SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

Enterprise Standards and Best Practices for IT Infrastructure

4th Year 2nd Semester 2016

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Practical Session: Tuesday - WE

Practical Number : Bare metal virtual machine installation

Git Hub Link : https://github.com/haniroz/ESBII.git

Date of Submission: 16/08/2016

Date of Evaluation : _____

Evaluators Signature: _____

Compute Virtualization.

Virtualization is the process of abstracting the physical resources and making them apear as logical resources to the consumer. In a data center envirement virtualization is devided in to three main categories. That is ,

- Compute Virtualization
- Network Virtualization
- Storage Virtualization

Virtualization offers many benefits to the data center environment. It optimizes the utilization of the recources while reducing the cost and management complexity of the data center infrastructure.

In Compute virtualization, mask or abstract the physical compute hardware and enables multiple operating systems to run concurrently on a single physical machine. Compute virtualization can be deployed in two ways. That is ,

- Bare metal installation
- Hosted Installation

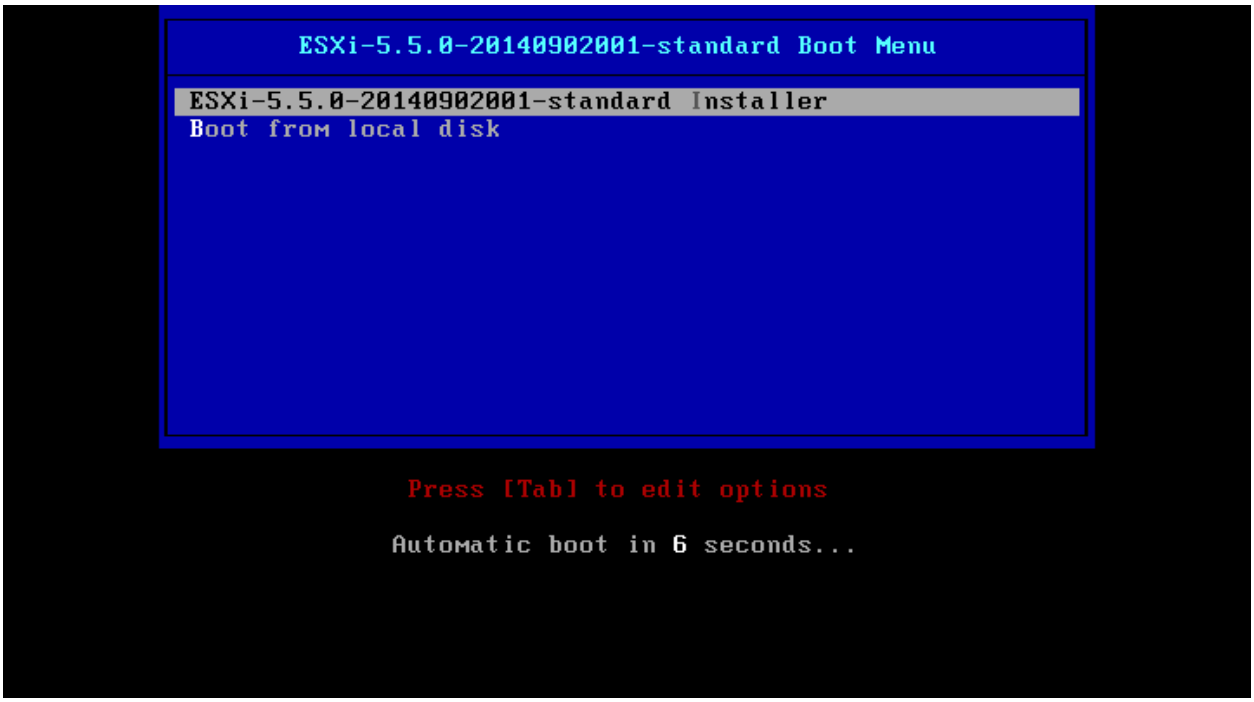
Hosted installation is the process of creating multiple virtual machine by installing a virtual machine managing software on a operating system like vmware, virtualbox etc.

Baremetal installation uses a Hypervisor to directly interact with the bare metal hardware. It separates the hardware layer and operating system via virtual layer.

Bare metal virtual maching installation.

Task 01 : Install ESXi software ontop of baremetal hardware.

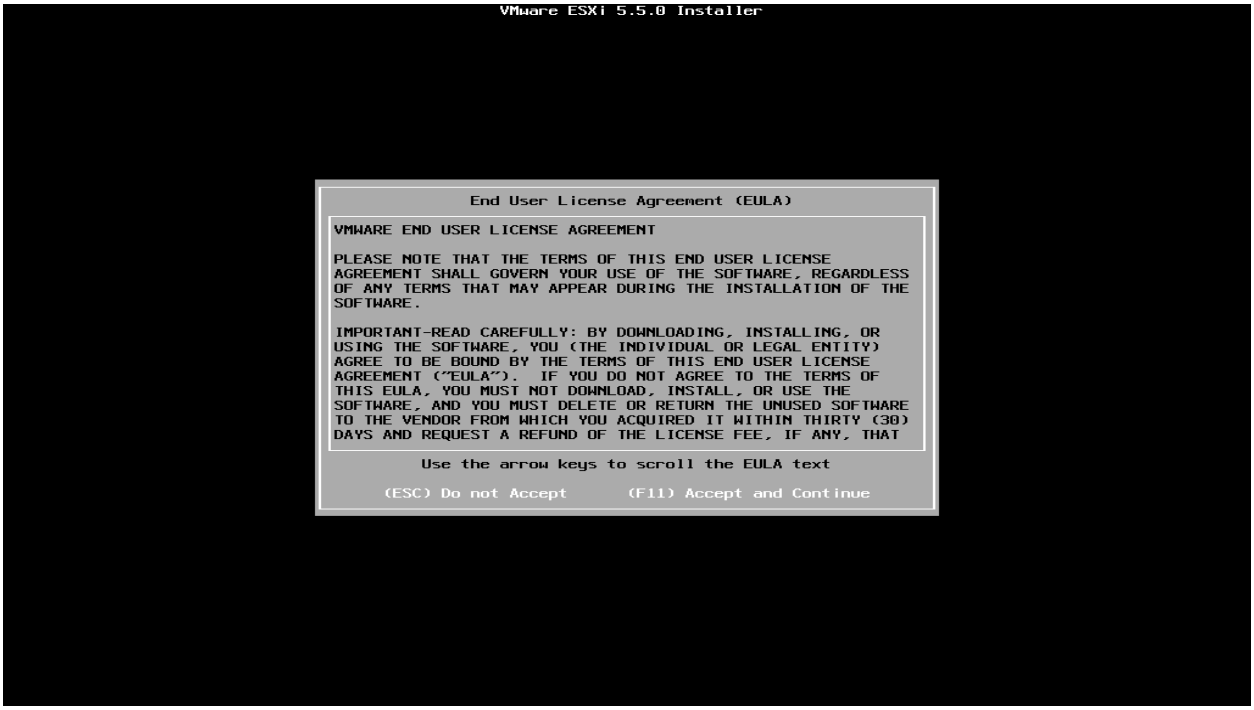
- We will be using ESXi software to install on bare metal harware. For that we will be needing a server and ESXi disk or tftp server connected to target server.
- Load the disk into the server and run ESXi installation.
- You will get a boot menu when loading the server.
- Select the ESXi standard installer to run ESXi server.



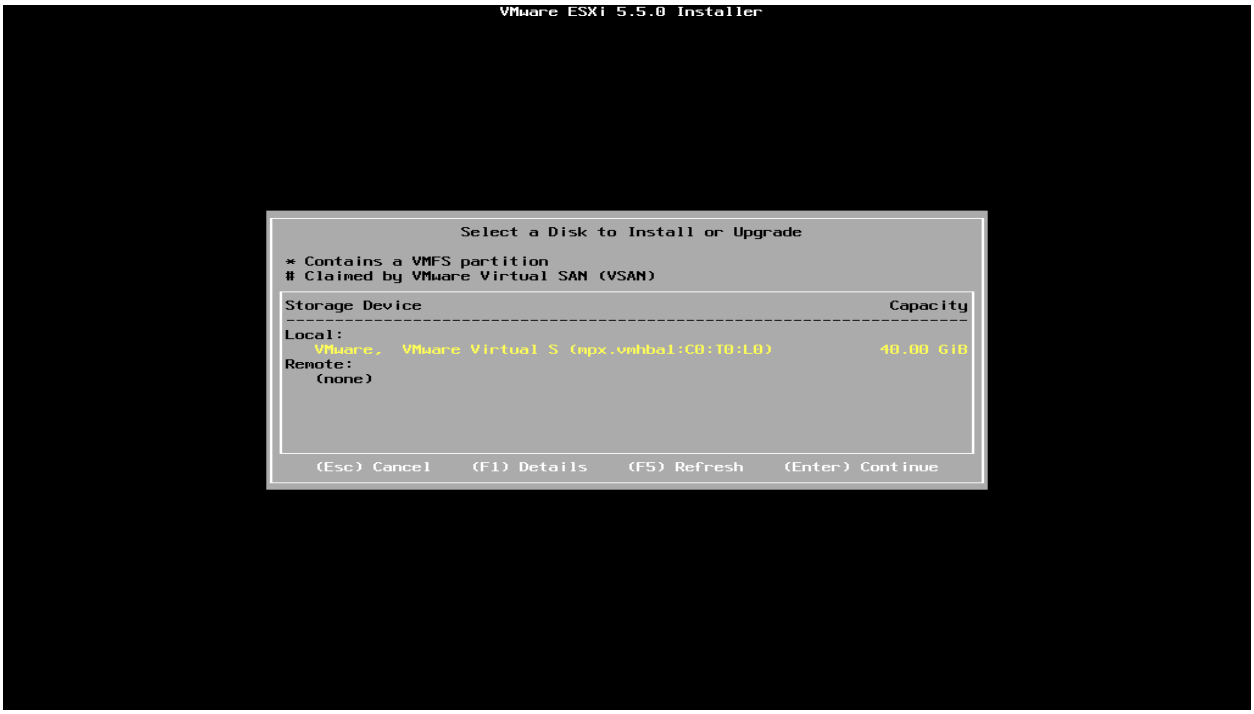
- It will load all binary file which will be needing in the installation process.

- Press ‘Enter’ to continue with the installation.

- Accept the license agreement by hitting ‘F11’ and continue.



- ESXi server can be install in remote location or in local. Since we are processing the installation locally. We will be use the default path for the installation. Press ‘Enter’ to continue.

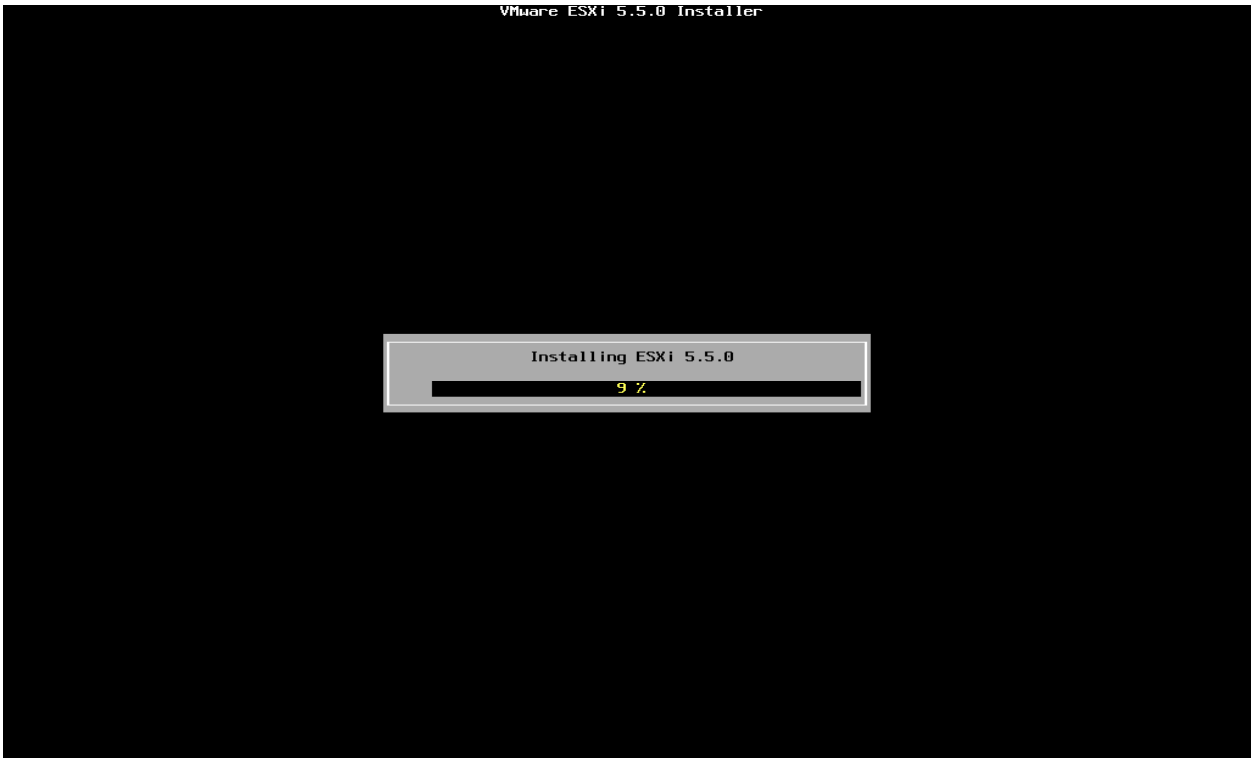


- Select the language properties of the server.

- Provide a password for the server. This will be the administrator password for the server. It should comply the default password standards.

- Now all the basic configurations are done. To proceed with the installation, hit F11.

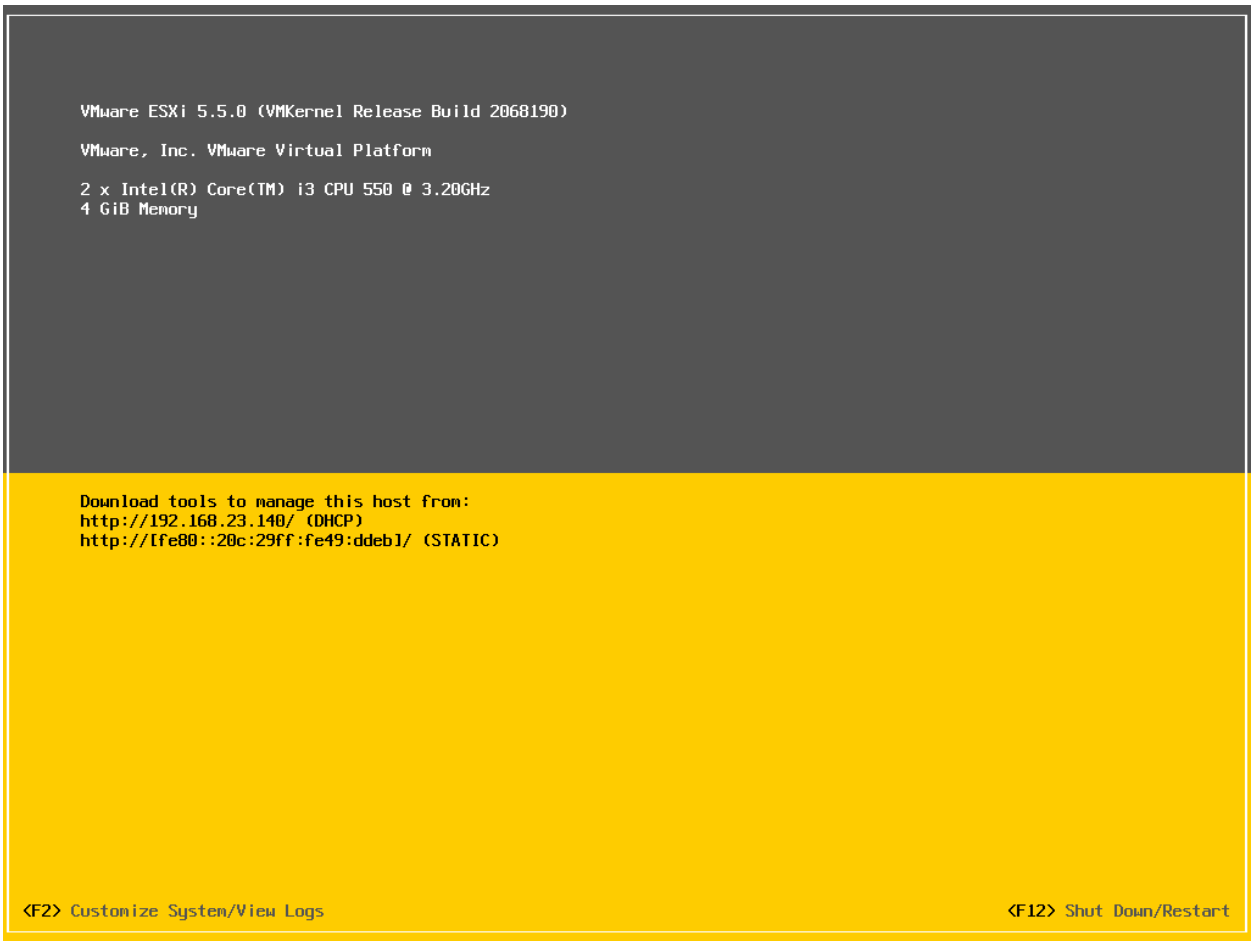
- ESXi server will be install.




VMware ESXi 5.5.0 Installer
Installation Complete
ESXi 5.5.0 has been successfully installed.
ESXi 5.5.0 will operate in evaluation mode for 60 days. To use ESXi 5.5.0 after the evaluation period, you must register for a VMware product license. To administer your server, use the vSphere Client or the Direct Control User Interface.
Remove the installation disc before rebooting.
Reboot the server to start using ESXi 5.5.0.
(Enter) Reboot

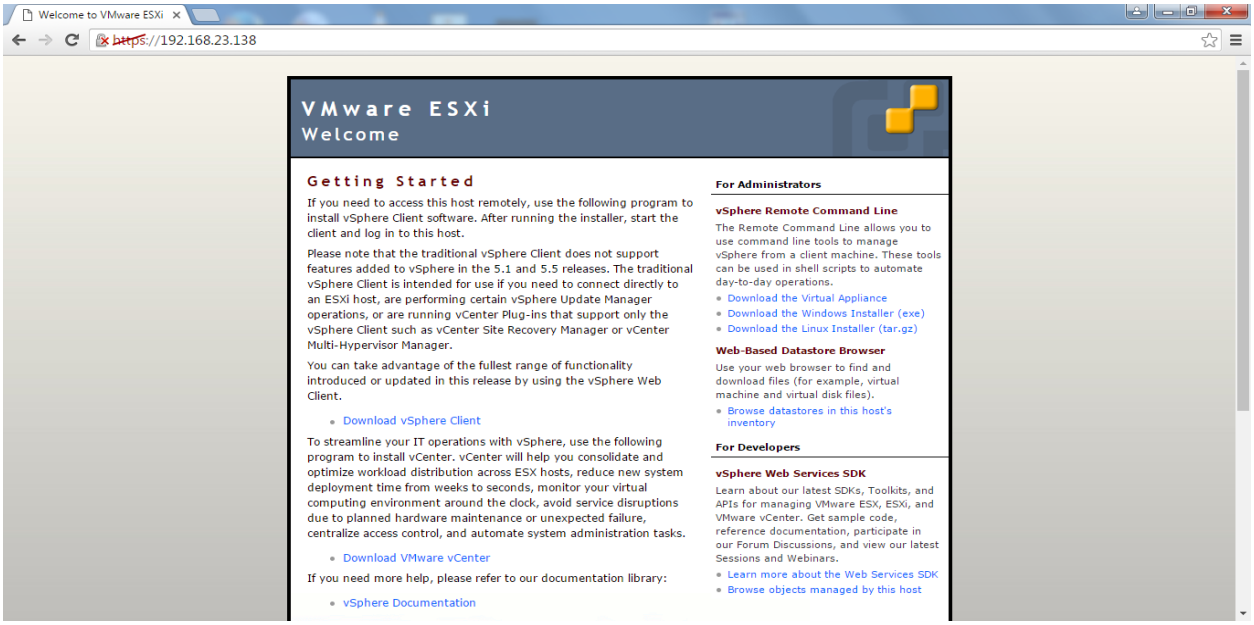

VMware ESXi 5.5.0 (VMKernel Release Build 2068190)
VMware, Inc. VMware Virtual Platform
2 x Intel(R) Core(TM) i3 CPU 550 @ 3.20GHz
4 GiB Memory
Loading module e1000 ...

- This is the main user interface of the ESXi server. Other necessary configurations can be done by accessing the configuration menu by hitting ‘F2’ key.
- To access the server network Ip address will be used. (ex. 192.168.23.148)

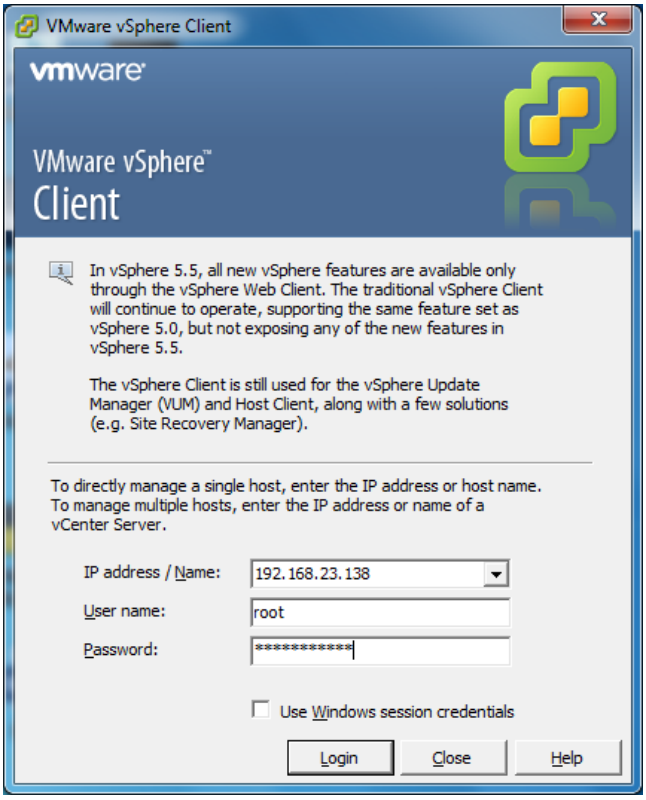


Task 02 : Installing vsPhere management tool and installing a virtual machine.

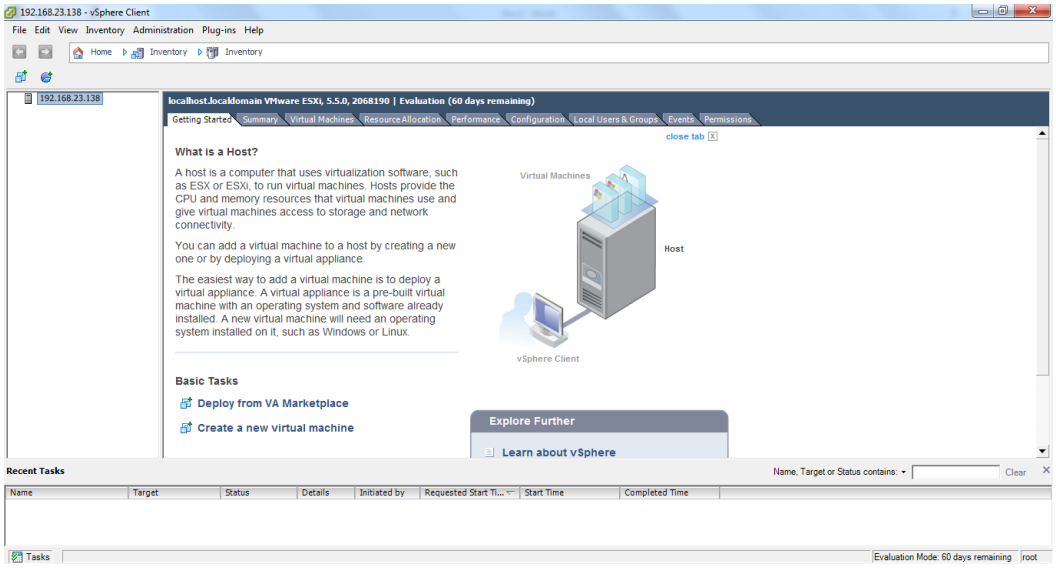
- In the industry, deployed servers are not directly accessed. Server will be connected to the internal network and it will be accessed using a client management tool installed in a PC .
- VMware provides such management tool called **vSphere client** to access the ESXi server. It can be downloaded by using the servers ip address in a browser.



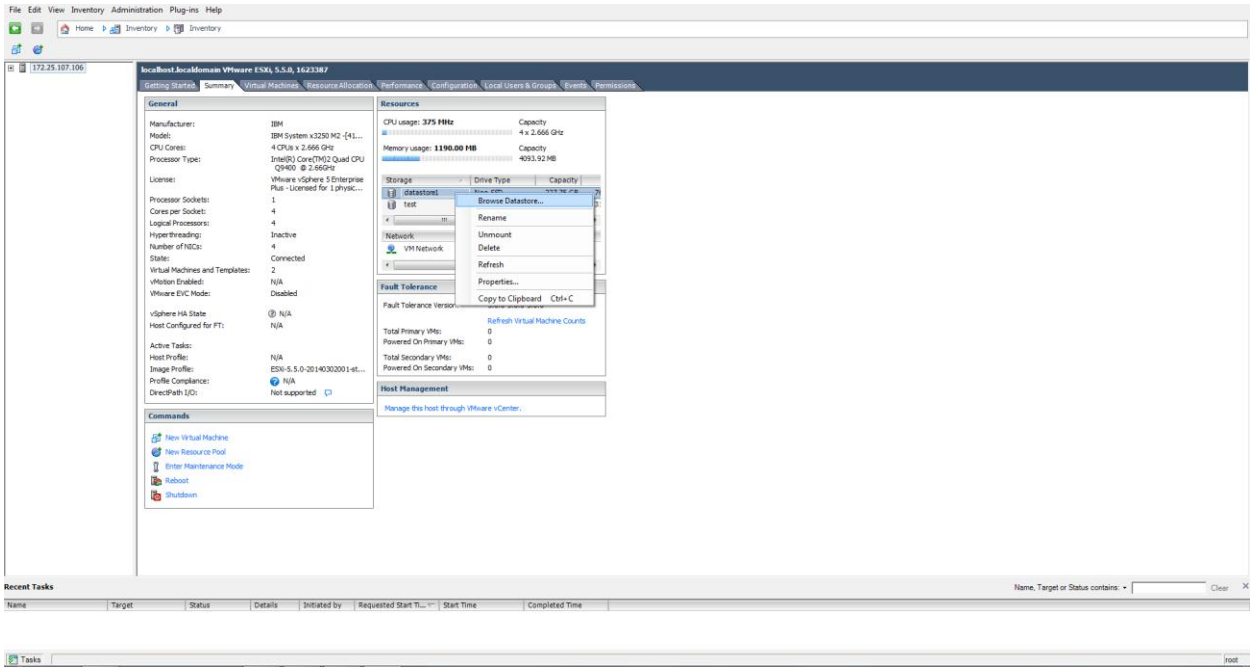
- After installing the client tool provide the server's username and password with the IP address of the server to connect to the server management console.



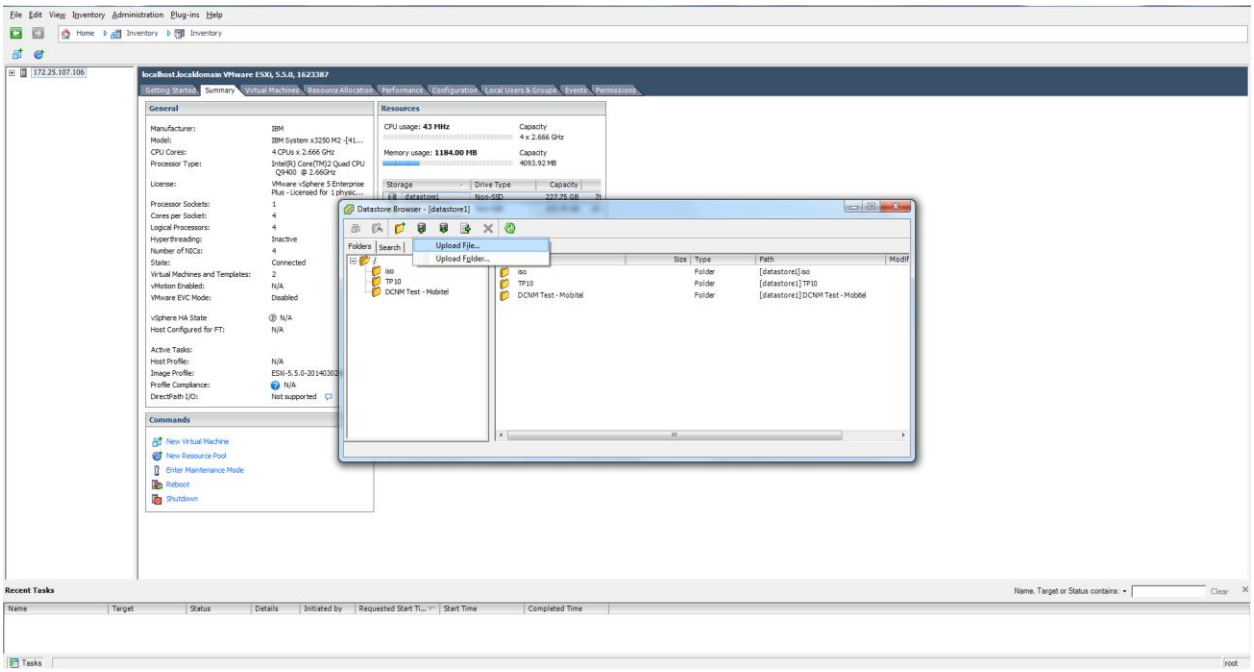
- vSphere client management console will be look like this. It provides much information about the deployed virtual machines and the hardware utilization about the server.

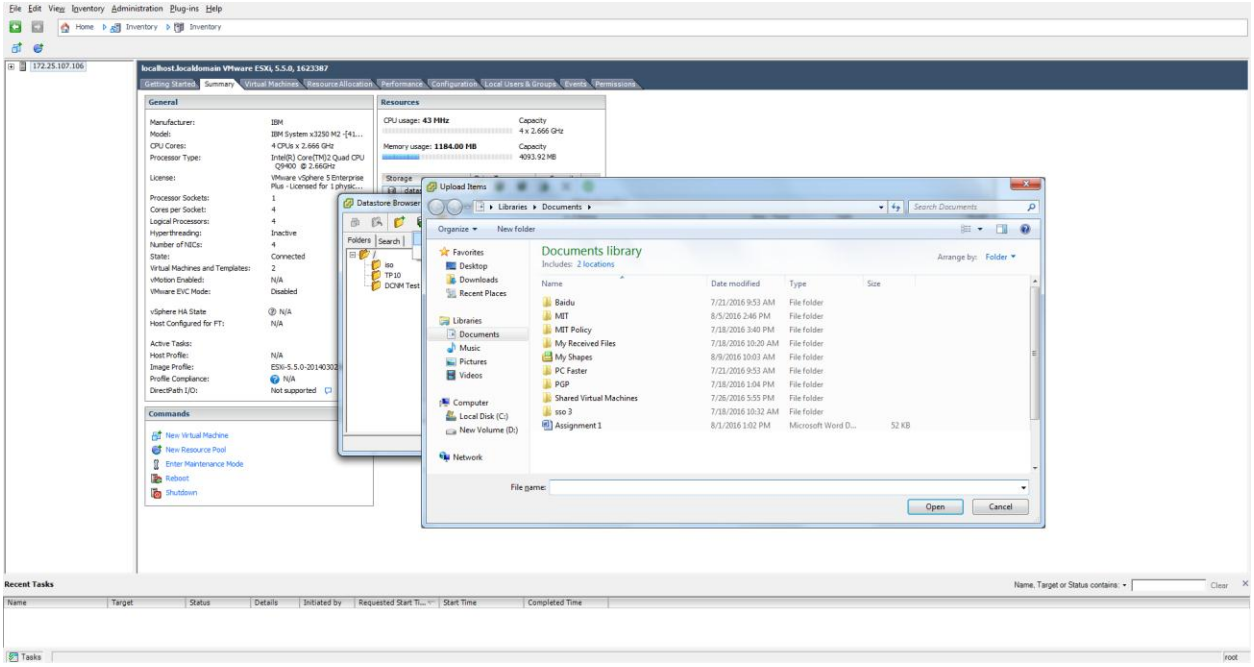


- Operating systems for the VMs can be store inside the NAS,SAN or locally. Or else it can be install by directly loading optical drive to the server's CD-ROM. But the best practice is NAS,SAN or local storage.
- In this task we will store an image to the local data store and use that image when creating the VM.
- To do that go to the summary tab of the vSphere management tool and find and write click on datastore .
- Select **Browse Datastore** .

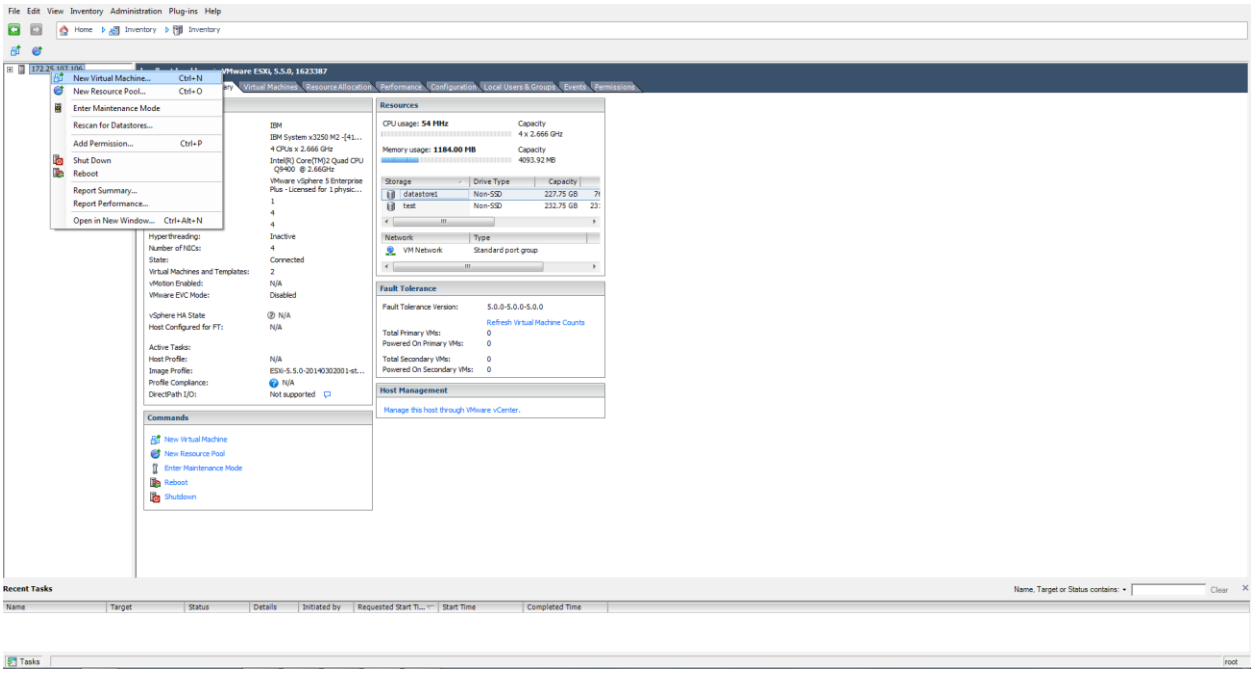


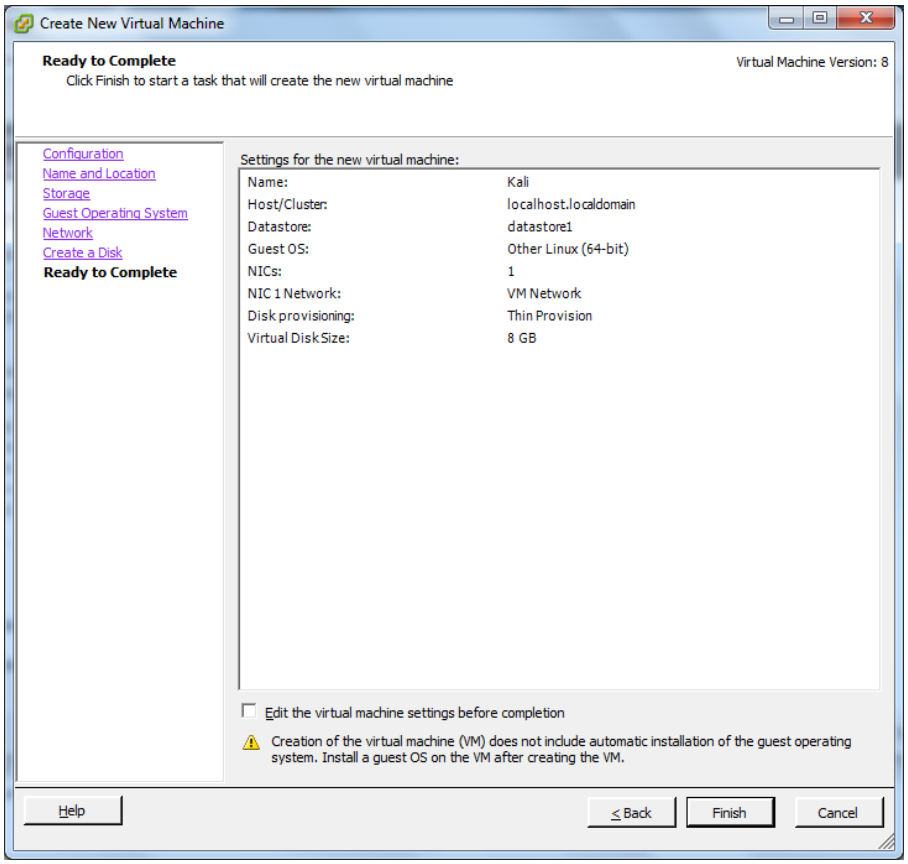
- Then browsing window will appear. Click on datastore icon and select upload file. When the upload window comes locate the image and upload to the local storage.





- Now create a new virtual machine by right click on the server instance.





- Mount the image of the operating system to the virtual machine and proceed with the OS installation.
- After the installation, VM will work as a standalone logical PC.