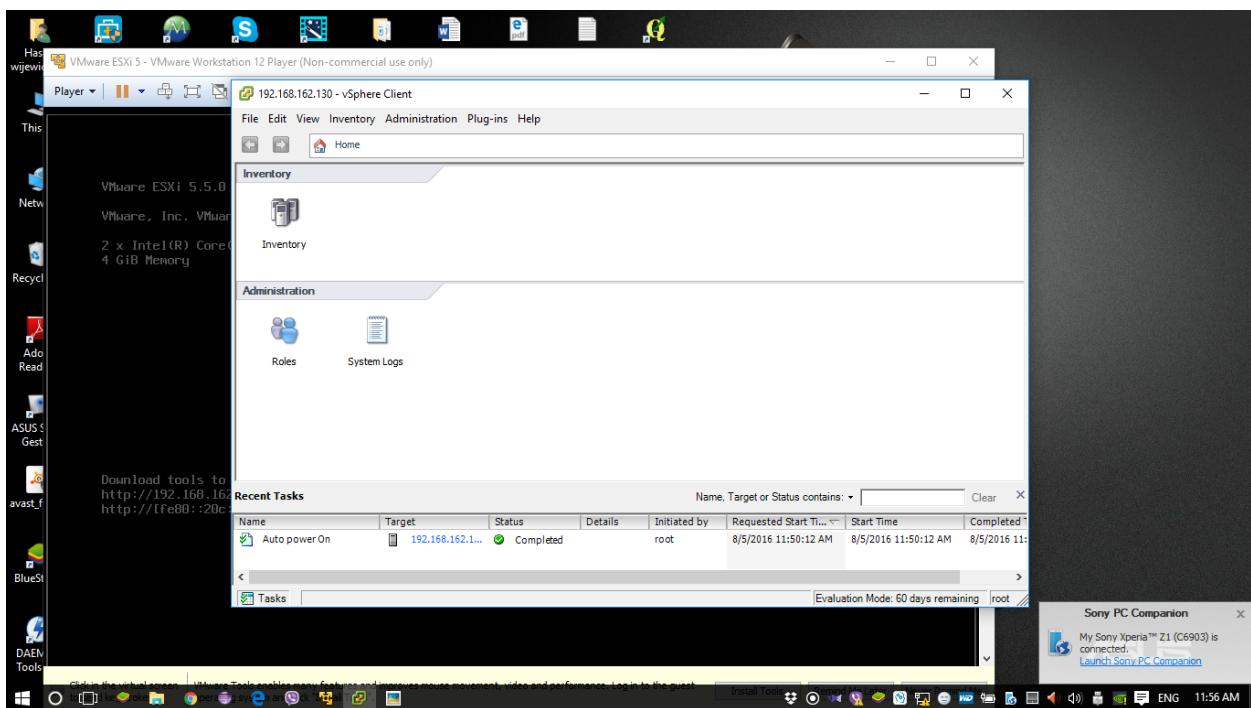
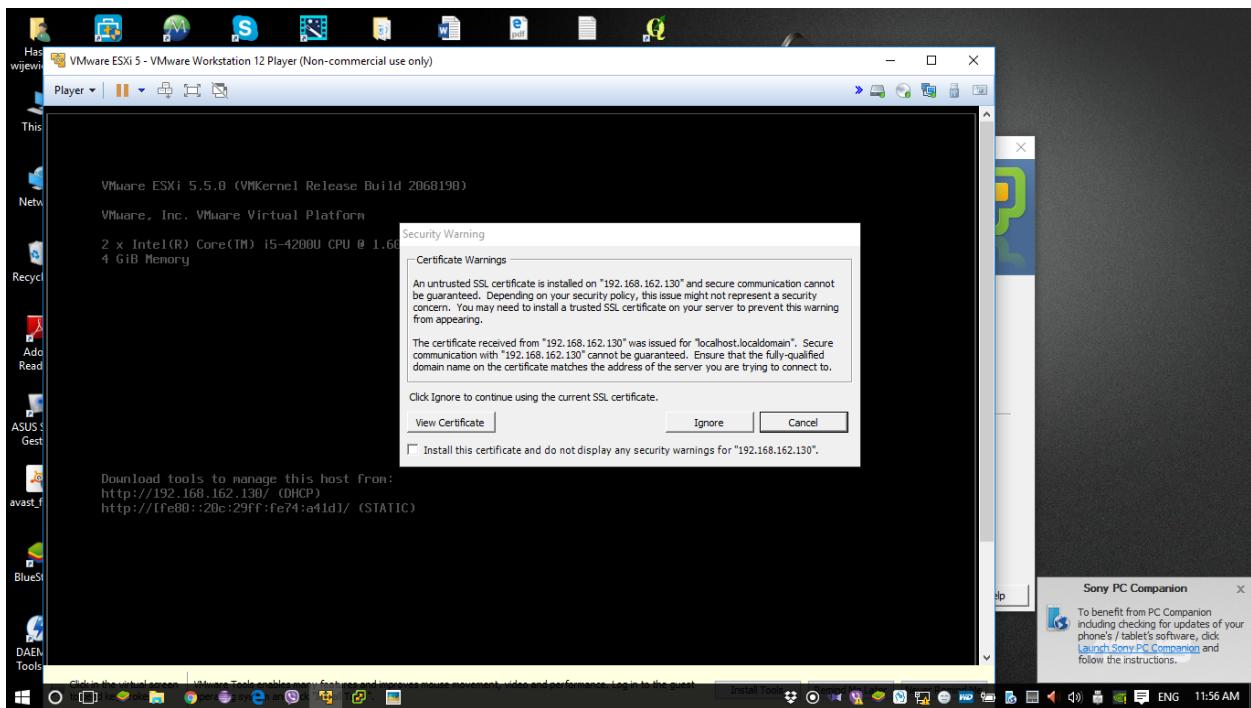




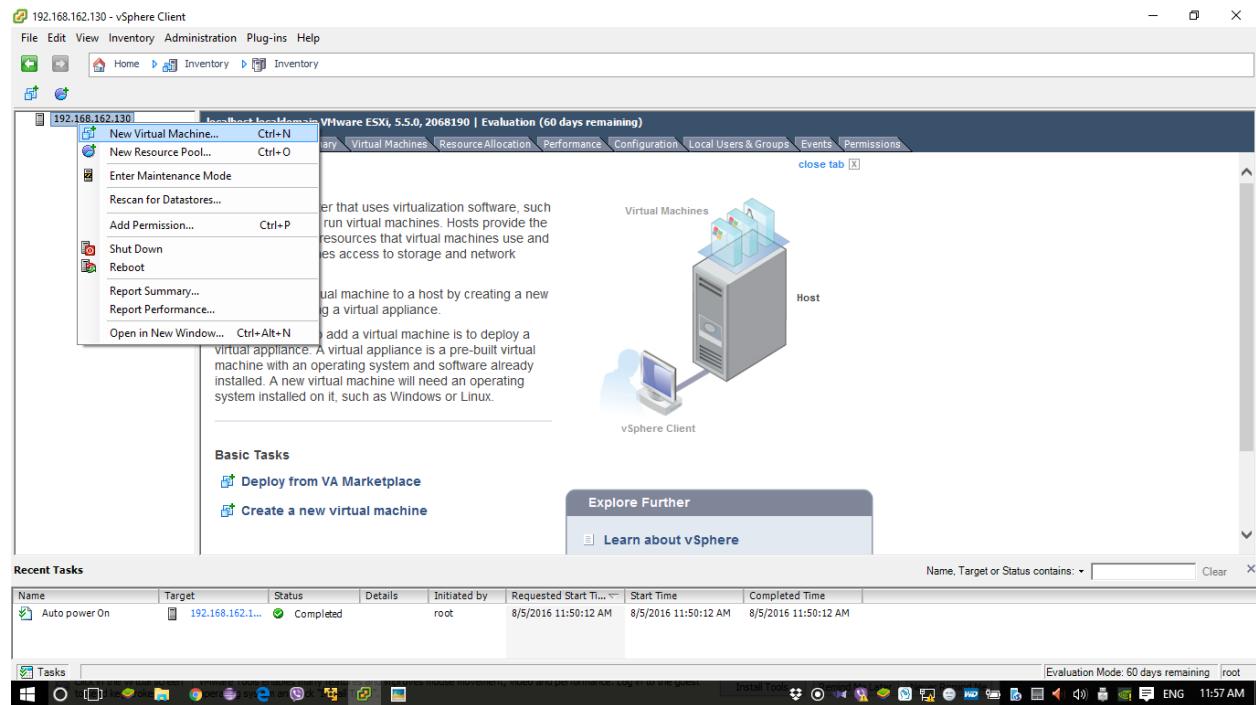


Open VMware vSphere Client to connect with the hypervisor and to create VMs. Provide the IP address of the hypervisor to connect with it.

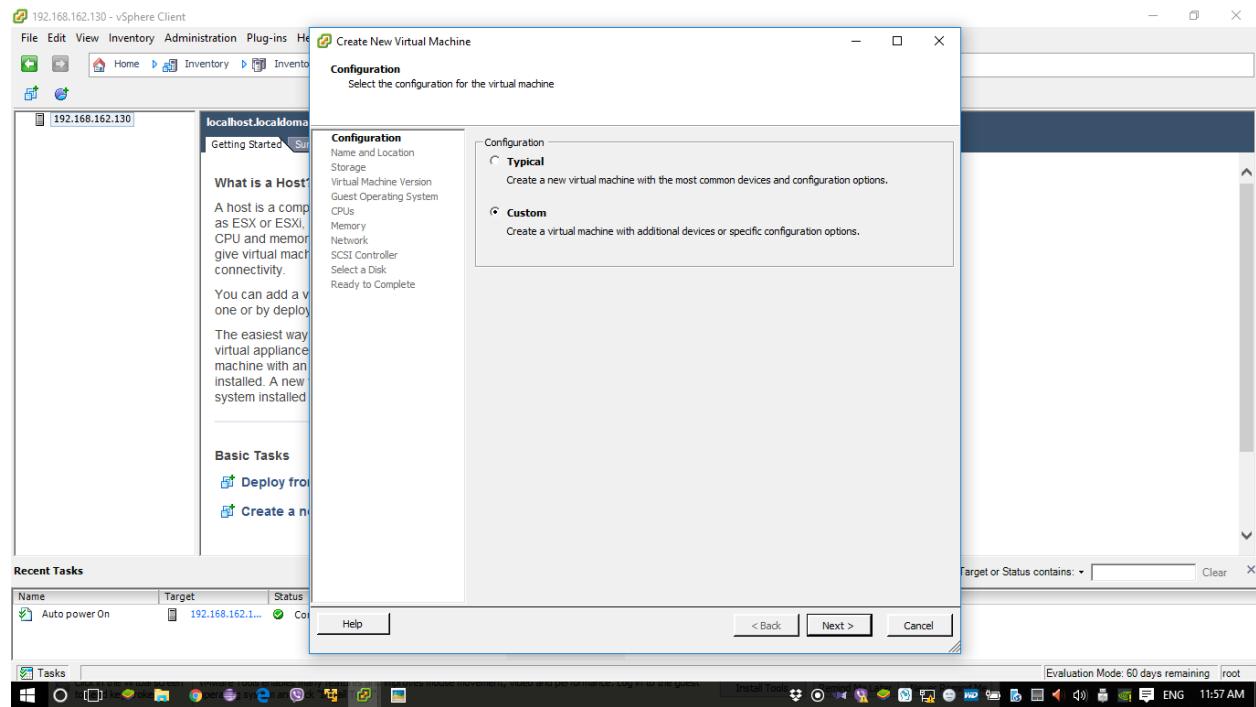




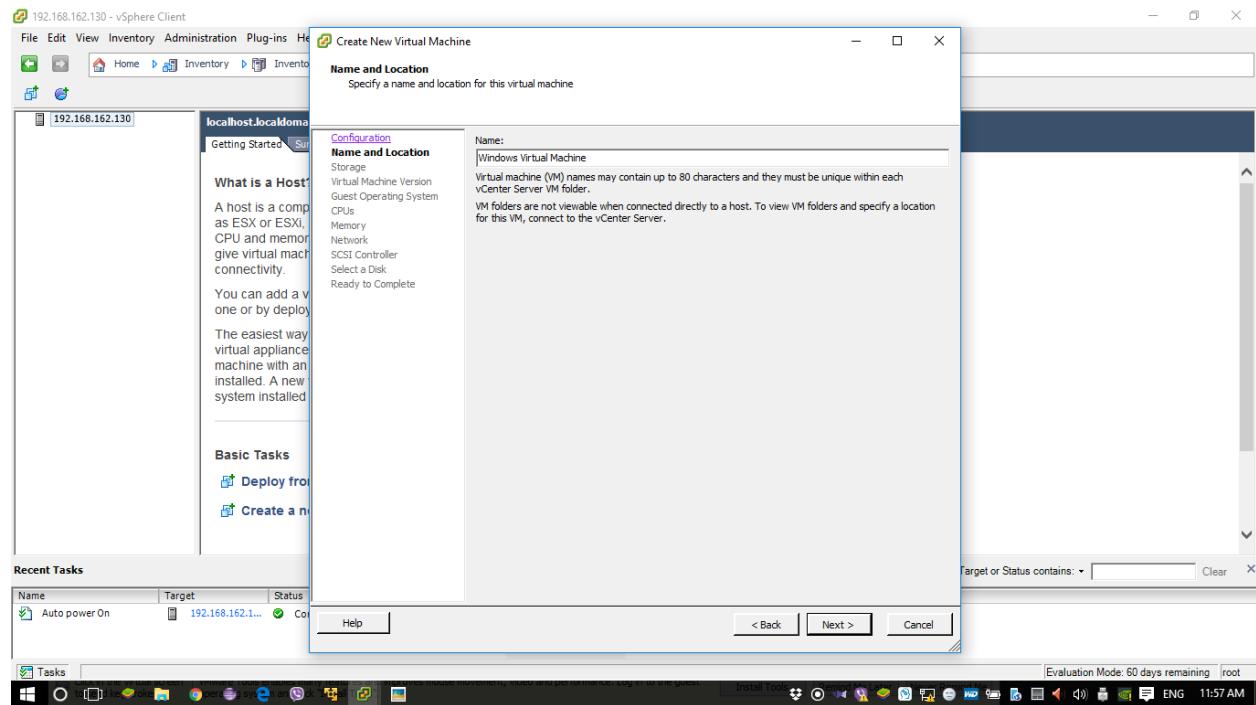
Now I am going to create a new virtual machine. (For Windows)



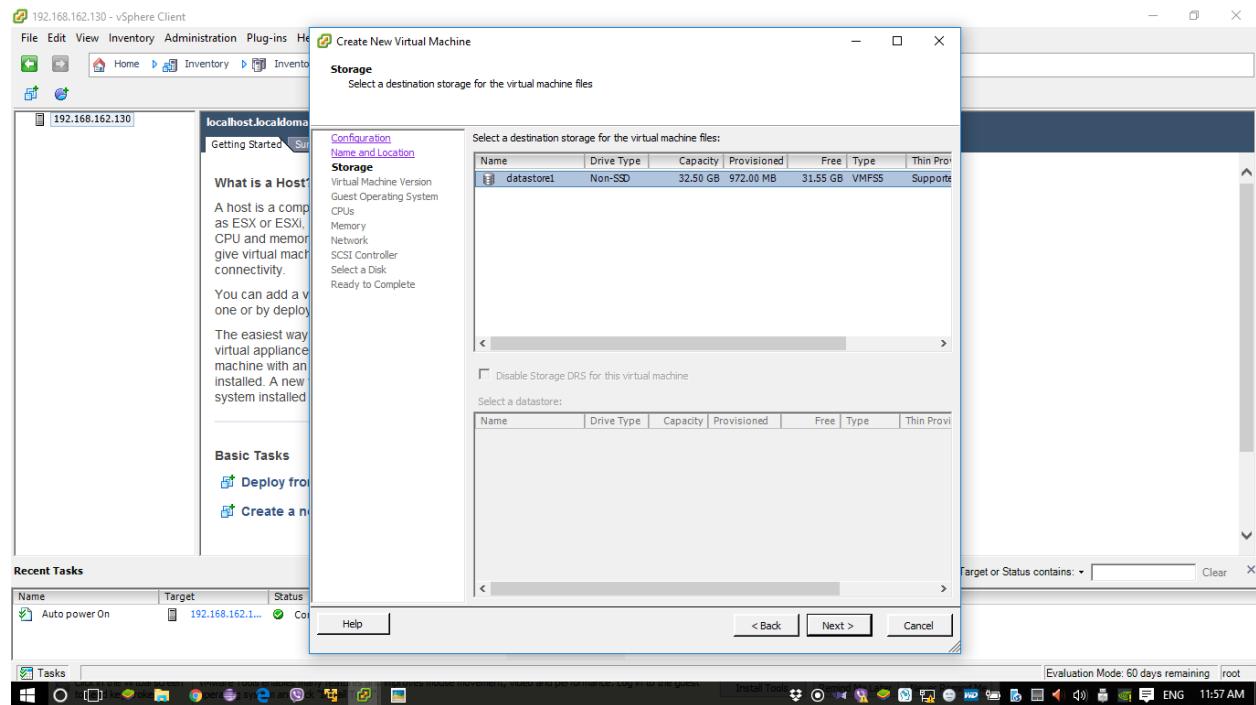
Select the configuration as Custom.



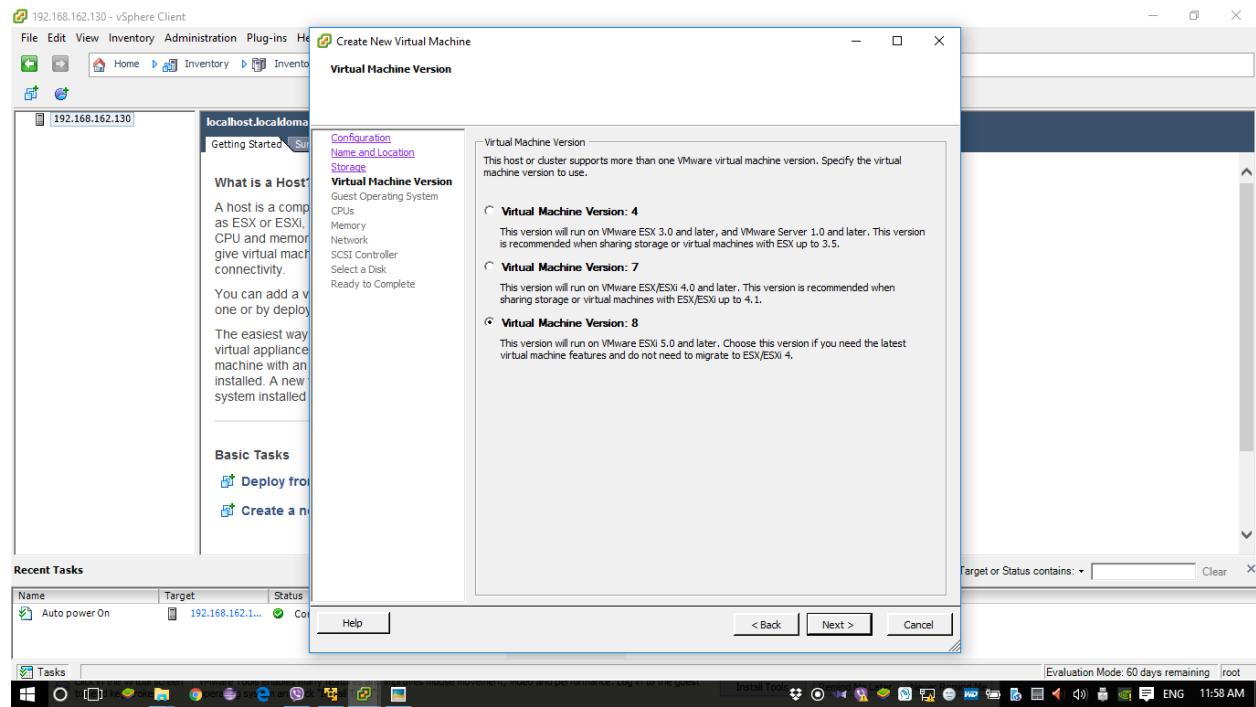
Give a suitable name to the virtual machine.



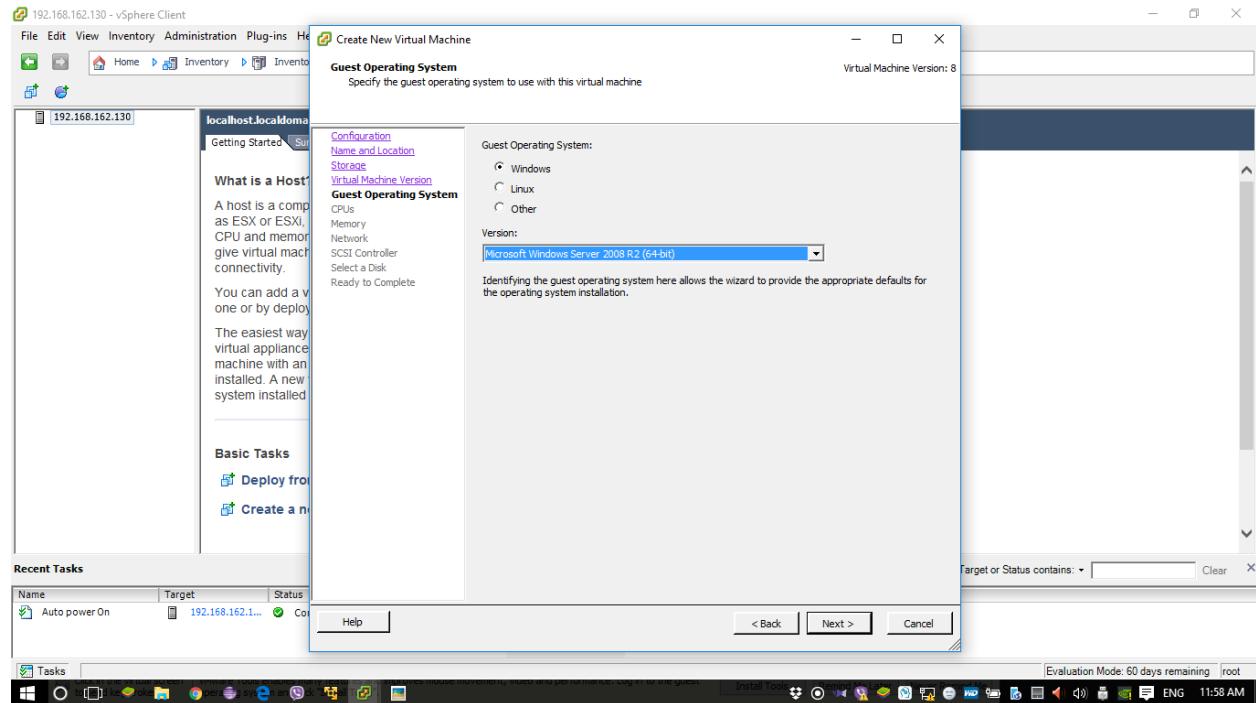
Select a destination storage.



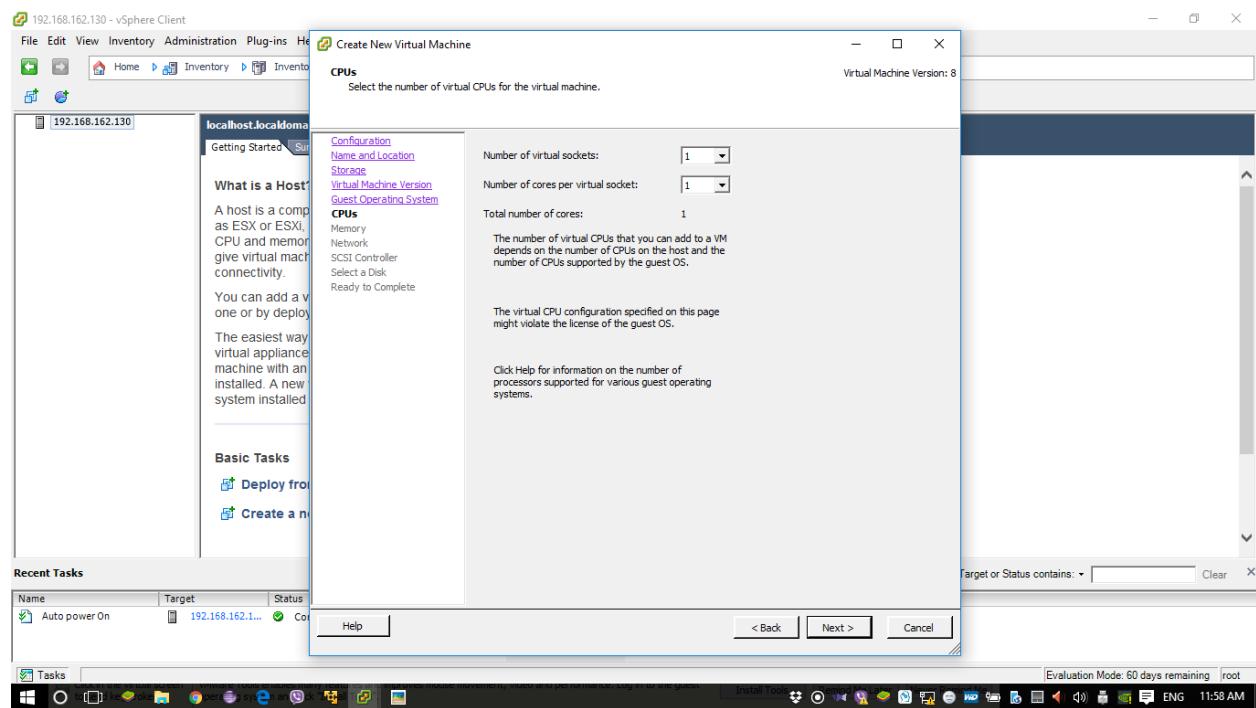
Select a virtual machine version.



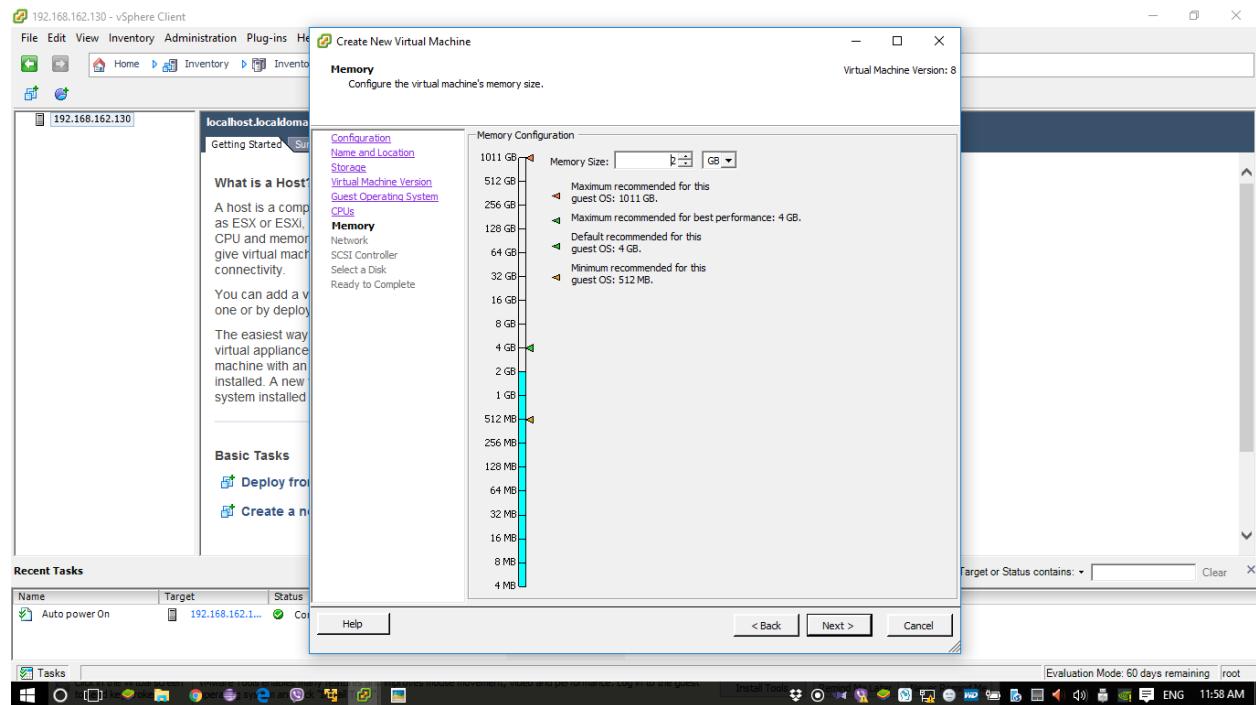
Choose the OS as Windows.



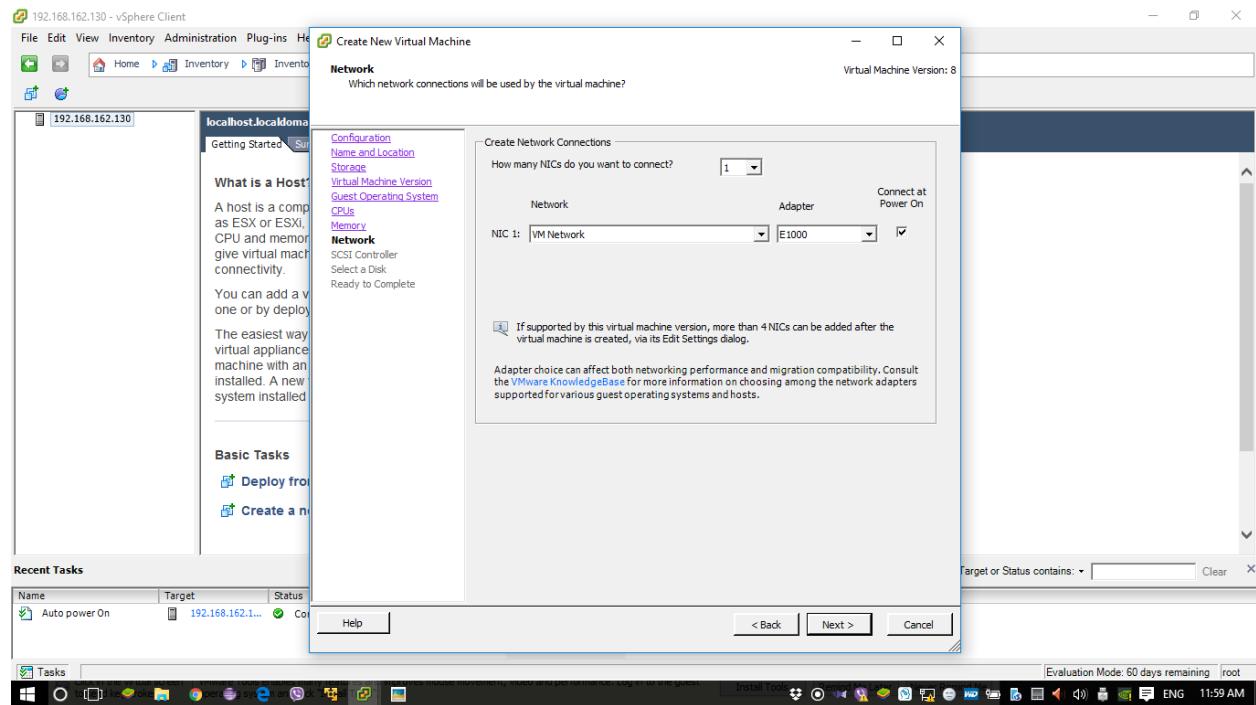
Select the no of virtual CPUs.



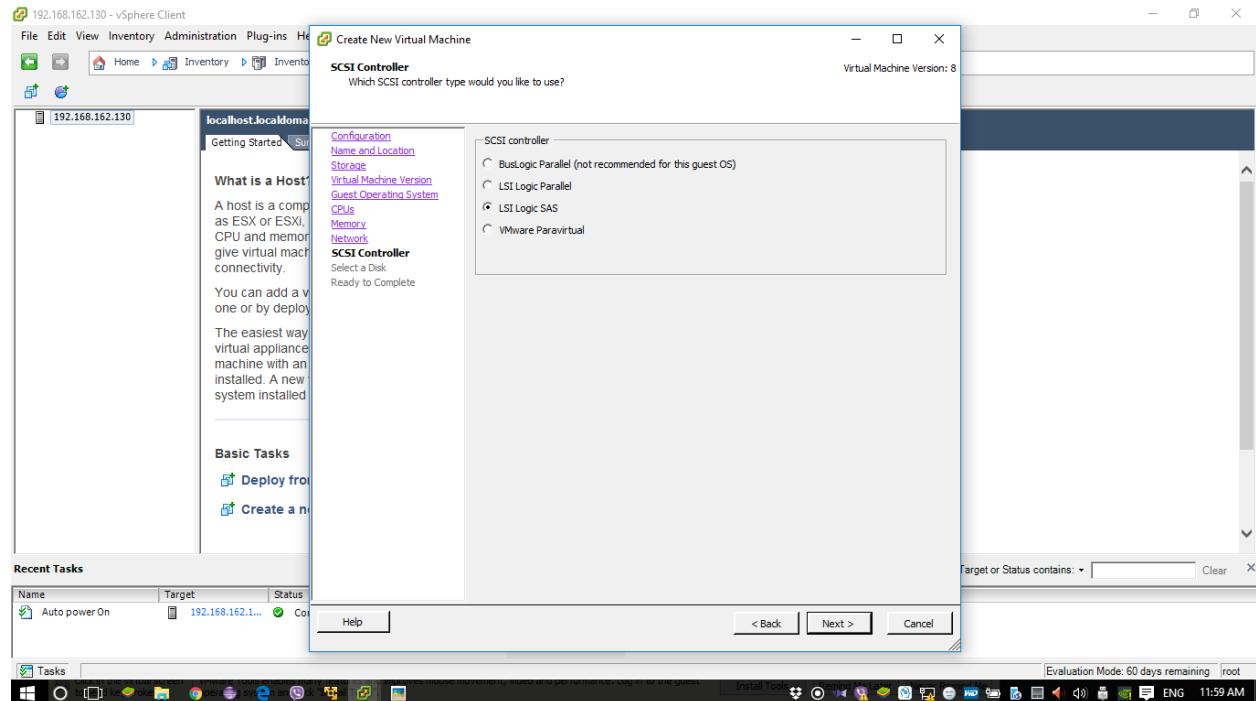
Configure the memory.



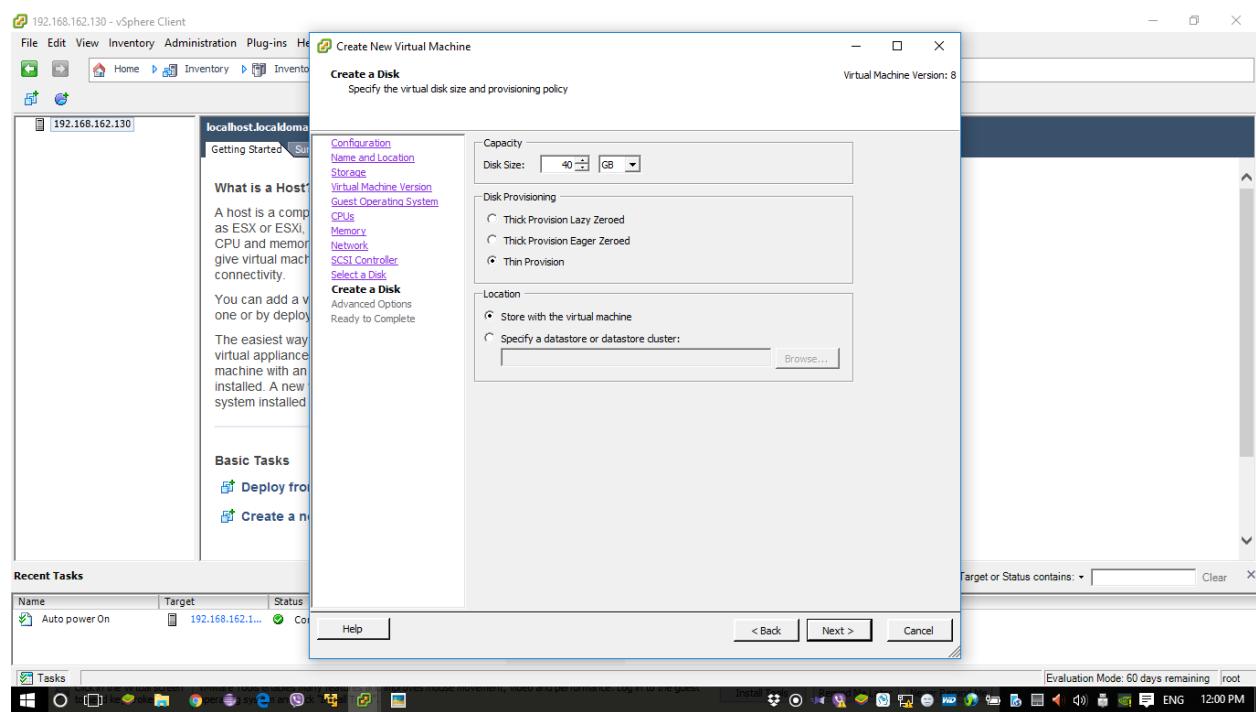
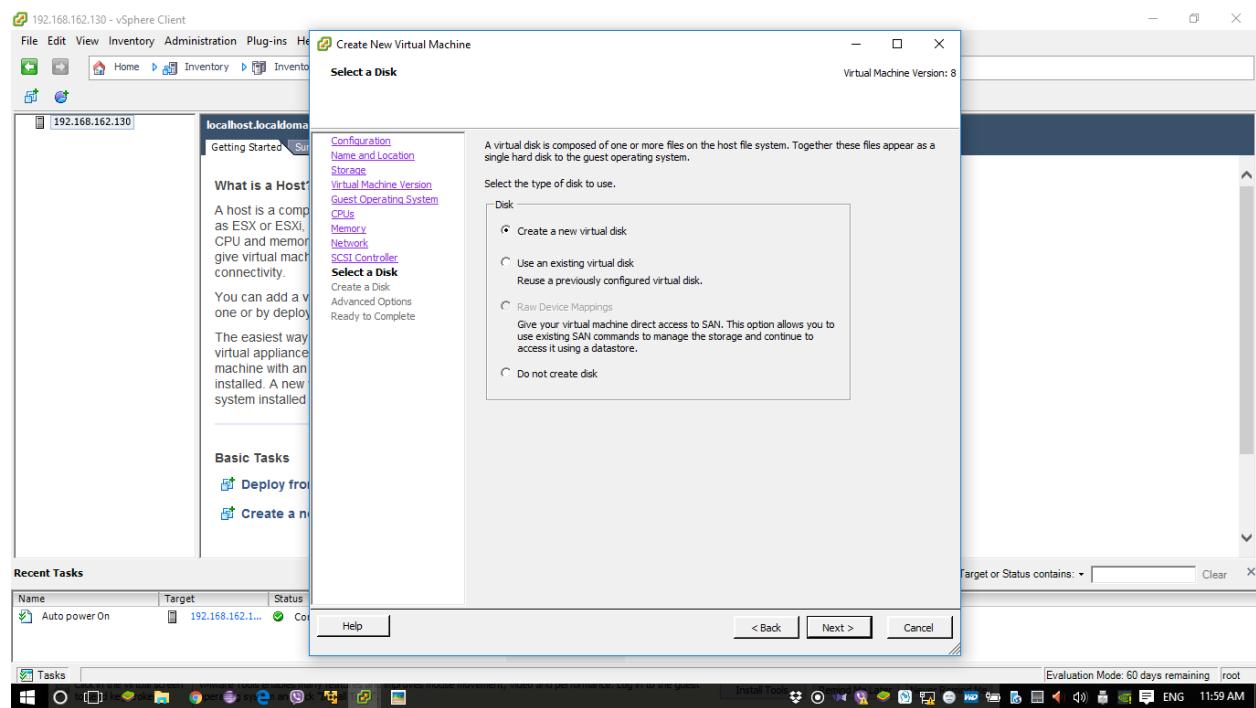
Create the network connections. Select the Adapter as E1000.

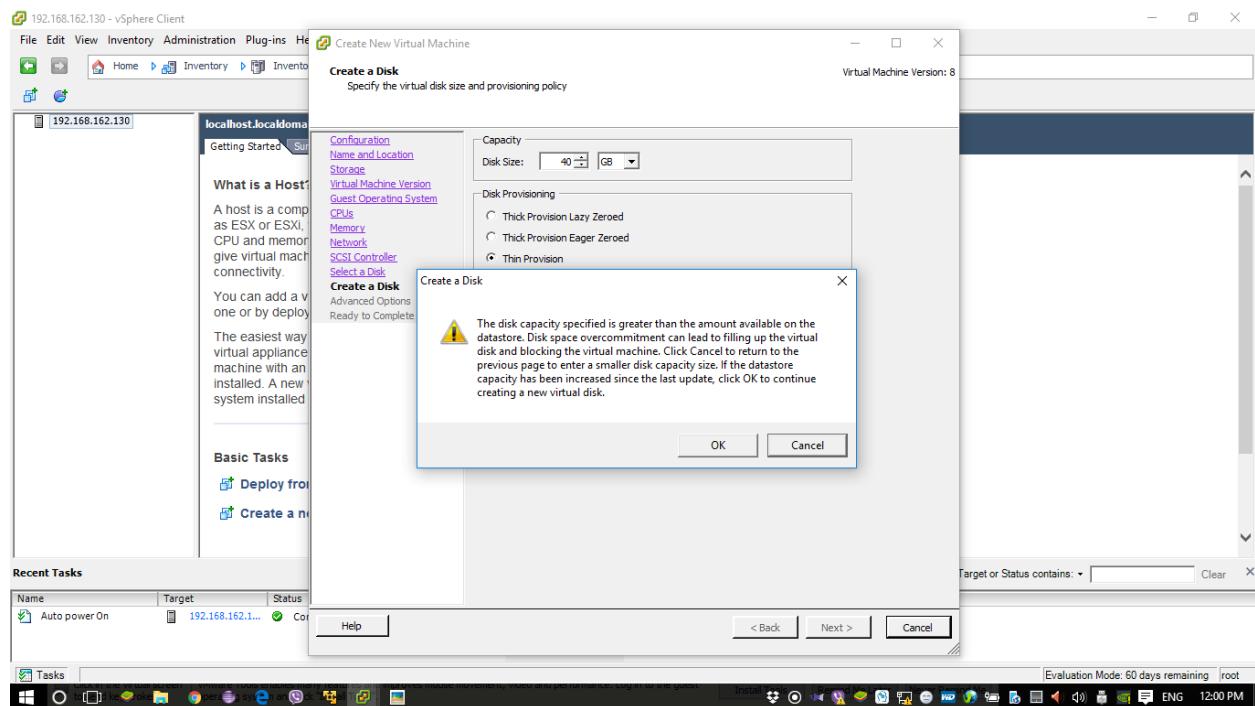


Select the SCSI controller type.

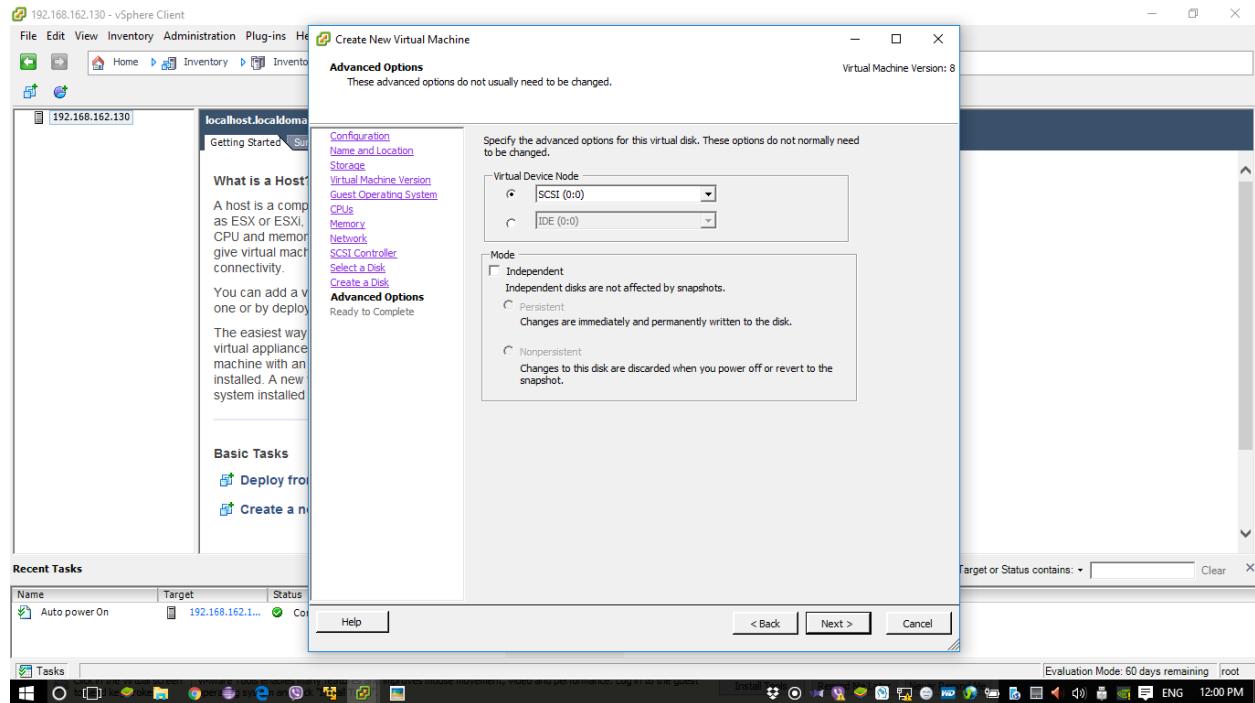


Select a disk.

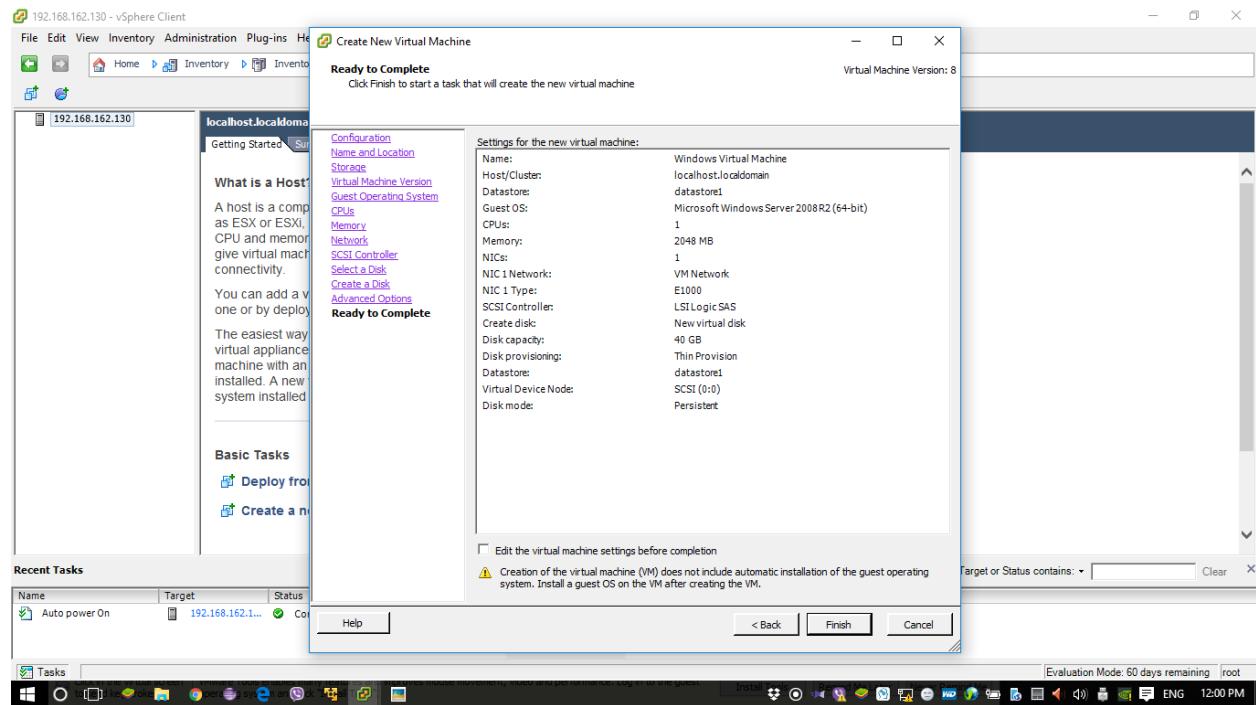




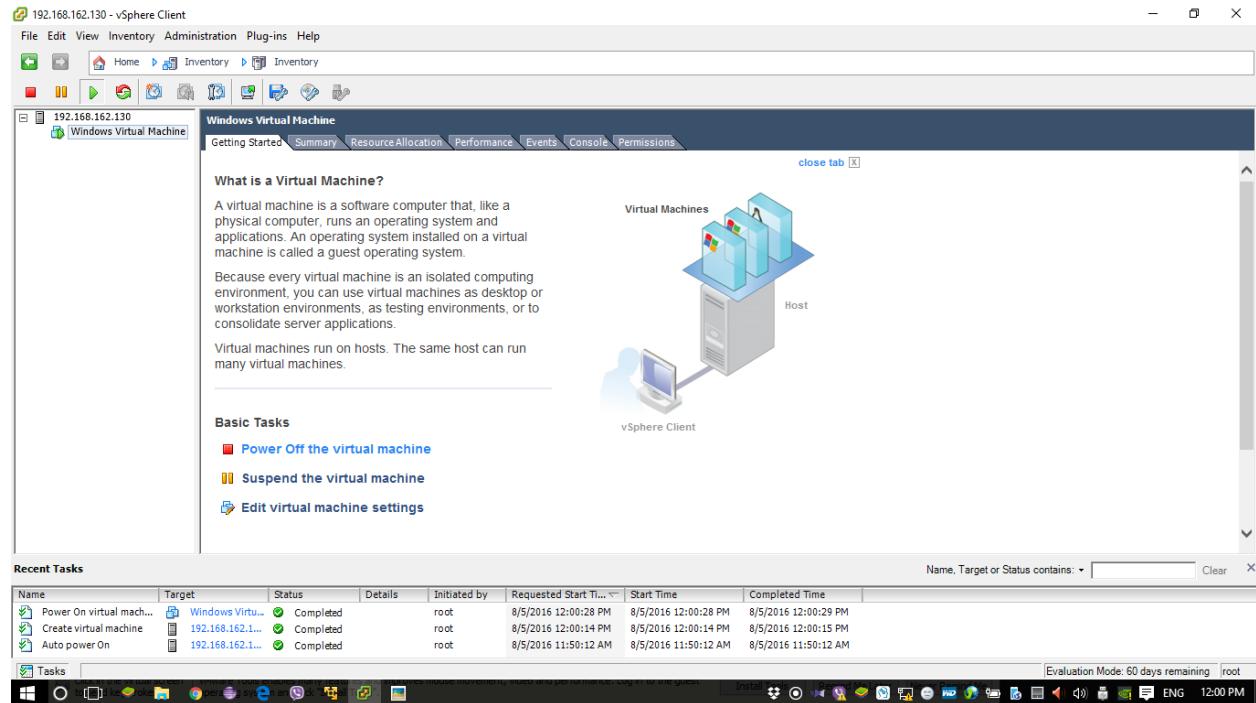
Choose the virtual device node.



Now the VM is ready to complete. Click finish.

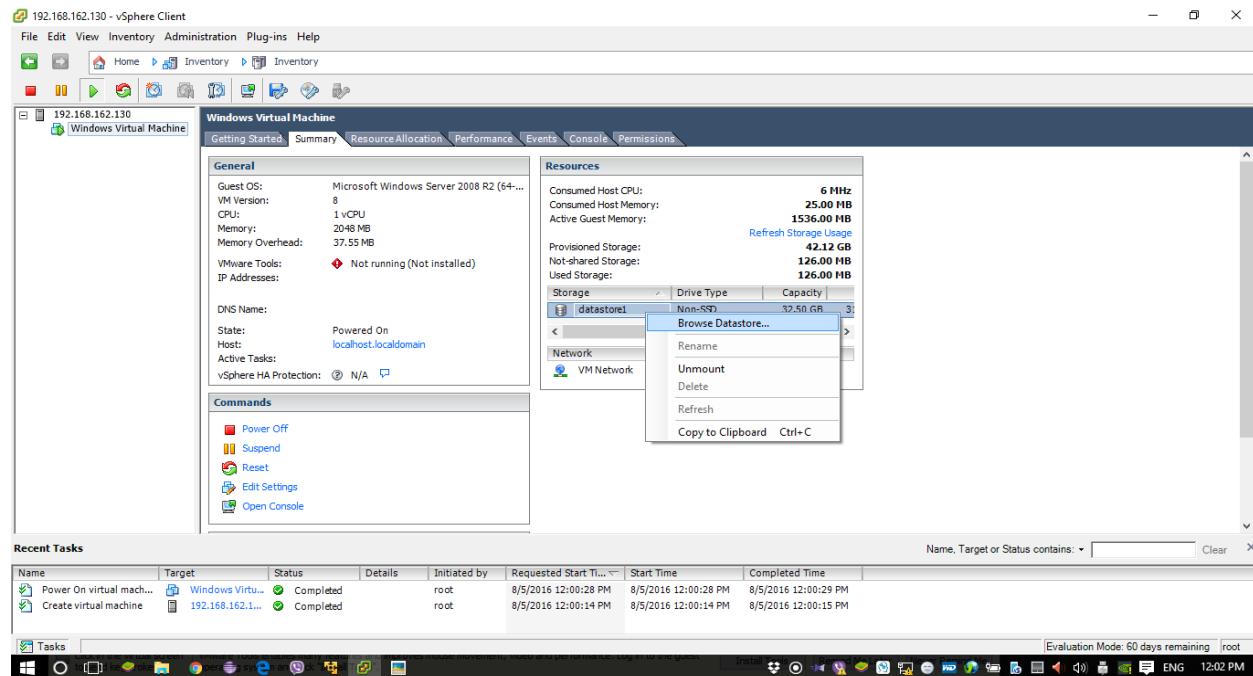
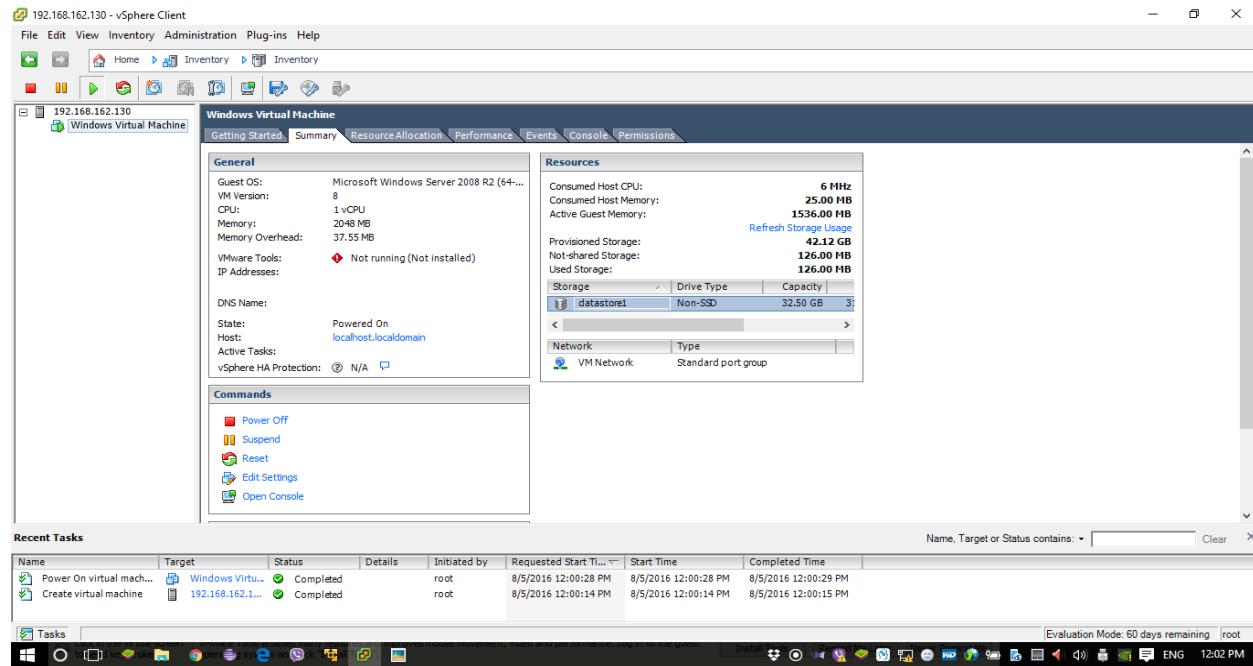


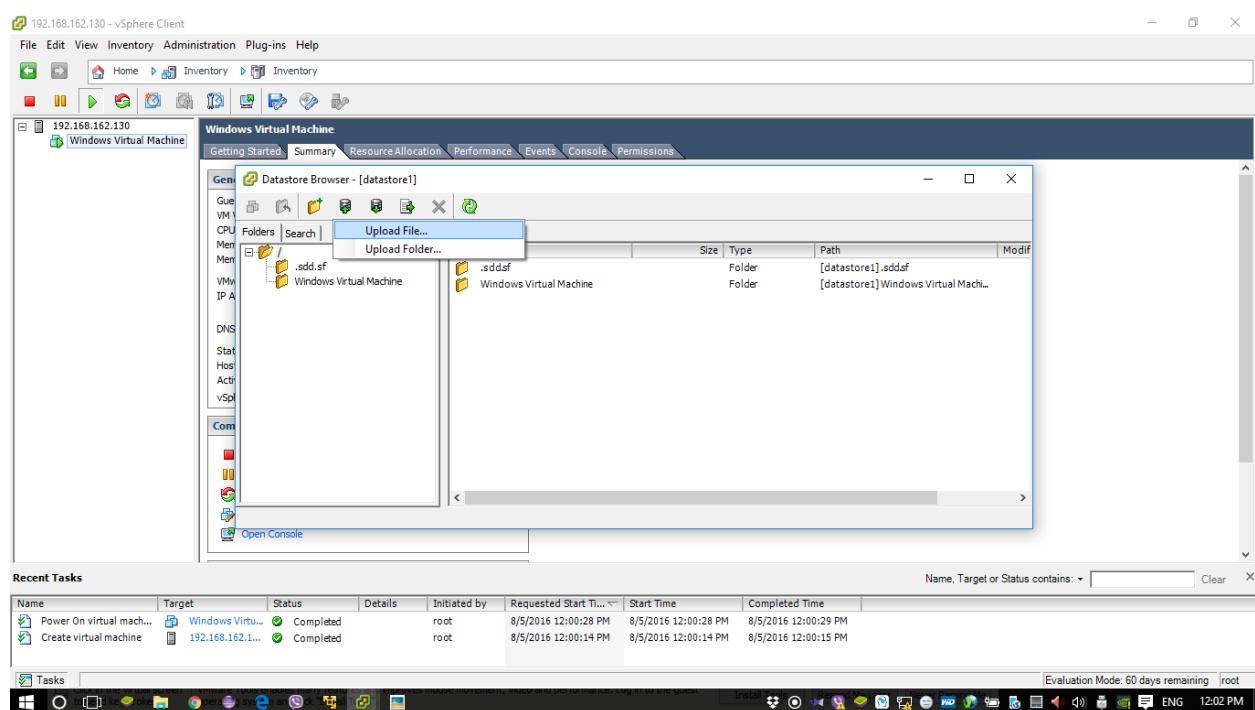
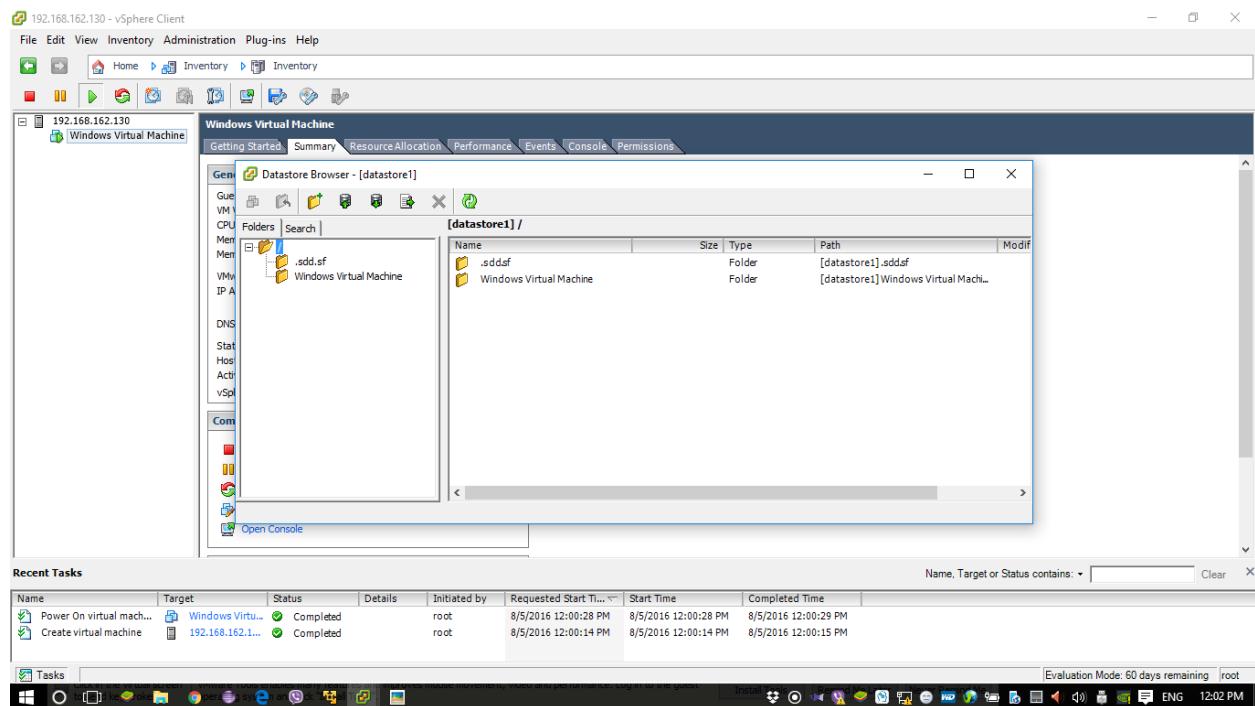
You can see the created windows virtual machine.

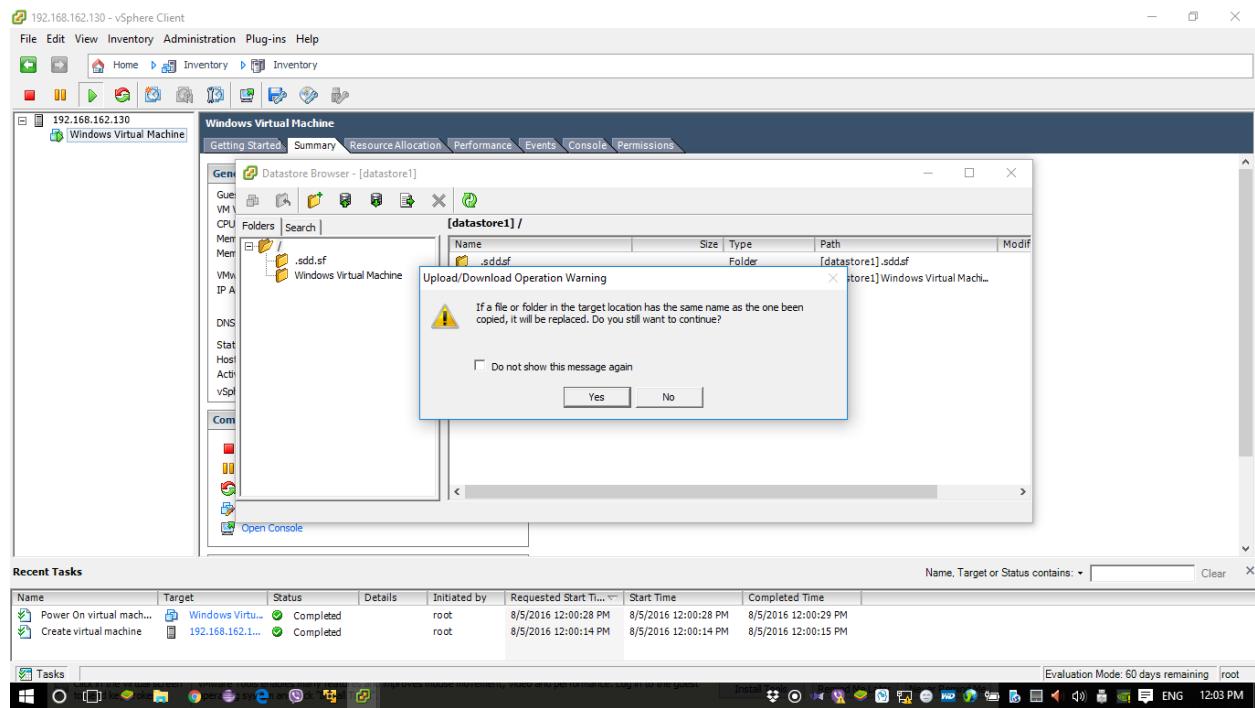
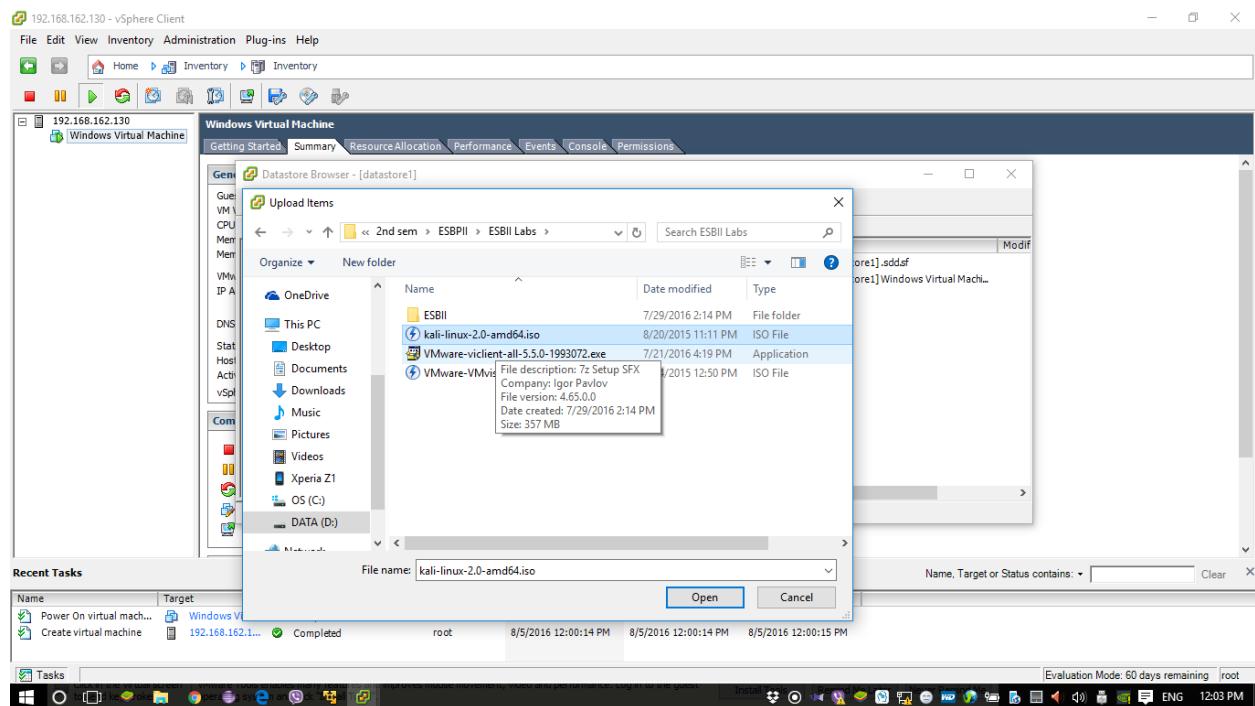


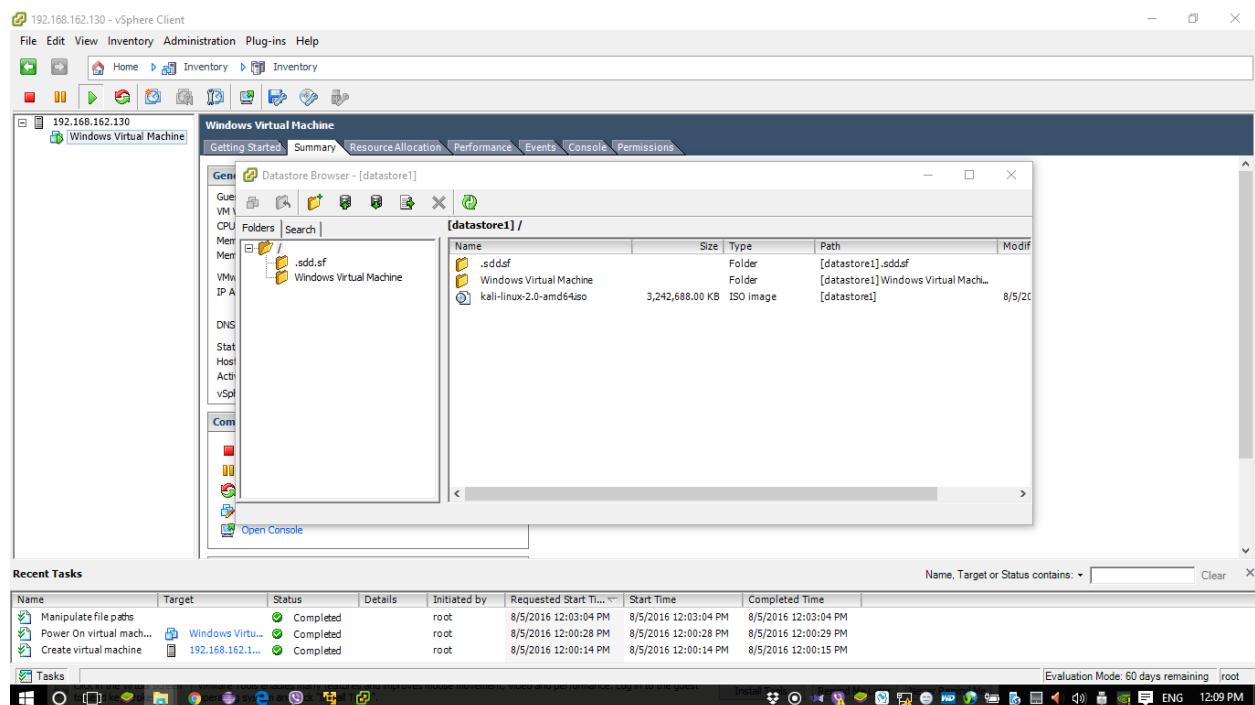
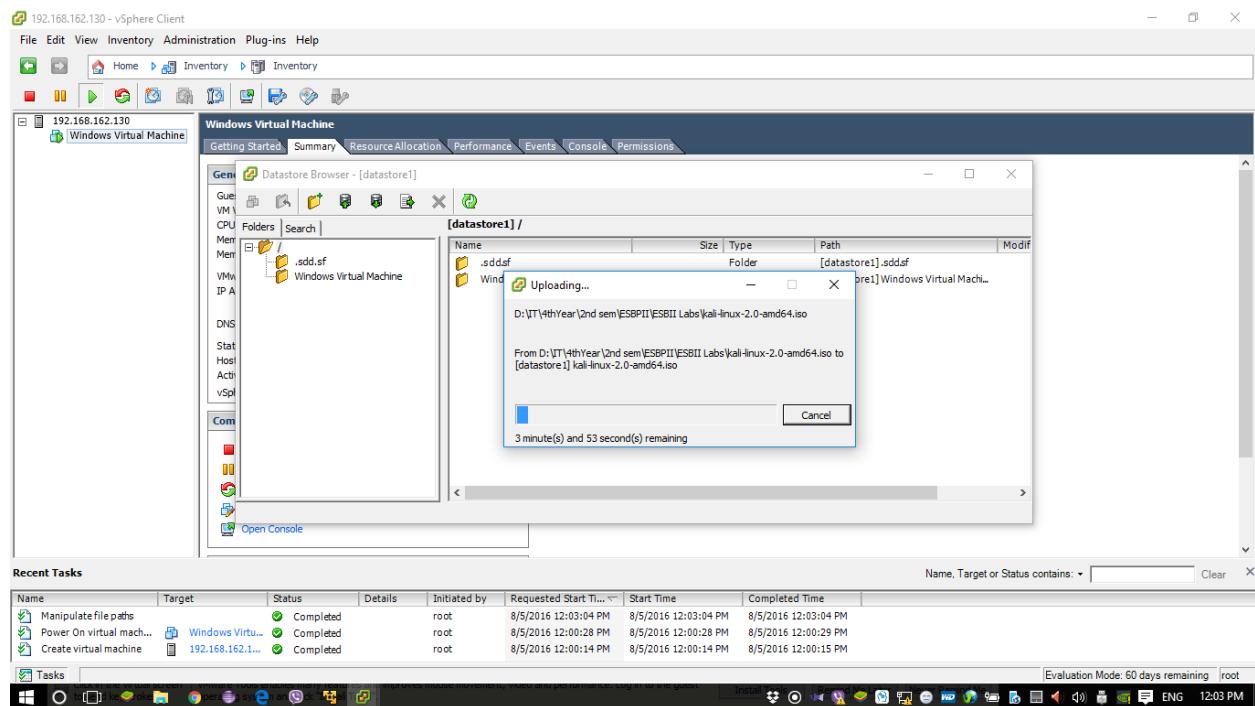
After the VM is created you can install windows OS in there. I am not going to demonstrate that for the windows platform. There are few steps for that and here I am going to do that by creating another VM for Linux environment.

In the summary tab select the datastore to upload the kali linux iso file. Perform the following steps.



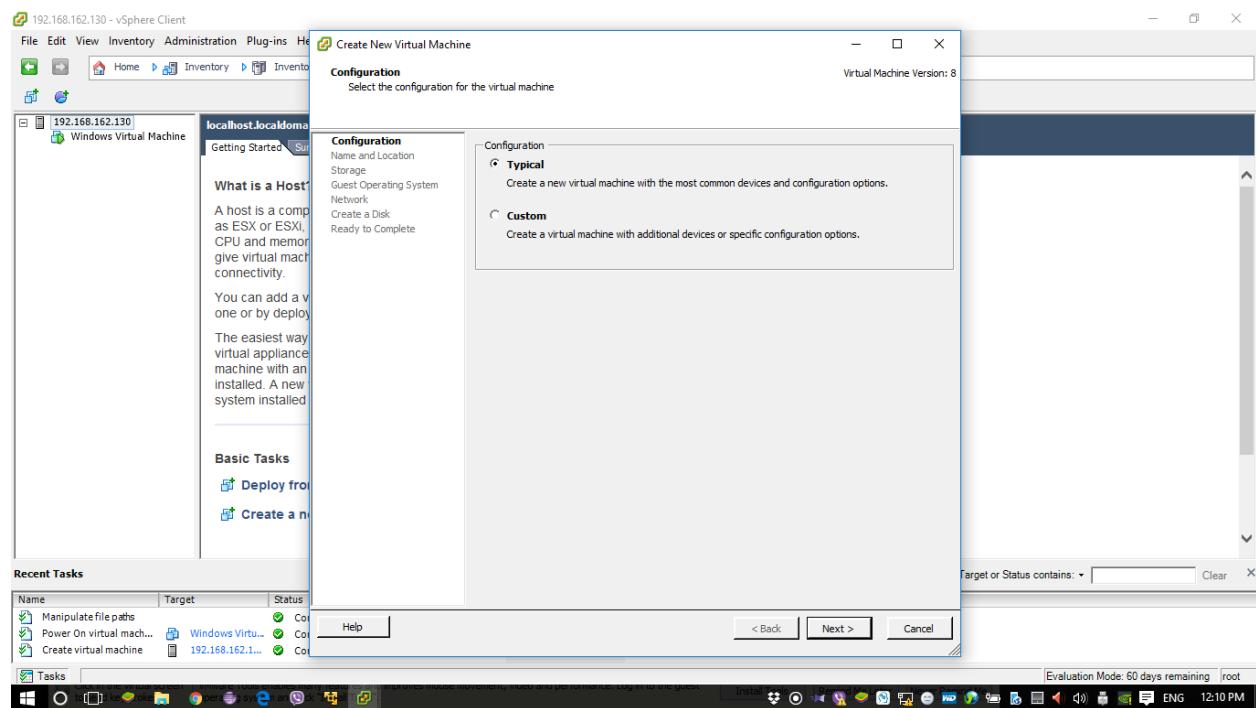
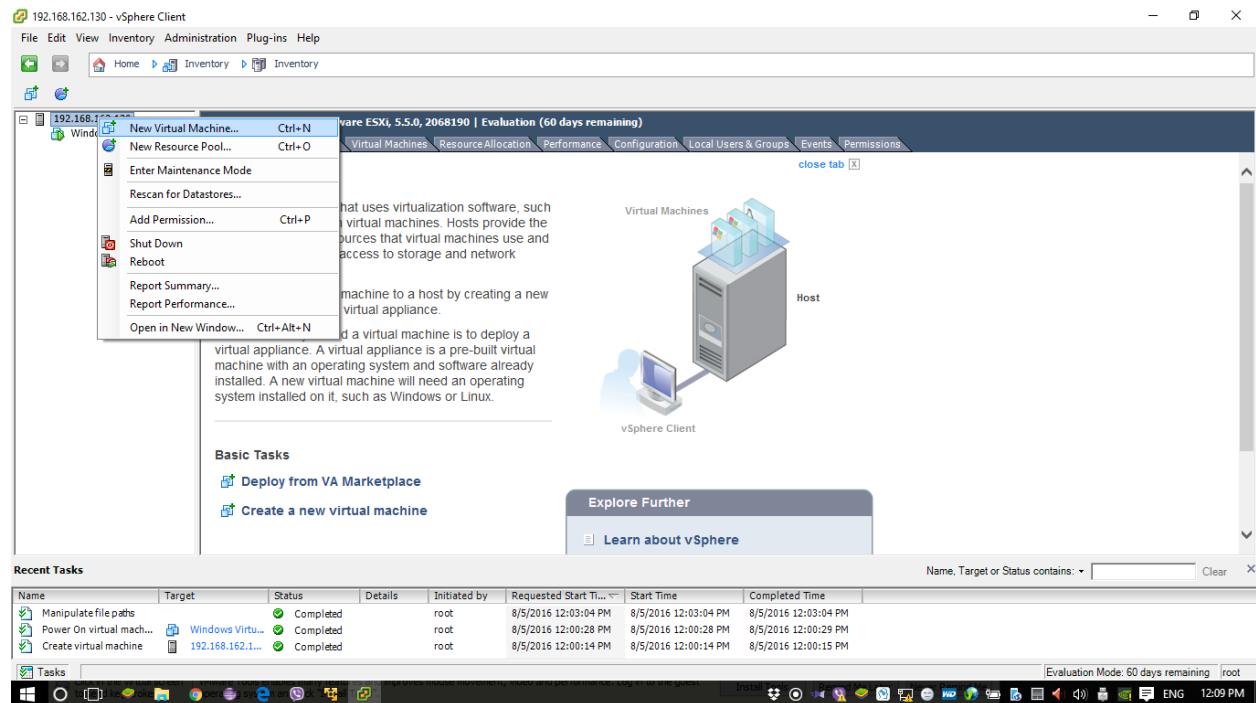


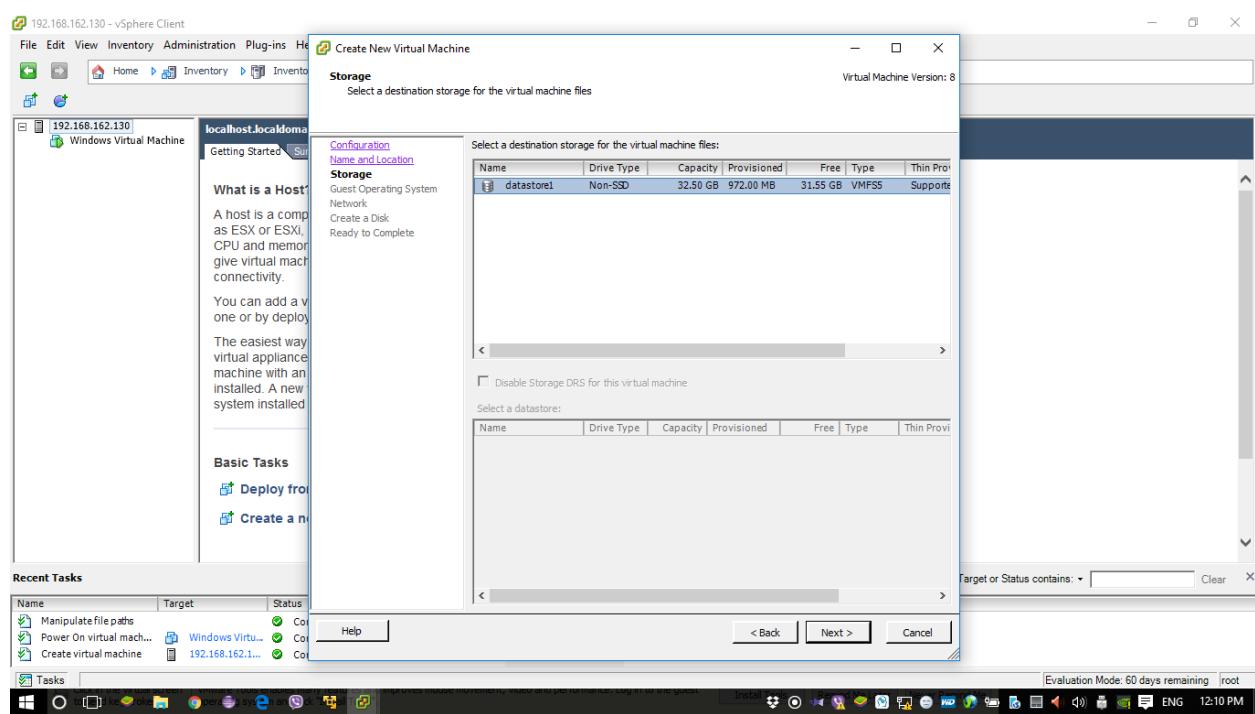
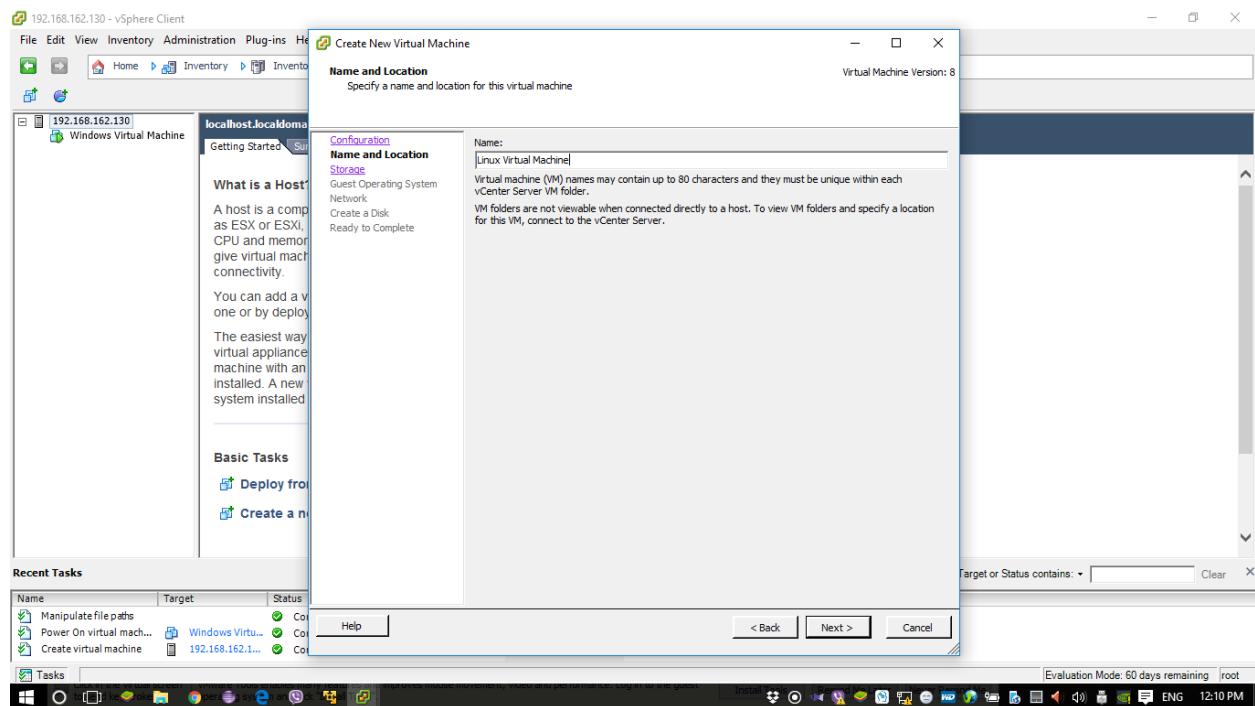


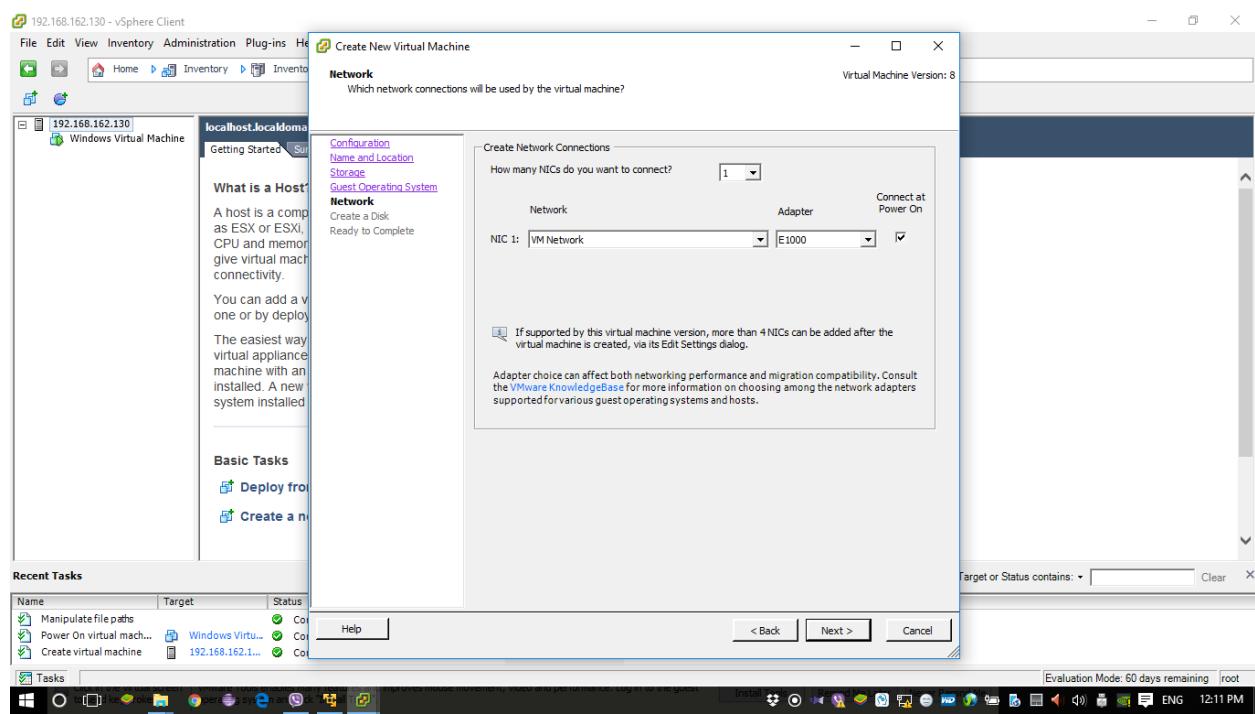
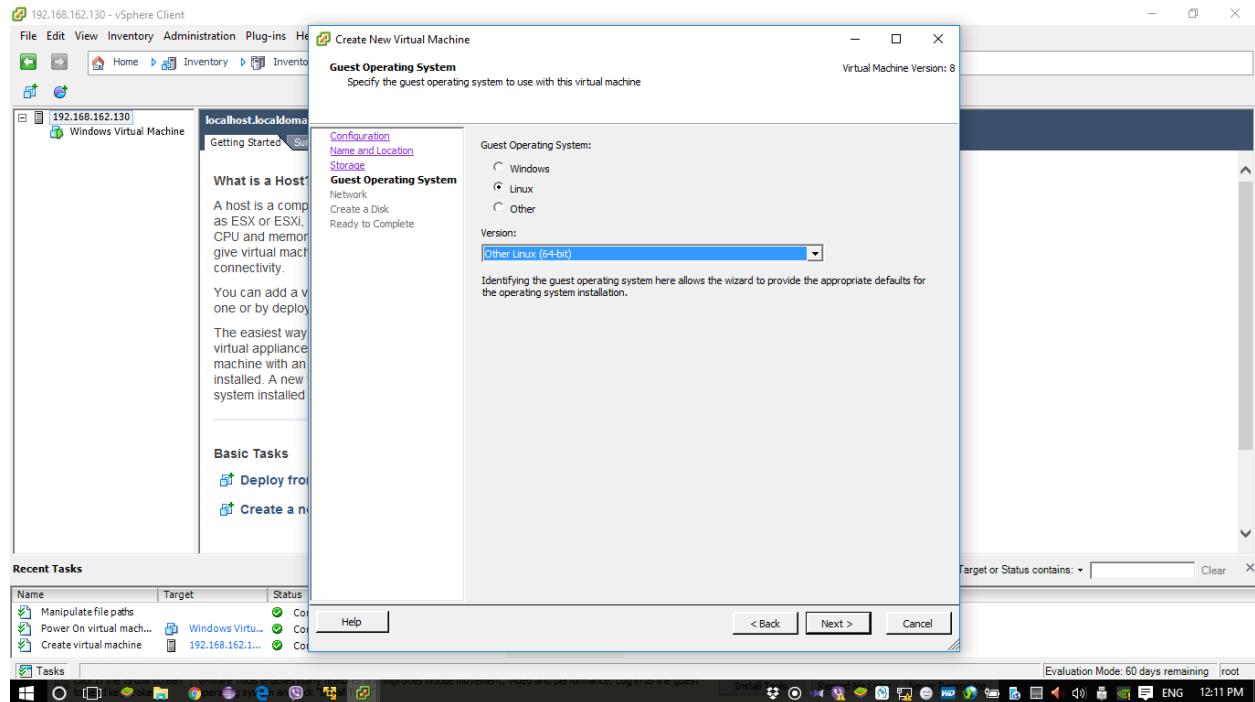


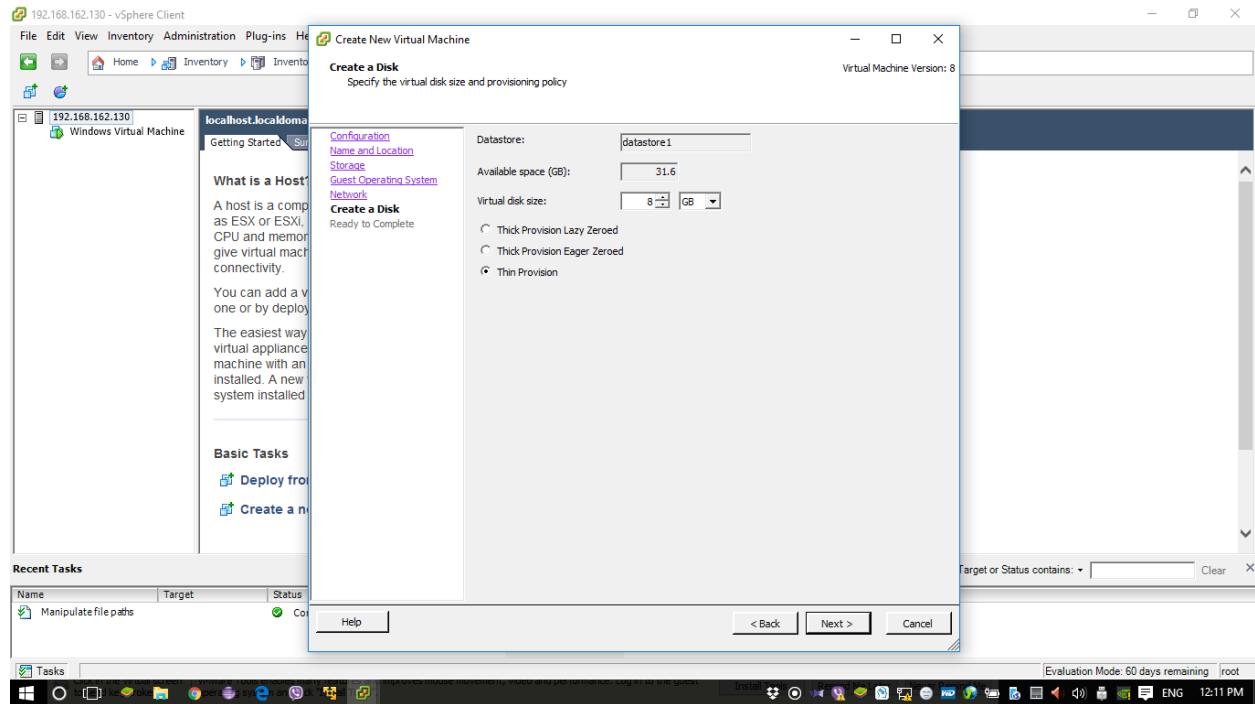
Now you can see kali linux iso file has been uploaded to the data store. Let's create a new VM for linux environment.

Creation of a new VM is same as the previous steps.

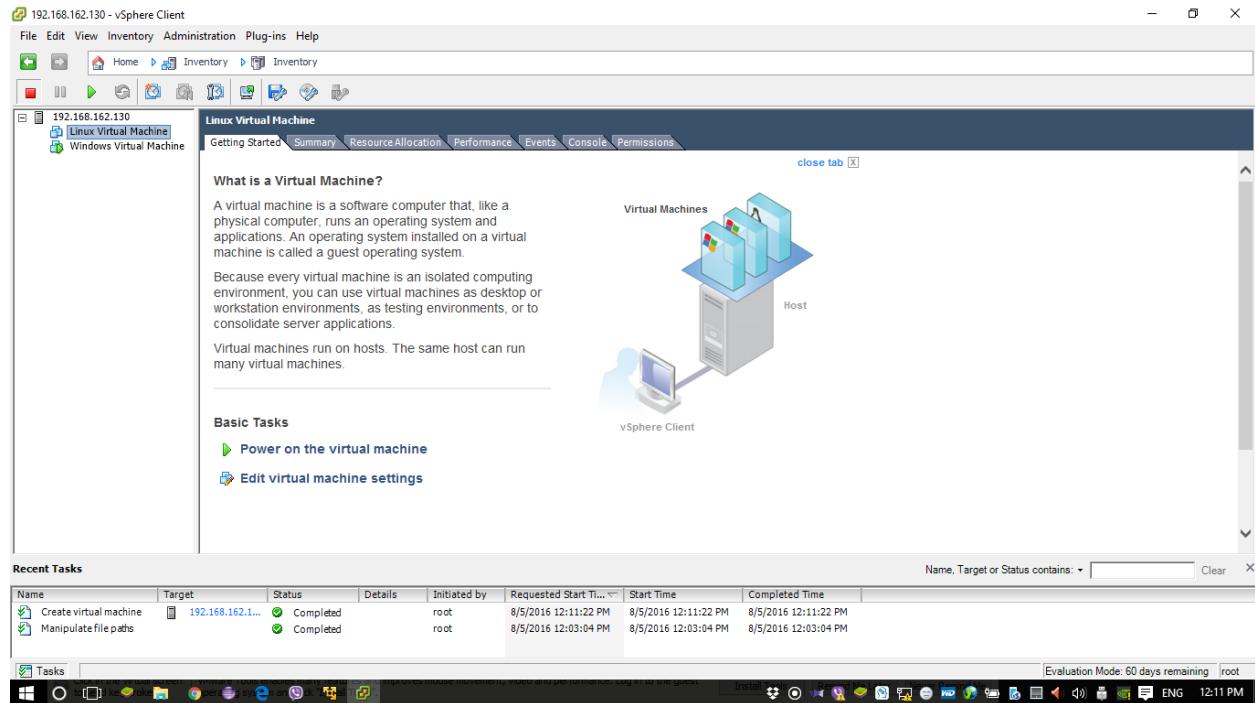




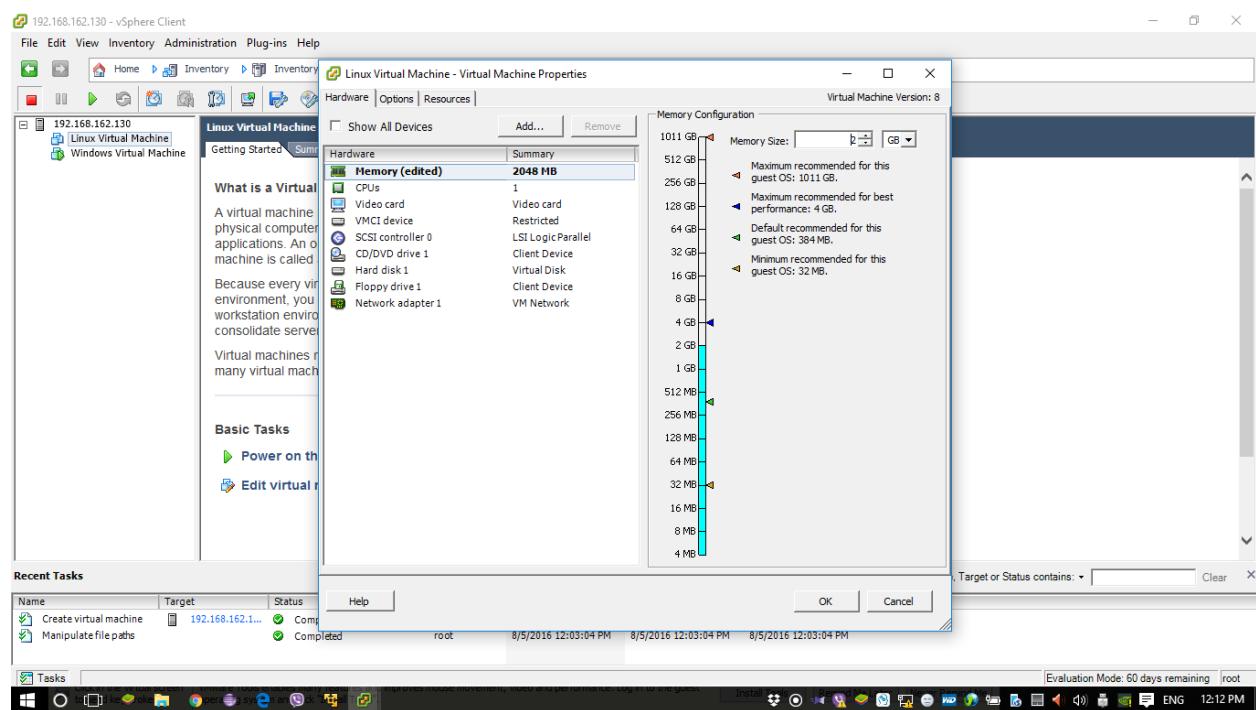
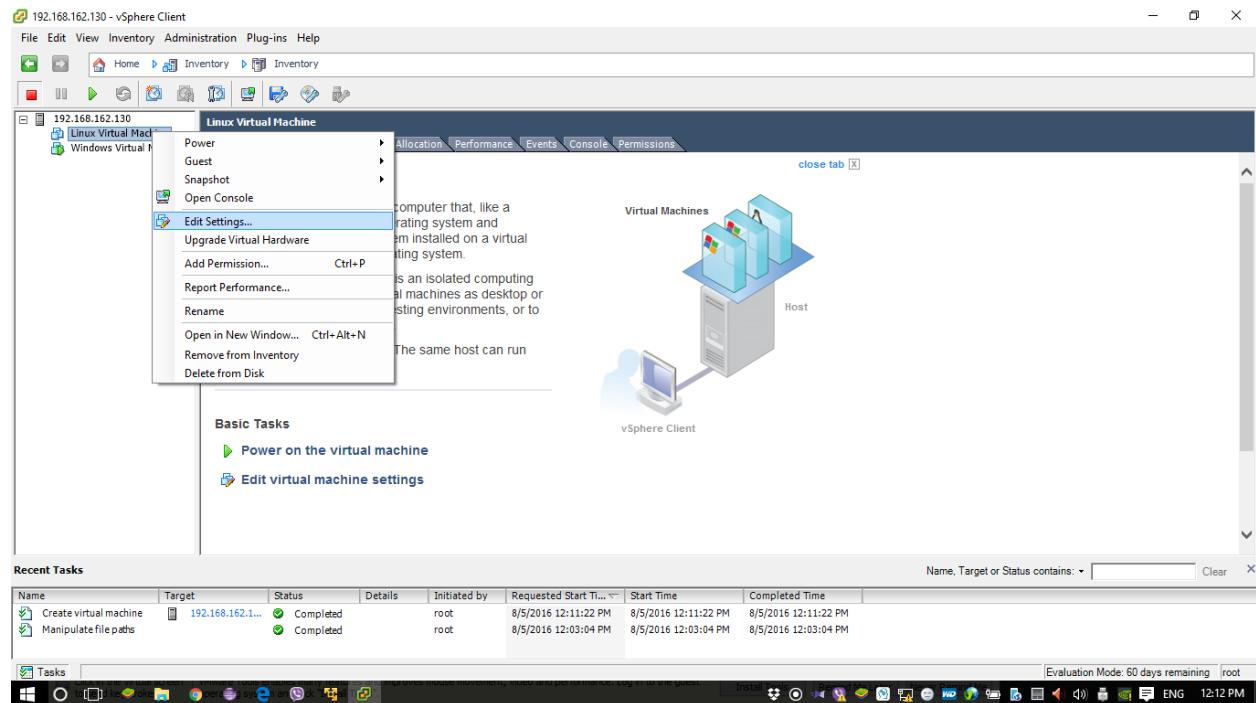




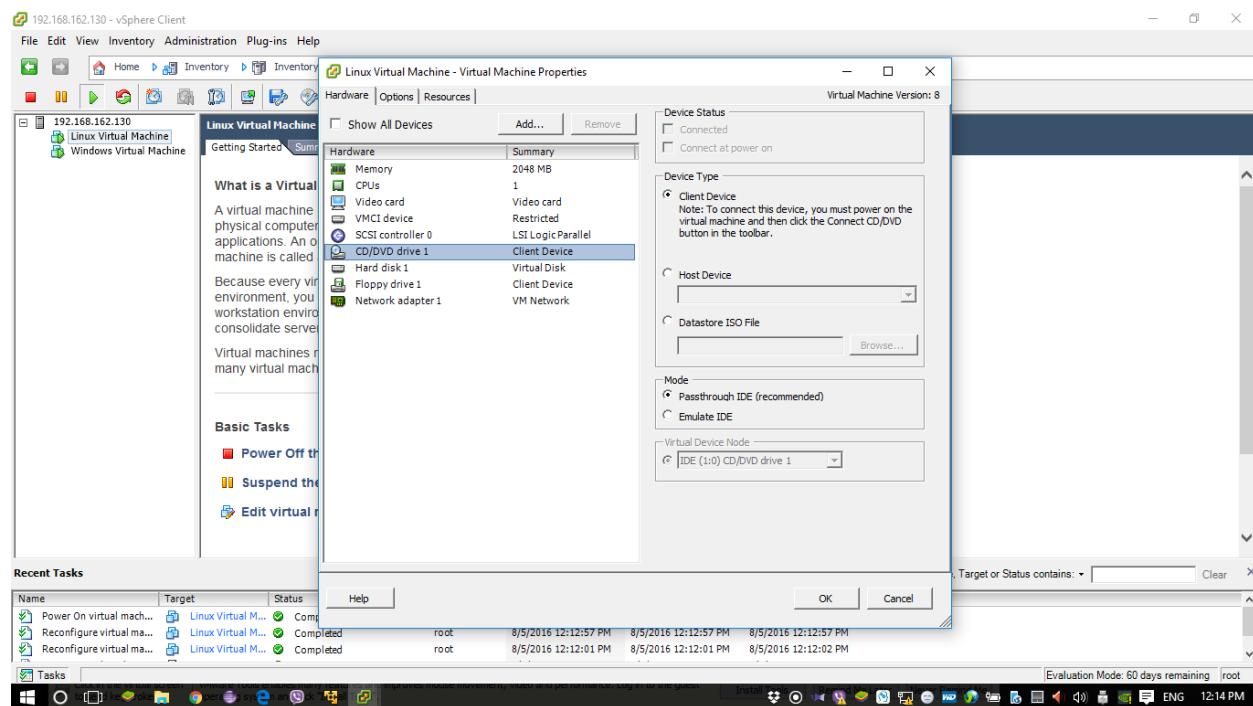
Virtual machine has been created. You can boot the kali linux iso file now.



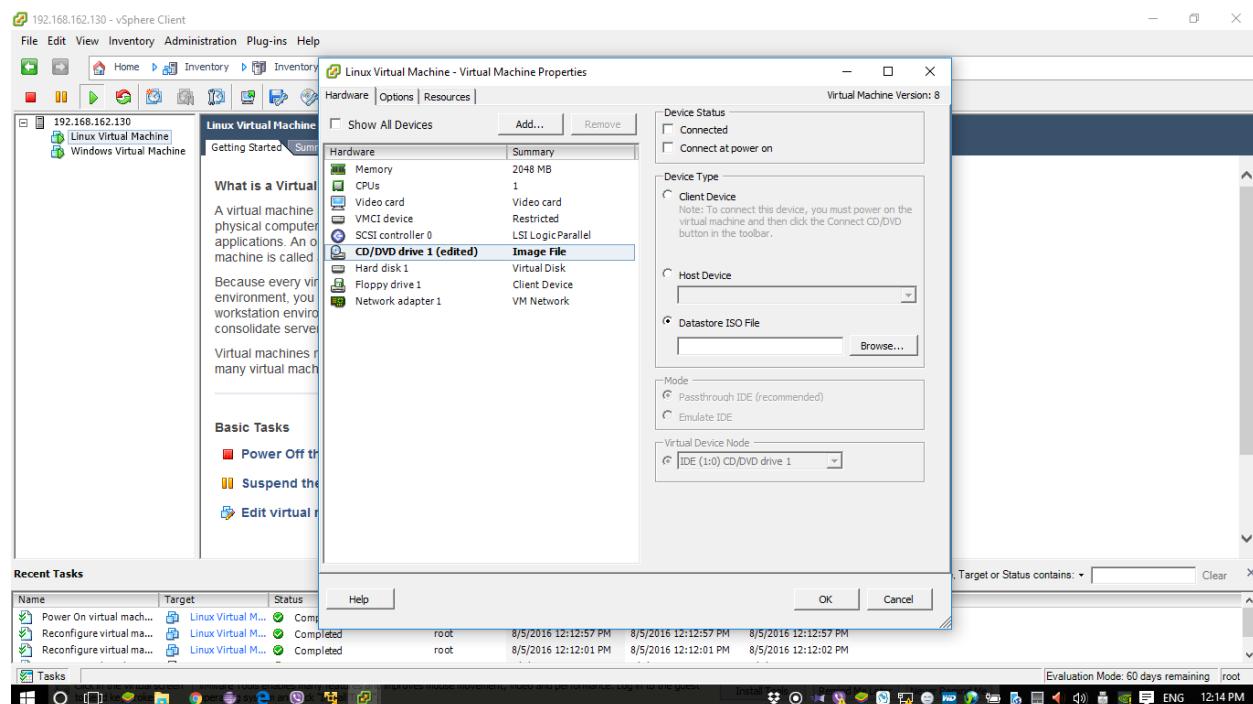
Go to edit settings.

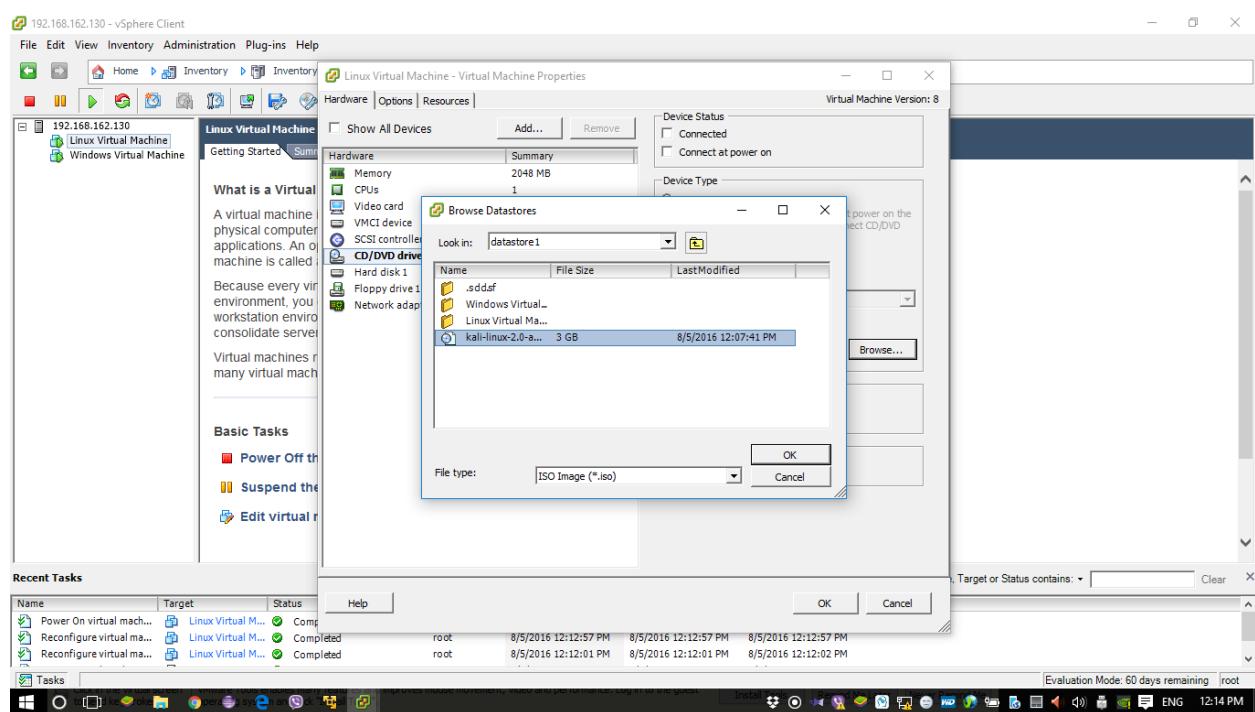
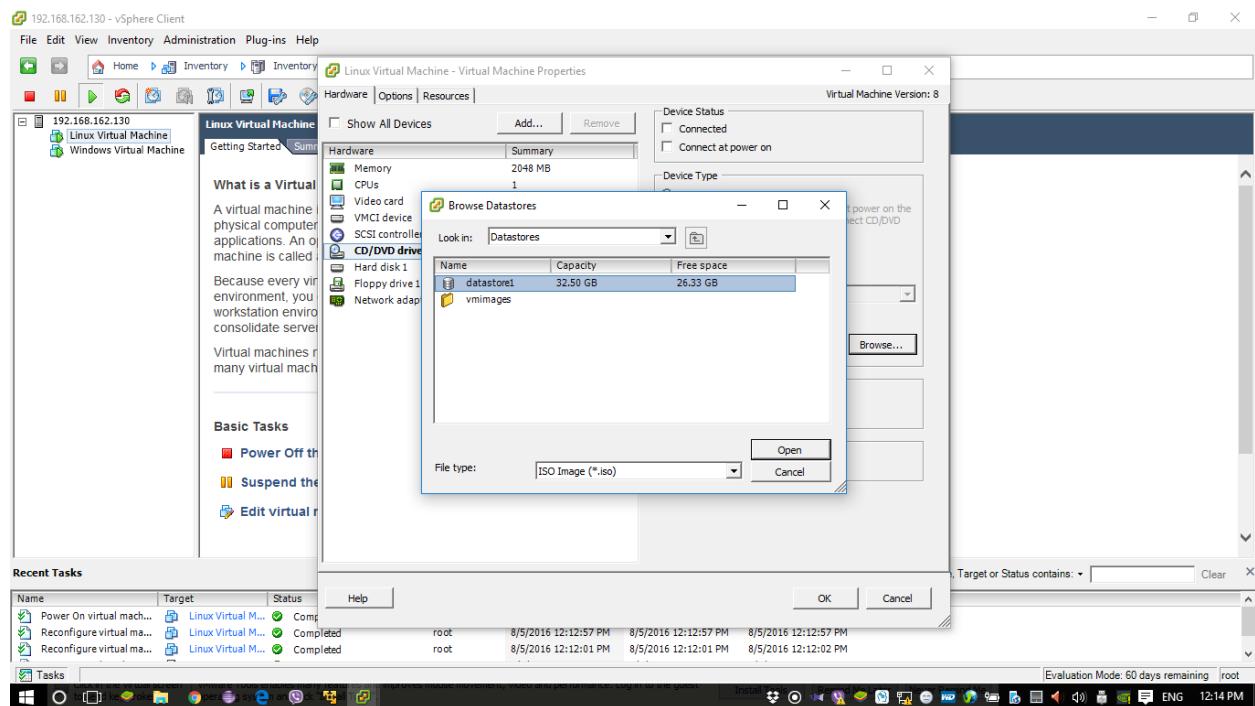


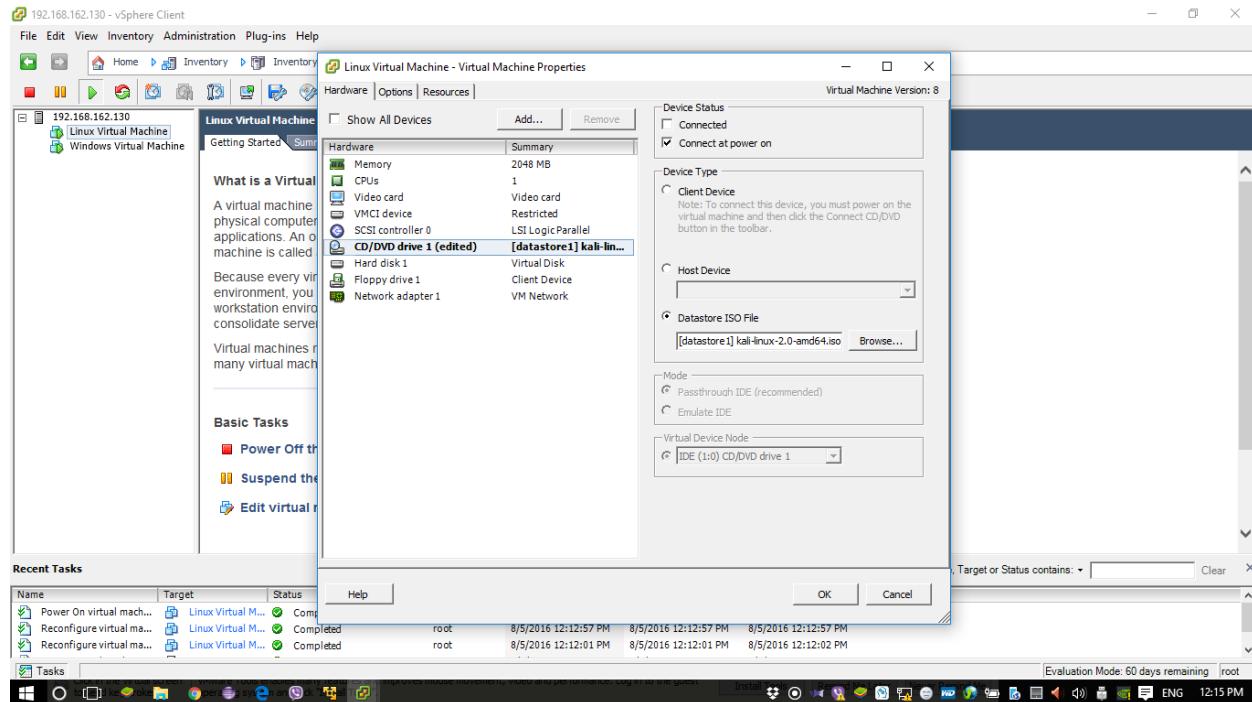
Select the CD/DVD tab.



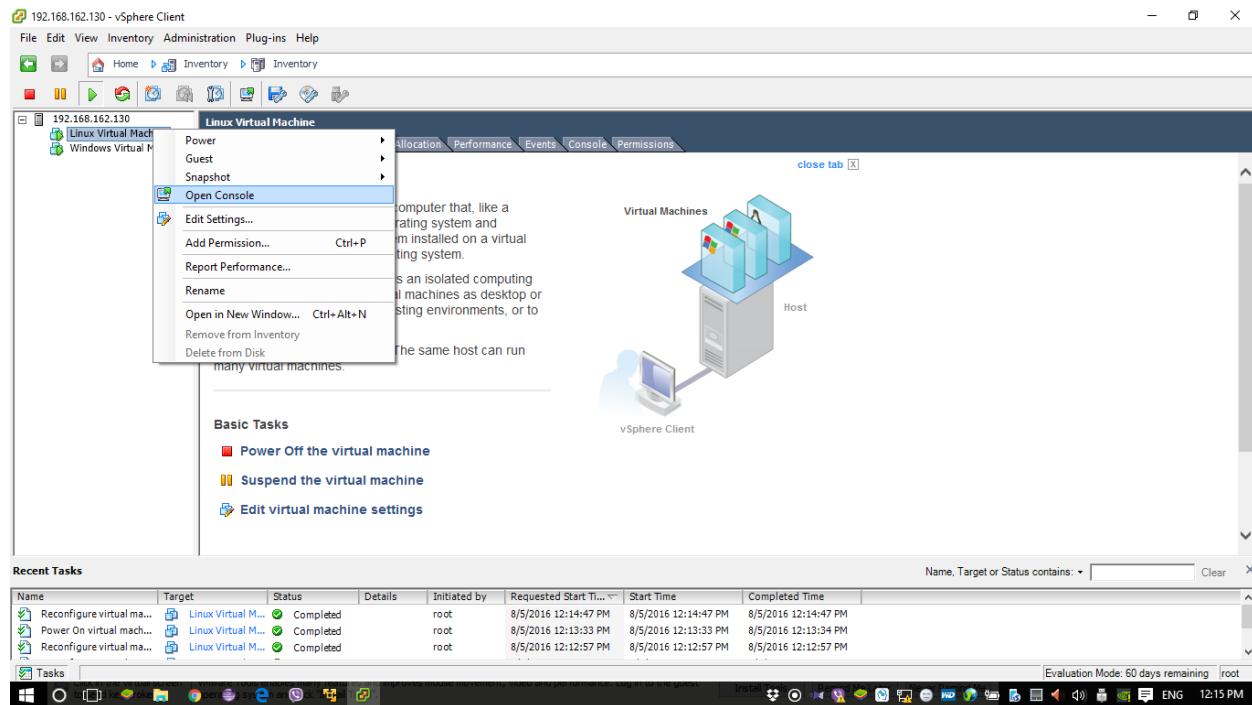
Now choose the iso file which I uploaded to the data store before.

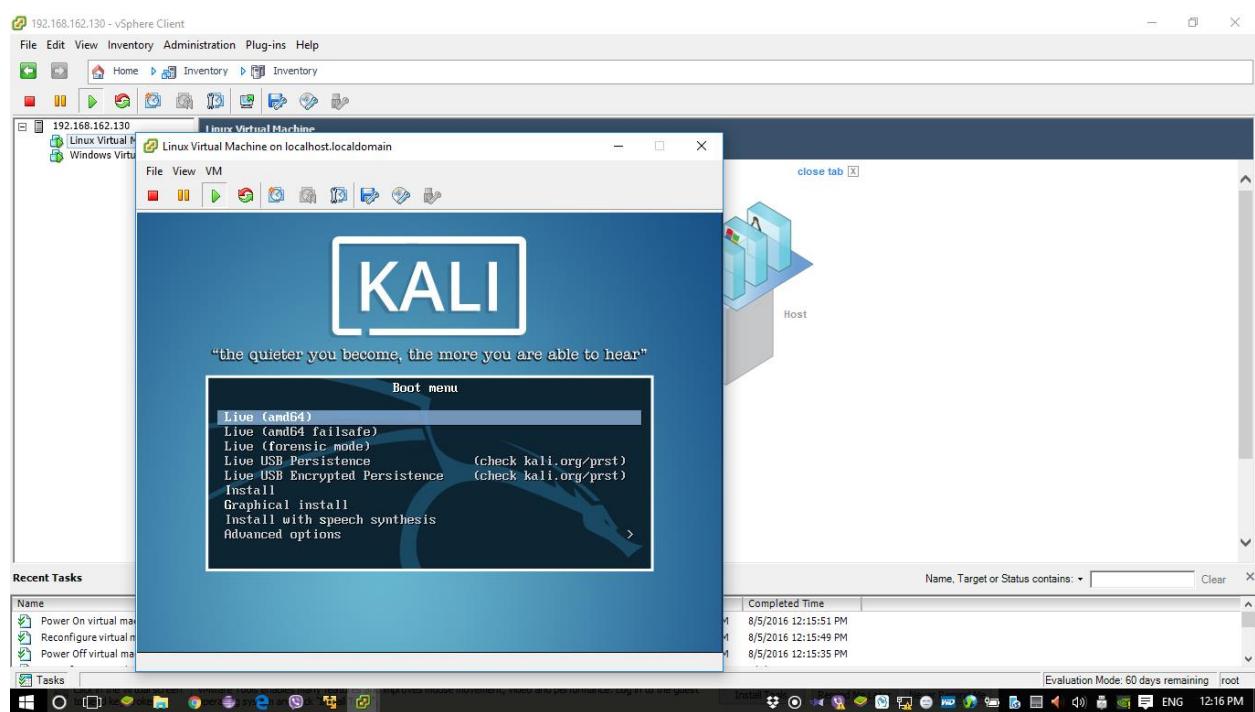
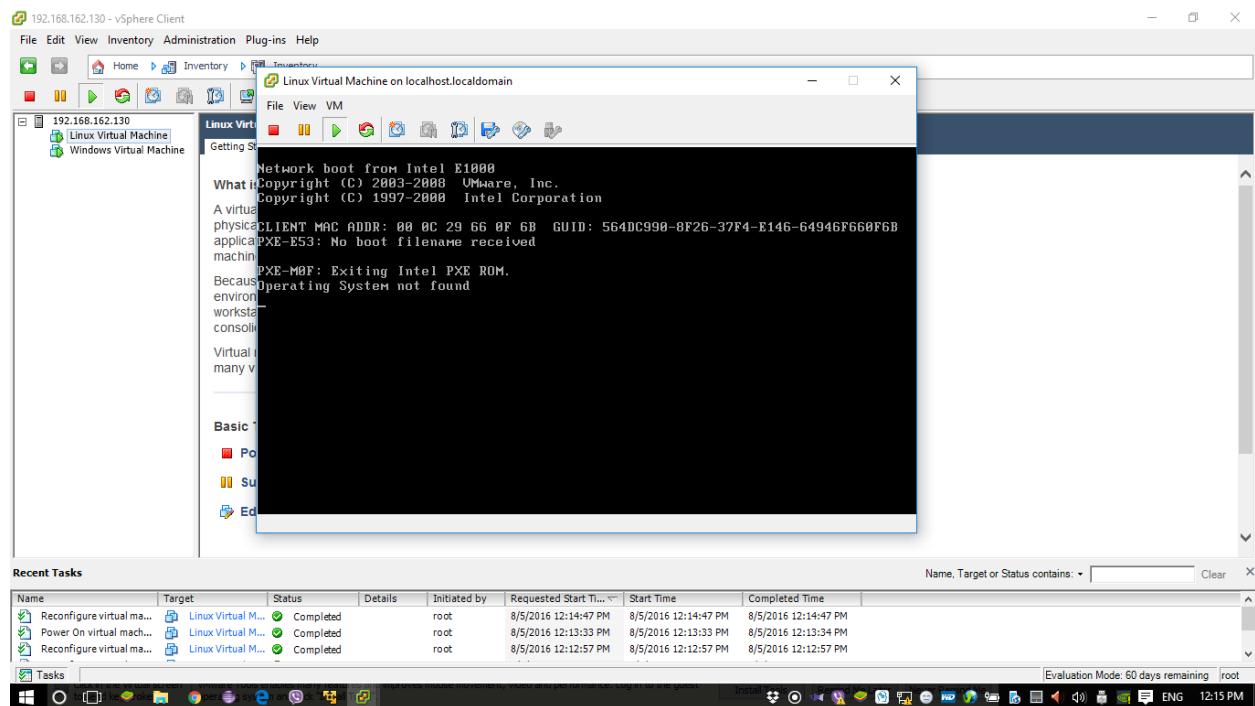


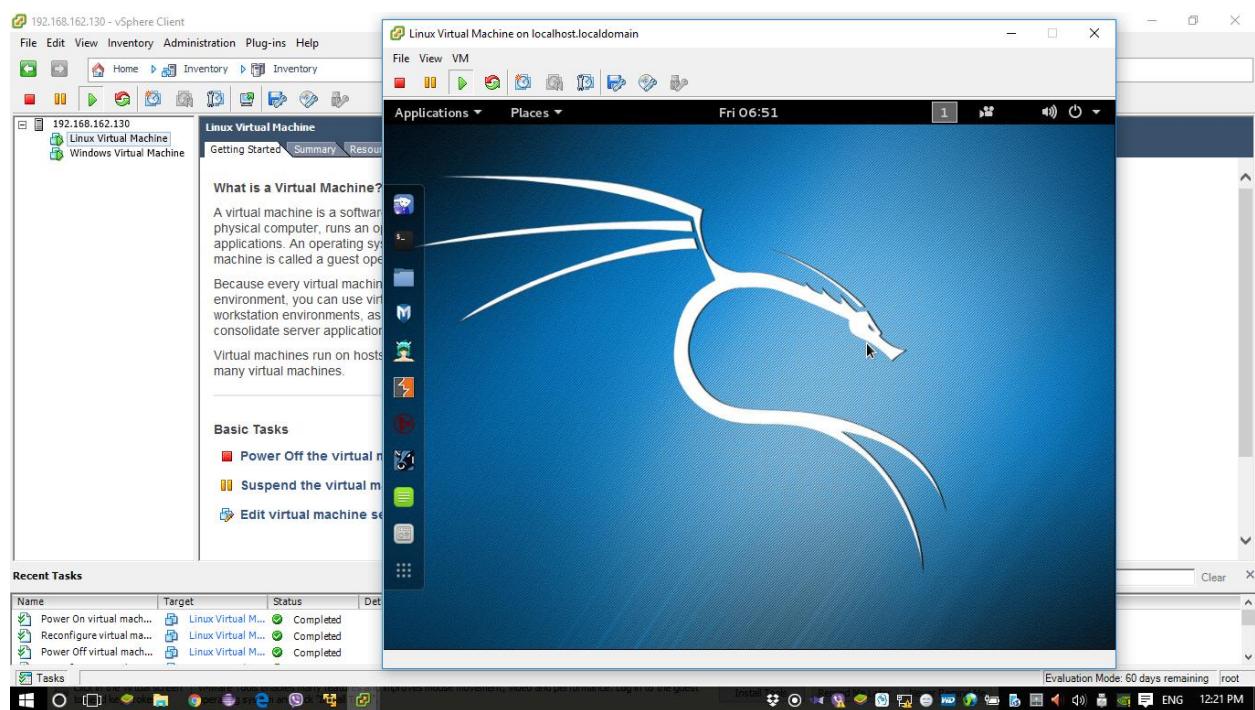
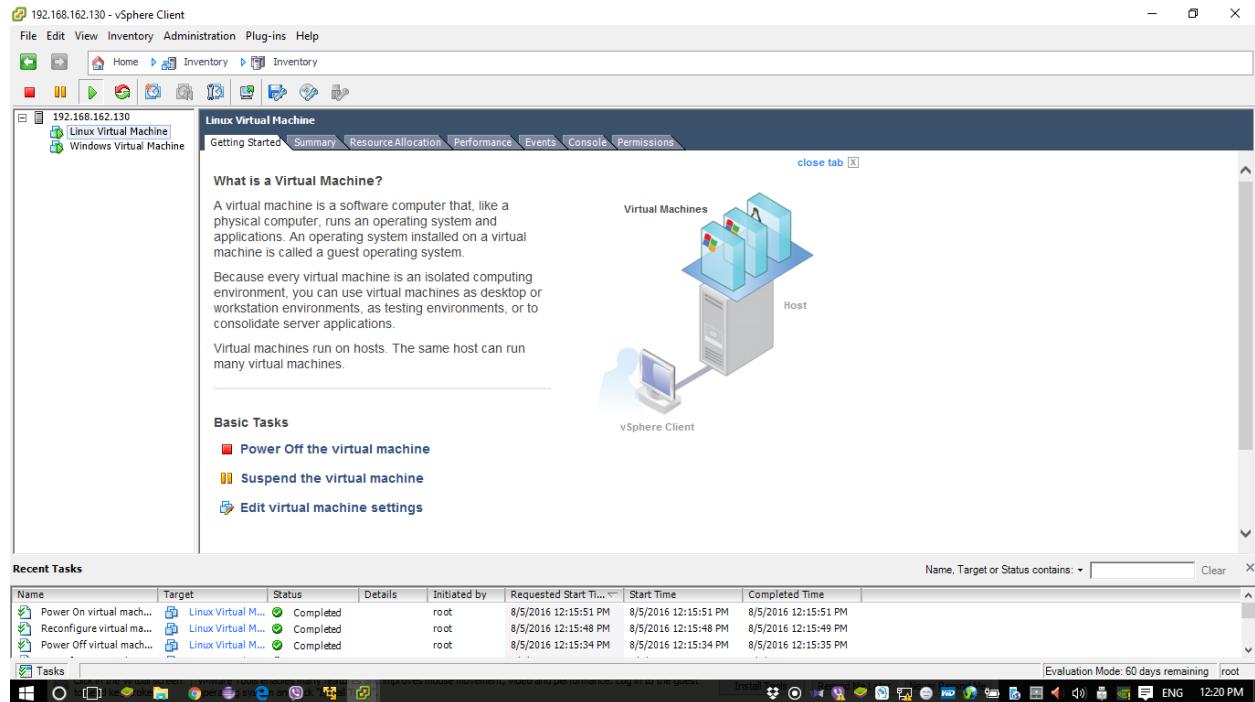




Open the console to launch the linux environment.







You can work with linux environment now.

