SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

4th year- 2nd Semester

ESBPII-2016

BARE METAL INSTALLATION

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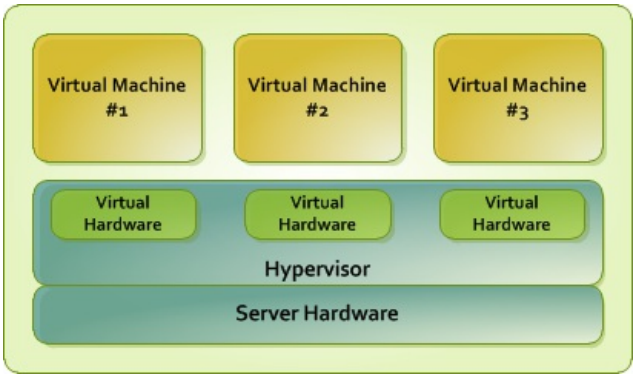
Weekend

What is Virtualization?

Virtualization is the process of creating a software-based (or virtual) representation of something rather than a physical one. Virtualization can apply to applications, servers, storage, and networks and is the single most effective way to reduce IT expenses while boosting efficiency and agility for all size businesses.

What is hardware Virtualization?



Hardware virtualization or platform virtualization refers to the creation of a virtual machine that acts like a real computer with an operating system. Software executed on these virtual machines is separated from the underlying hardware resources. For example, a computer that is running Microsoft Windows may host a virtual machine that looks like a computer with the Ubuntu Linux operating system; Ubuntu-based software can be run on the virtual machine.

In hardware virtualization, the host machine is the actual machine on which the virtualization takes place, and the guest machine is the virtual machine. The software that creates a virtual machine on the host hardware is called a hypervisor or Virtual Machine Manager.

Different types of hardware virtualization include:

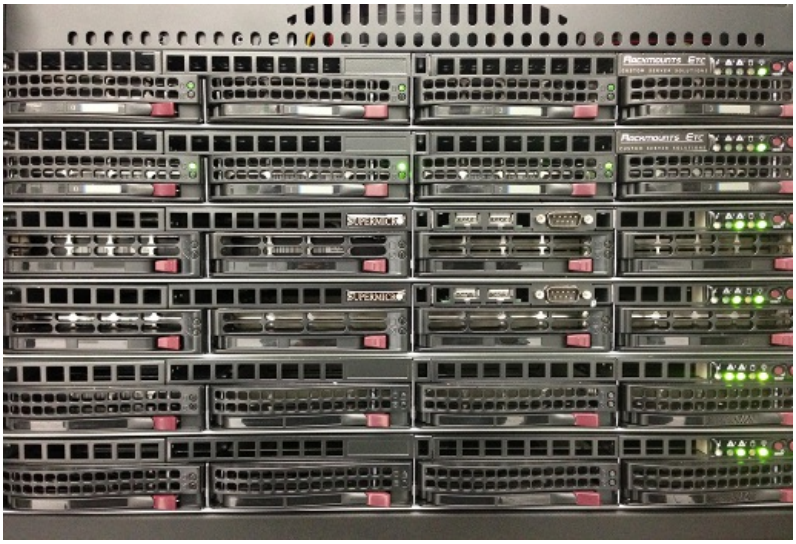
• Full virtualization – almost complete simulation of the actual hardware to allow software, which typically consists of a guest operating system, to run unmodified.

• Partial virtualization – some but not all of the target environment attributes are simulated. As a result, some guest programs may need modifications to run in such virtual environments.

• Para virtualization – a hardware environment is not simulated; however, the guest programs are executed in their own isolated domains, as if they are running on a separate system. Guest programs need to be specifically modified to run in this environment.

Hardware-assisted virtualization is a way of improving overall efficiency of virtualization. It involves CPUs that provide support for virtualization in hardware, and other hardware components that help improve the performance of a guest environment.

What is Bare Metal Server?



A 'bare-metal server' is a descriptive term for a computer server to distinguish it from modern forms of virtualization and cloud hosting. It is defined as a 'single-tenant' physical server.

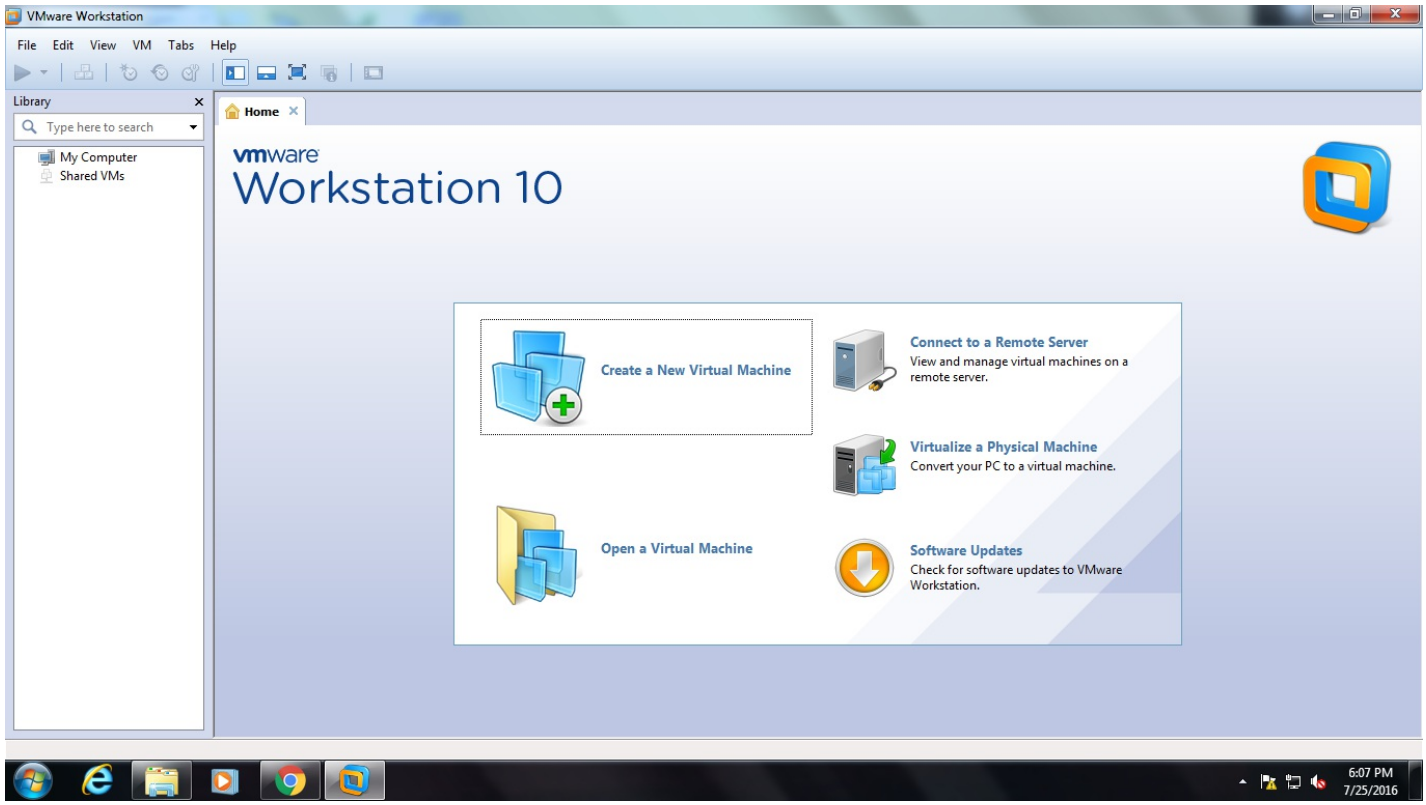
Bare-metal servers have a single 'tenant'. They are not shared between customers. Each server may run any amount of work for the customer, or may have multiple simultaneous users, but they are dedicated entirely to the customer who is renting them. Unlike many servers in a data center, they are not being shared between multiple customers.

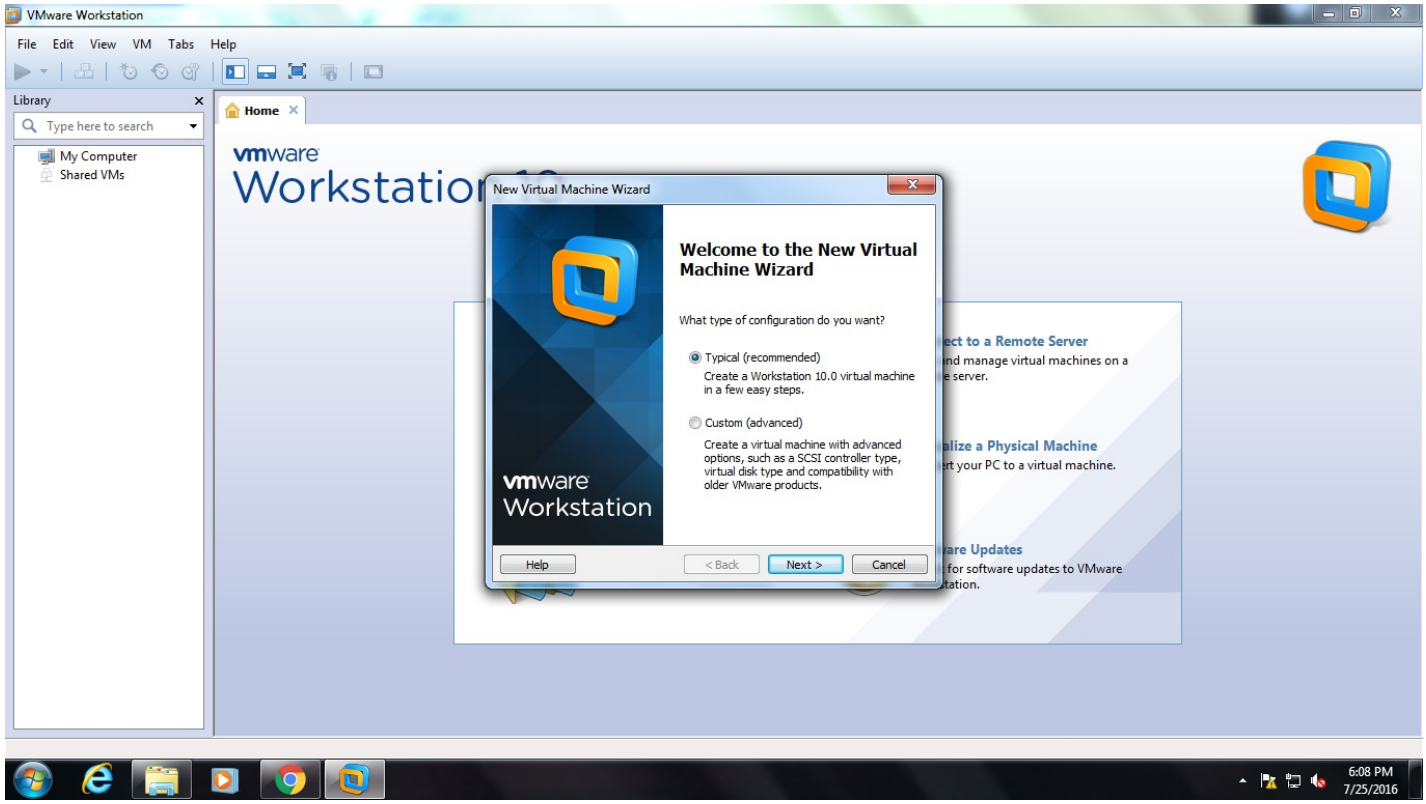
Bare-metal servers are 'physical' servers. Each logical server offered for rental is a distinct physical piece of hardware that is a functional server on its own. They are not virtual servers running in multiple on shared hardware.

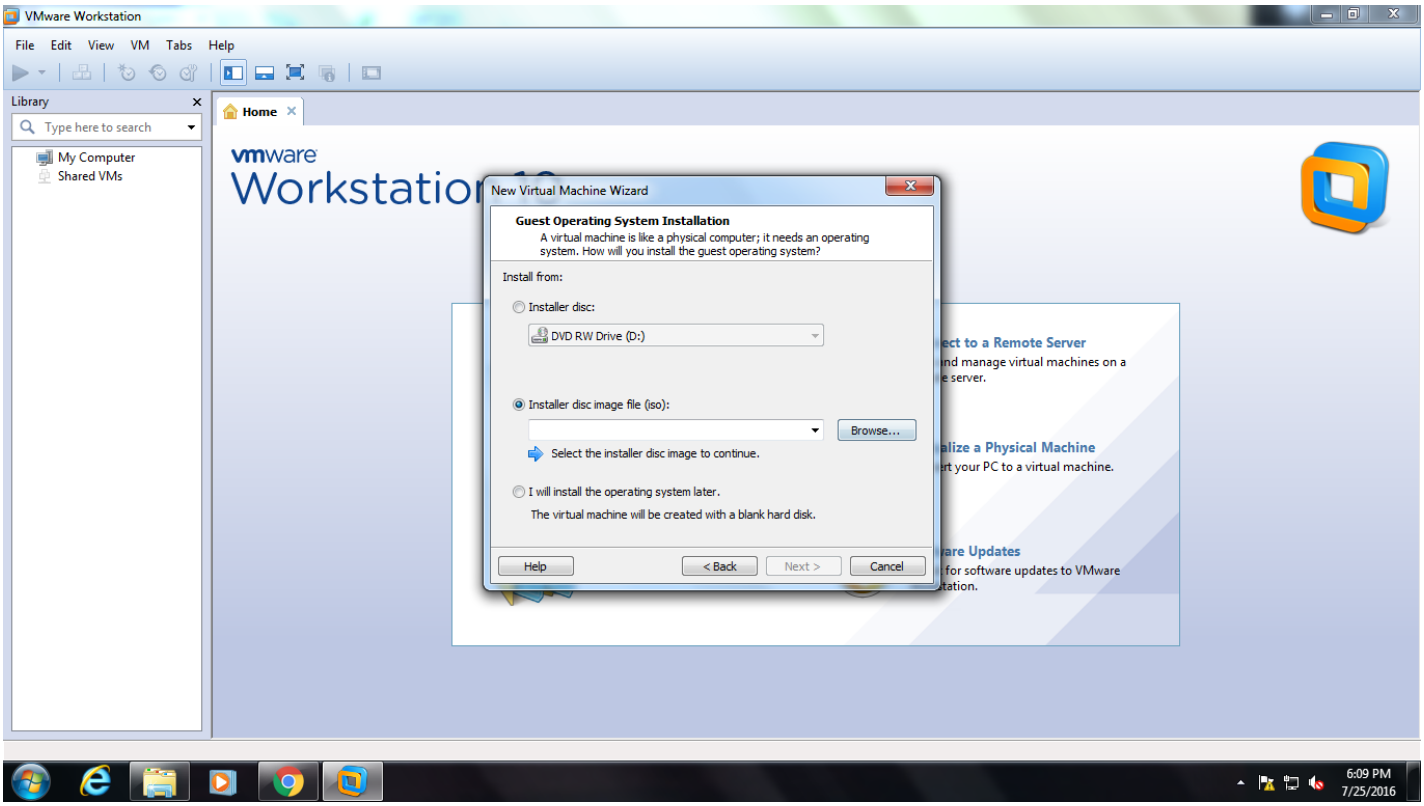
Bare Metal Installation

Step 01:

As the first thing we have to create a new virtual machine using VMWare workstation and install the ISO image of VMvisor.

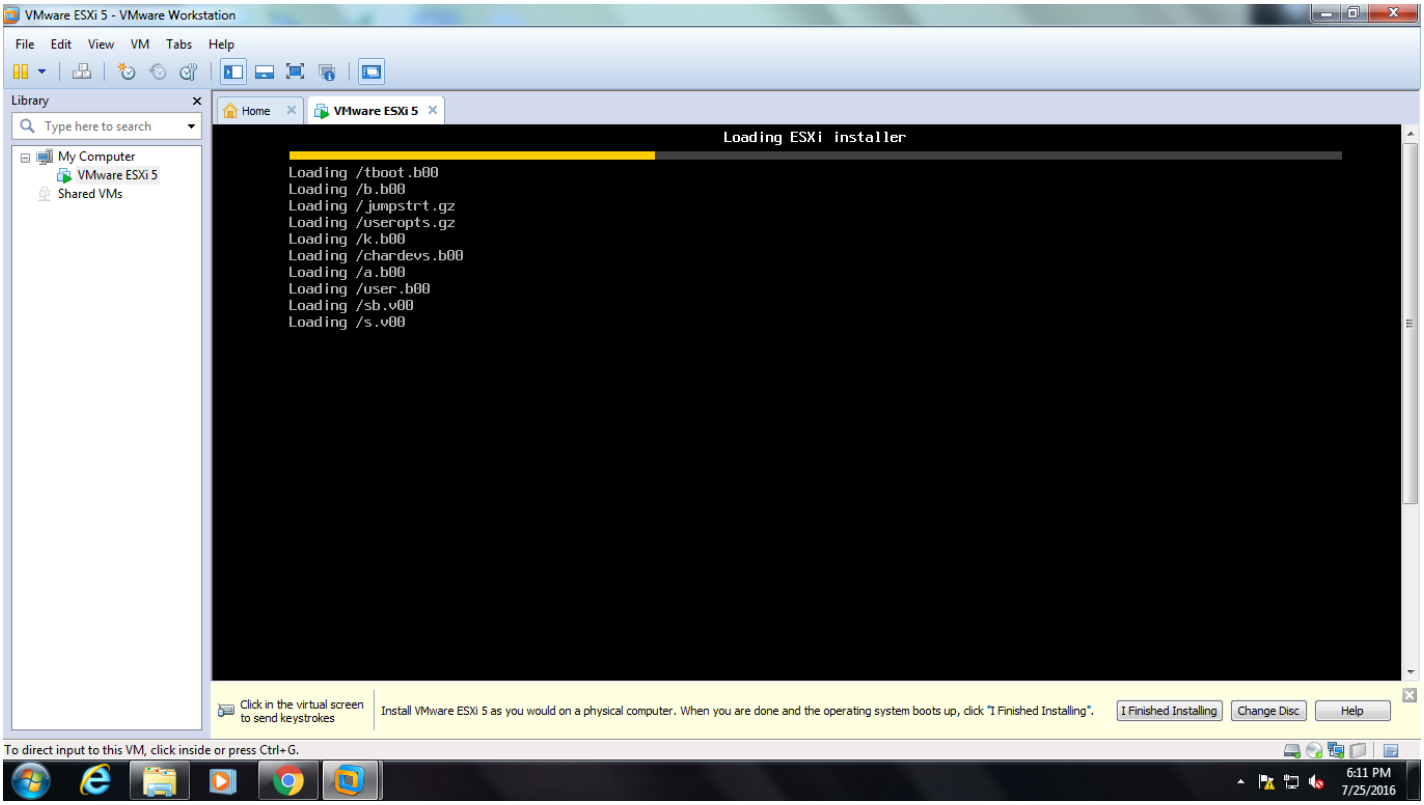


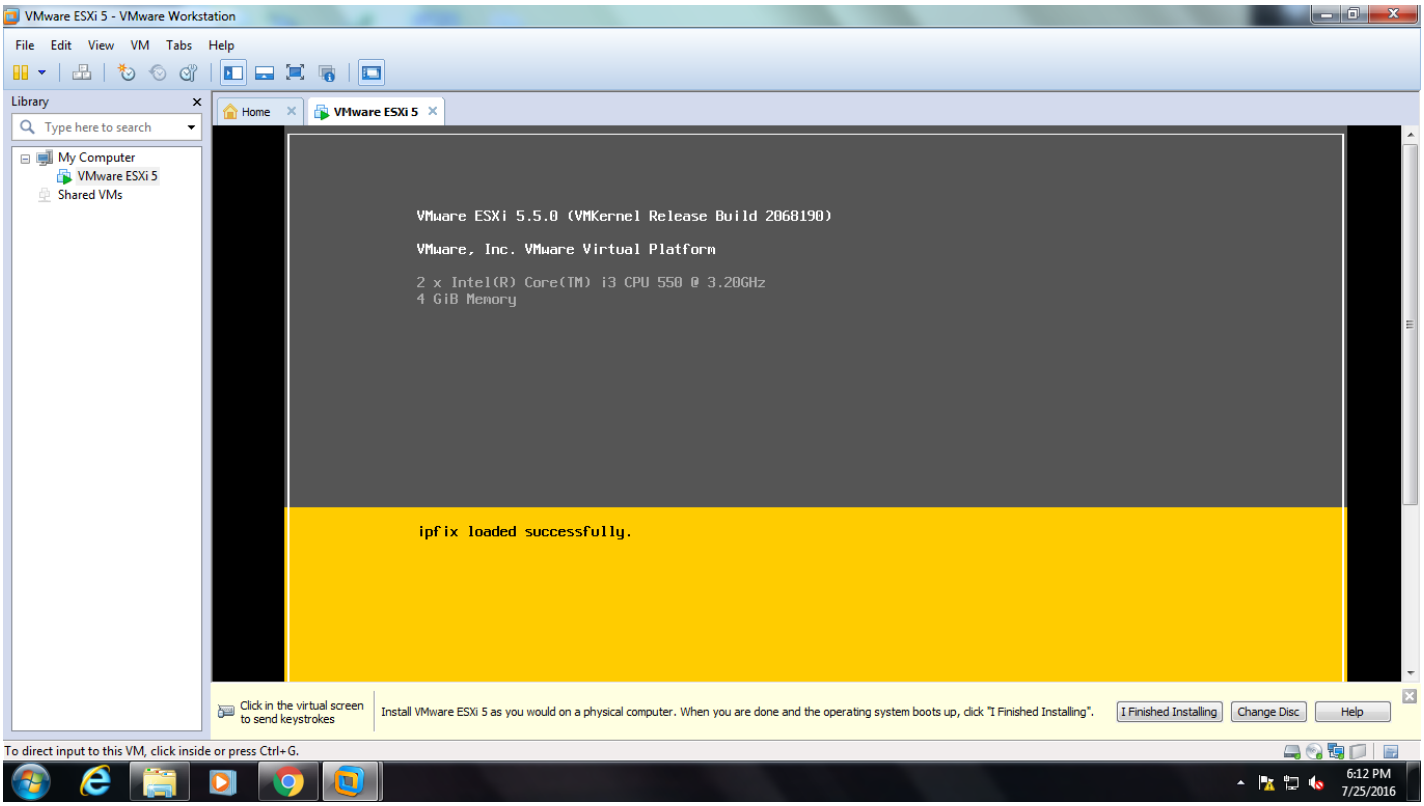


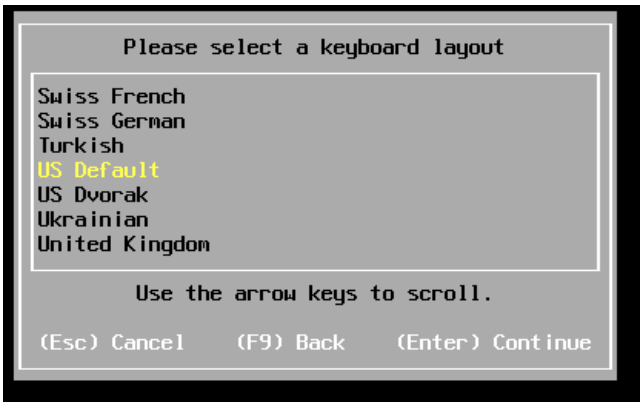


Step 02:

Installation of VMWare ESXI 5





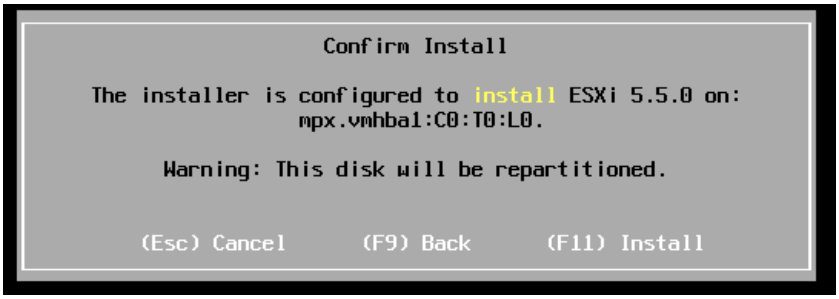


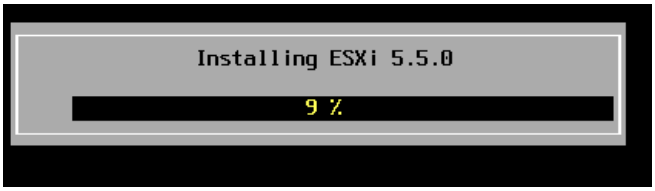
Step 3:

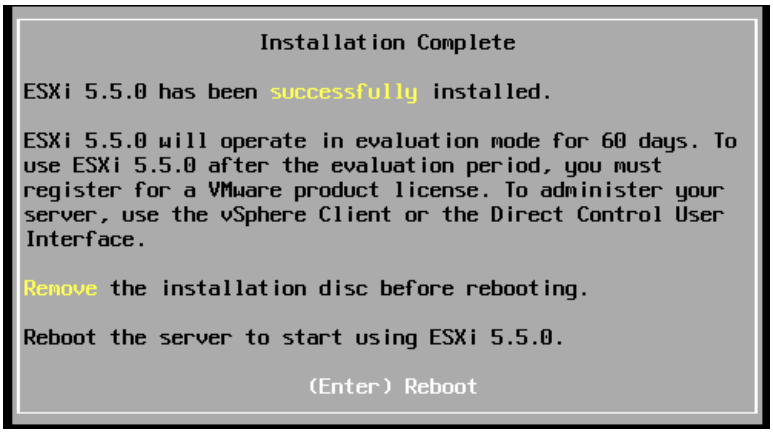
Give a Root Password

Step 4:

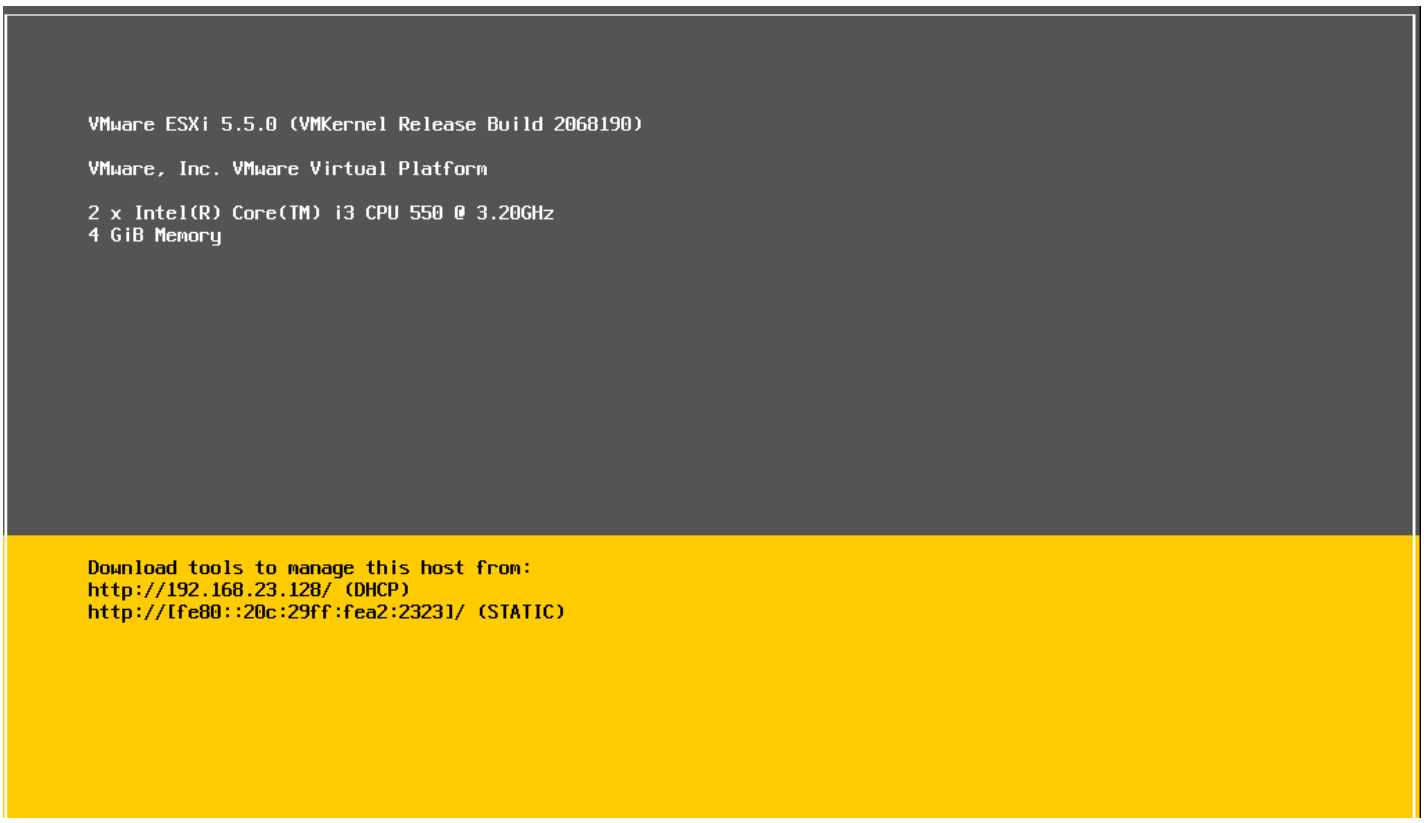
Confirming the installation of ESXI 5





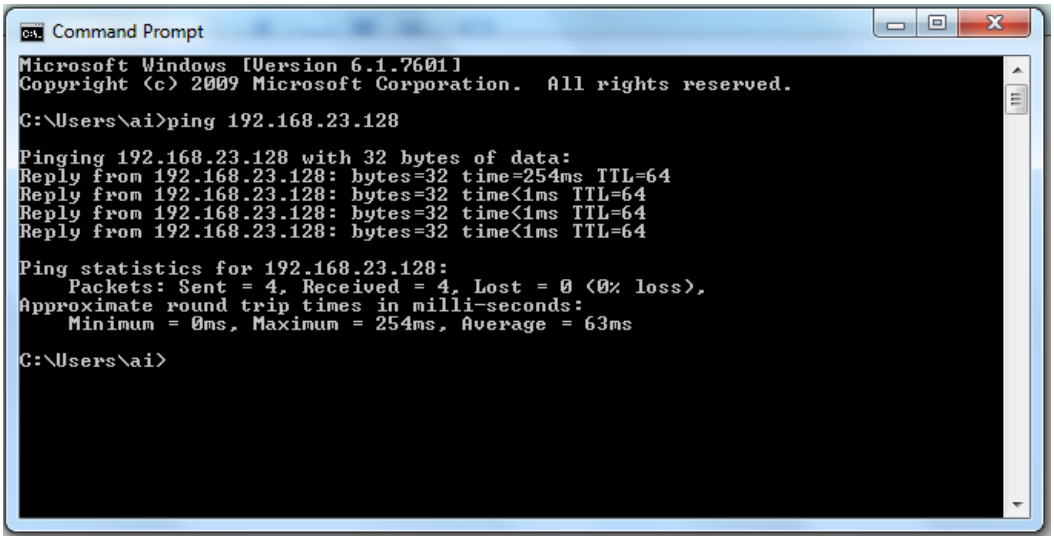


After the successful installation of ESXI 5, the DHCP address will appear.



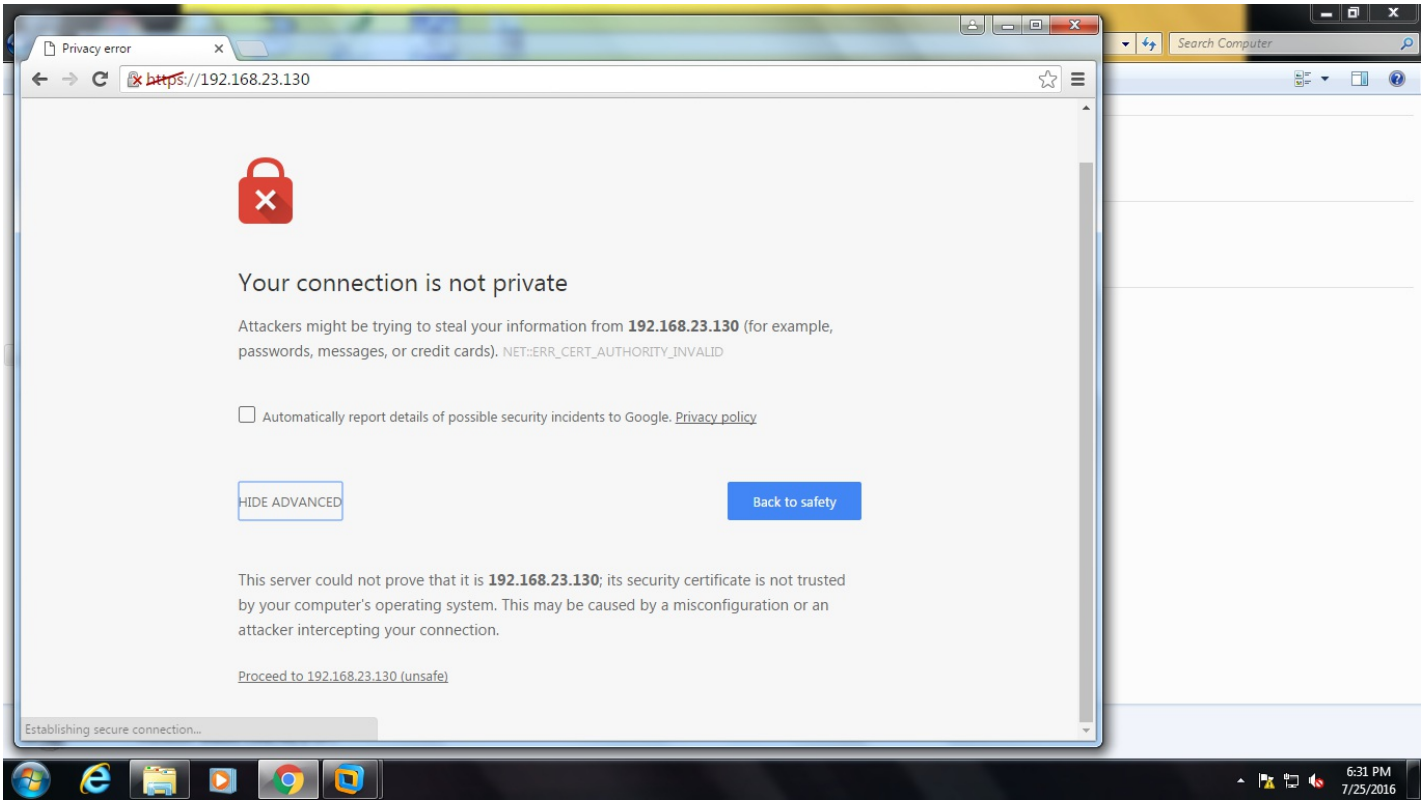
Step 5:

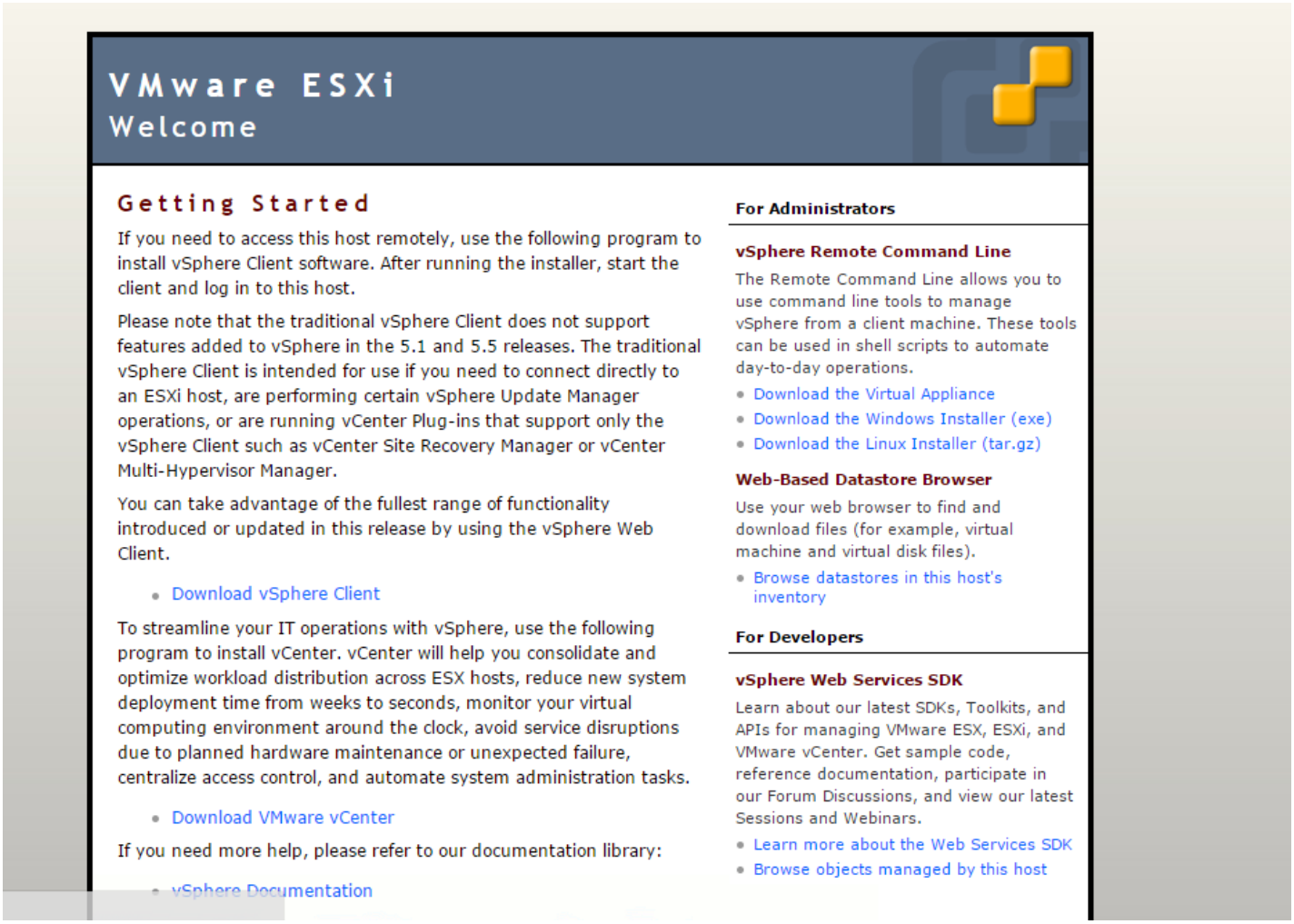
Checking whether the host is alive by ping to the ip address.



Step 6:

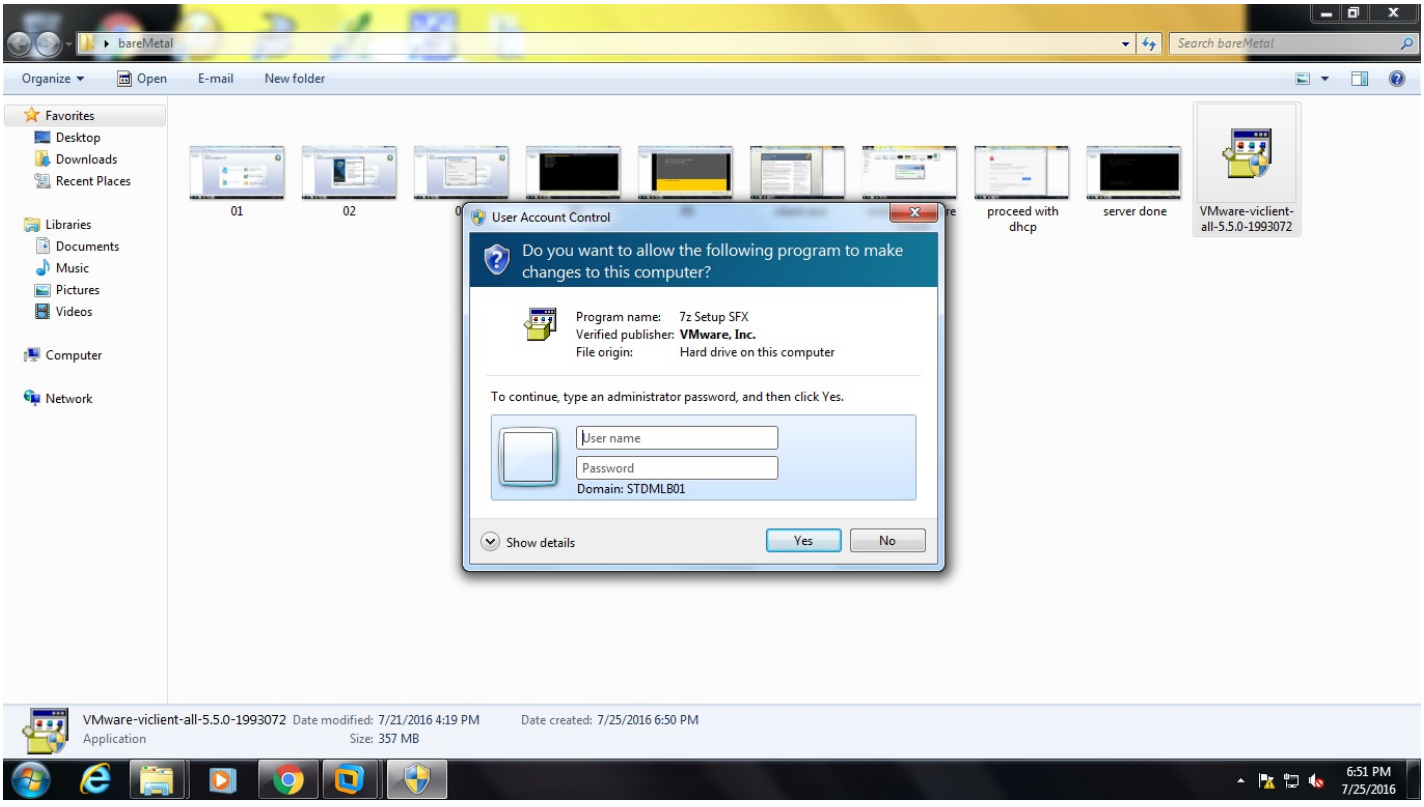
Access the client using the DHCP address

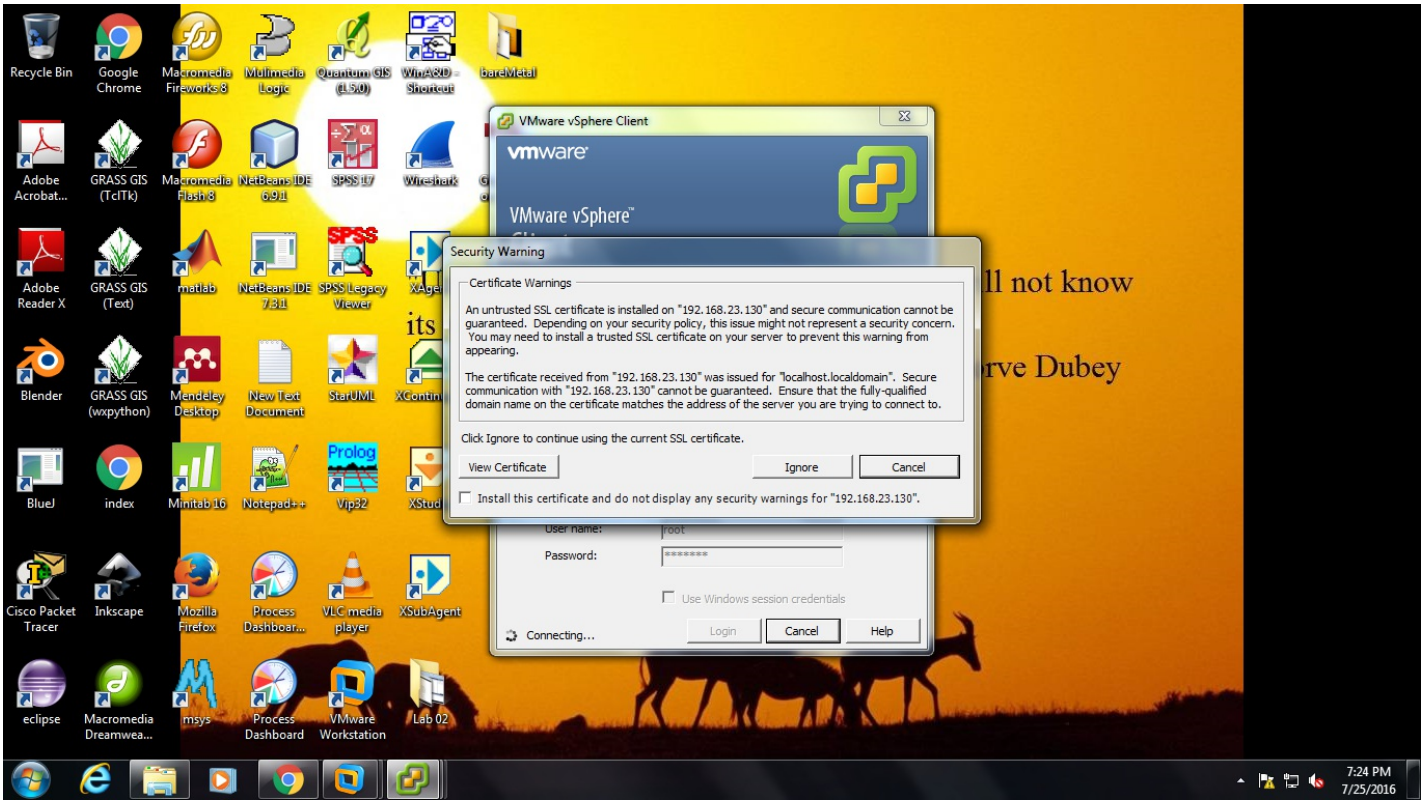


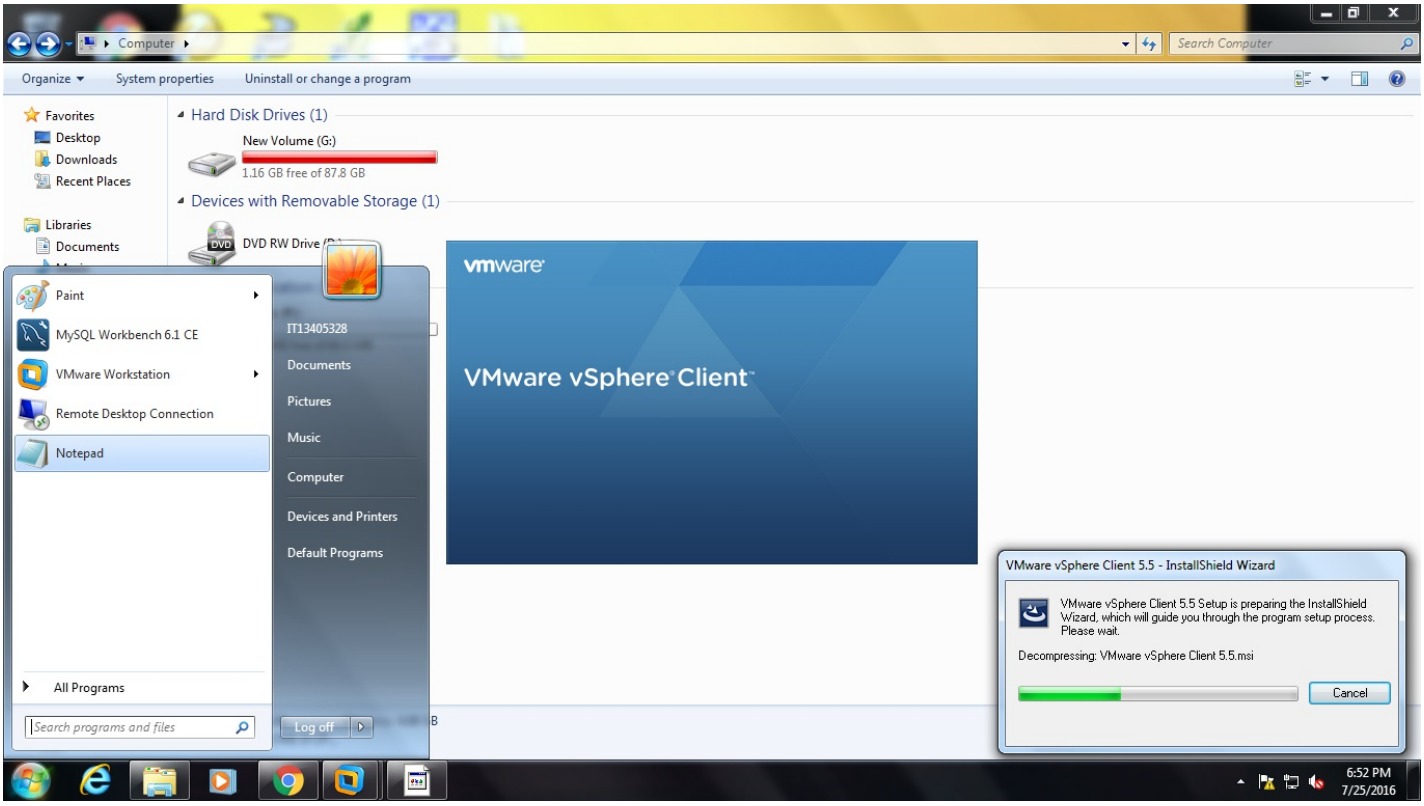


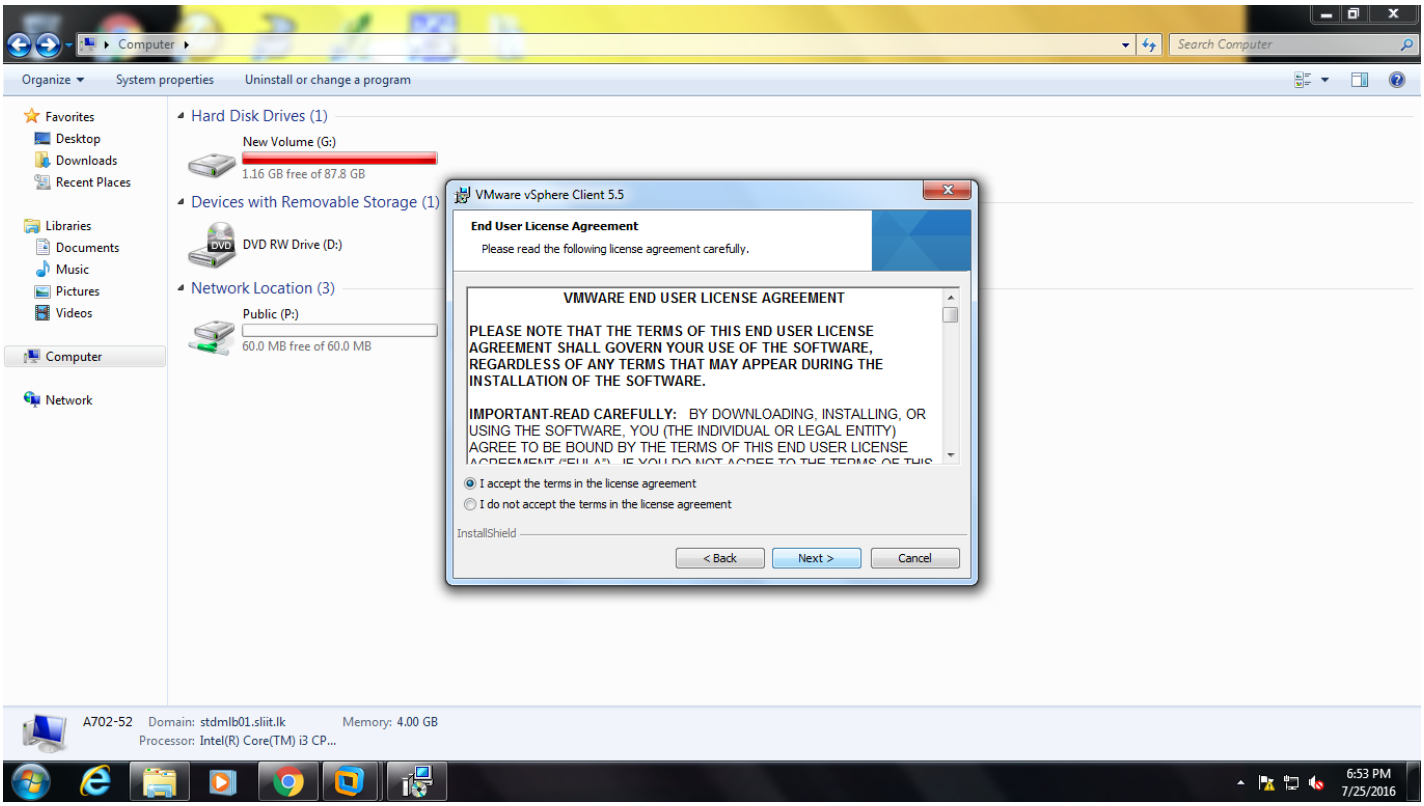
Step 7

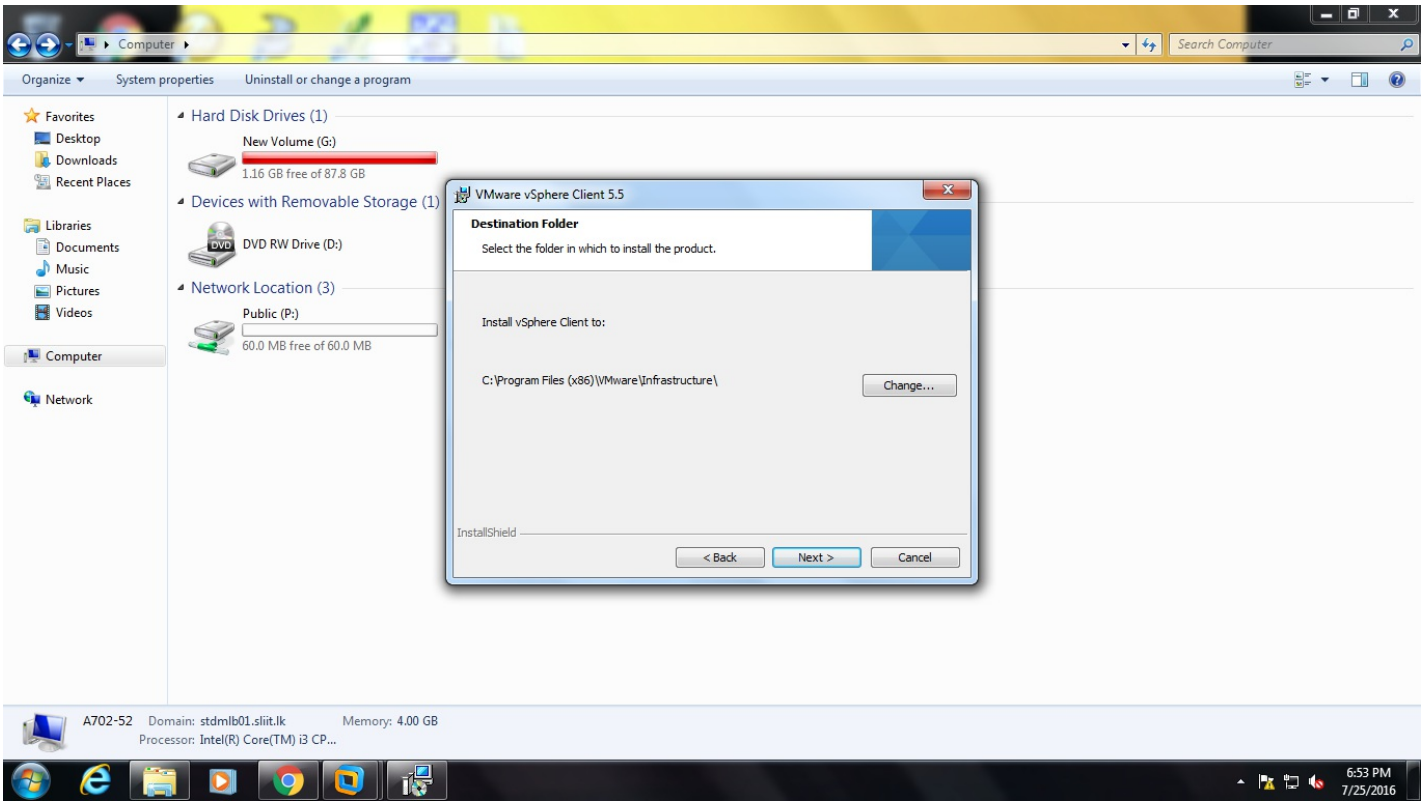
Then, installing the VMWare vSphere Client to the machine. In order to run that we have to give the administrative username and password.

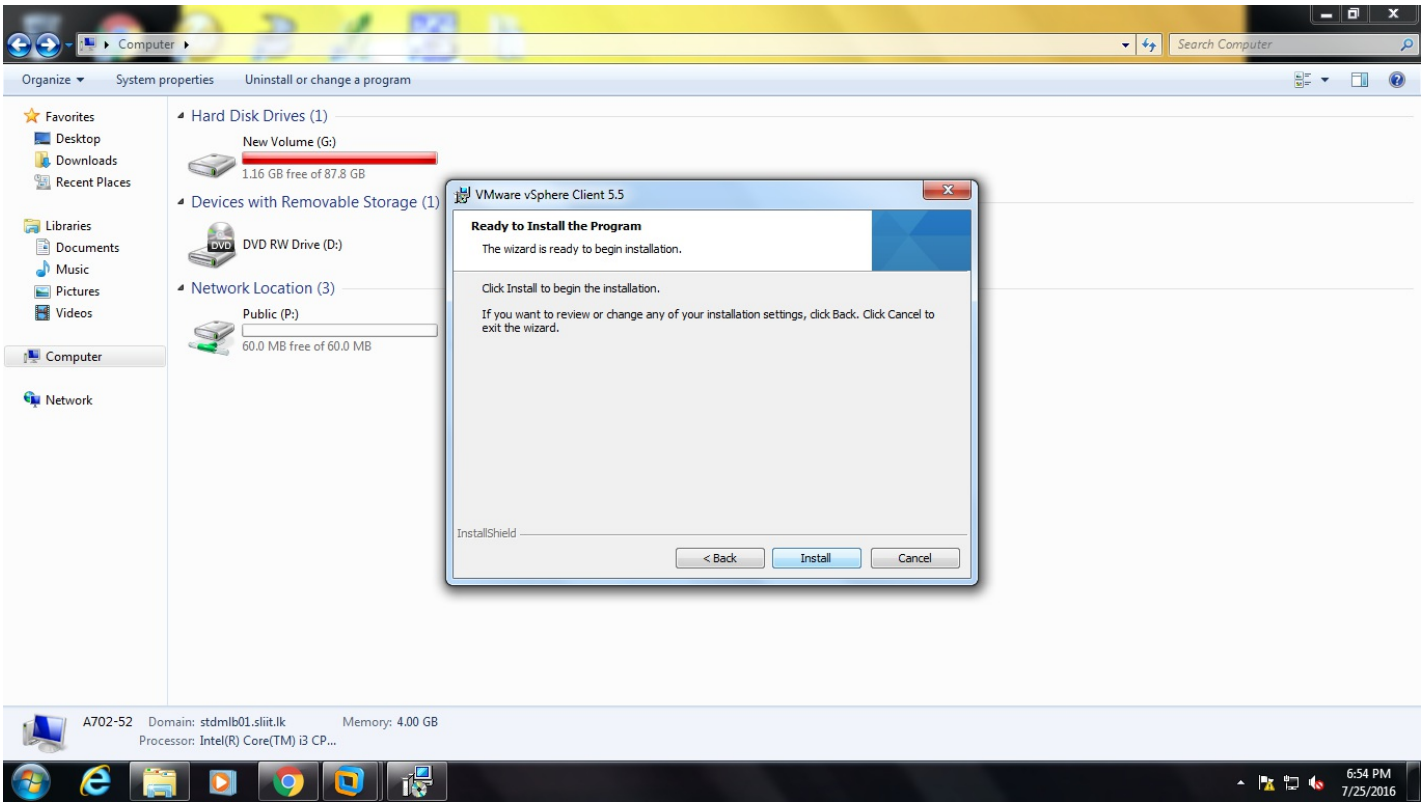


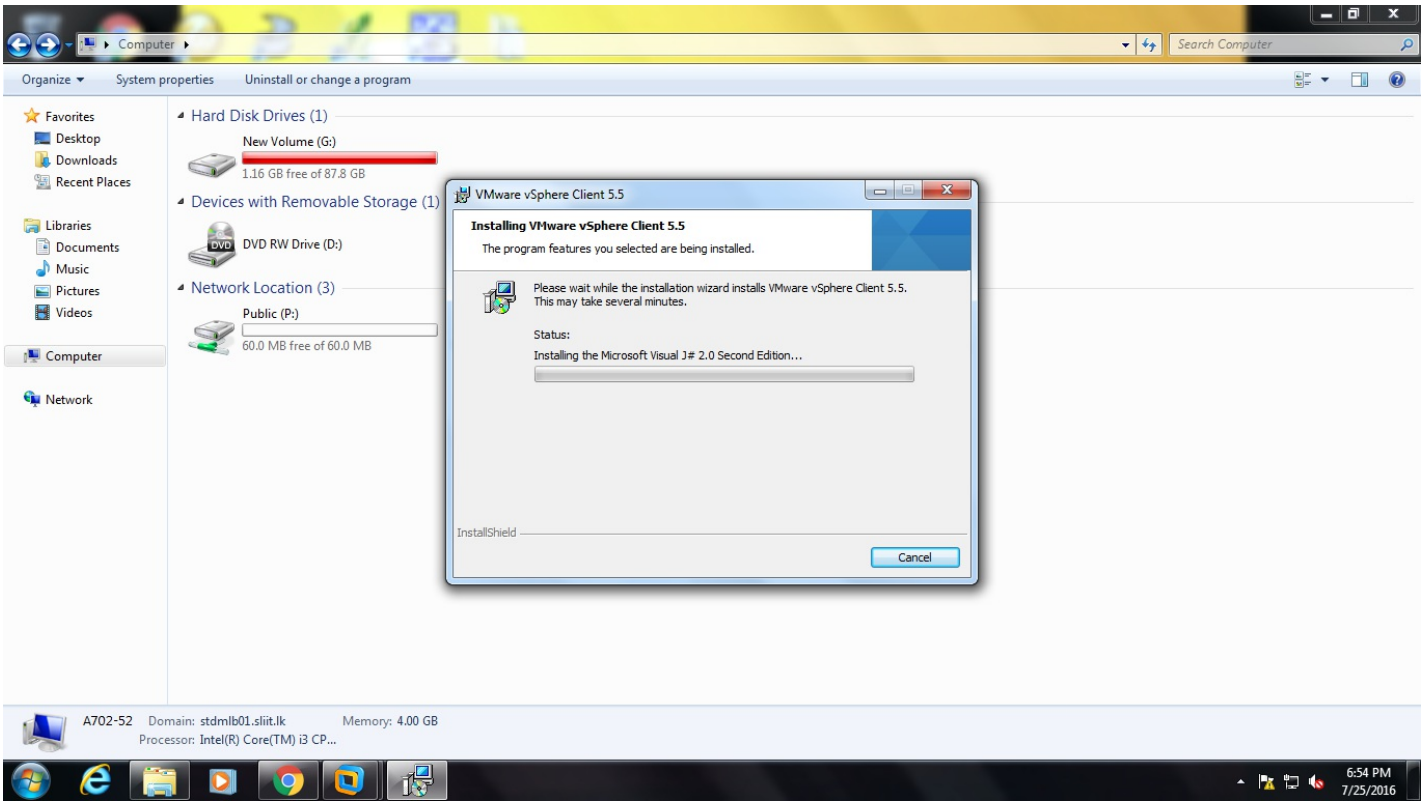

VMware vSphere Client
vmware
VMware vSphere
Security Warning
Certificate Warnings
An untrusted SSL certificate is installed on "192.168.23.130" and secure communication cannot be guaranteed. Depending on your security policy, this issue might not represent a security concern. You may need to install a trusted SSL certificate on your server to prevent this warning from appearing.
The certificate received from "192.168.23.130" was issued for "localhost.localdomain". Secure communication with "192.168.23.130" cannot be guaranteed. Ensure that the fully-qualified domain name on the certificate matches the address of the server you are trying to connect to.
Click Ignore to continue using the current SSL certificate.
View Certificate
Ignore
Cancel
Install this certificate and do not display any security warnings for "192.168.23.130".
User name:
root
Password:
Use Windows session credentials
Connecting...
Login
Cancel
Help
ll not know
rve Dubey
7:24 PM
7/25/2016


Computer
Search Computer
Organize
System properties
Uninstall or change a program
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Hard Disk Drives (1)
New Volume (G:)
1.16 GB free of 87.8 GB
Devices with Removable Storage (1)
DVD RW Drive
Paint
MySQL Workbench 6.1 CE
VMware Workstation
Remote Desktop Connection
Notepad
All Programs
Search programs and files
IT13405328
Documents
Pictures
Music
Computer
Devices and Printers
Default Programs
Log off
vmware
VMware vSphere Client
VMware vSphere Client 5.5 - InstallShield Wizard
VMware vSphere Client 5.5 Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Decompressing: VMware vSphere Client 5.5.msi
Cancel
6:52 PM
7/25/2016


Computer
Search Computer
Organize
System properties
Uninstall or change a program
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Computer
Network
Hard Disk Drives (1)
New Volume (G:)
1.16 GB free of 87.8 GB
Devices with Removable Storage (1)
DVD RW Drive (D:)
Network Location (3)
Public (P:)
60.0 MB free of 60.0 MB
VMware vSphere Client 5.5
End User License Agreement
Please read the following license agreement carefully.
VMWARE END USER LICENSE AGREEMENT
PLEASE NOTE THAT THE TERMS OF THIS END USER LICENSE AGREEMENT SHALL GOVERN YOUR USE OF THE SOFTWARE, REGARDLESS OF ANY TERMS THAT MAY APPEAR DURING THE INSTALLATION OF THE SOFTWARE.
IMPORTANT-READ CAREFULLY: BY DOWNLOADING, INSTALLING, OR USING THE SOFTWARE, YOU (THE INDIVIDUAL OR LEGAL ENTITY)
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel
A702-52
Domain: stdmlb01.sliit.lk
Memory: 4.00 GB
Processor: Intel(R) Core(TM) i3 CP...
6:53 PM
7/25/2016

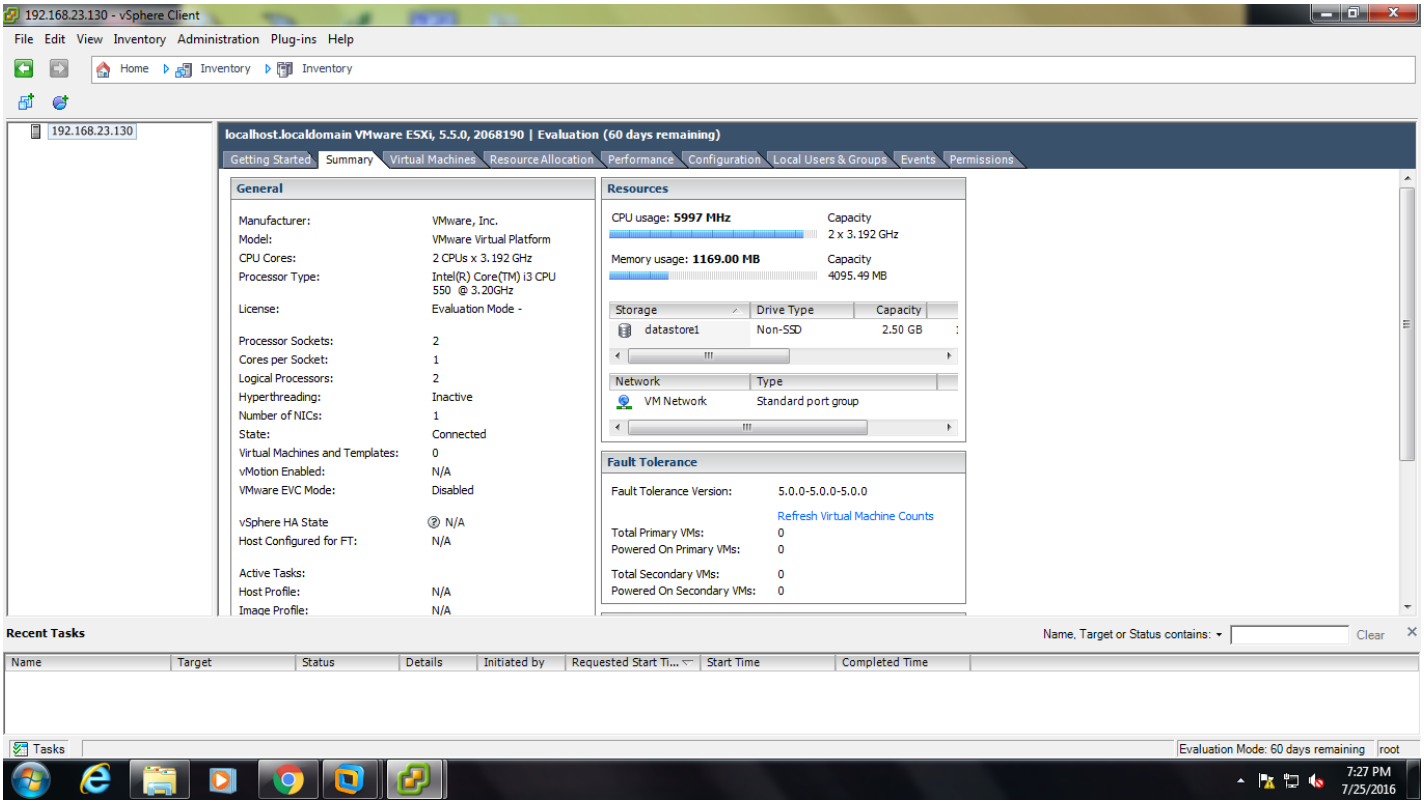

Computer
Search Computer
Organize
System properties
Uninstall or change a program
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Computer
Network
Hard Disk Drives (1)
New Volume (G:)
1.16 GB free of 87.8 GB
Devices with Removable Storage (1)
DVD RW Drive (D:)
Network Location (3)
Public (P:)
60.0 MB free of 60.0 MB
VMware vSphere Client 5.5
Destination Folder
Select the folder in which to install the product.
Install vSphere Client to:
C:\Program Files (x86)\VMware\Infrastructure\
Change...
InstallShield
< Back
Next >
Cancel
A702-52
Domain: stdmlb01.sliit.lk
Memory: 4.00 GB
Processor: Intel(R) Core(TM) i3 CP...
6:53 PM
7/25/2016

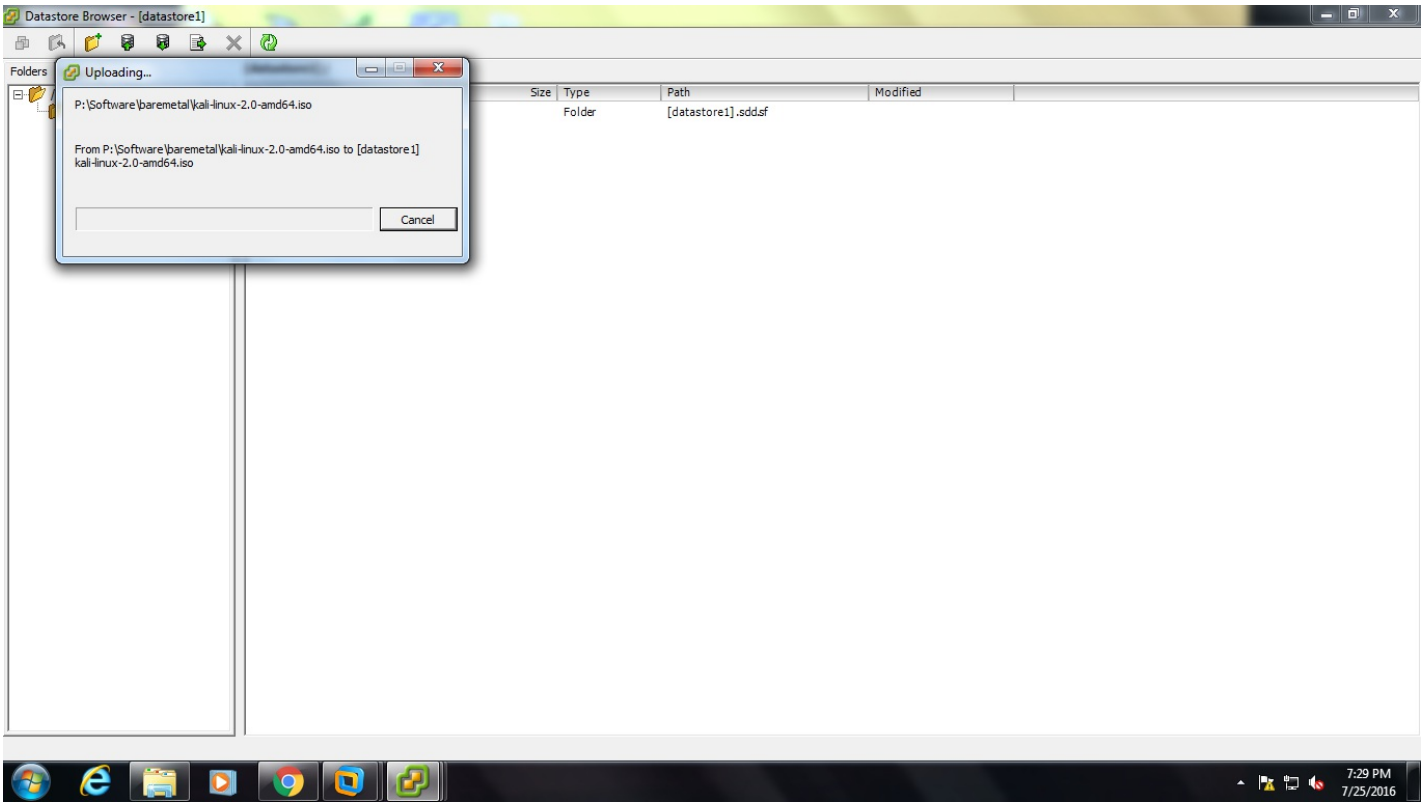

Computer
Search Computer
Organize
System properties
Uninstall or change a program
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Computer
Network
Hard Disk Drives (1)
New Volume (G:)
1.16 GB free of 87.8 GB
Devices with Removable Storage (1)
DVD RW Drive (D:)
Network Location (3)
Public (P:)
60.0 MB free of 60.0 MB
VMware vSphere Client 5.5
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel
A702-52
Domain: stdmlb01.sliit.lk
Memory: 4.00 GB
Processor: Intel(R) Core(TM) i3 CP...
6:54 PM
7/25/2016

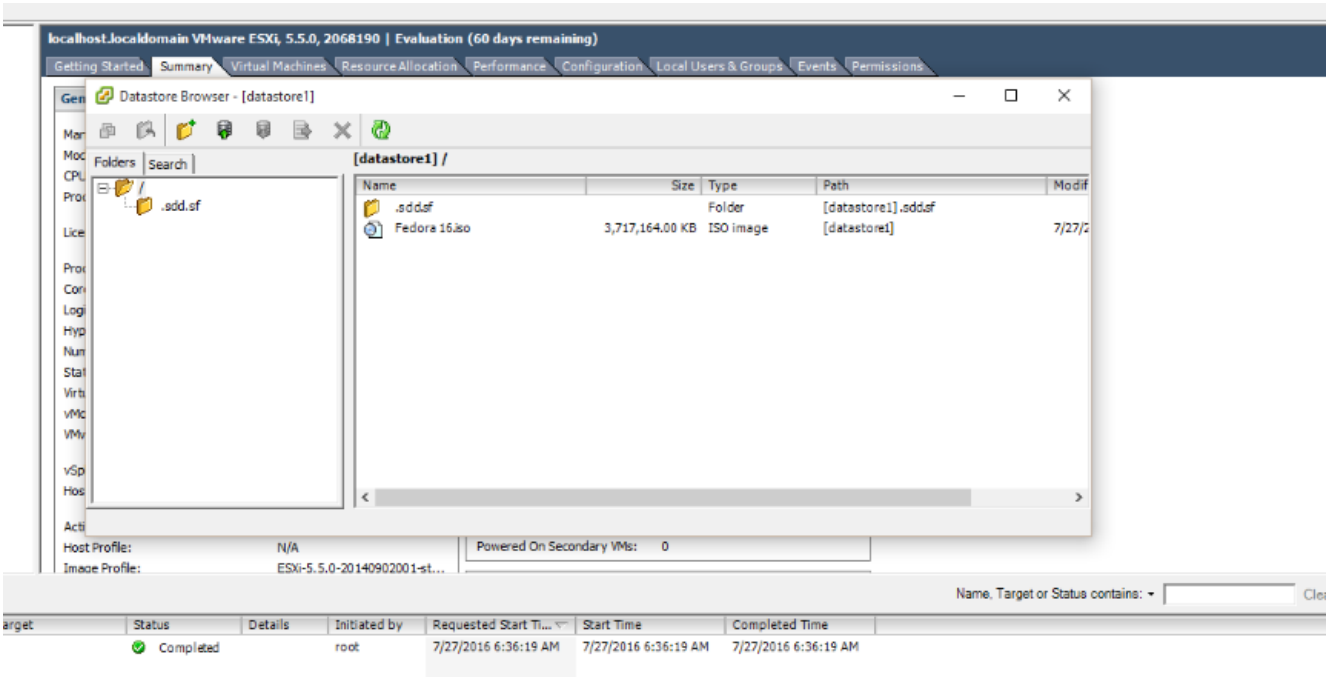

Computer
Search Computer
Organize
System properties
Uninstall or change a program
Favorites
Desktop
Downloads
Recent Places
Libraries
Documents
Music
Pictures
Videos
Computer
Network
Hard Disk Drives (1)
New Volume (G:)
1.16 GB free of 87.8 GB
Devices with Removable Storage (1)
DVD RW Drive (D:)
Network Location (3)
Public (P:)
60.0 MB free of 60.0 MB
VMware vSphere Client 5.5
Installing VMware vSphere Client 5.5
The program features you selected are being installed.
Please wait while the installation wizard installs VMware vSphere Client 5.5. This may take several minutes.
Status:
Installing the Microsoft Visual J# 2.0 Second Edition...
InstallShield
Cancel
A702-52
Domain: stdmlb01.sliit.lk
Memory: 4.00 GB
Processor: Intel(R) Core(TM) i3 CP...
6:54 PM
7/25/2016

Step 8

After successfully installing the VMWare vSphere Client we have to go to the data store and upload kali Linux. Go to Storage and browse for data store.

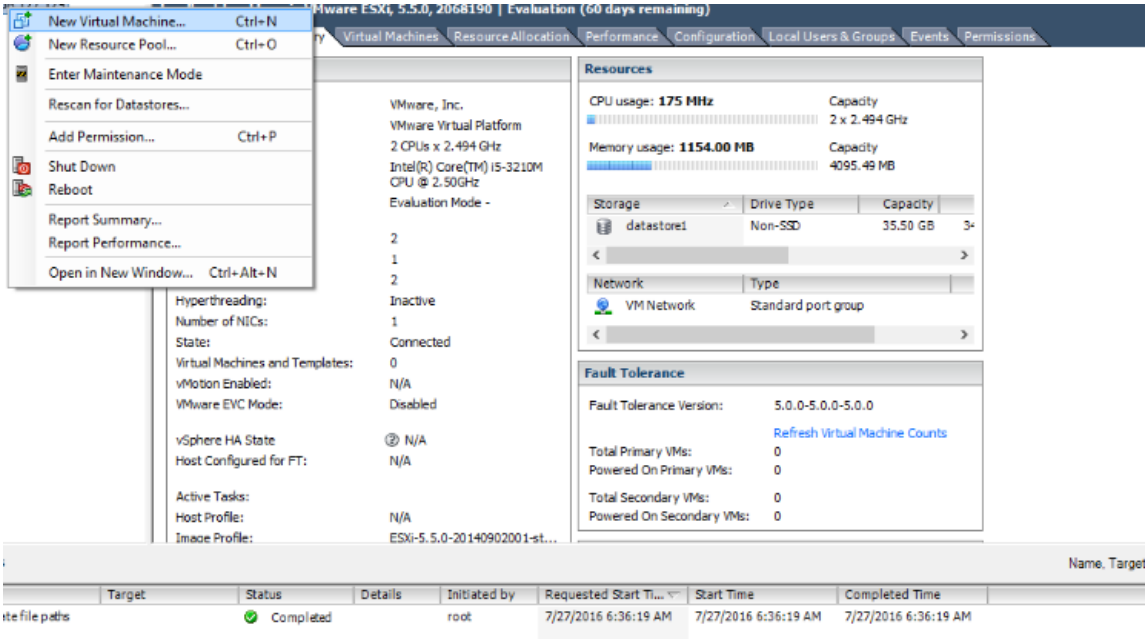






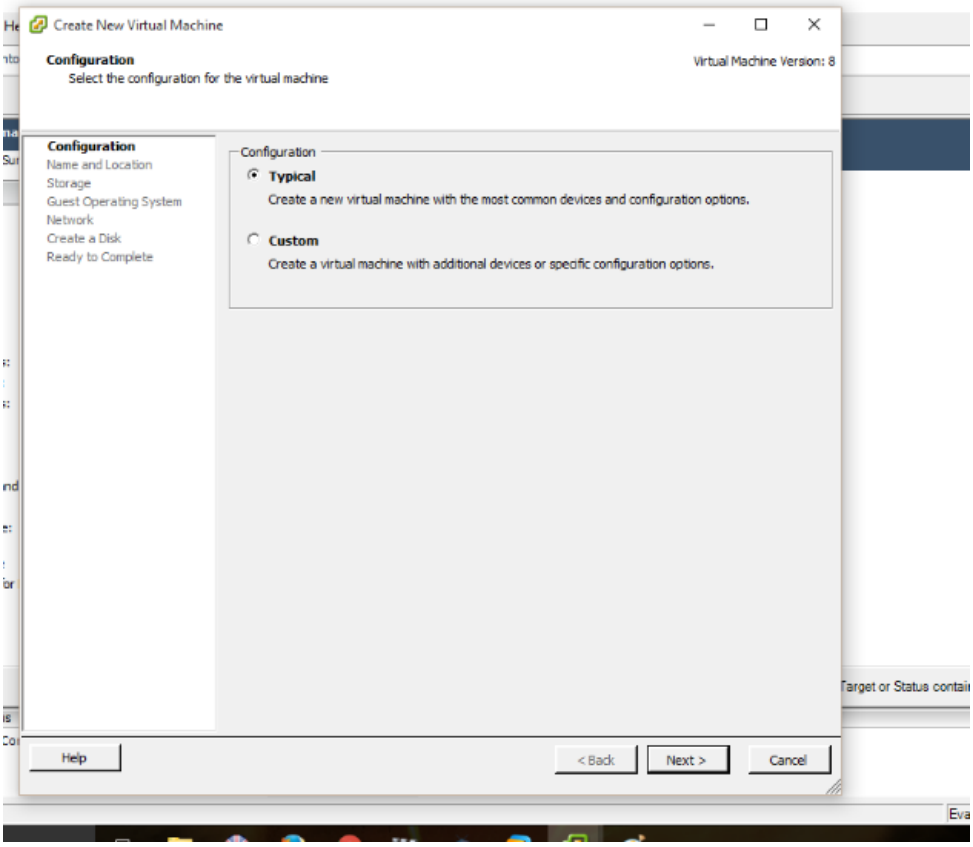
Step 9

After successful uploading we have to create a new virtual machine.



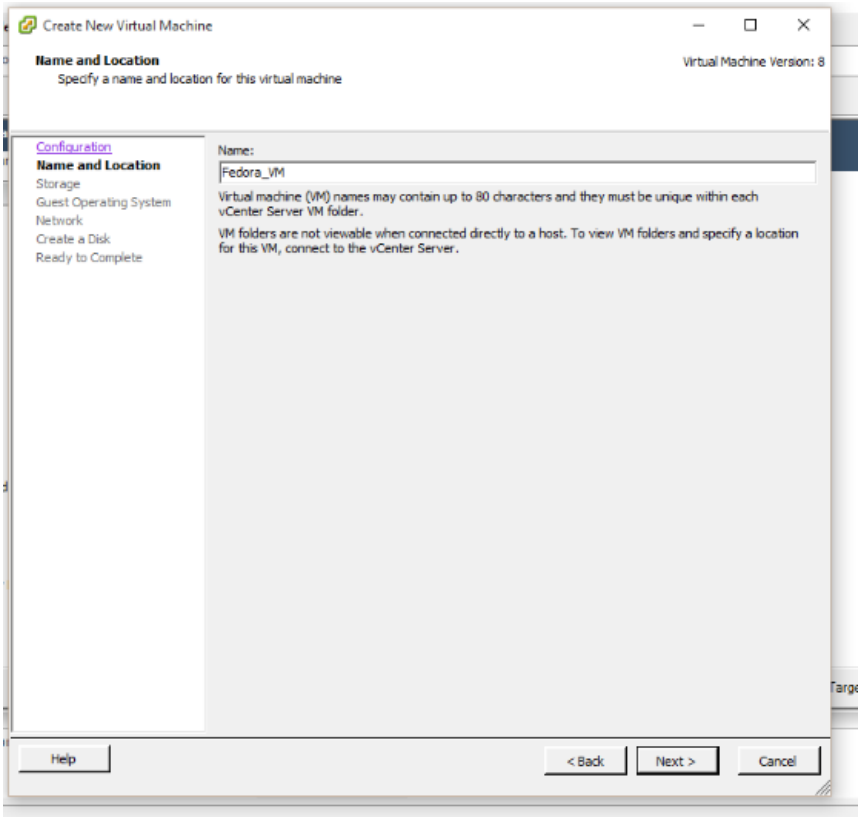
Step 10

Select the Typical configuration



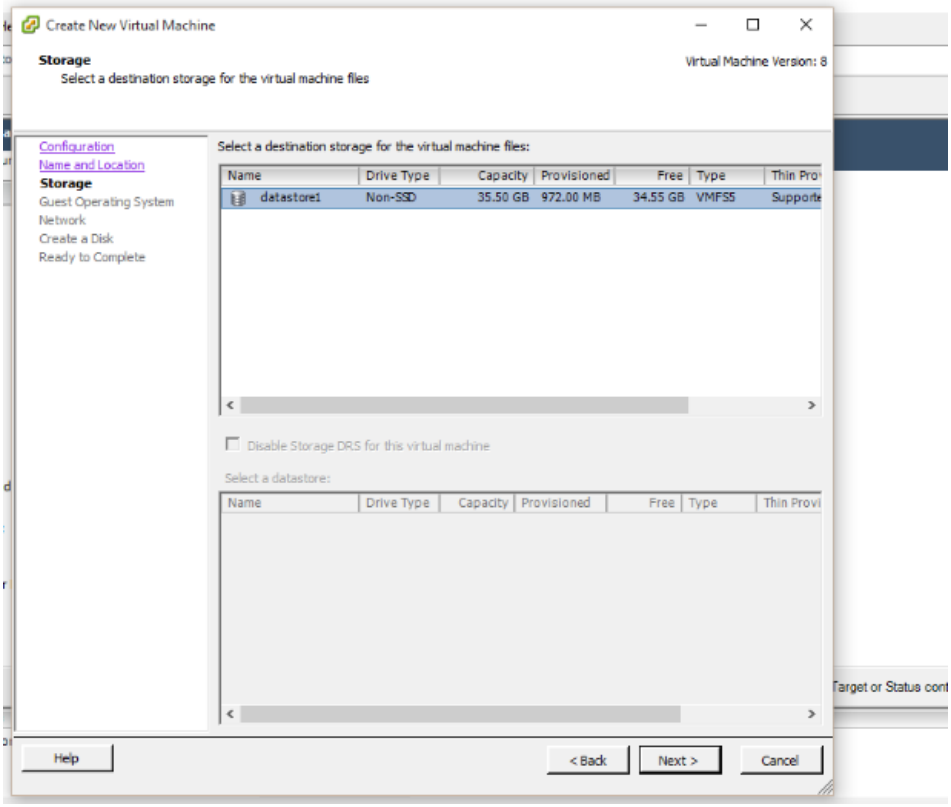
Step 11

Give a name for the virtual machine.



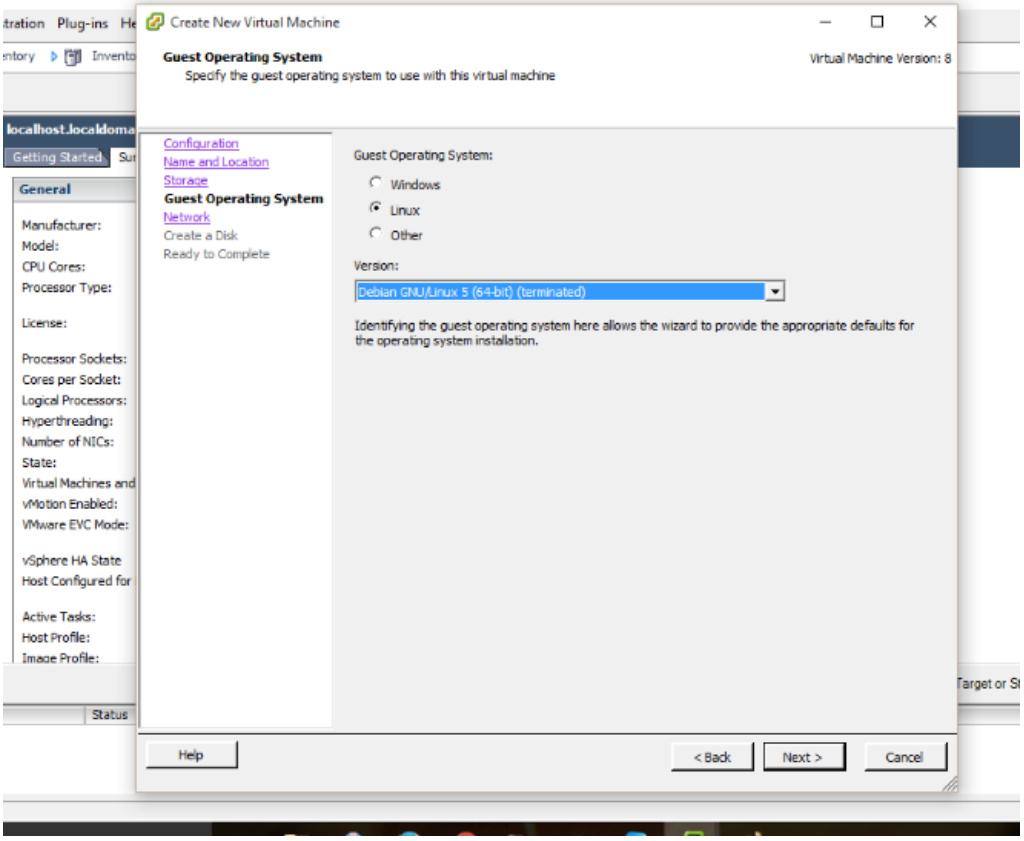
Step 12

Selecting the storage of the location.



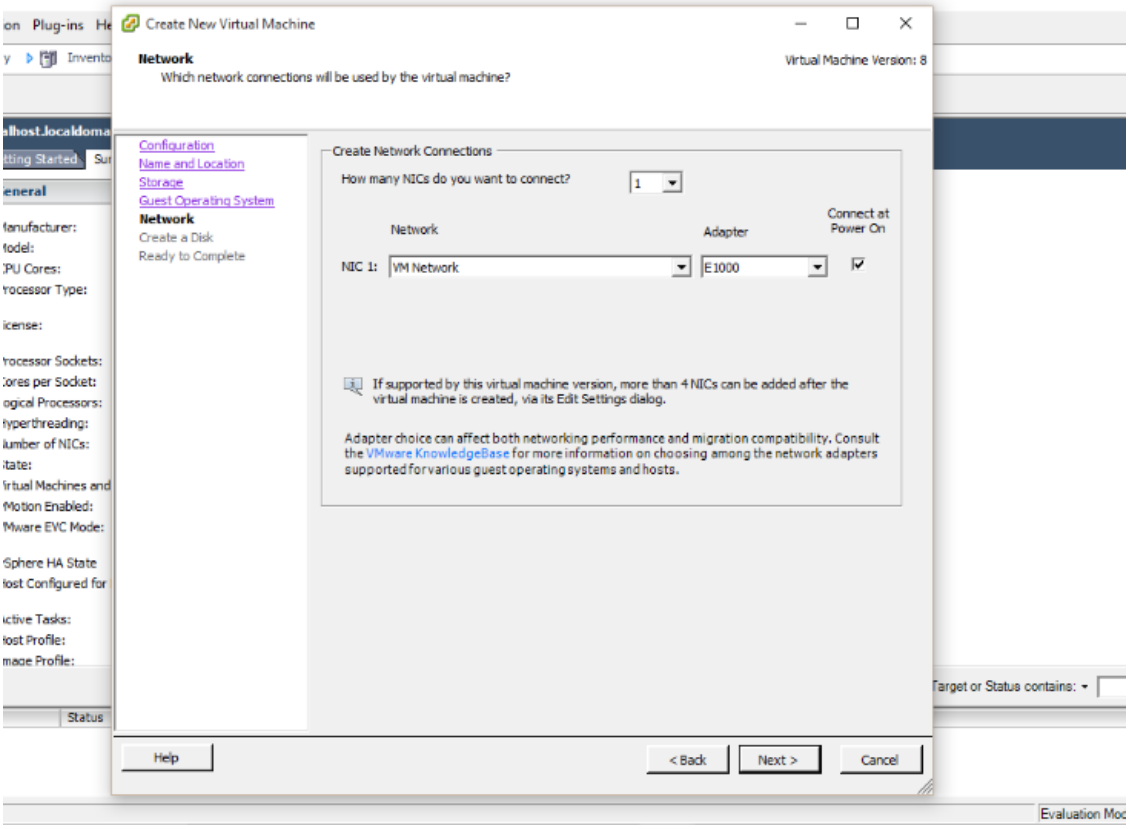
Step 13

Specify the guest operating system to use with this virtual machine.



Step 14

Network connections used by virtual machines



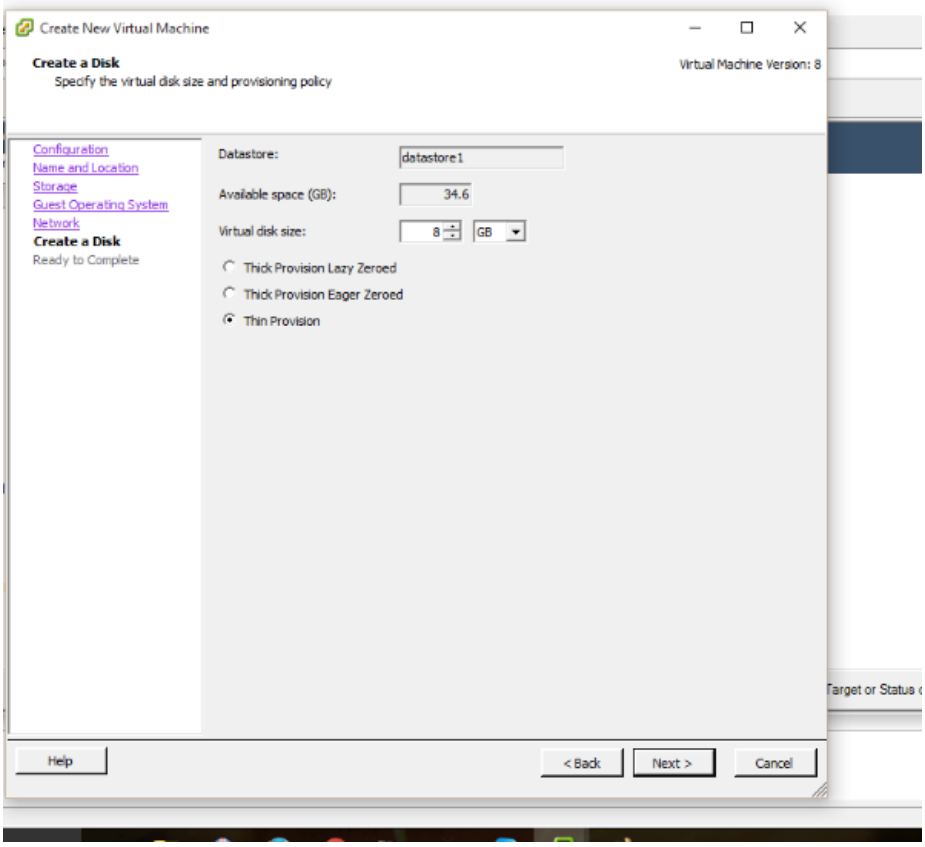
Step 15

Specify the virtual disk size and provisioning disk

Configure the following settings:

• Capacity: 40GB

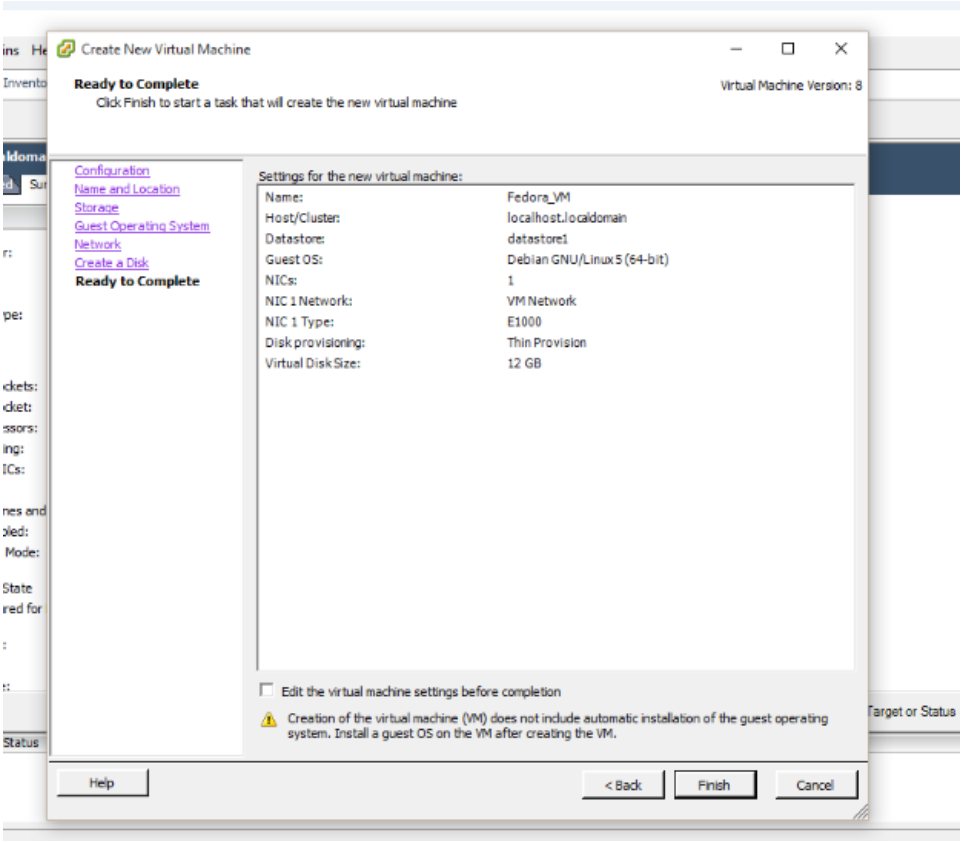
• Disk Provisioning: Thin Provision



Step 16

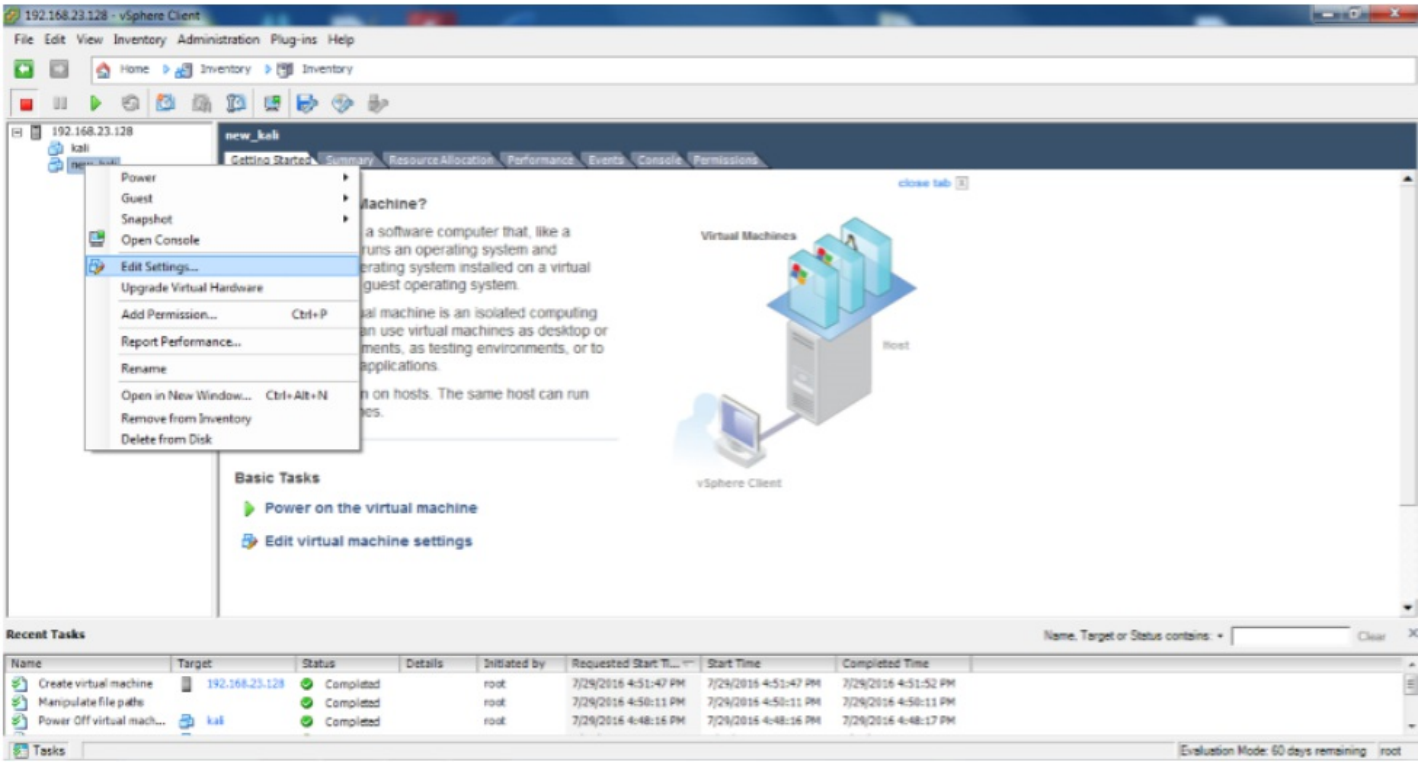
Review your settings and then click Finish.

The VMware ESXi server starts to create the virtual machine.



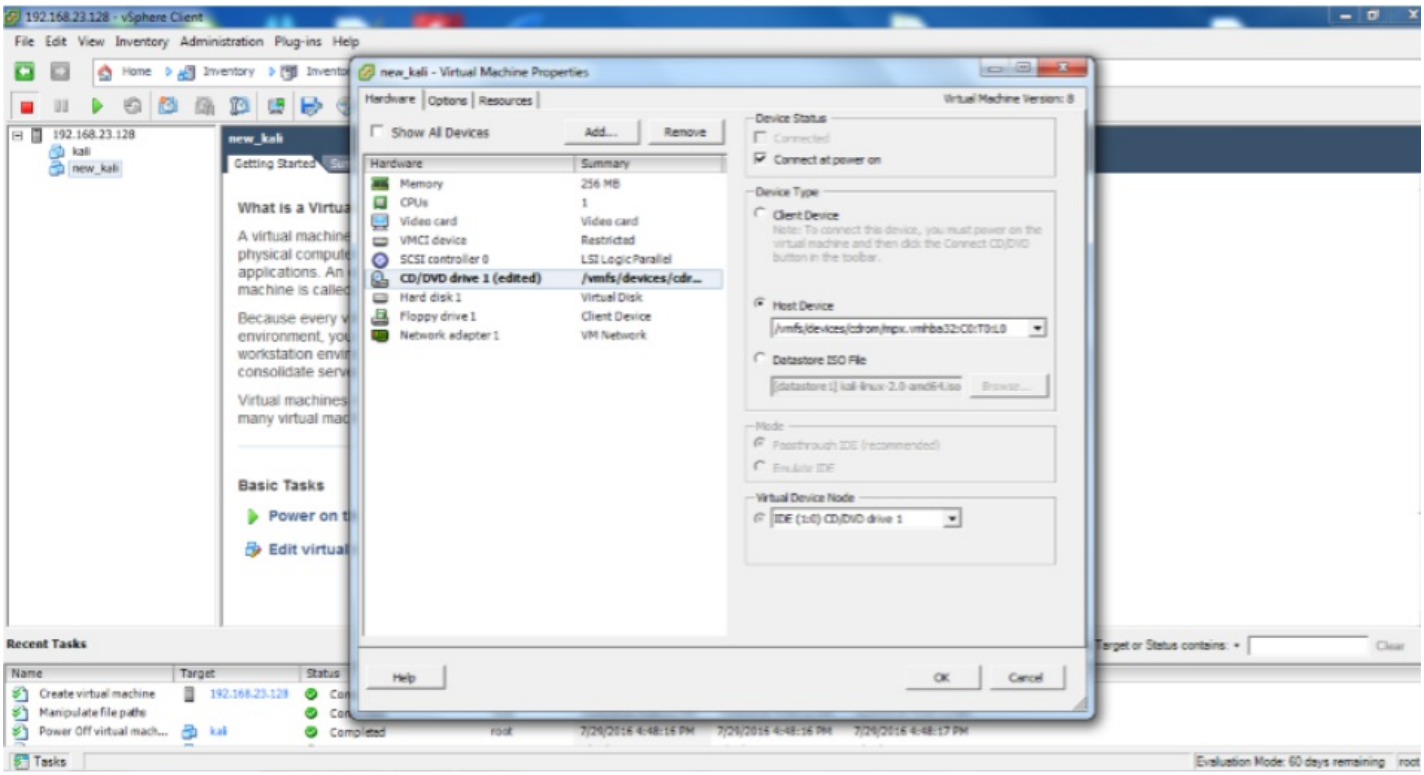
Step 17

Right click on new kali linux->Edit settings.



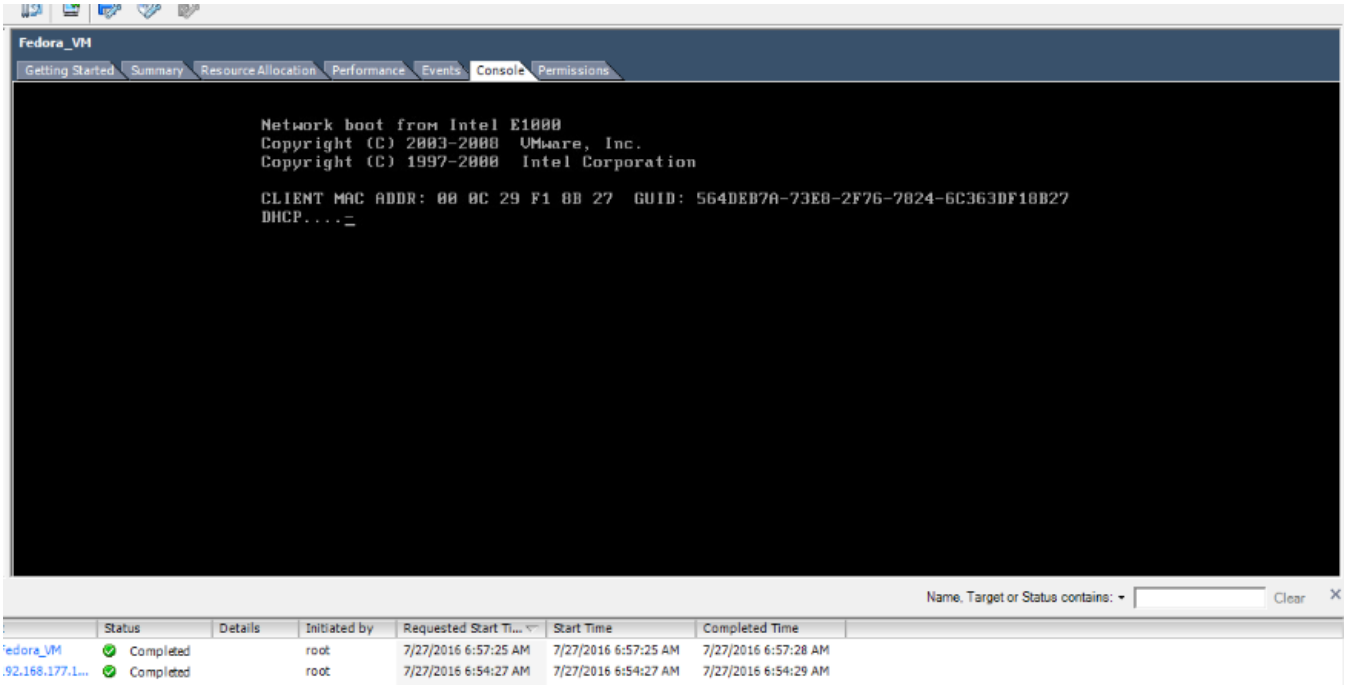
Step 18

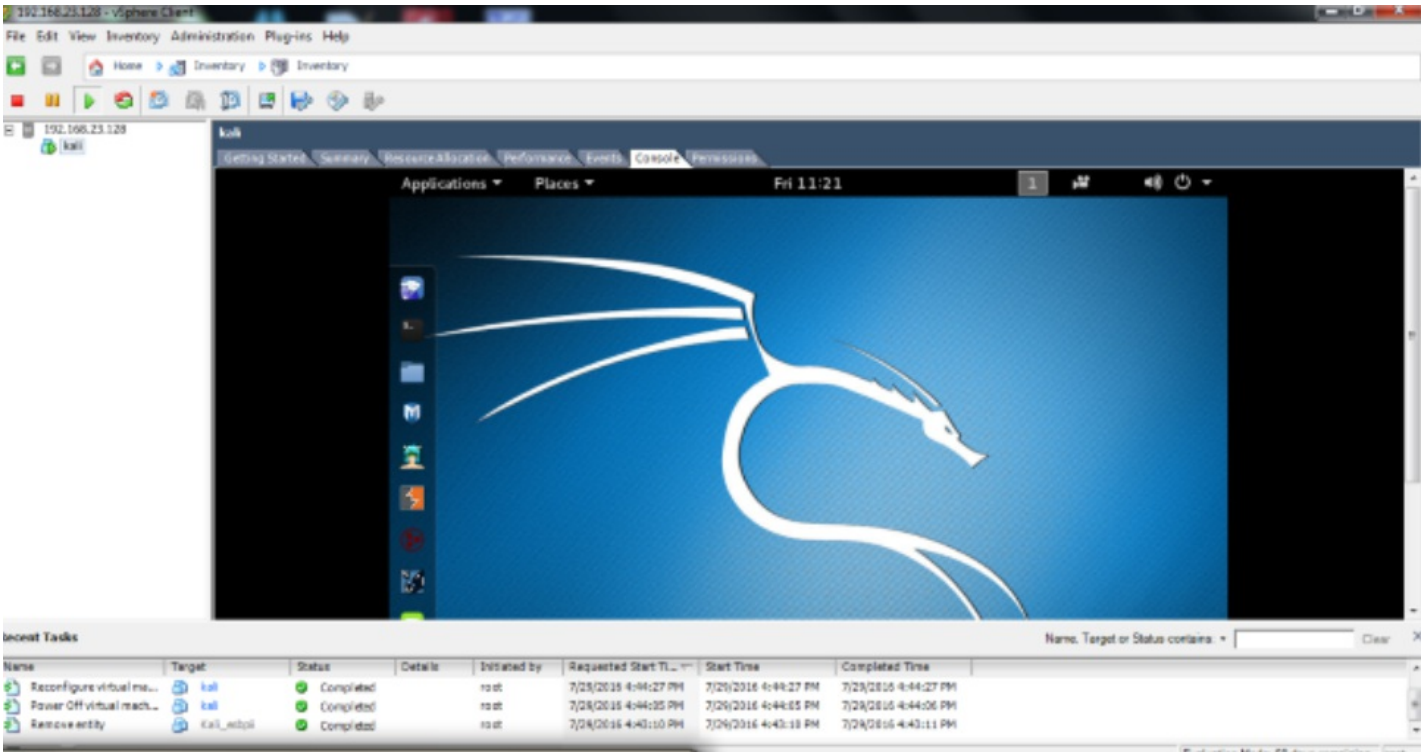
Select CD/DVD drive 1 in virtual Machine properties windows.yhen clik ok button.



Step 19

Power on the virtual machine





Step 20

Try some commands