



SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

Enterprise Standards and Best Practices for IT Infrastructure

**4<sup>th</sup> Year 2<sup>nd</sup> Semester 2016**

## **Creating Virtual Data Center**

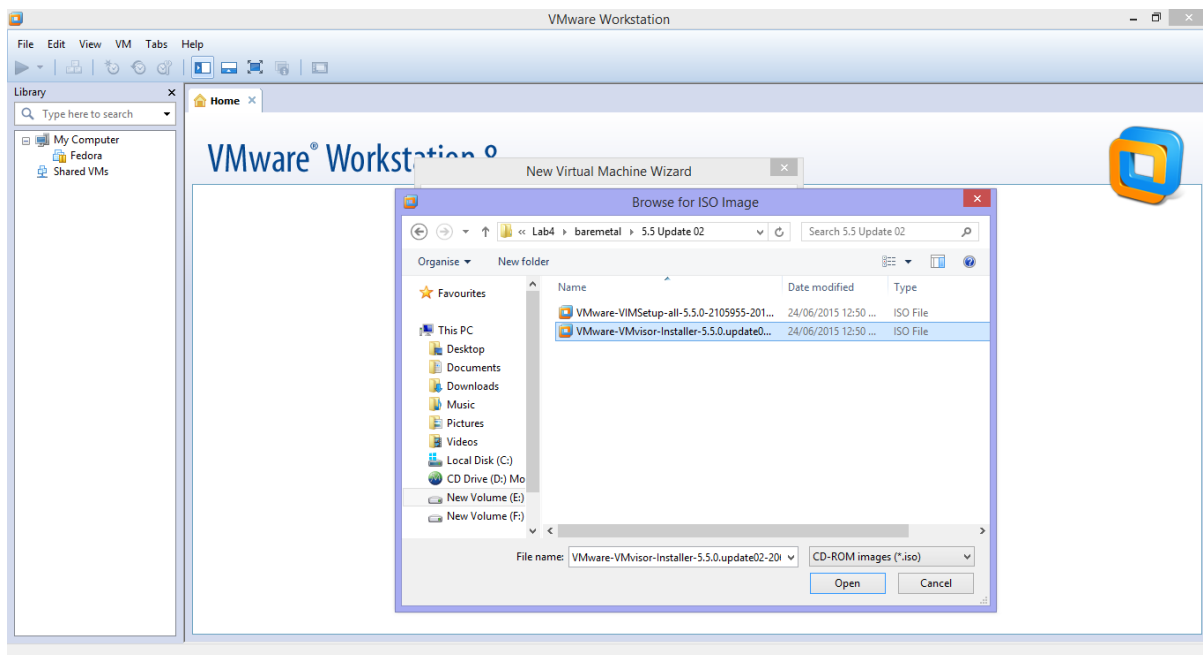
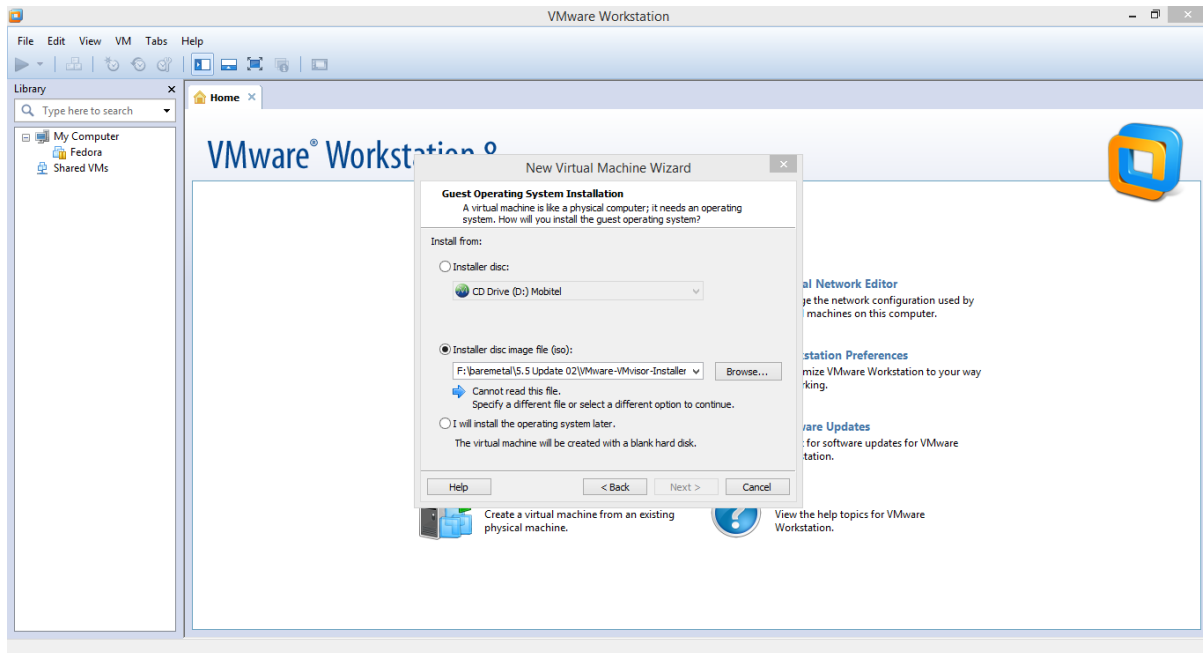
Name: Dinushi Madurangi G.G.

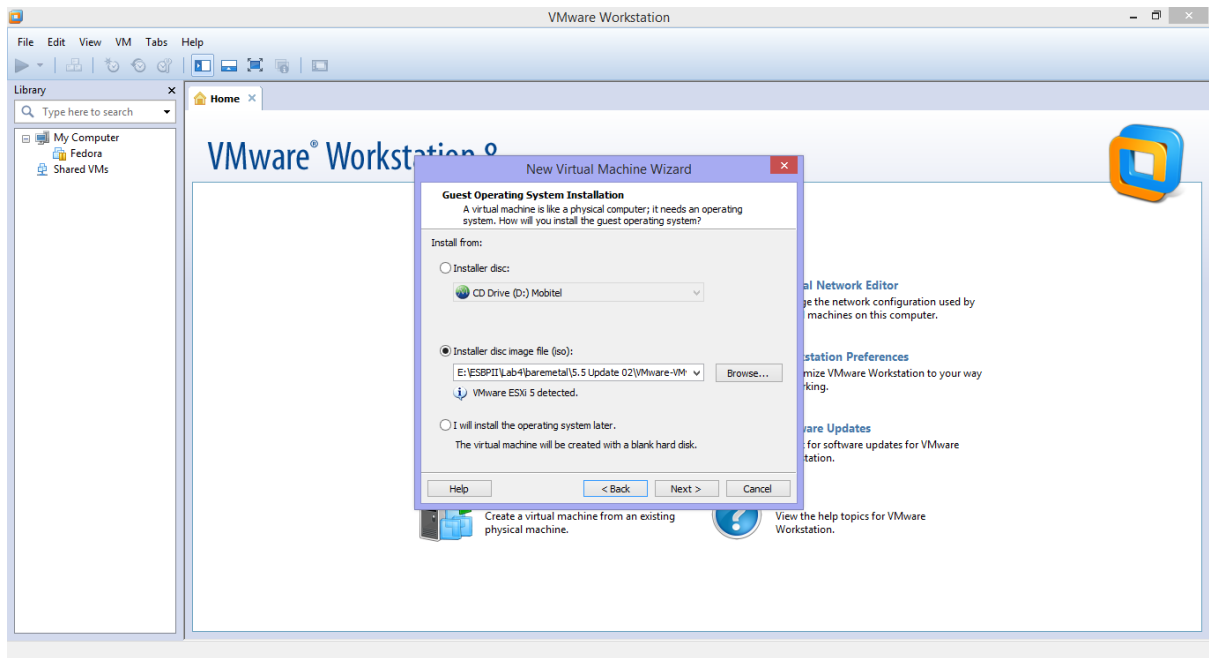
SLIIT ID: IT13049096

Practical Session: WD

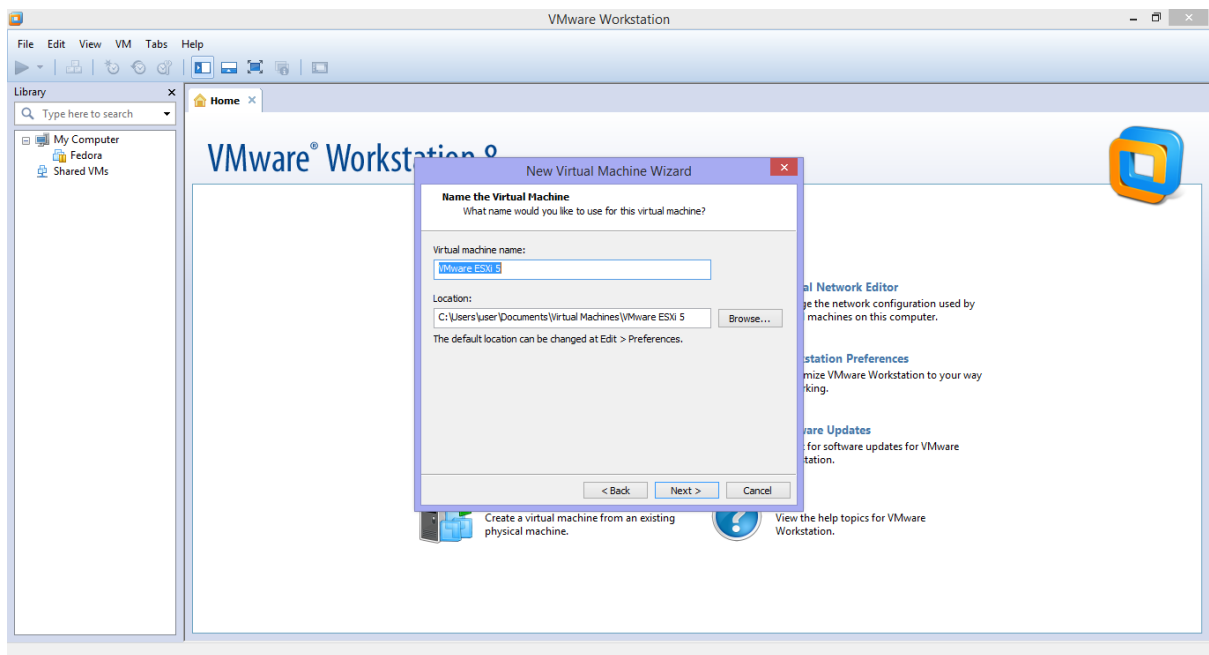
## Installing vSphere ESXi Bare-Metal Hypervisor –VMware

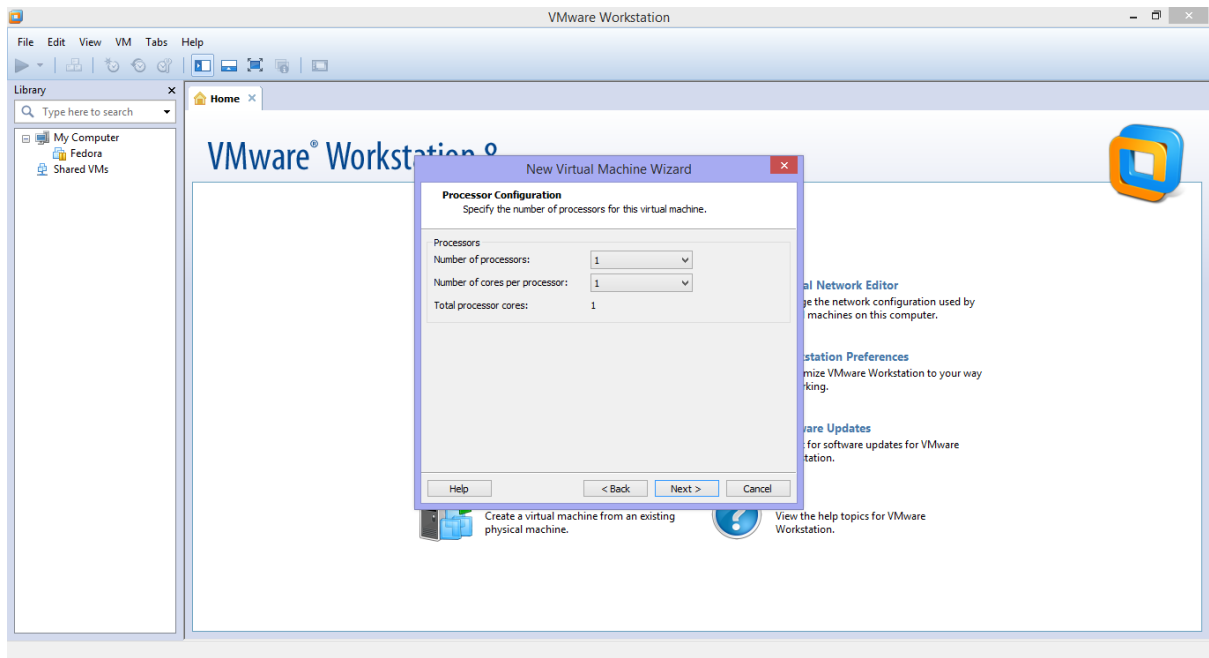
- First user has to create a New Virtual Machine using VMware.
- Open VMware
- Select File and click New Virtual Machine
- Select “Installer disk image file” and click the “Browse” button and select the folder which we want to install the software.



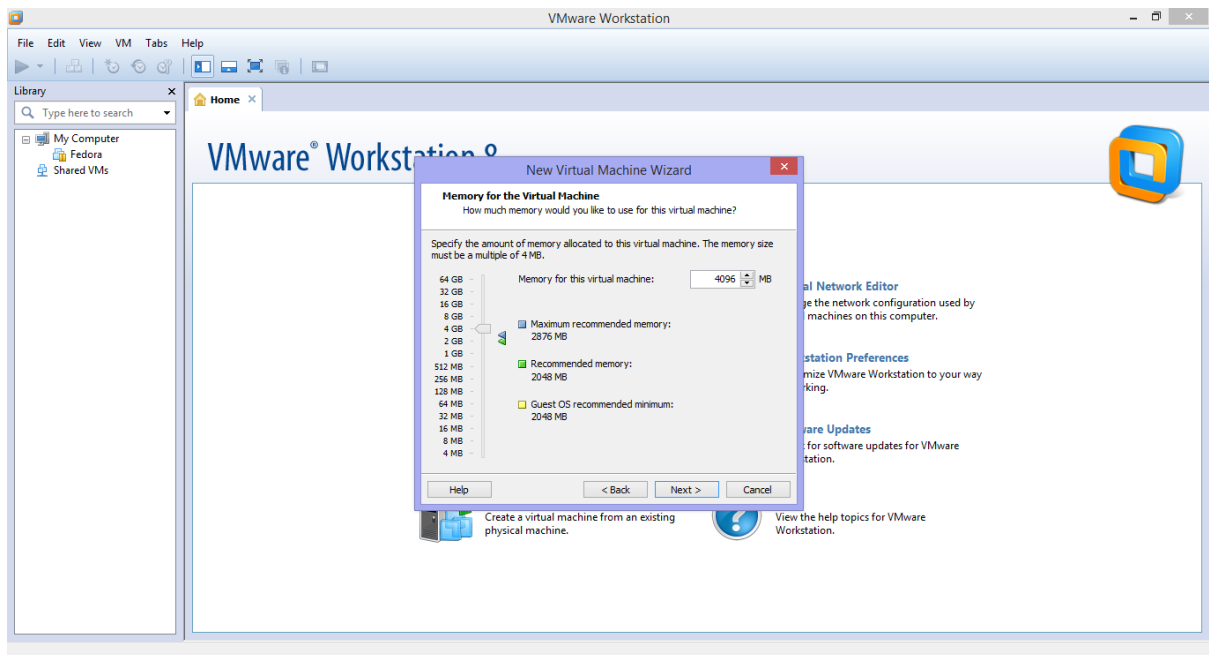


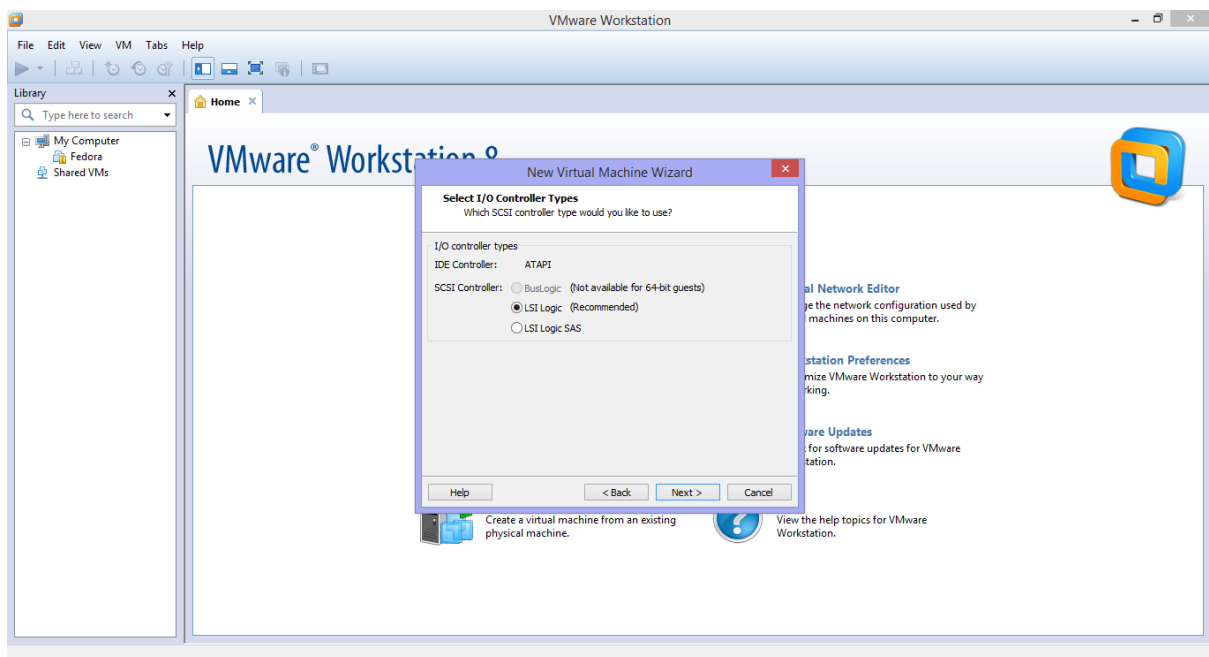
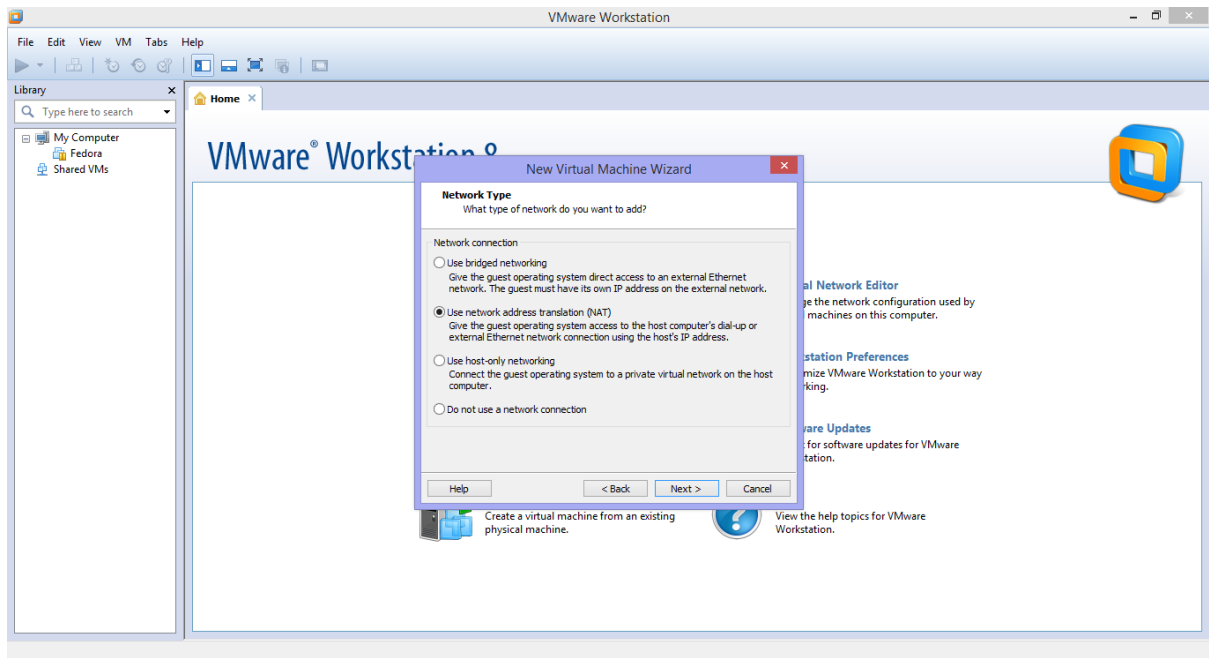
- Click to “Next” button and select a location to save and give a name to the virtual machine.



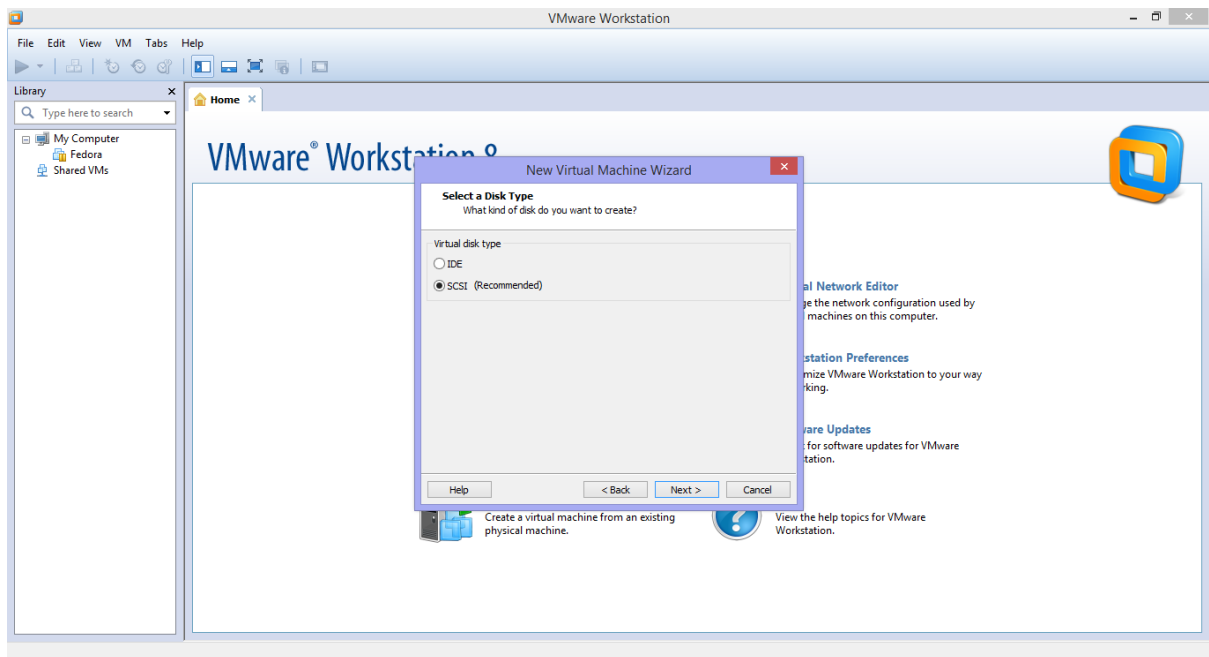
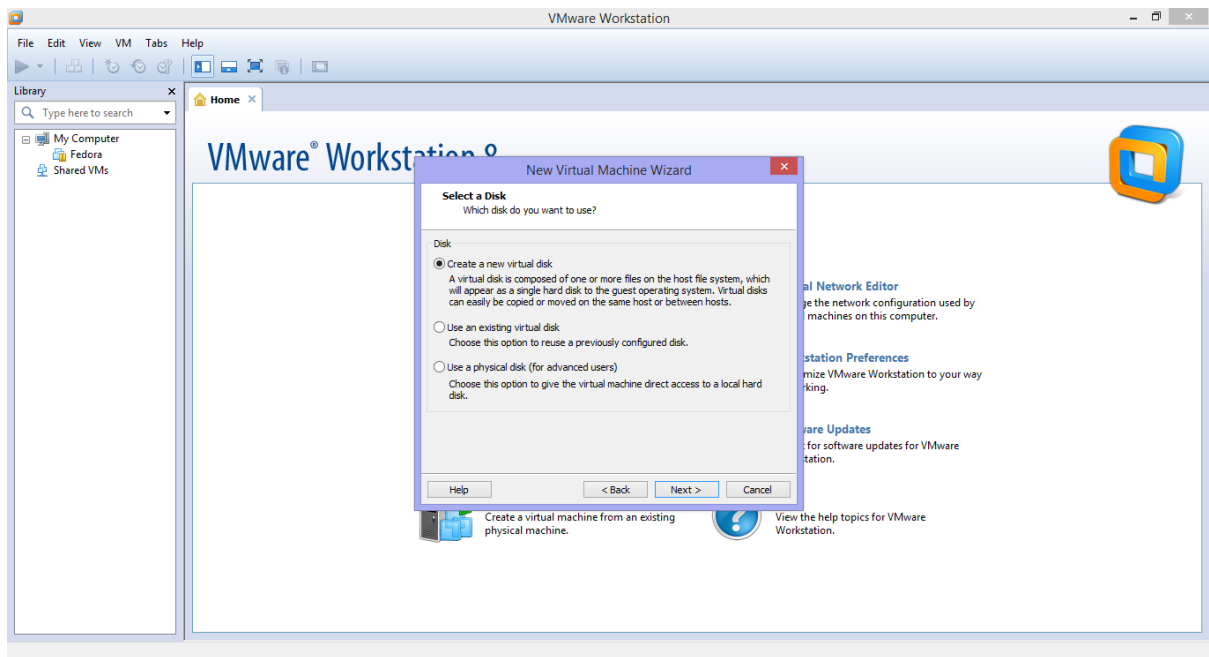


- Click “Next” button and give Maximum disk size as “40 GB” and select Store virtual disk as a single.

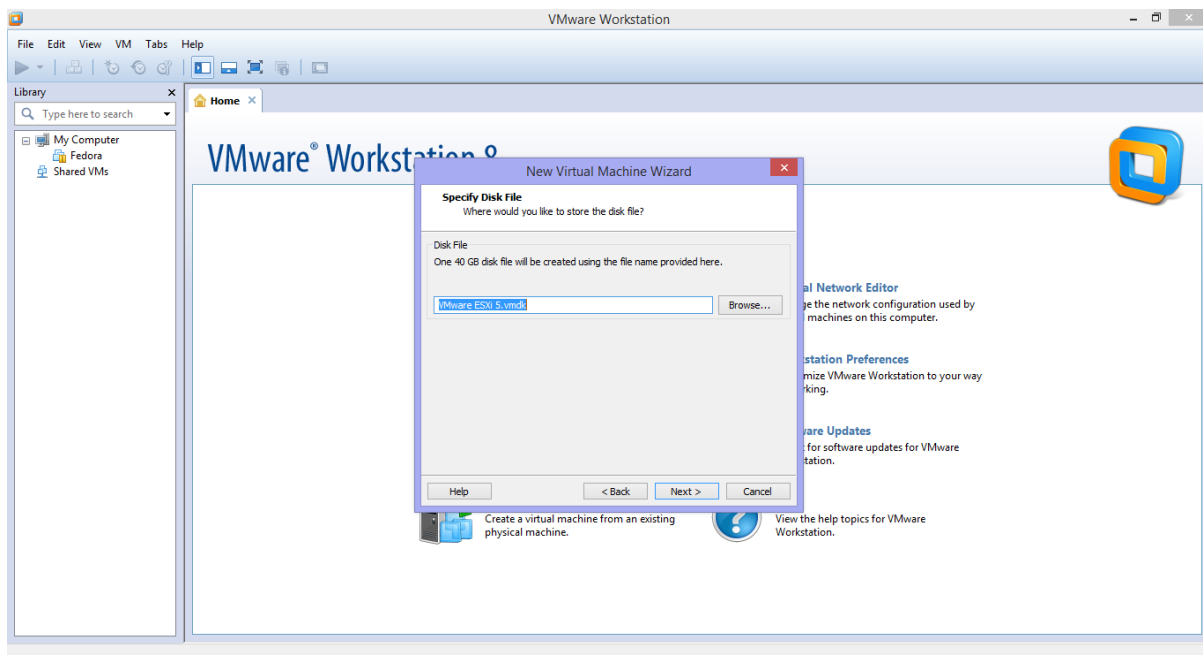
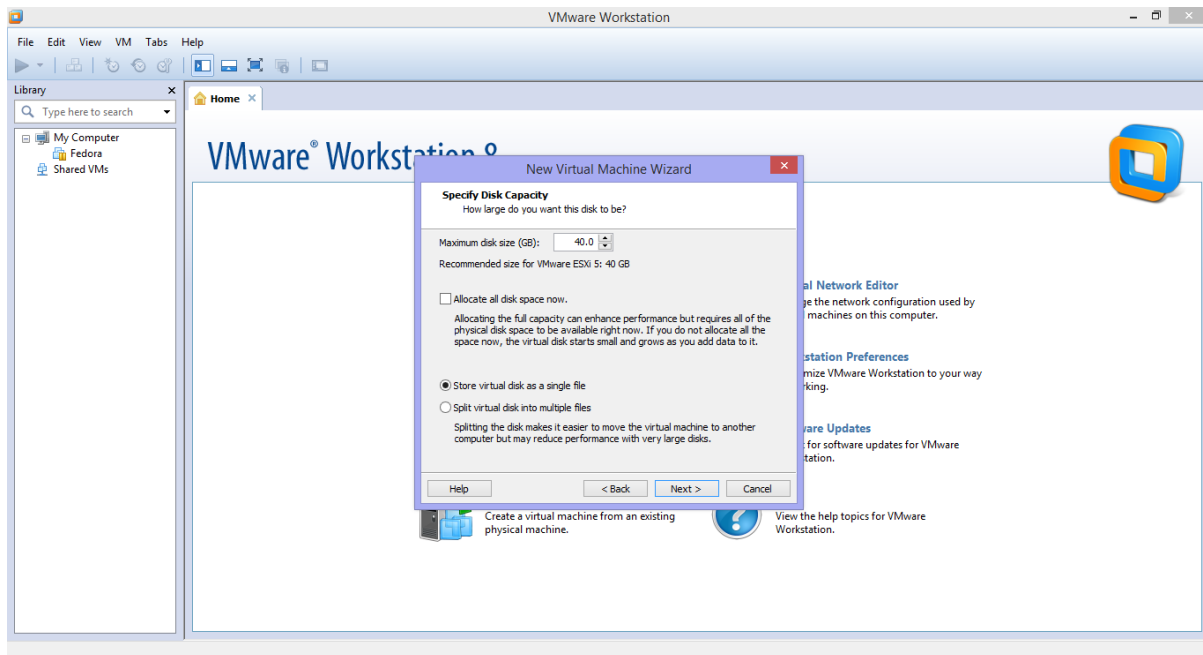




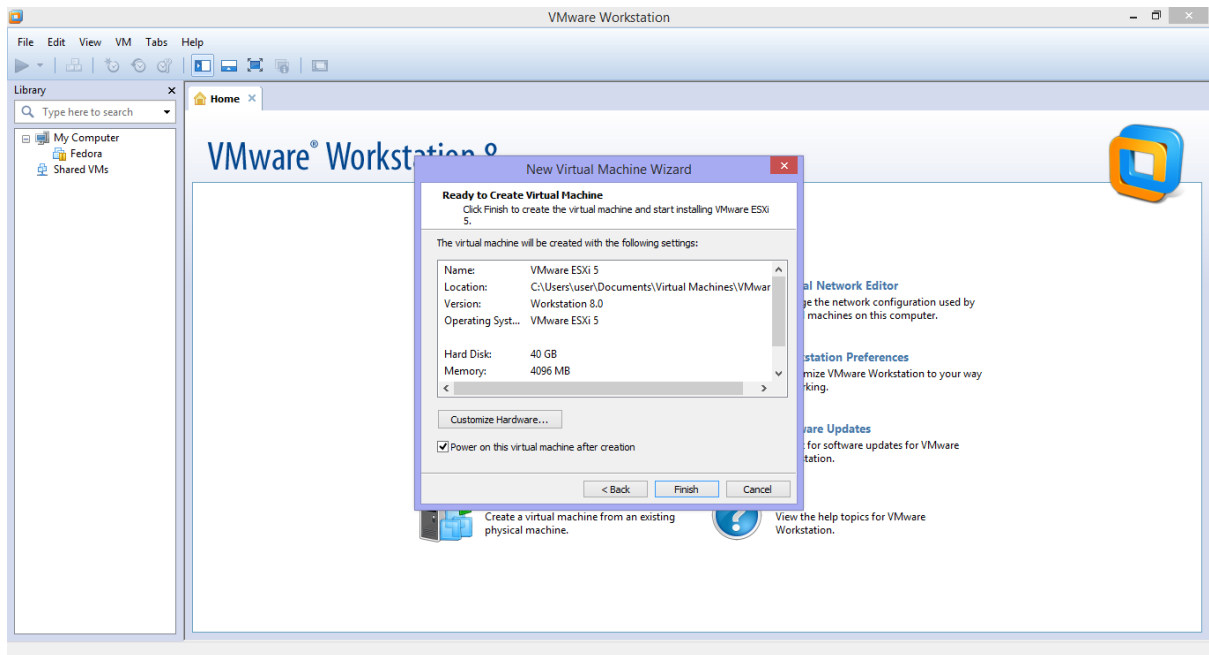
- Select “Create a new virtual disk” button and click “Next”



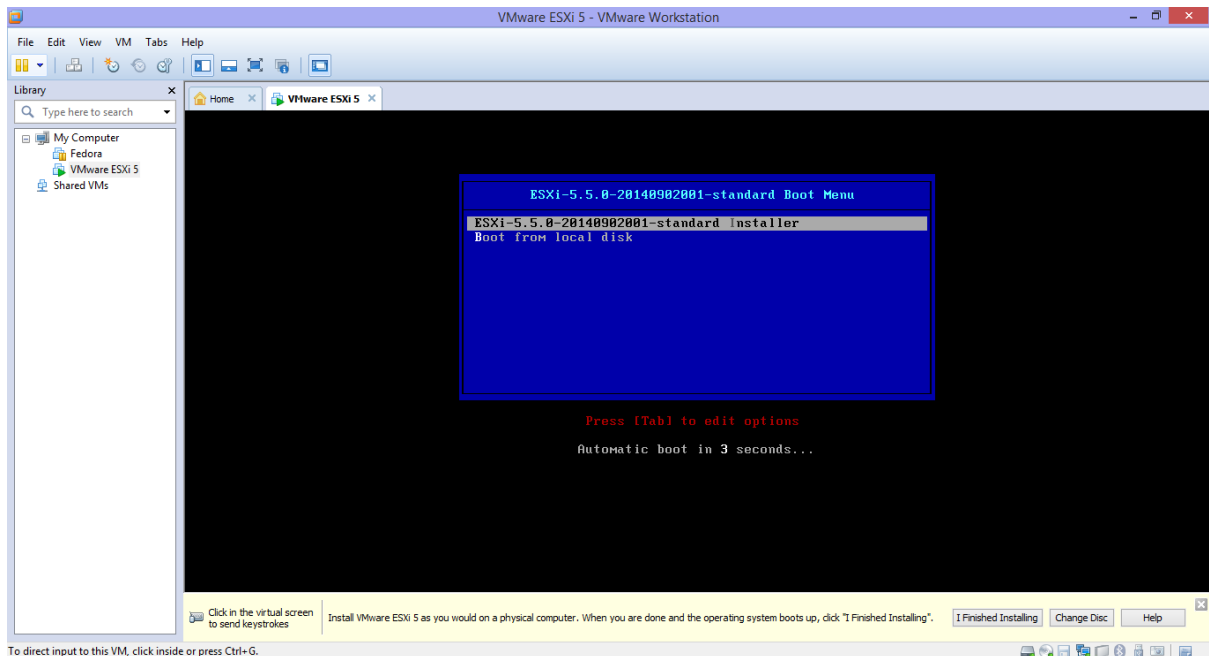
- Select “maximum disk size” is “40.0” and select “Store virtual disk as a single file” and select “Next” button.



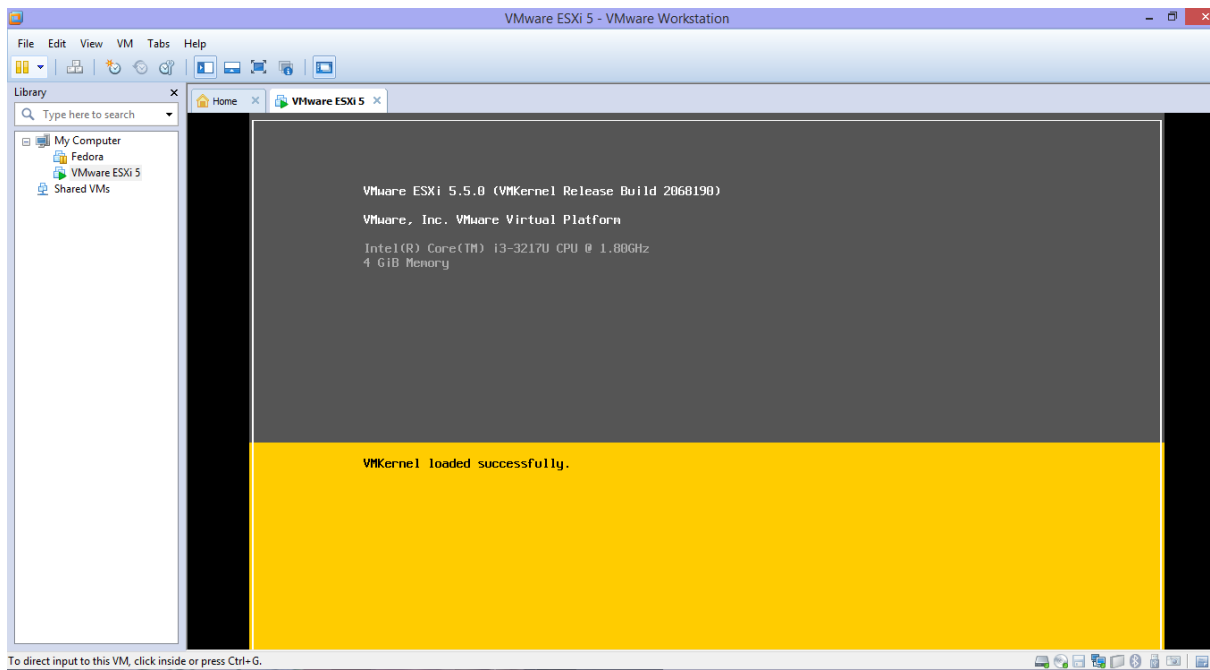
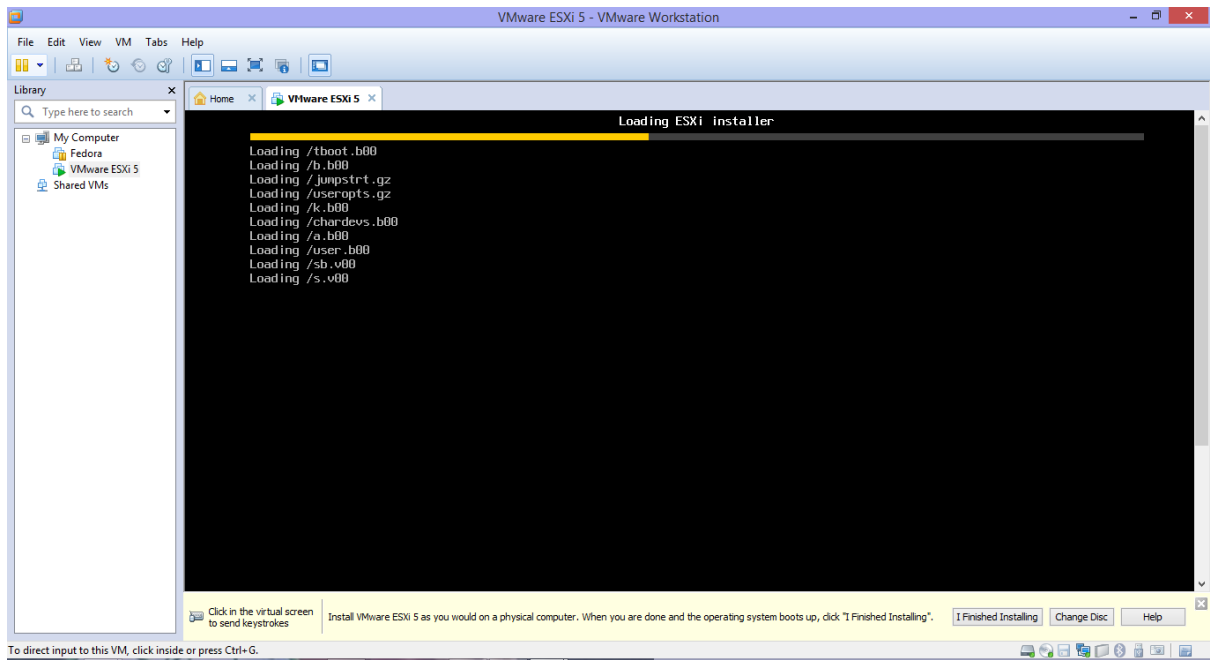
- Click “Next” and by selecting Customize Hardware button make sure Device memory is 4 GB.



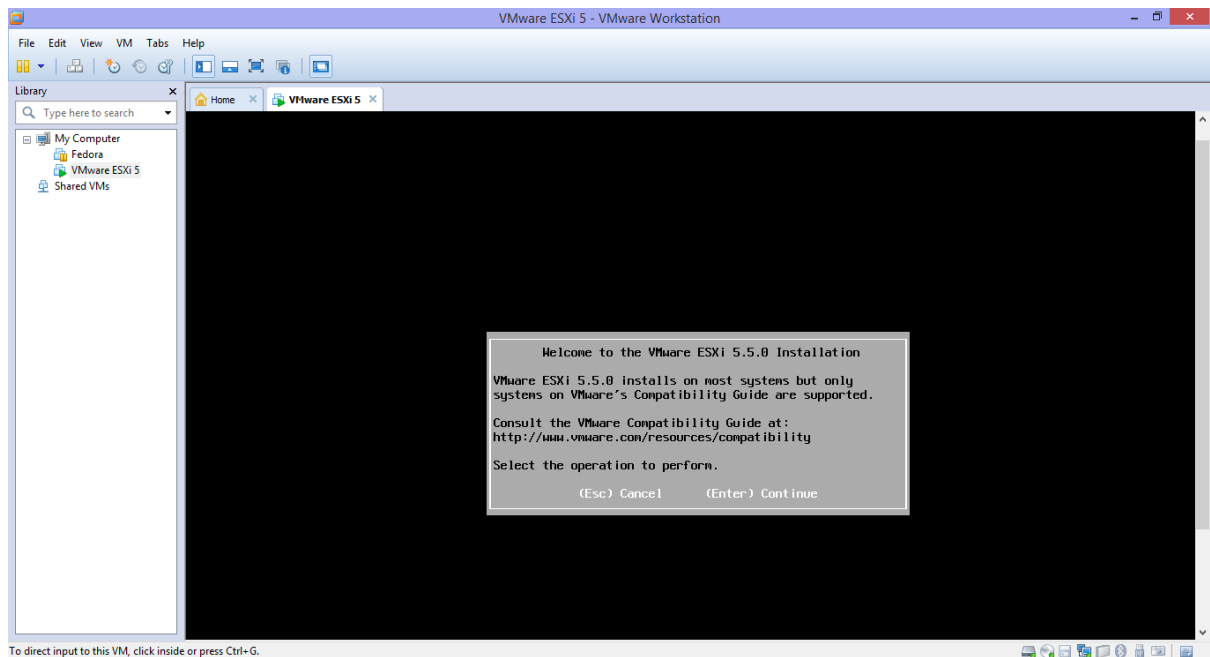
- Click “Finish” button and it will take a few minutes to boot the process.



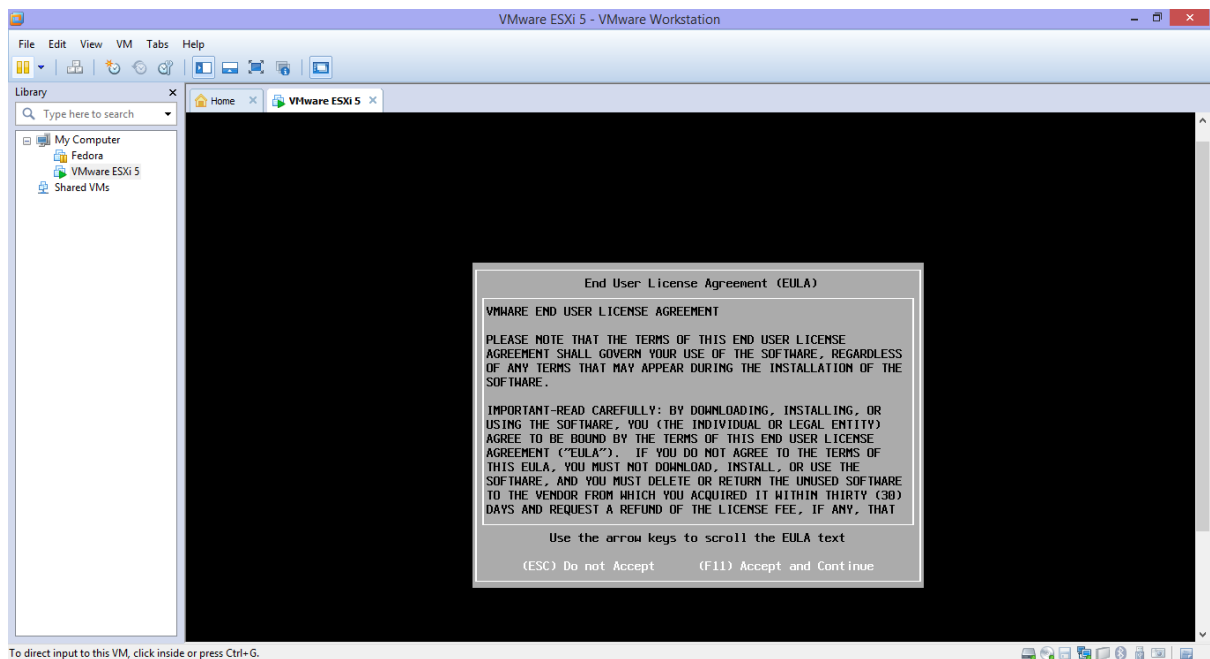




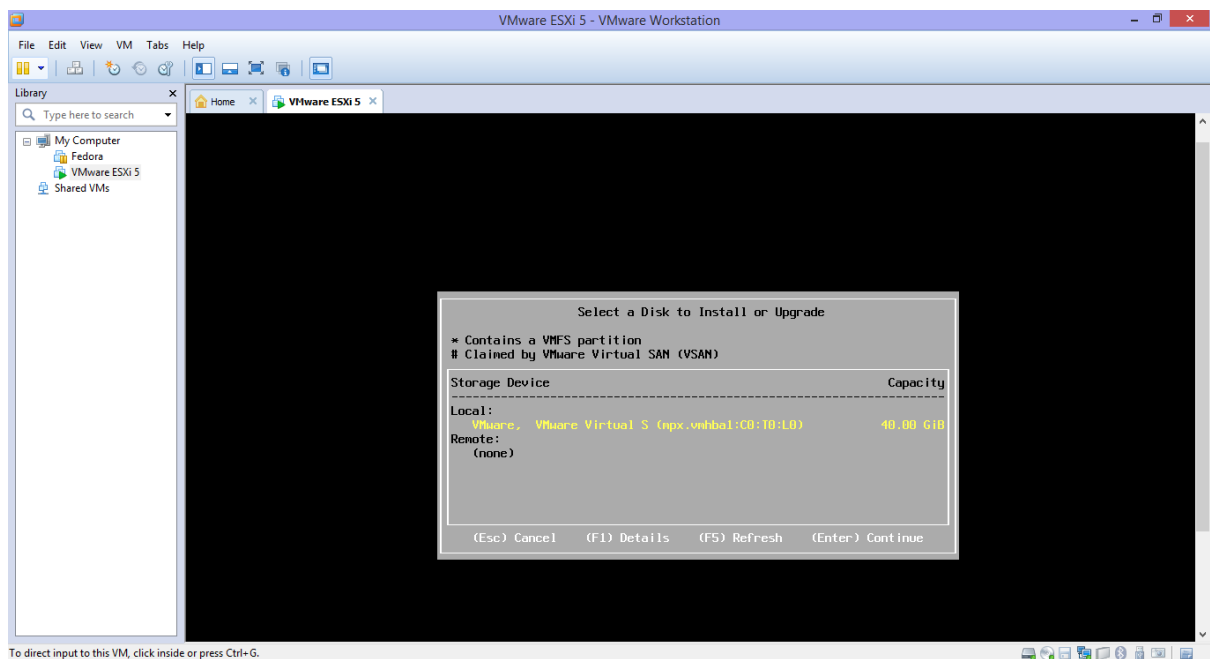
- Press “Enter” to continue.



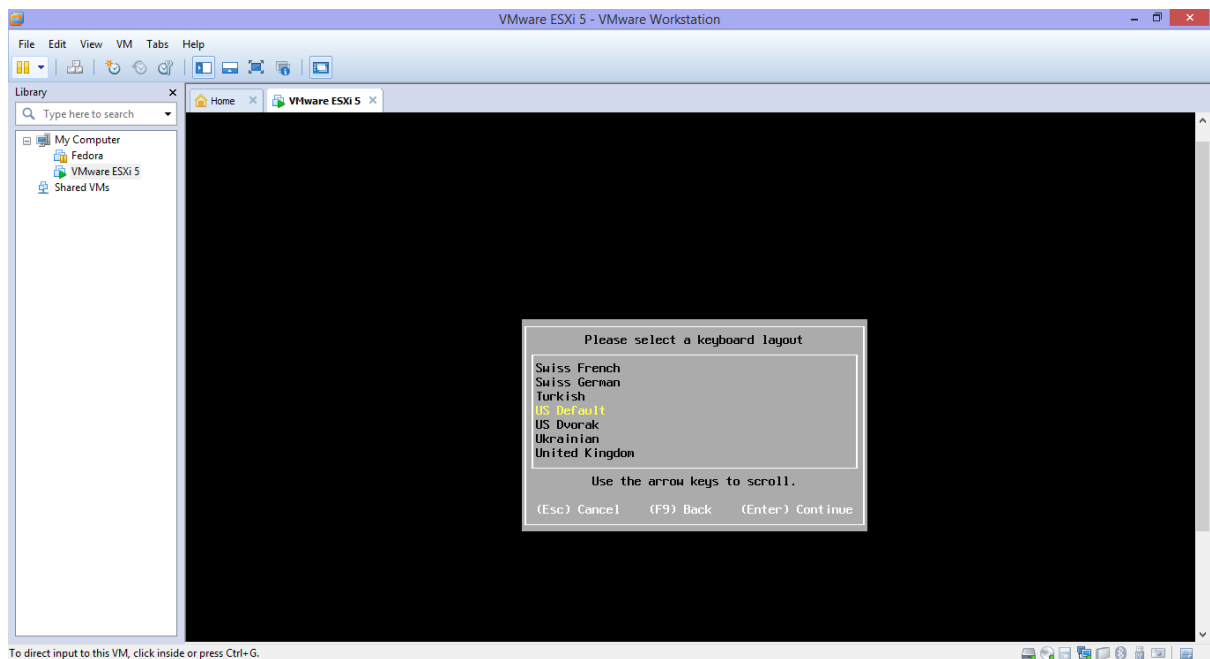
- Press “F11” to Accept and continue.



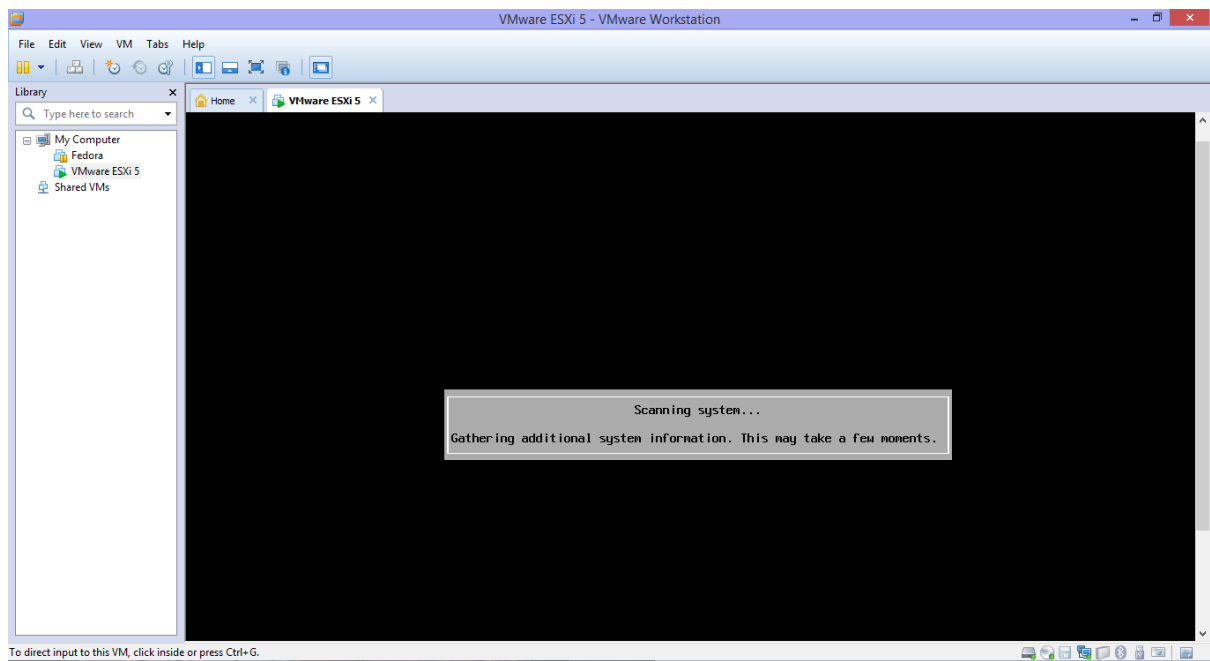
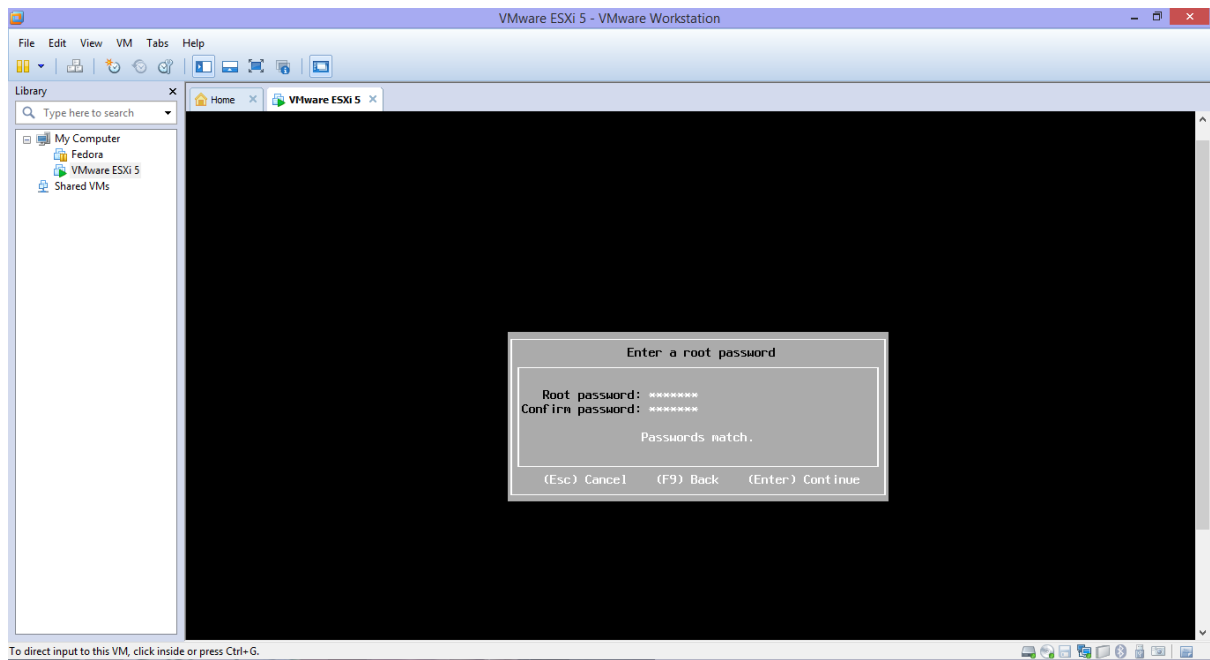
- Press “Enter” to continue.



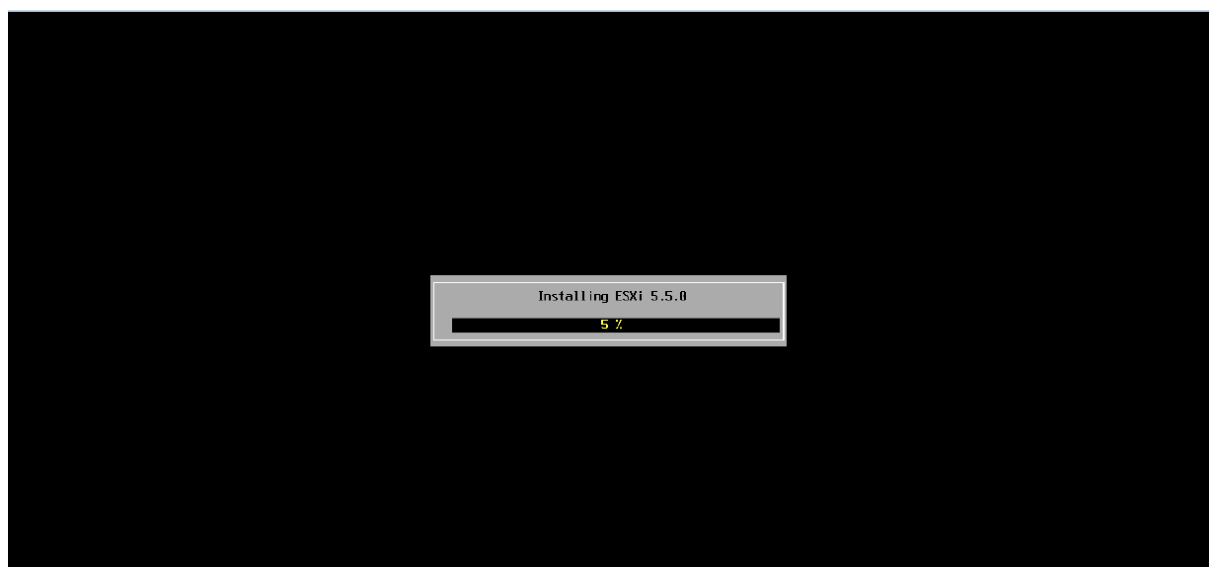
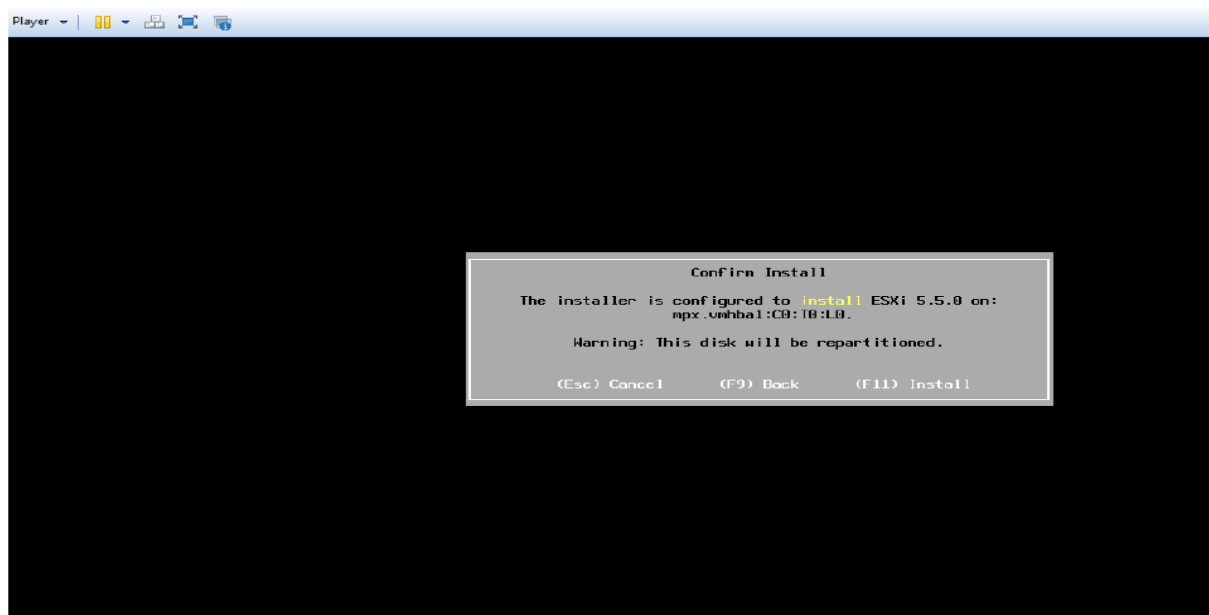
- Select “US default” and press “Enter” to continue.



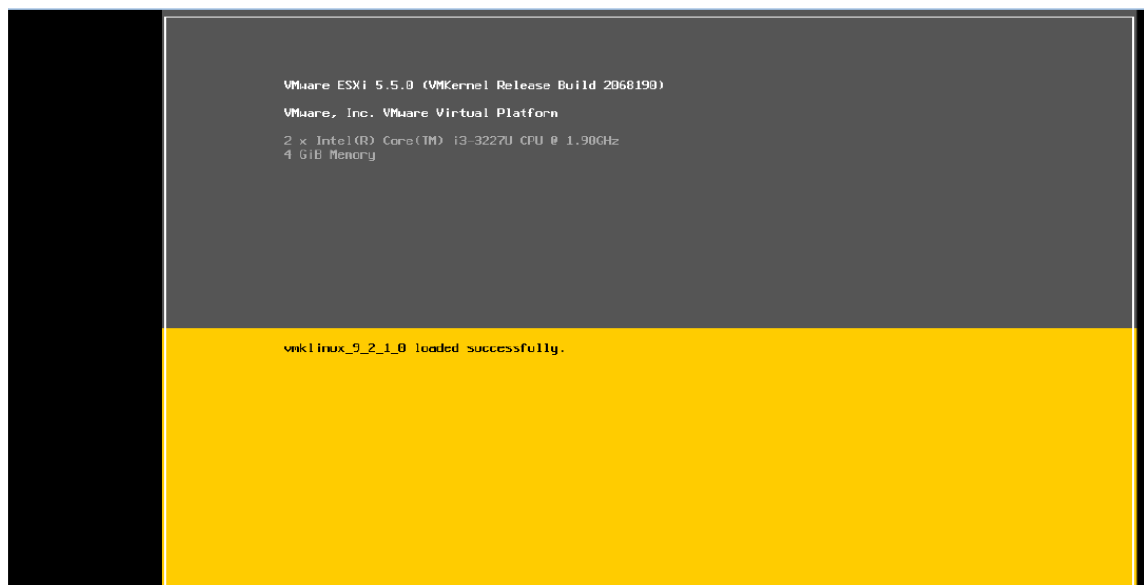
- Enter the password and press “Enter” to continue.



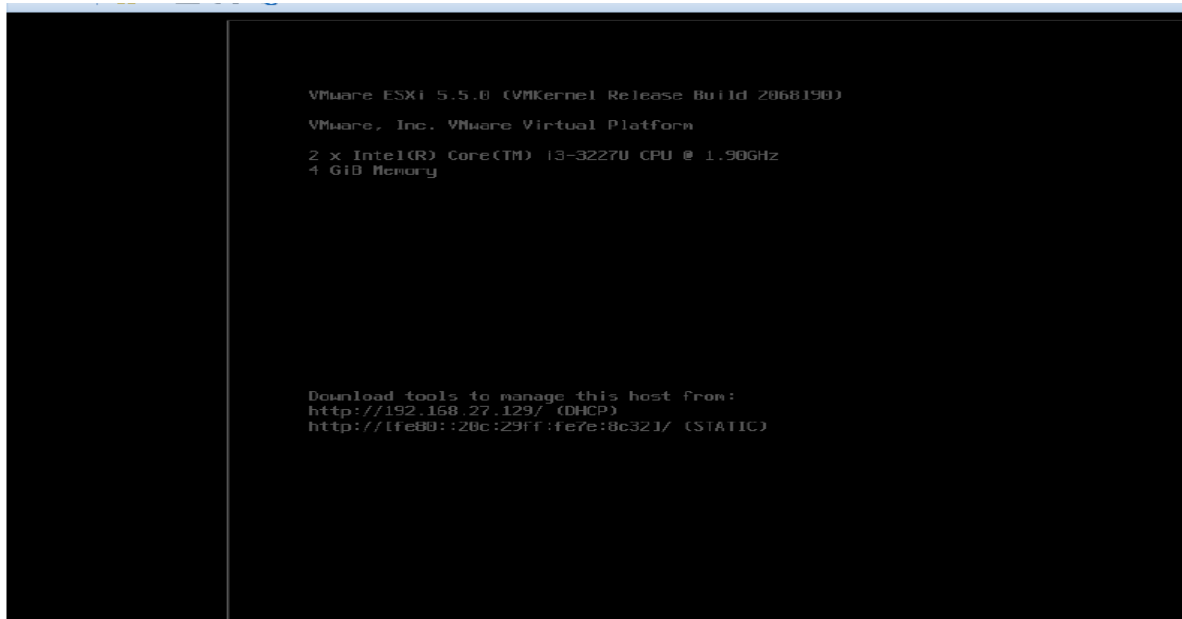
- Press “F11” to Install.



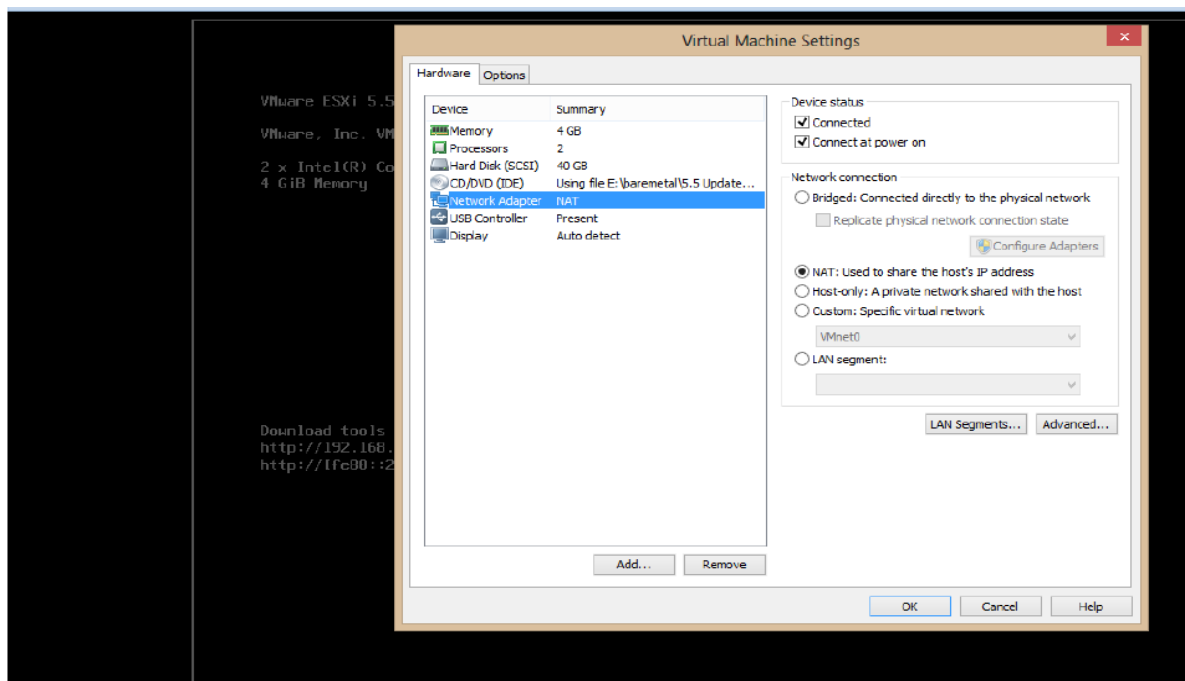
- Press Enter.



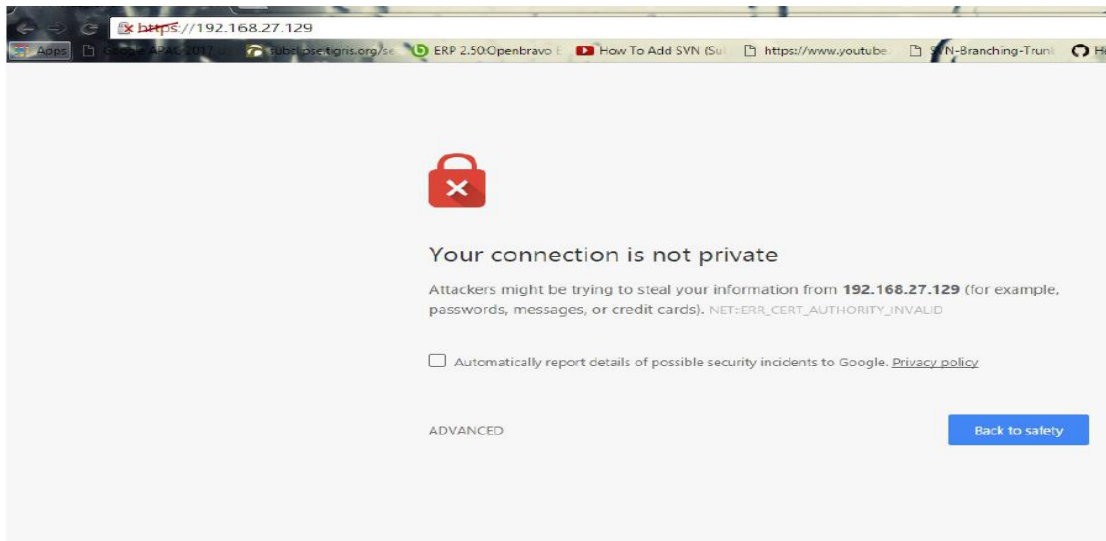
- Finally it will generate an IP address.



- To share the host's IP address click on "Virtual machine settings" and Select "Network Adapter" and Select "NAT: Used to share the host's IP address".



- Open the URL on a new tab and Click “ADVANCED”.

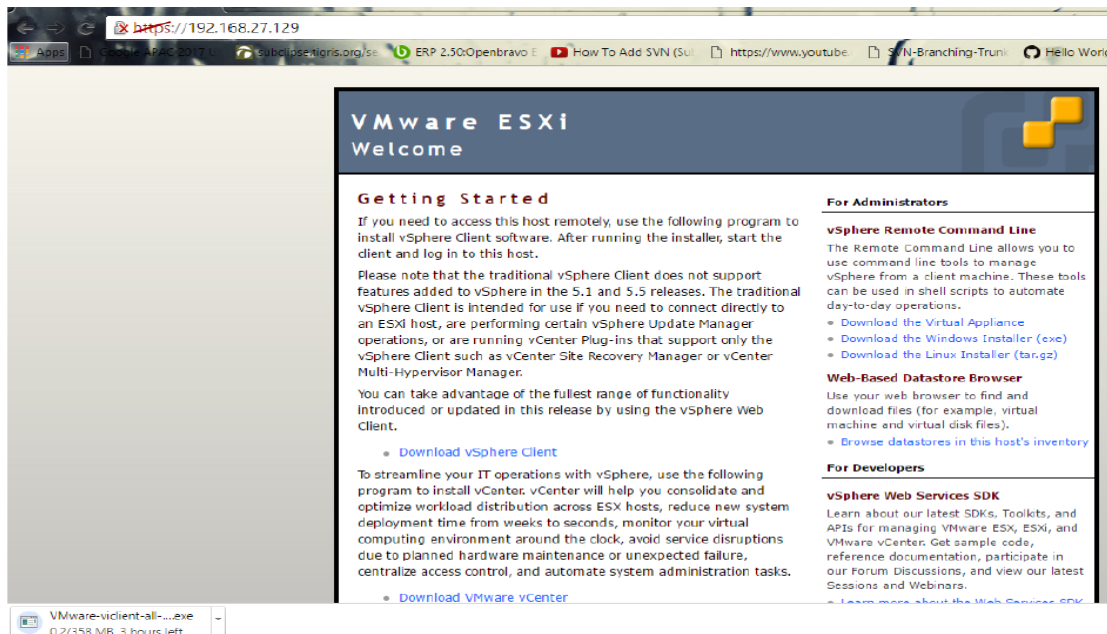


- Click Proceed to 192.168.27.129(unsafe).




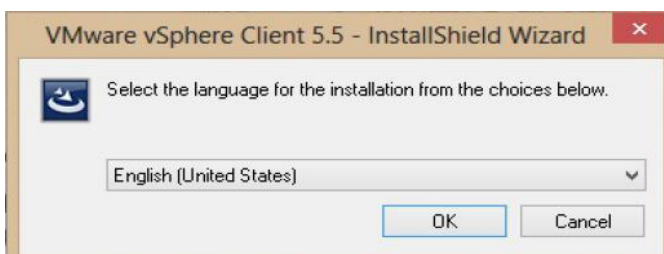
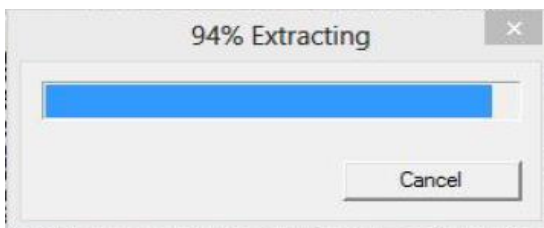


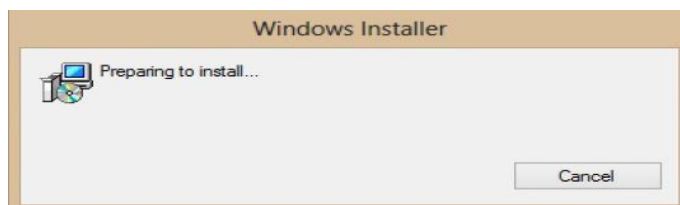
- Then click on 'Download vSphere Client, Setup will be downloaded and it will take few minutes to finish.

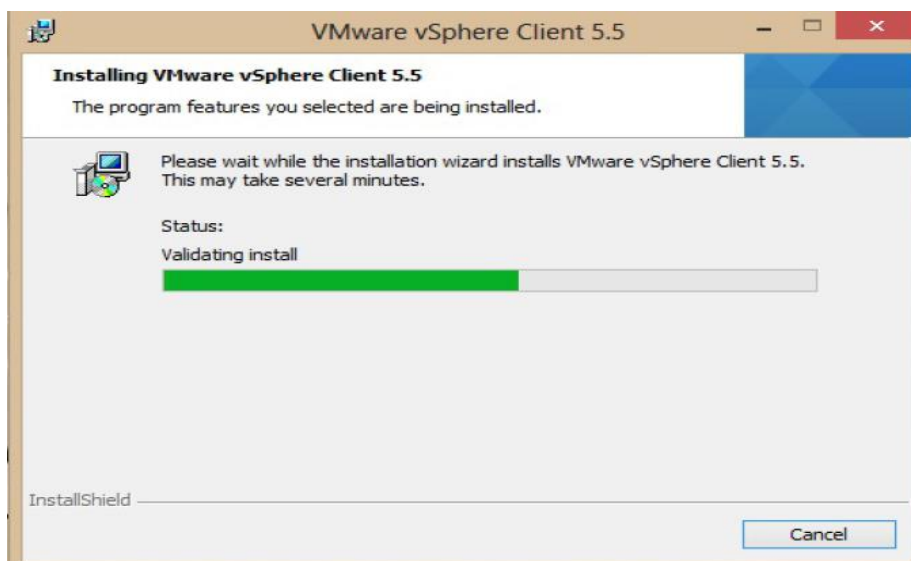
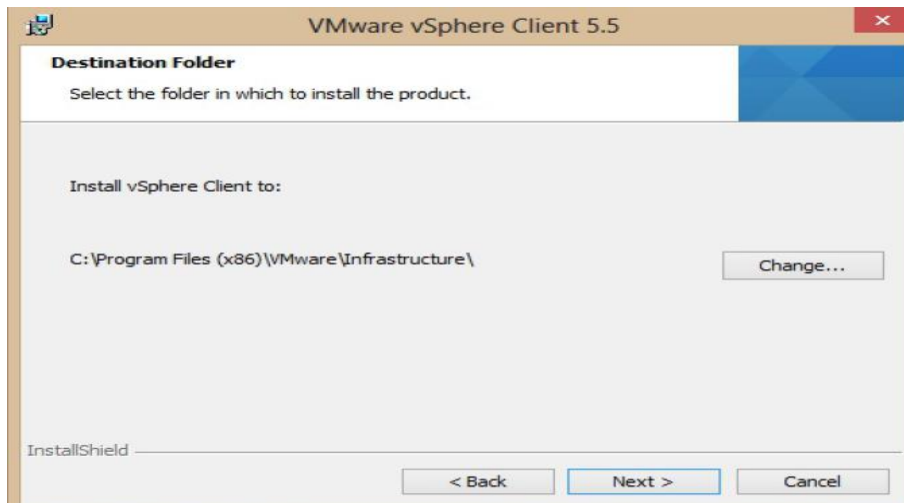
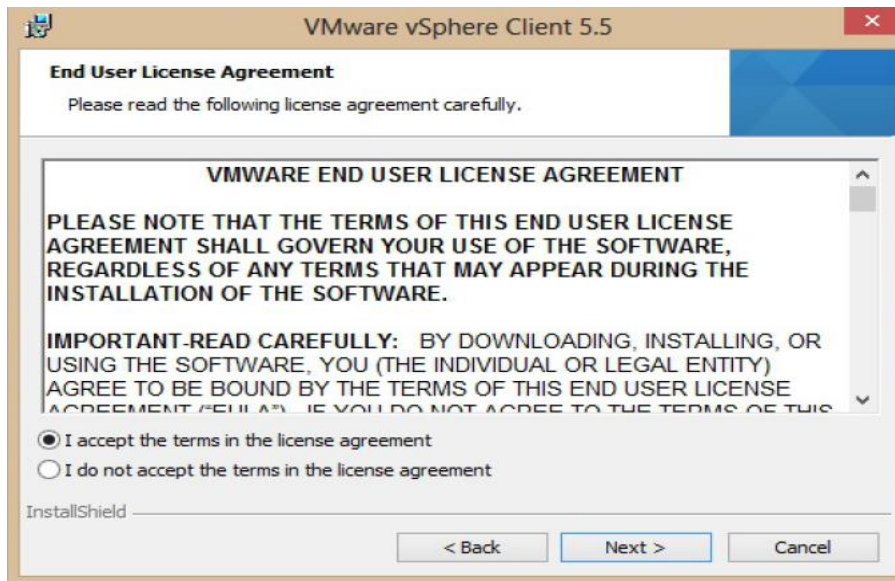


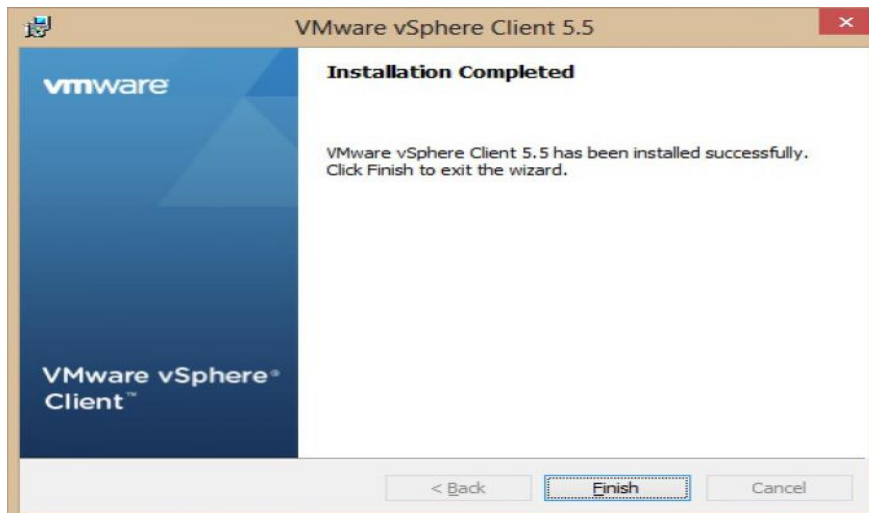
- After Download has finished install the setup.

Name	Date modified	Type	Size
 VMware-viclient-all-5.5.0-1993072	7/23/2016 2:35 PM	Application	366,357 KB

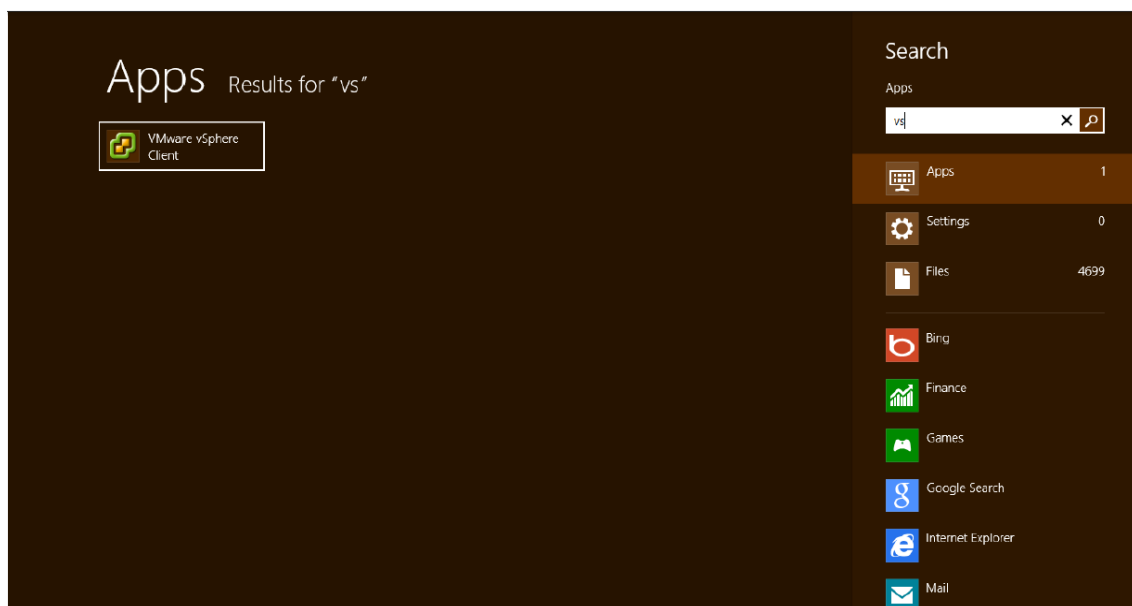








- After the installation process has finished it can open the vSphere client by selecting “All programs” and search “VMware vSphere client”.



VMware vSphere Client

vmware

VMware vSphere™ Client





In vSphere 5.5, all new vSphere features are available only through the vSphere Web Client. The traditional vSphere Client will continue to operate, supporting the same feature set as vSphere 5.0, but not exposing any of the new features in vSphere 5.5.

The vSphere Client is still used for the vSphere Update Manager (VUM) and Host Client, along with a few solutions (e.g. Site Recovery Manager).

To directly manage a single host, enter the IP address or host name.  
To manage multiple hosts, enter the IP address or name of a vCenter Server.

IP address / Name:

User name:

Password:

☐ Use Windows session credentials

Login

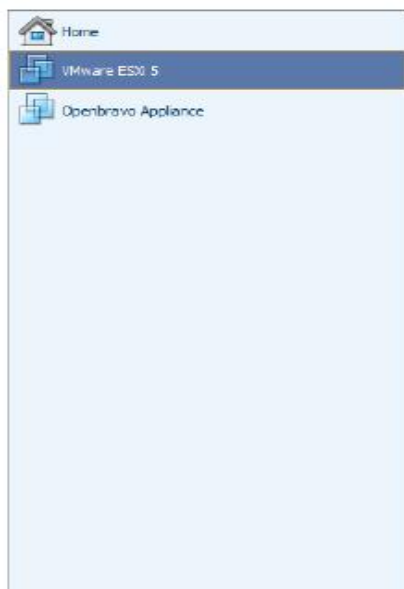
Close

Help

## Creating a new virtual machine on vSphere ESXi Bare-Metal Hypervisor

- The key ingredients for virtual machine success and installed the hypervisor – ESXi 5 – and a management tool – vSphere Client. From here, and then can start building virtual machines to meet organizational needs.
- To open the VMware ESXi 5 from Virtual Machine management software open the location that we have selected early to save the file. It will takes few minutes and will generate an IP address.

New Volume (E:) > ESBP11 > ESBP11 lab > ESBP11 lab 3 baremetal installation on vmware > Vmware				
Name	Date modified	Type	Size	
564d5a71-5a04-4ff4-2b3f-81b5d82a9a3a...	8/8/2016 10:11 PM	File folder		
VMware ESXi 5.vmdk.lck	8/8/2016 10:11 PM	File folder		
VMware ESXi 5.vmx.lck	8/8/2016 10:11 PM	File folder		
564d5a71-5a04-4ff4-2b3f-81b5d82a9a3a...	8/8/2016 10:11 PM	VMEM File	4,194,304 KB	
VMware ESXi 5.nvram	8/2/2016 8:55 AM	NVRAM File	9 KB	
VMware ESXi 5	8/8/2016 10:12 PM	VMware virtual disk file	3,616,512 KB	
VMware ESXi 5.vmsd	7/25/2016 8:56 AM	VMSD File	0 KB	
VMware ESXi 5	8/8/2016 10:11 PM	VMware virtual machine configuration	3 KB	
VMware ESXi 5.vmx	7/25/2016 8:56 AM	VMXF File	1 KB	
vmware	8/8/2016 10:11 PM	Text Document	0 KB	
vmware-0	8/2/2016 8:56 AM	Text Document	146 KB	
vmware-1	7/29/2016 5:26 PM	Text Document	170 KB	
vmware-2	7/29/2016 4:16 PM	Text Document	158 KB	



### VMware ESXi 5

**State:** Powered Off  
**OS:** VMware ESXi 5  
**Version:** Workstation 10.0 virtual machine  
**RAM:** 4 GB

 Play virtual machine  
 Edit virtual machine settings

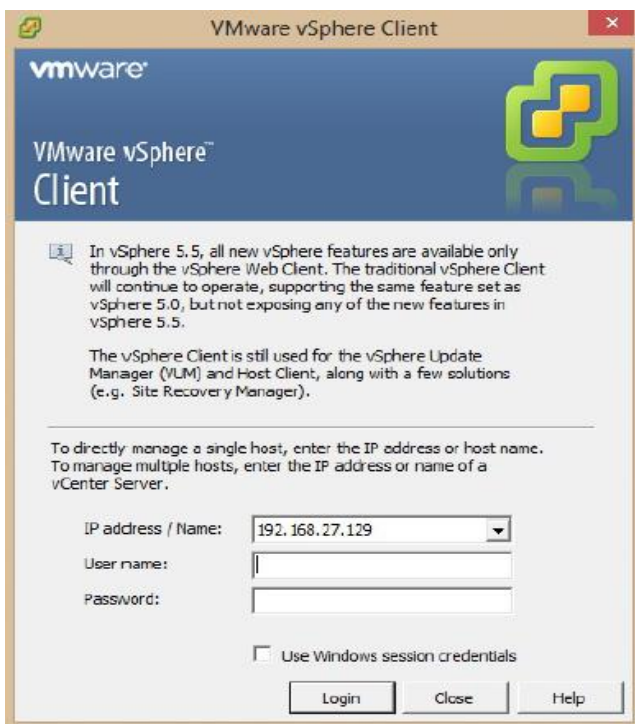
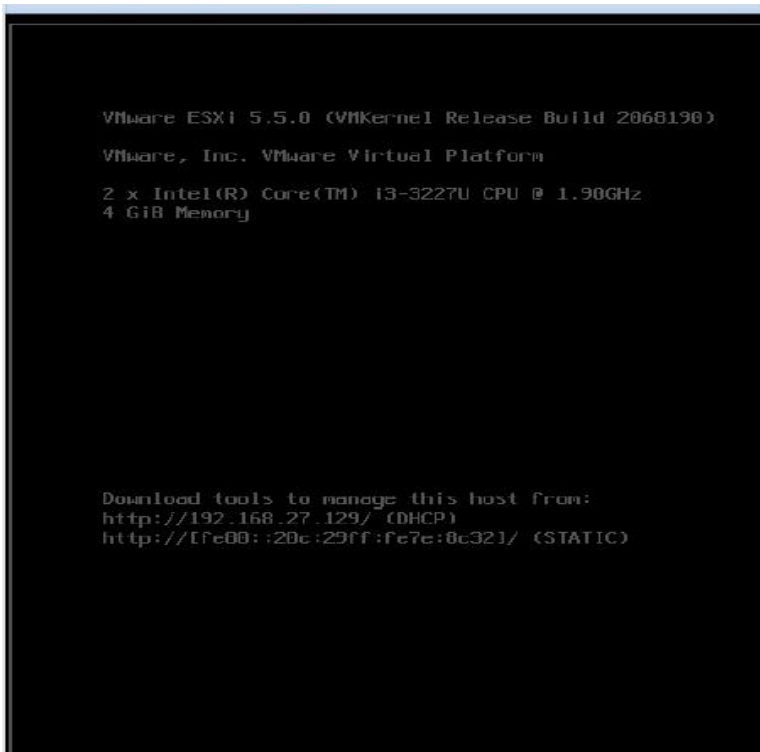
VMware ESXi 5.5.0 (VMkernel Release Build 2068190)  
VMware, Inc. VMware Virtual Platform  
2 x Intel(R) Core(TM) i3-3227U CPU @ 1.90GHz  
4 GiB Memory

vmx\_psp\_mru loaded successfully.

VMware ESXi 5.5.0 (VMkernel Release Build 2068190)  
VMware, Inc. VMware Virtual Platform  
2 x Intel(R) Core(TM) i3-3227U CPU @ 1.90GHz  
4 GiB Memory

Download tools to manage this host from:  
<http://192.168.27.129/> (DHCP)  
<http://f6e88::28c:29ff:fe7e:8c32/> (STATIC)

- Start the vSphere Client by opening Start “All Programs” → “VMware” → “VMware Sphere Client”. This will open up the vSphere Client login page.
- On this page, provide the IP address for your ESXi 5 host and also provide the root username and password that you specified during the setup of your server.



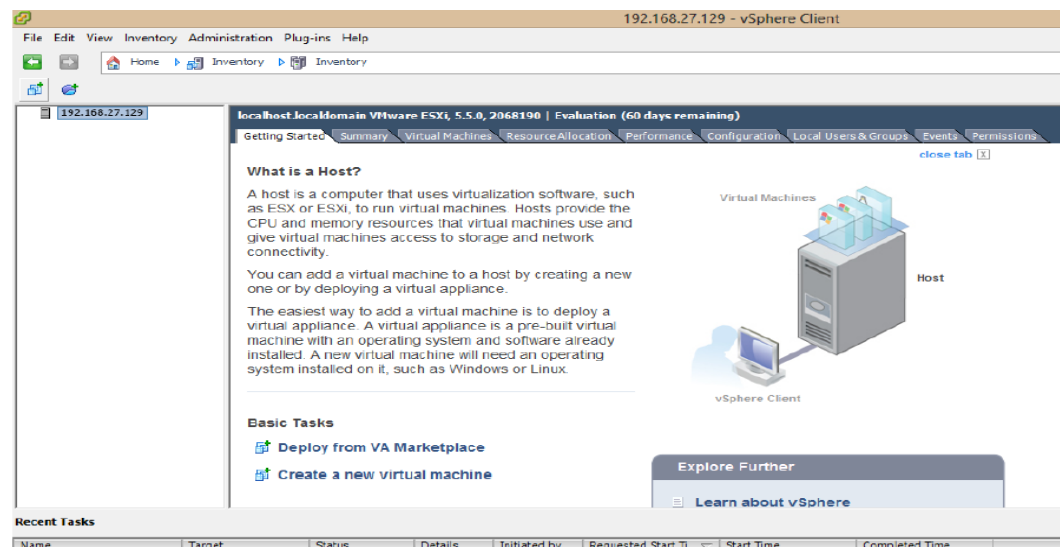
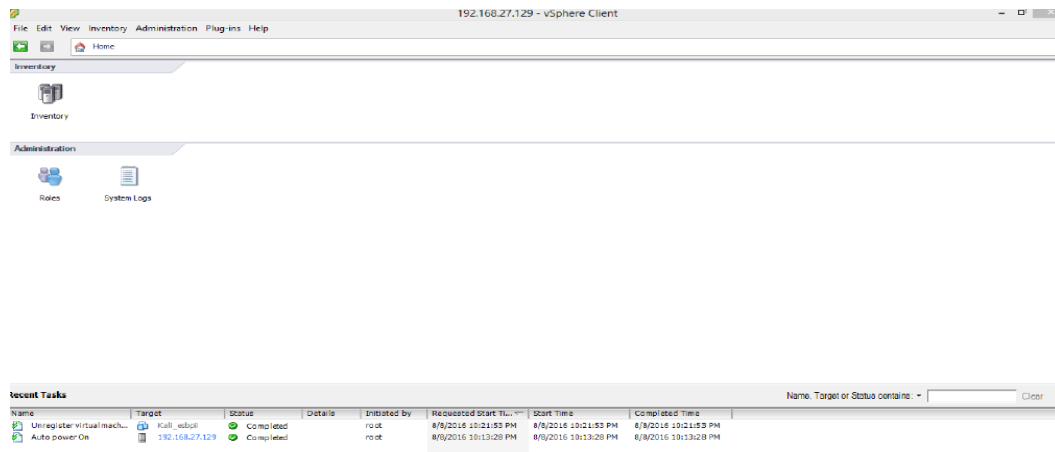




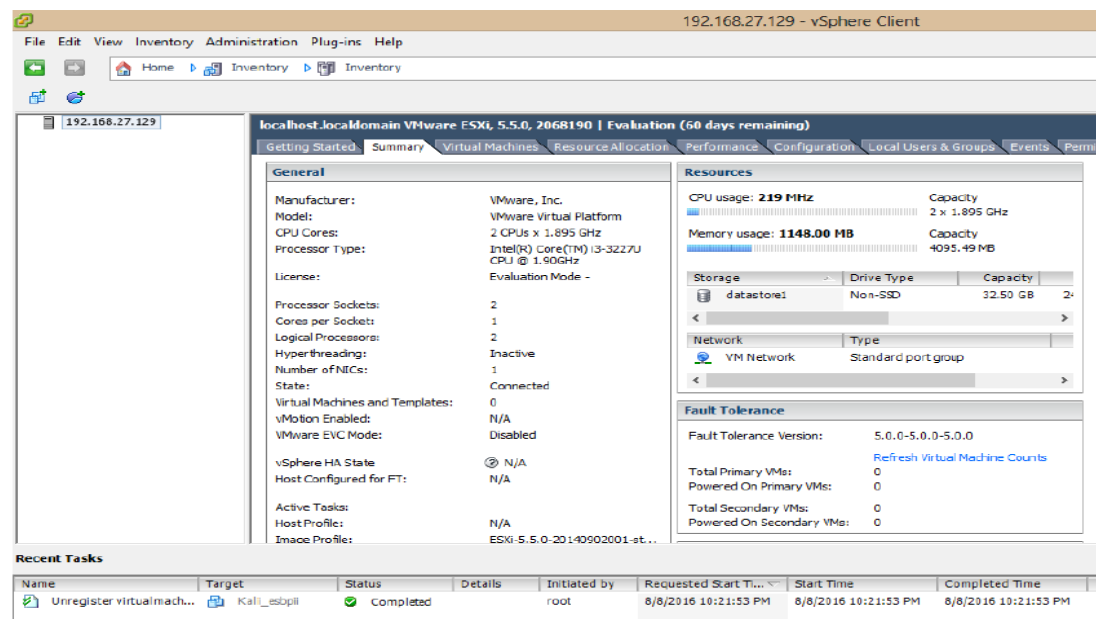
- You will receive a security warning and it is basically telling you that SSL certificate being used by the ESXi host can't be trusted. However, since you just installed the ESXi server, you're generally safe simply clicking the Ignore button here, although you can also choose to install the certificate to your local certificate store so that you don't see this message again.

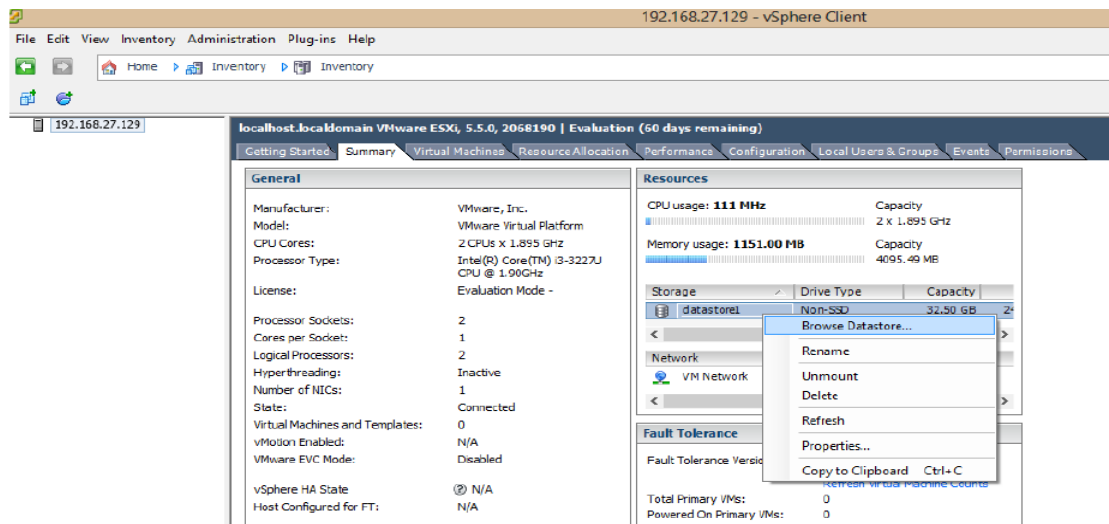


Then you will be redirected to the home page. Double click on Inventory image button to see server IP address.

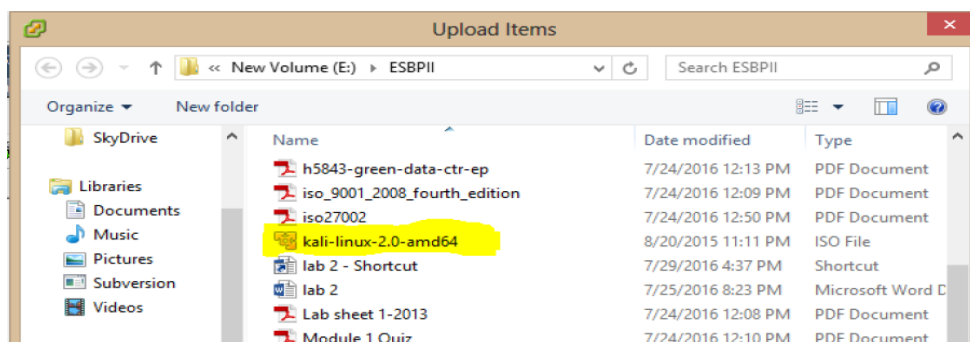
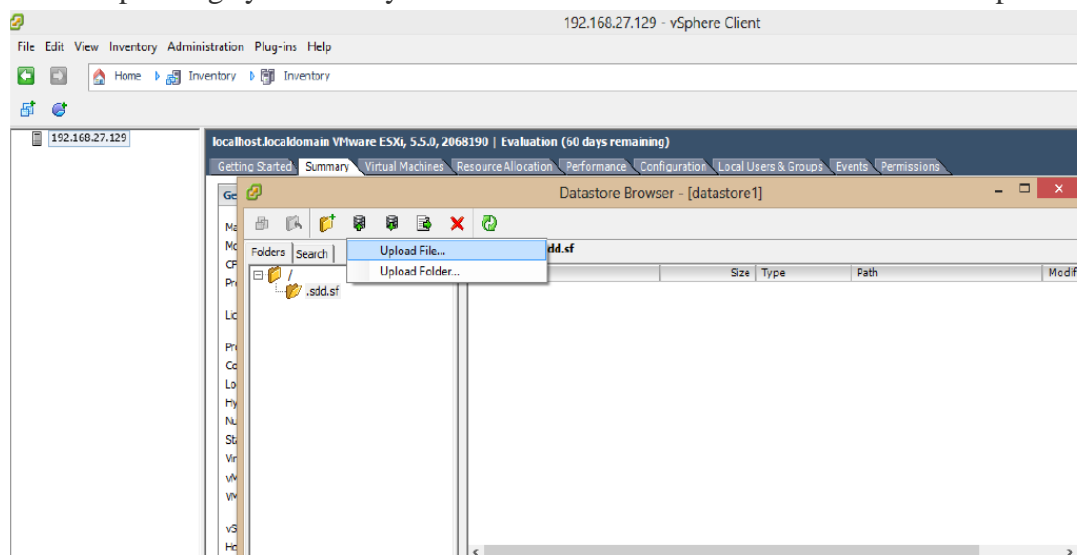


- Click on “summary” tab and it shows storage area at right corner. Right click on “datastore1” and select “browse data”.

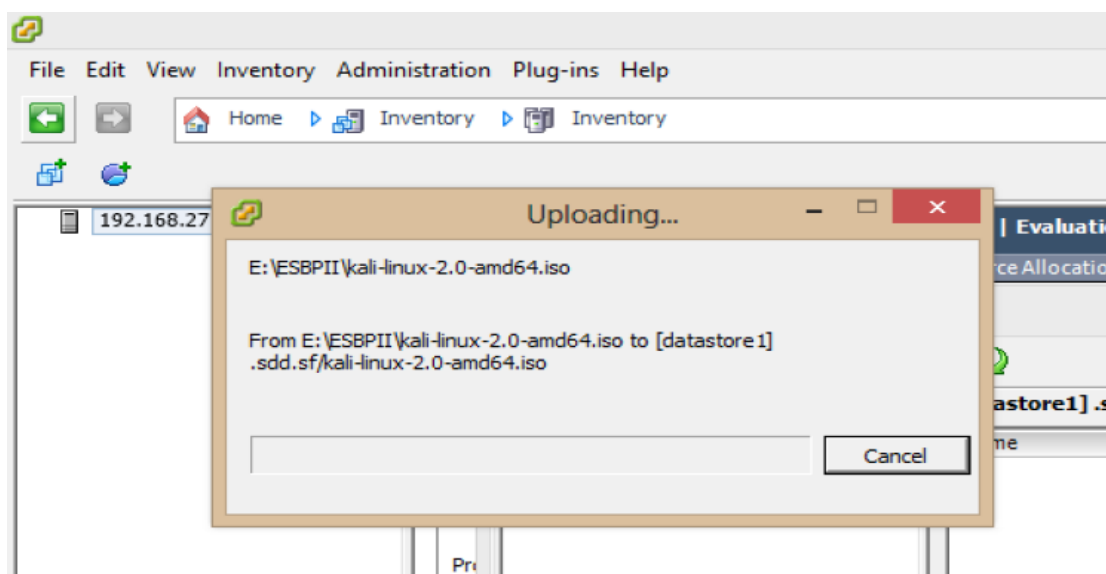
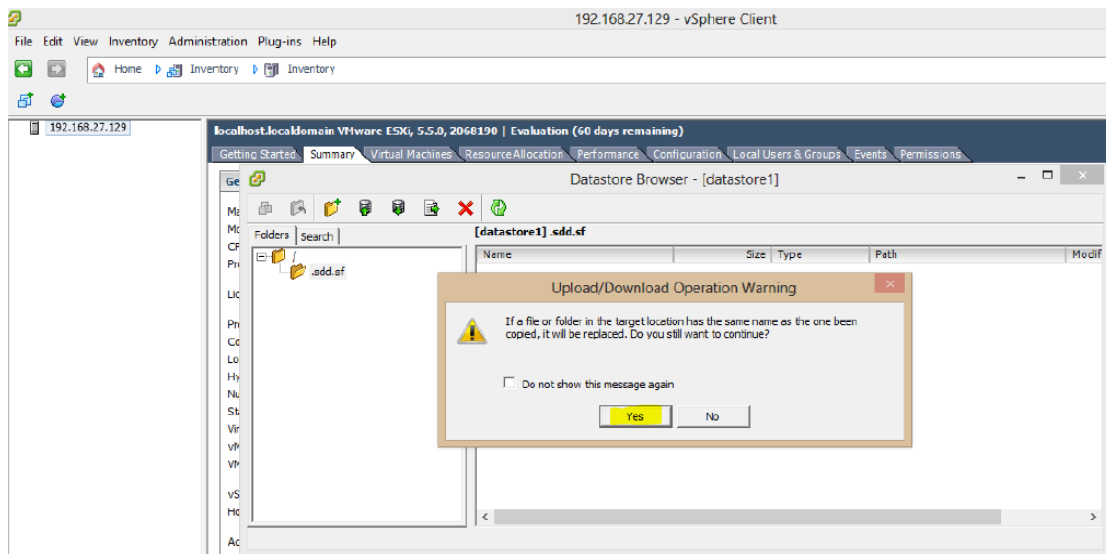


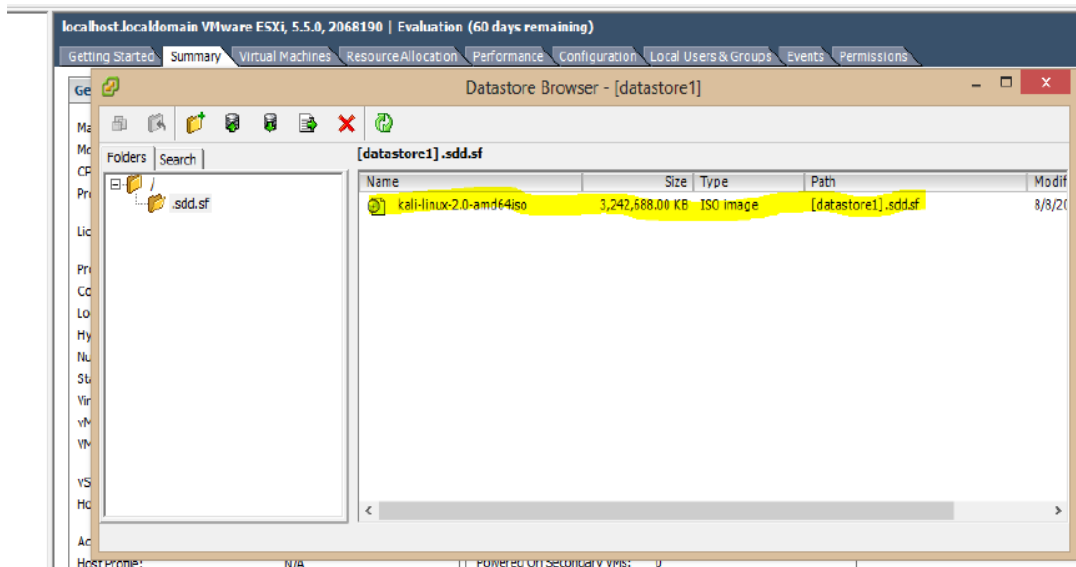


- Select 5th icon (upload files to this data store) from tool bar to upload a disk image of a new operating system that you want to install. Click on upload file and select an operating system that you want to install. In here install Kali-Linux Operating system

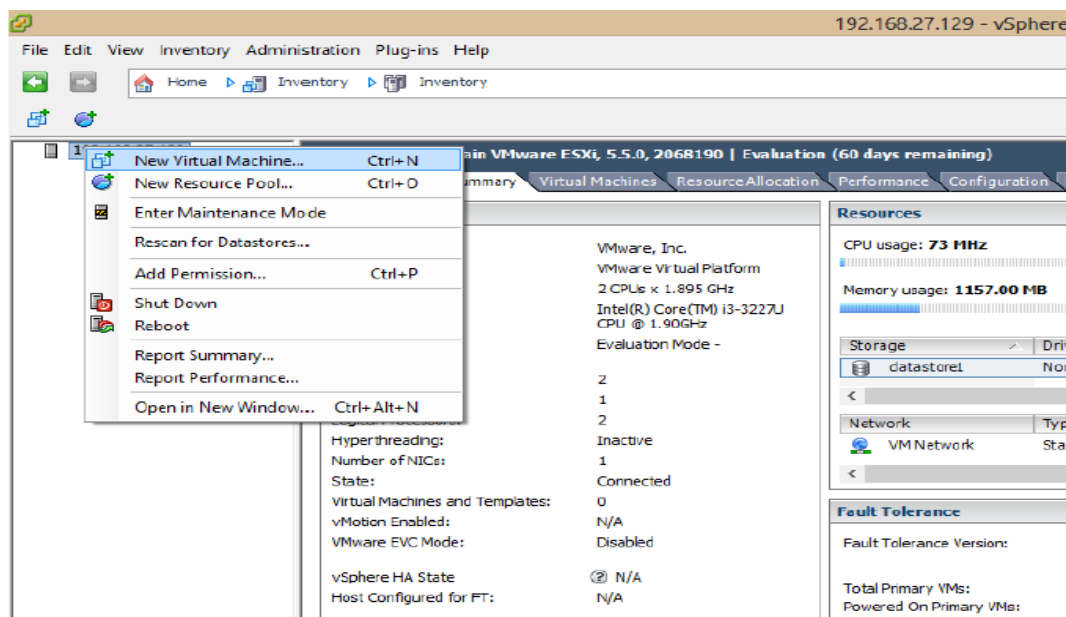


- It will takes few minutes to upload.

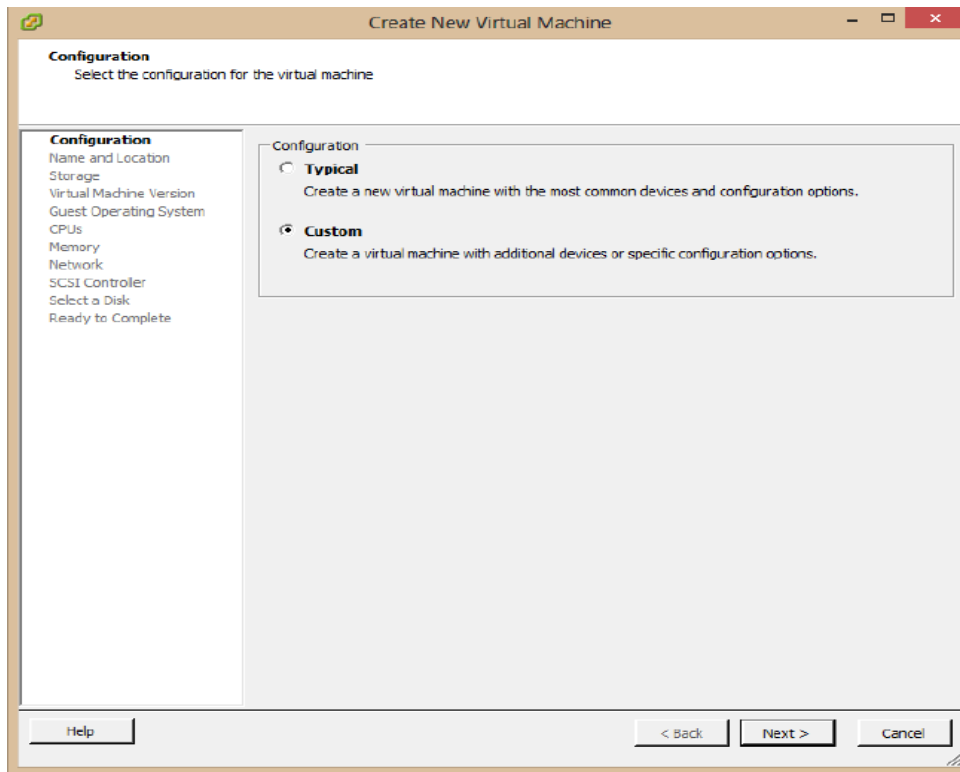




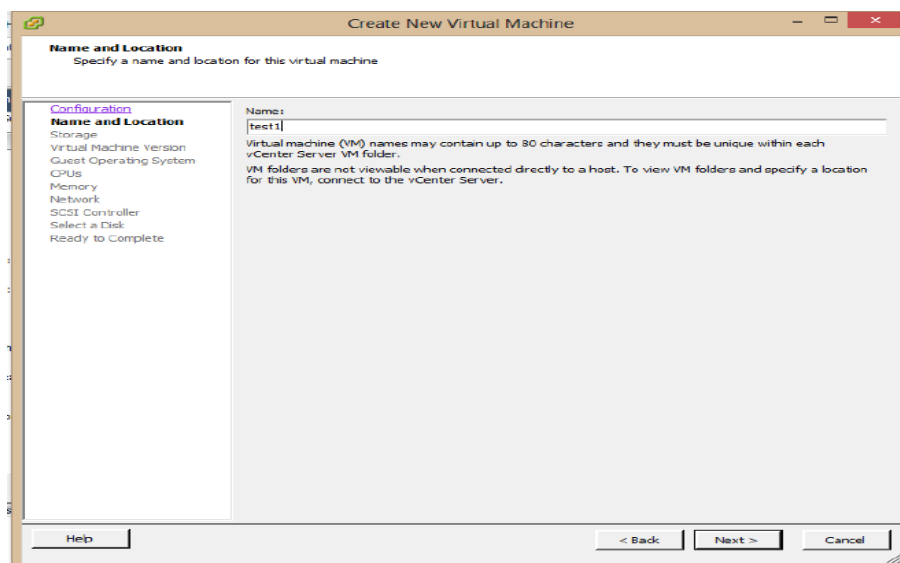
- Right click your “server IP address” and choose “New Virtual Machine”.



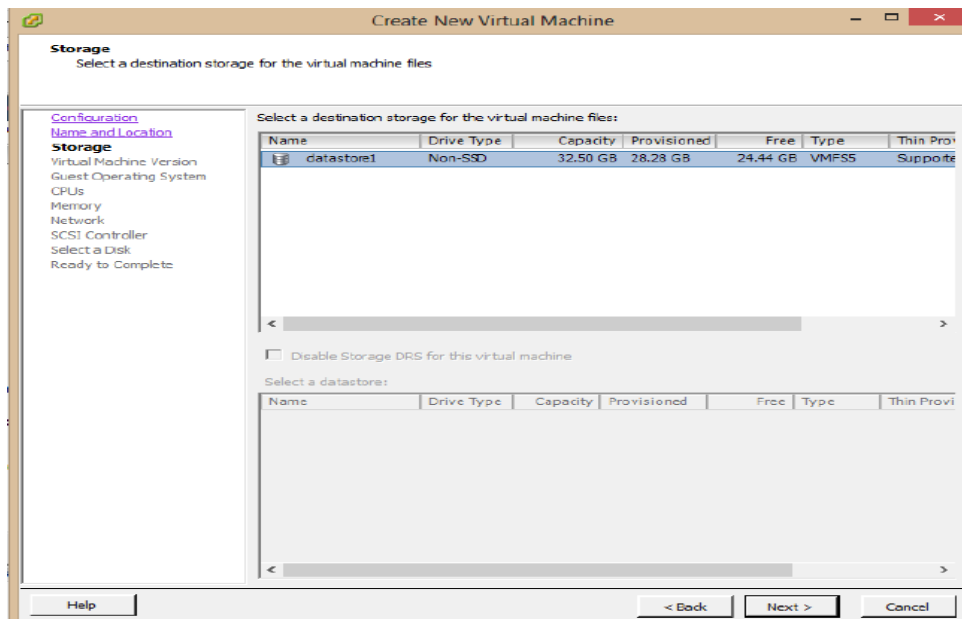
- Select “Custom option”.



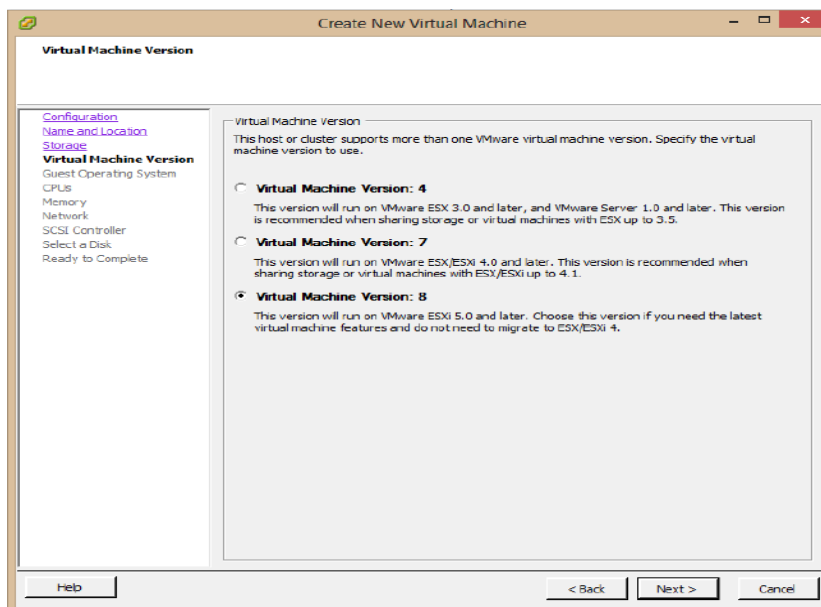
- Provide a unique name for the new virtual machine.



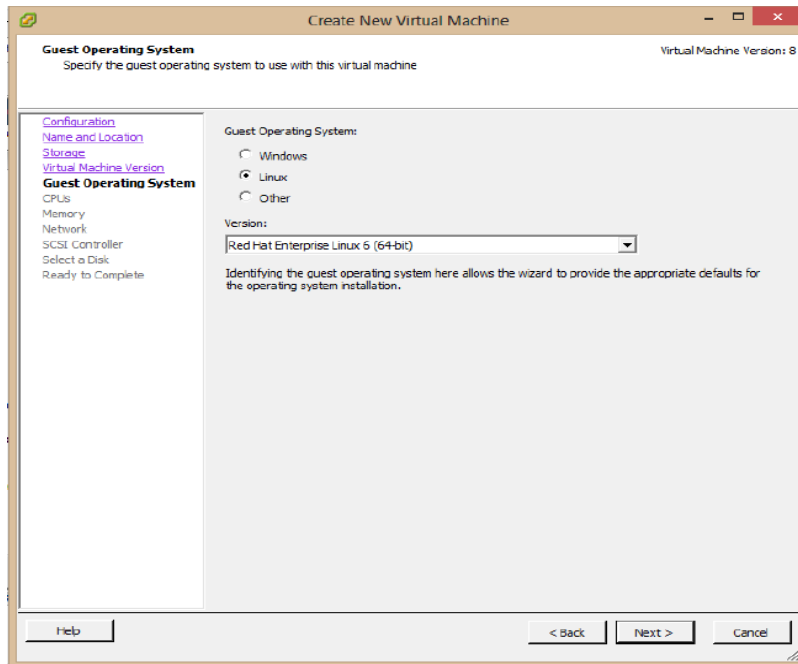
- Select the data storage file which was created the operating system.



- Select Virtual Machine version 8.

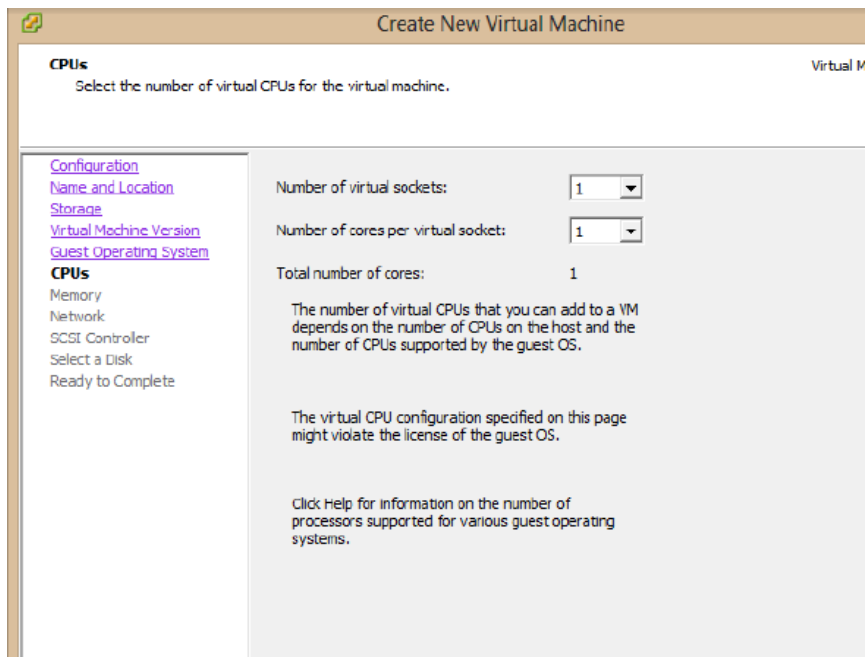


- Select guest operating system as Linux.

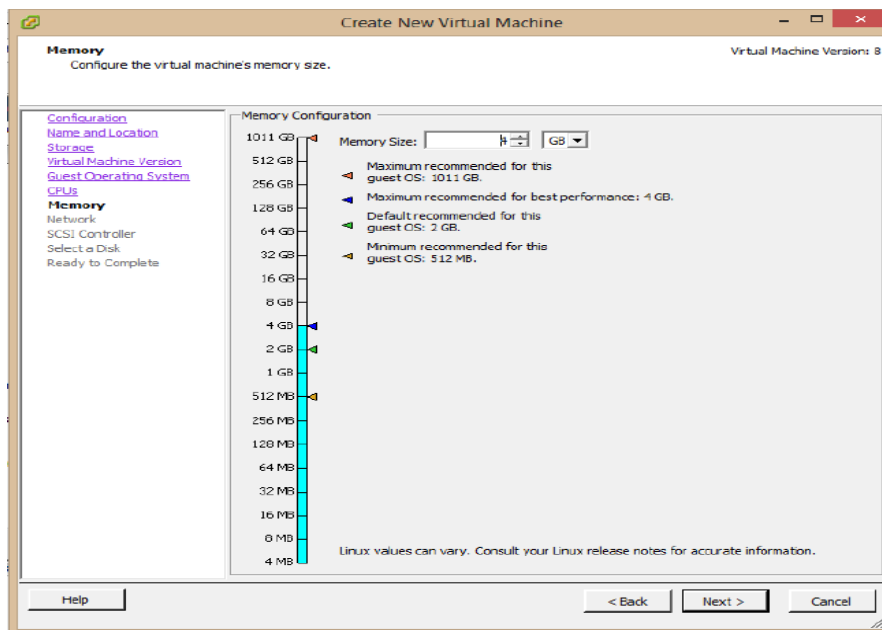


- Select number of virtual CPU s as 1.

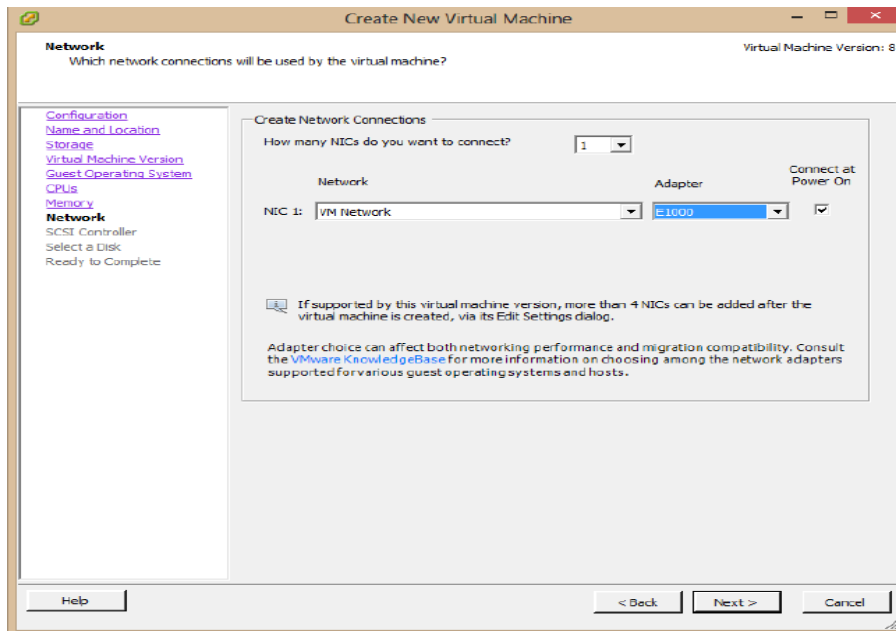




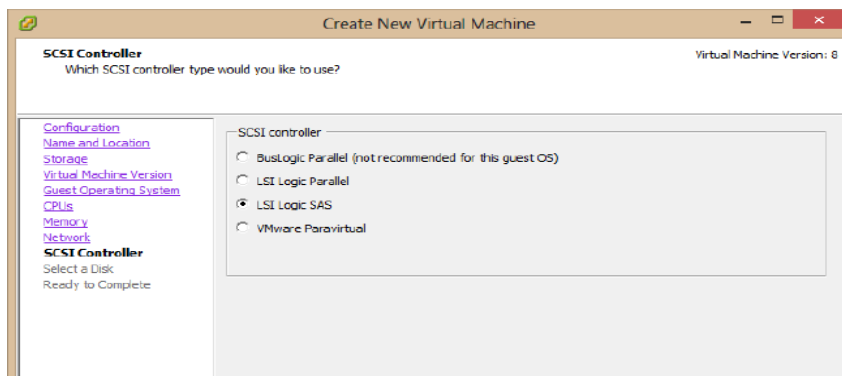
- Select memory size is to 4 GB.



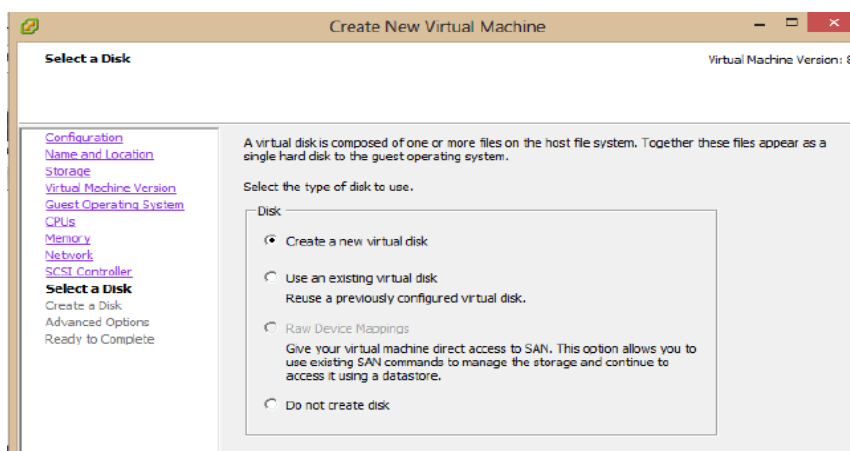
- Create Network connections. Select adapter type as E1000.



- Select SCSI controller as LSI Logic SAS.



- Select the type of disk to use.



- Give disk size as 16 GB. Select thin provision and store with the virtual machine.

The screenshot shows the 'Create New Virtual Machine' wizard with the 'Create a Disk' step selected. The left sidebar contains links for Configuration, Name and Location, Storage, Virtual Machine Version, Guest Operating System, CPUs, Memory, Network, SCSI Controller, Select a Disk, Create a Disk, Advanced Options, and Ready to Complete. The main area is titled 'Specify the virtual disk size and provisioning policy'. It has three sections: 'Capacity' with 'Disk Size' set to 16 GB; 'Disk Provisioning' with 'Thin Provision' selected; and 'Location' with 'Store with the virtual machine' selected. A 'Browse...' button is visible next to the location field.

**Create New Virtual Machine**

**Create a Disk**  
Specify the virtual disk size and provisioning policy

Virtual Machine Vers

[Configuration](#)  
[Name and Location](#)  
[Storage](#)  
[Virtual Machine Version](#)  
[Guest Operating System](#)  
[CPUs](#)  
[Memory](#)  
[Network](#)  
[SCSI Controller](#)  
[Select a Disk](#)  
**Create a Disk**  
[Advanced Options](#)  
[Ready to Complete](#)

**Capacity**  
Disk Size: 16 GB

**Disk Provisioning**  
☐ Thick Provision Lazy Zeroed  
☐ Thick Provision Eager Zeroed  
☒ Thin Provision

**Location**  
☒ Store with the virtual machine  
☐ Specify a datastore or datastore cluster:

- Keep default virtual device node.

The screenshot shows the 'Create New Virtual Machine' wizard with the 'Advanced Options' step selected. The left sidebar is the same as the previous screenshot. The main area is titled 'Specify the advanced options for this virtual disk. These options do not normally need to be changed.' It has two sections: 'Virtual Device Node' with 'SCSI (0:0)' selected; and 'Mode' with 'Independent' selected. The 'Independent' mode is further described as 'Independent disks are not affected by snapshots.' The 'Persistent' mode is described as 'Changes are immediately and permanently written to the disk.' The 'Nonpersistent' mode is described as 'Changes to this disk are discarded when you power off or revert to the snapshot.'

**Create New Virtual Machine**

**Advanced Options**  
These advanced options do not usually need to be changed.

Virtual Machine Version: 8

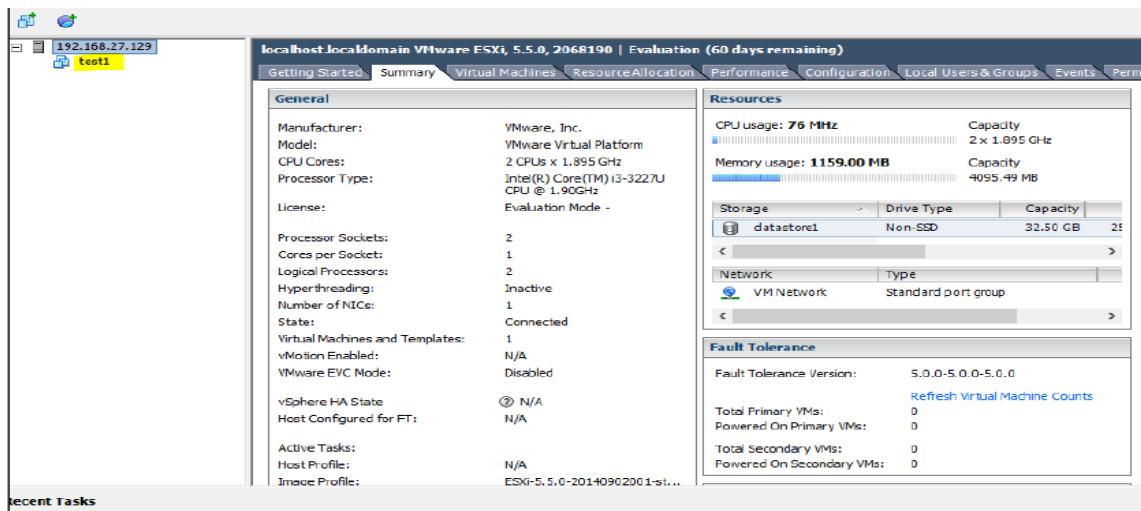
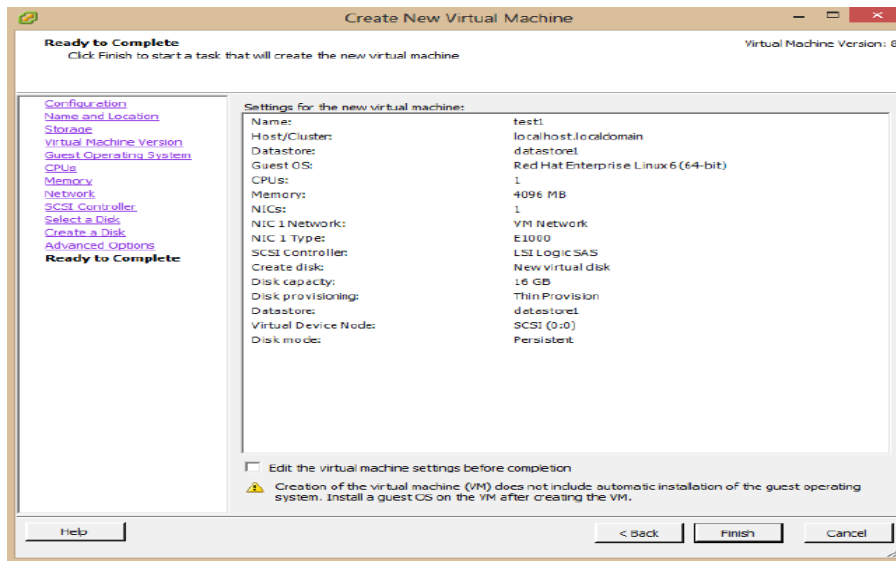
[Configuration](#)  
[Name and Location](#)  
[Storage](#)  
[Virtual Machine Version](#)  
[Guest Operating System](#)  
[CPUs](#)  
[Memory](#)  
[Network](#)  
[SCSI Controller](#)  
[Select a Disk](#)  
[Create a Disk](#)  
**Advanced Options**  
[Ready to Complete](#)

Specify the advanced options for this virtual disk. These options do not normally need to be changed.

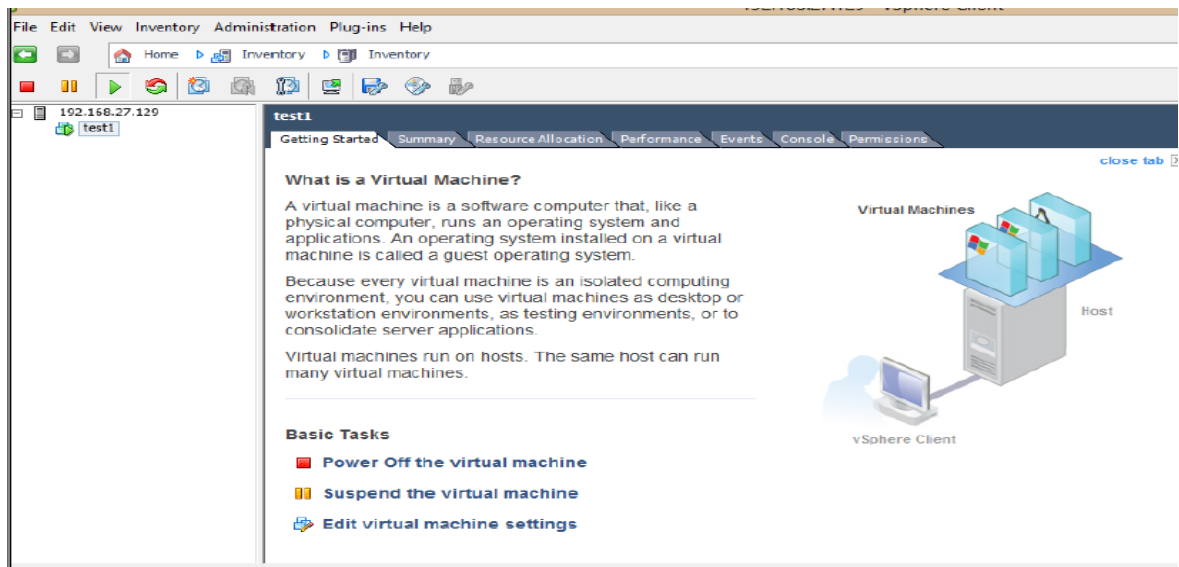
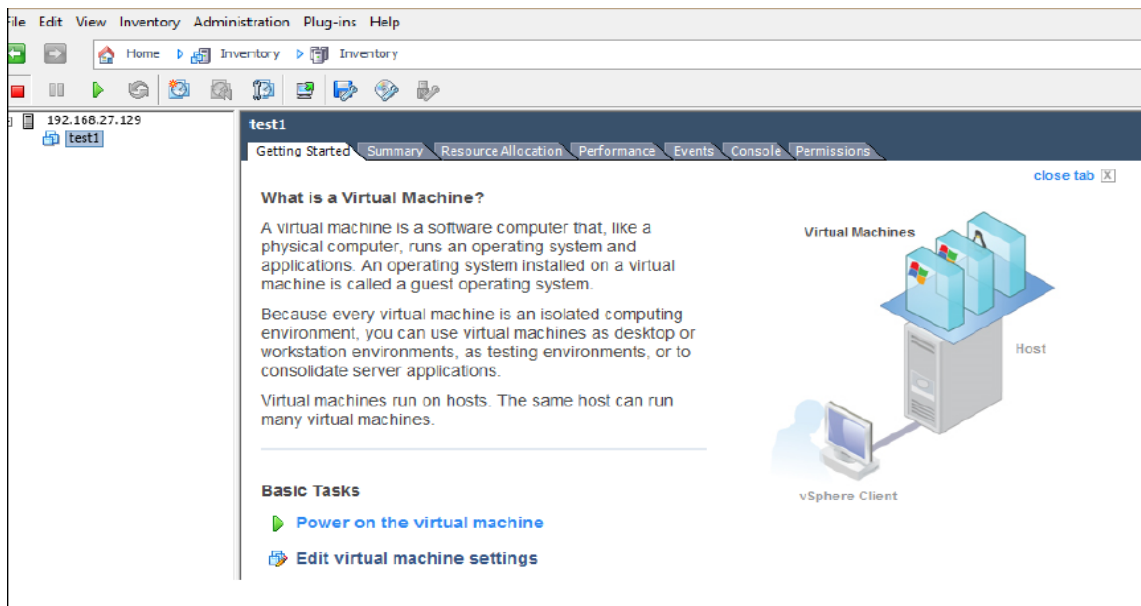
**Virtual Device Node**  
☒ SCSI (0:0)  
☐ IDE (0:0)

**Mode**  
☒ Independent  
Independent disks are not affected by snapshots.  
☐ Persistent  
Changes are immediately and permanently written to the disk.  
☐ Nonpersistent  
Changes to this disk are discarded when you power off or revert to the snapshot.

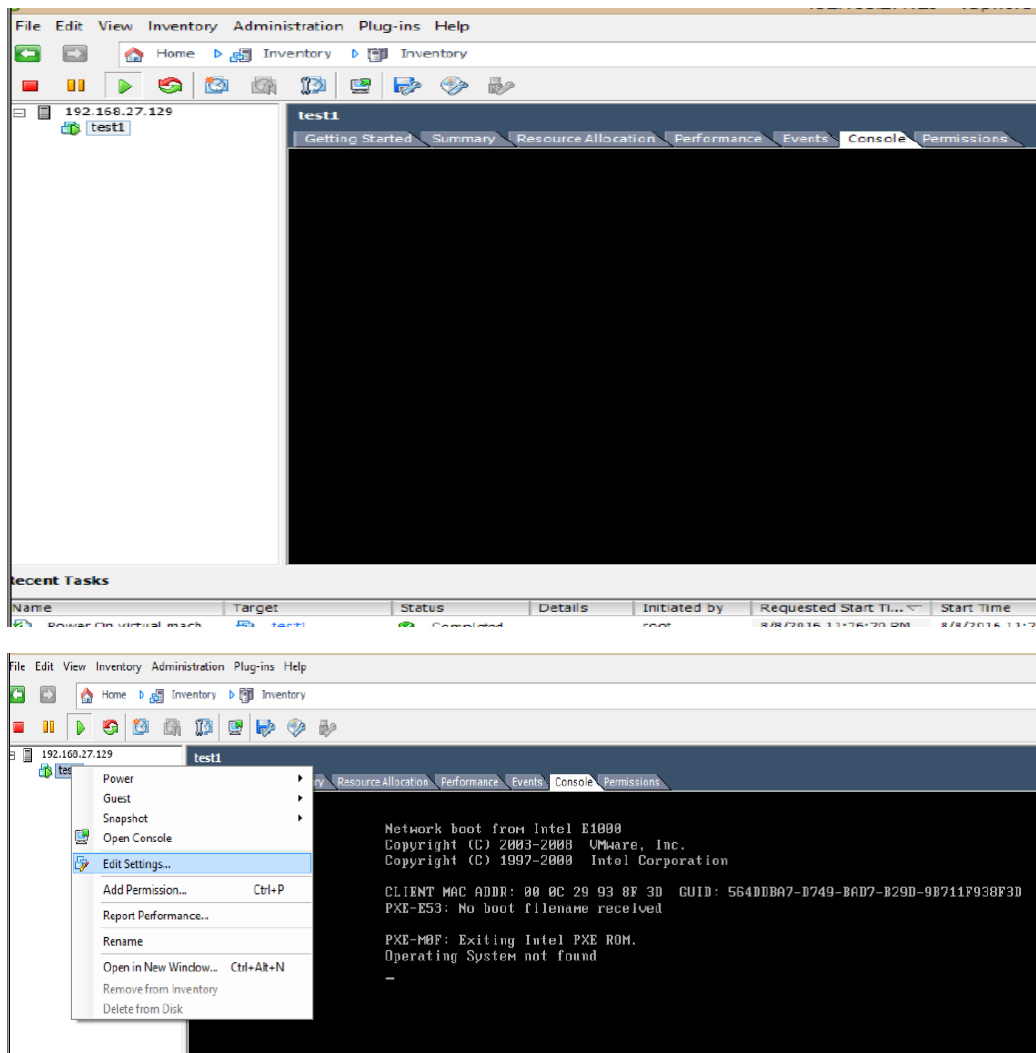
- Click on “Finish” button and after configuration has done it shows the created virtual machine (test1).



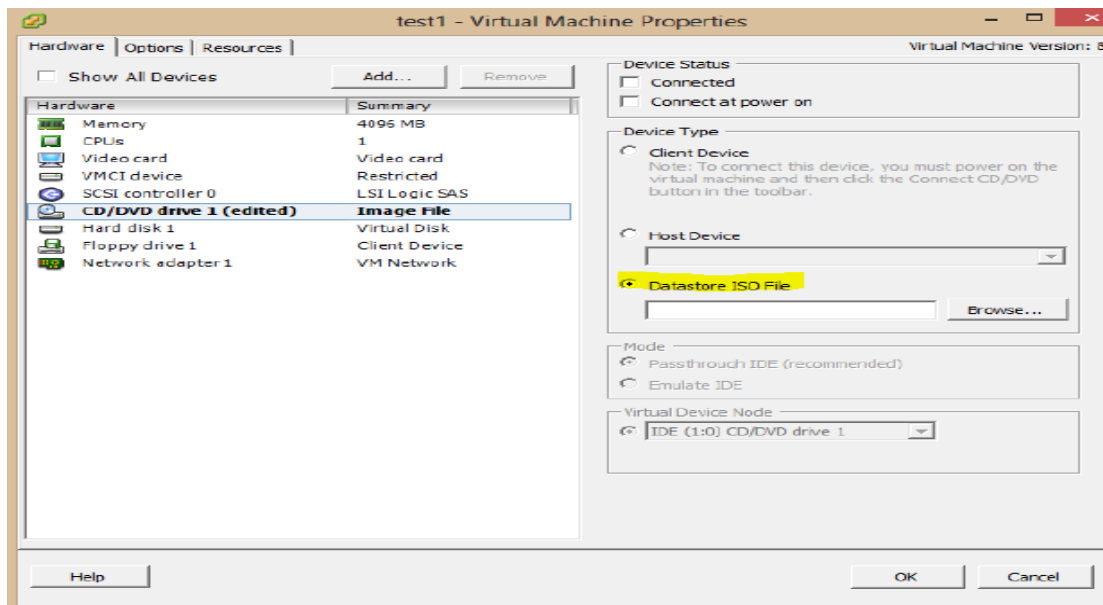
- Select the virtual machine and click on 'Power on the virtual machine'.

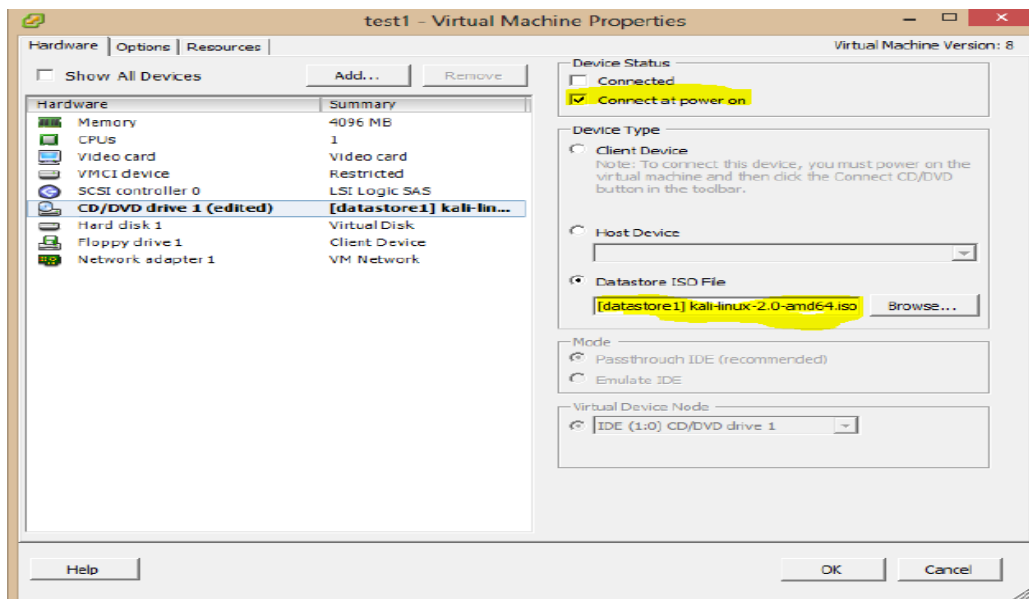
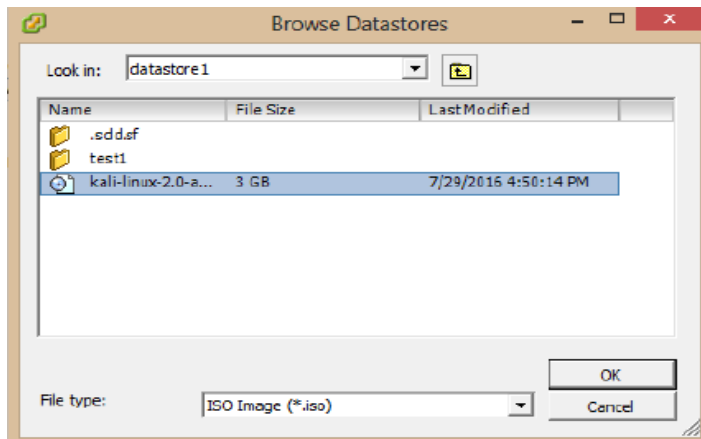
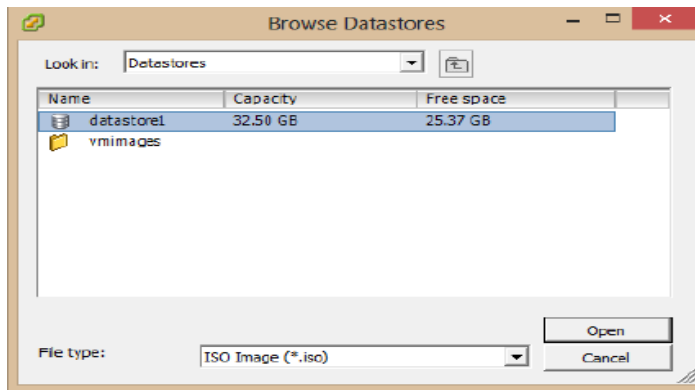


- Go to console tab. Then right click on the test1 and select Edit settings.

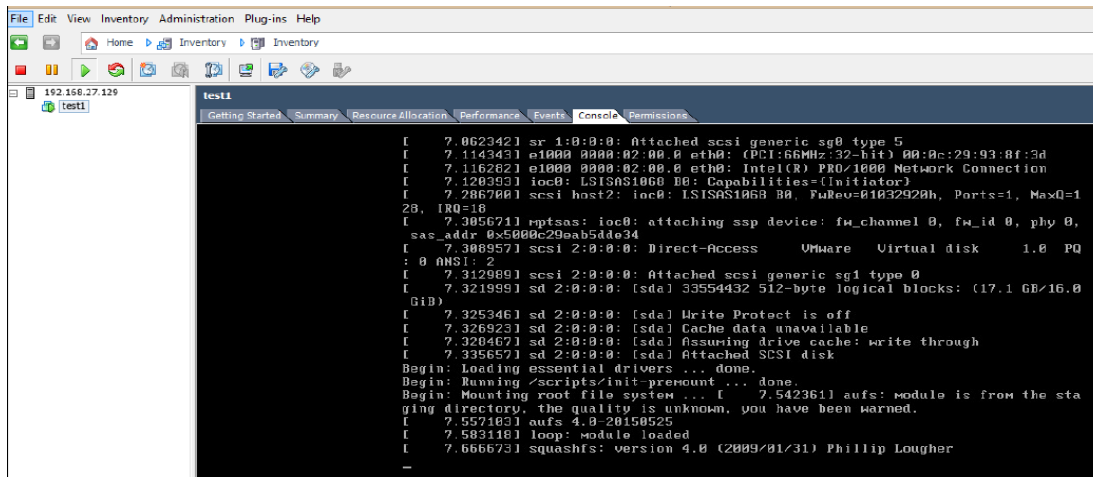
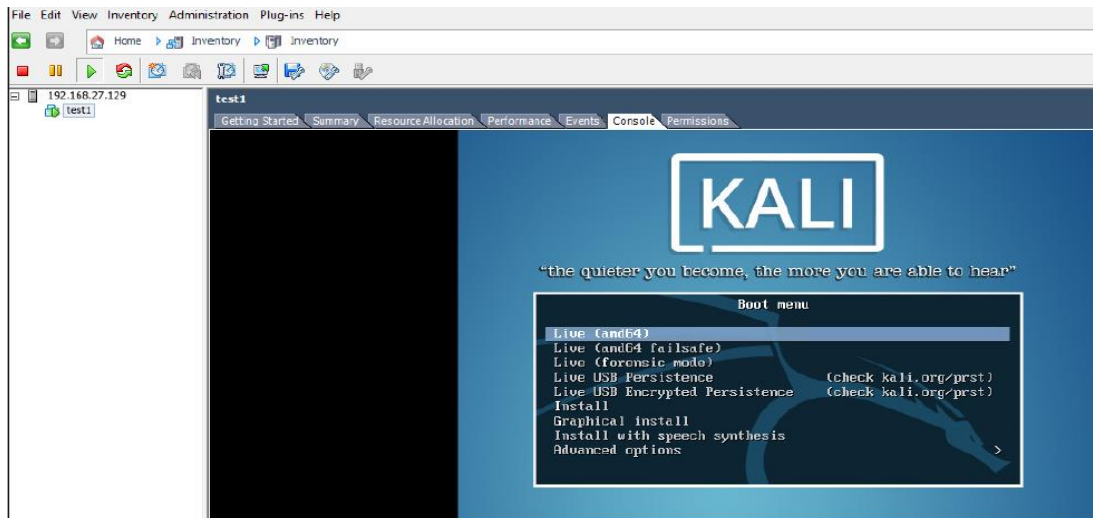


- Select CD/DVD driver and from Data store ISO file browse early created datastore1 file.



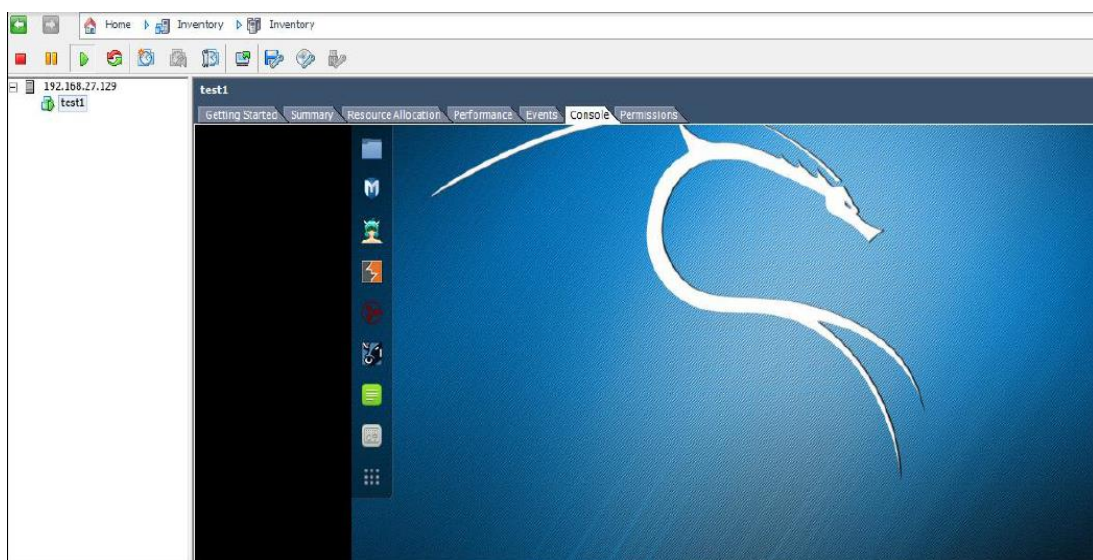


- After the configuration the operating system will be loaded. Select Live (amd64) and press enter to continue



Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Name, Target or Status contains:							



Recent Tasks

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time	Completed Time
Name, Target or Status contains:							