

### Lab 3 Command Script

Server 130.65.132.102 should be turned ON

#Step 1) Connect to vCenter Server

```
connect-viserver 130.65.132.102 -user administrator -password 12!@qwQW
```

#Step 2) Create a datacenter

```
New-Datacenter -Location Datacenters -Name T02-Bhargav
```

#Step 3) Add three Hosts

Create and Add

```
Move-VMHost (Get-VMHost 130.65.132*) -Destination (Get-Datcenter T02)
```

#Step 4) Create a new VM

#Add new VM Template

Create a template

```
New-Template -VM T02-VM01-Ubu-Jaw -Name T02-VM-Template -Location T02-Bhargav
```

Deploy from the Template:

```
Get-Template | New-VM -vmhost 130.65.132.142 -Name T02-VM04-Ubu-Bhargav -Datastore  
nfs2team02_01
```

#Step 5) Live Migration

#Enabling vm Motion in all hosts

```
Get-VMHost | Get-VMHostNetworkAdapter -VMKernel | Set-VMHostNetworkAdapter -VMotionEnabled  
$true -Confirm:$false
```

#Enabling Promiscuous mode on all connected hosts

#Start a VM

Start-VM -VM "T02-VM04-Ubu-Bhargav" -RunAsync -Confirm:\$false

#Perform Live migration

Get-VM -Name T02-VM04-Ubu-Bhargav | Move-VM -Destination 130.65.132.143

#Step 6) Cold Migration

#stop VM

Stop-VM -VM T02-VM04-Ubu-Bhargav -Confirm:\$false

Get-VM -Name T02-VM04-Ubu-Bhargav | Move-VM -Destination 130.65.132.141

#Step 7) Delete VM

Remove-VM T02-VM04-Ubu-Bhargav

#Step 8) Remove vHost

Remove-VMHost 130.65.132.\*

#Step 9) Delete Data center

Remove-Datacenter T07-DC-Bhargav

1. VHosts Statistics - CSV:

Get-VMHost | Select-Object -Property Name, NumCpu, MemoryUsageGB, Version, ConnectionState, PowerState,CpuUsageMhz, CpuTotalMhz | Export-Csv "C:\283\VHostStats.csv"

## VHos Statistics - HTML:

Get-VMHost | Select-Object -Property Name, NumCpu, MemoryUsageGB, Version, ConnectionState, PowerState, CpuUsageMhz, CpuTotalMhz | ConvertTo-Html | Out-File "C:\283\VHostStats.htm"

## 2. VM Statistics - HTML:

Get-VM | Select-Object -Property Name, Host, NumCpu, MemoryGB, PowerState, NetworkAdapters | ConvertTo-Html | Out-File "C:\283\VMStats.htm"


## VM Statistics - CSV:

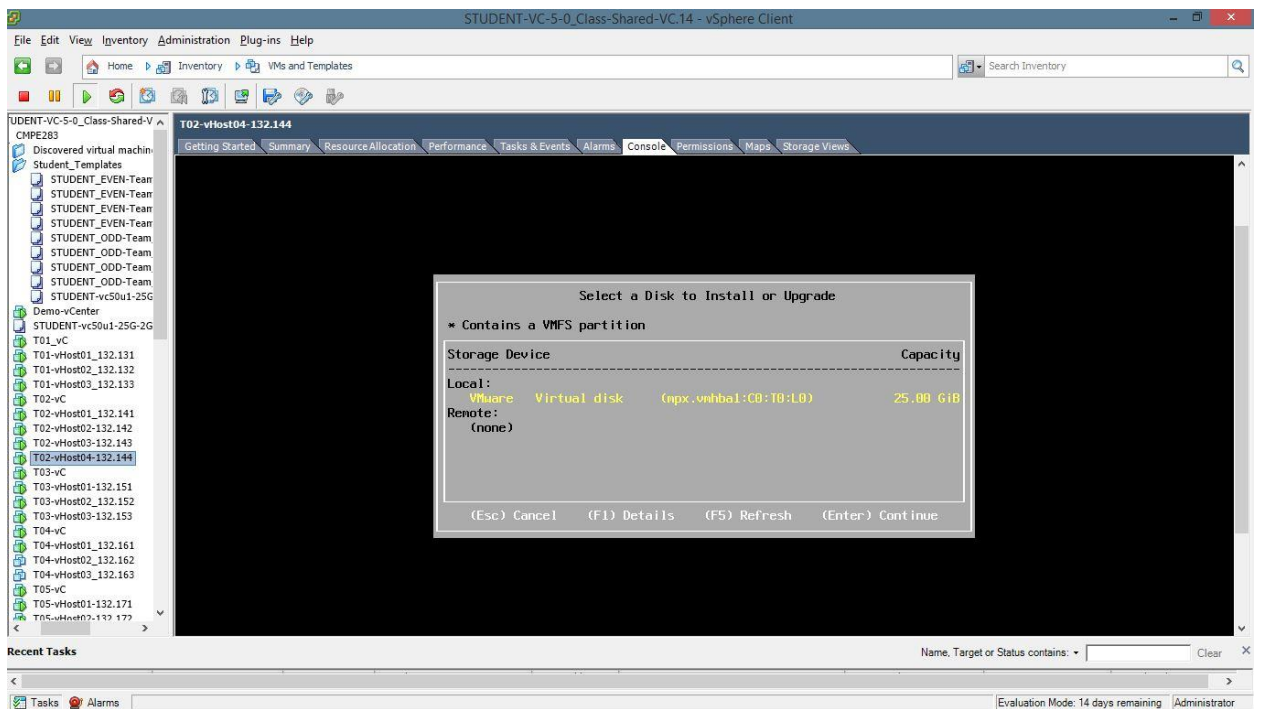
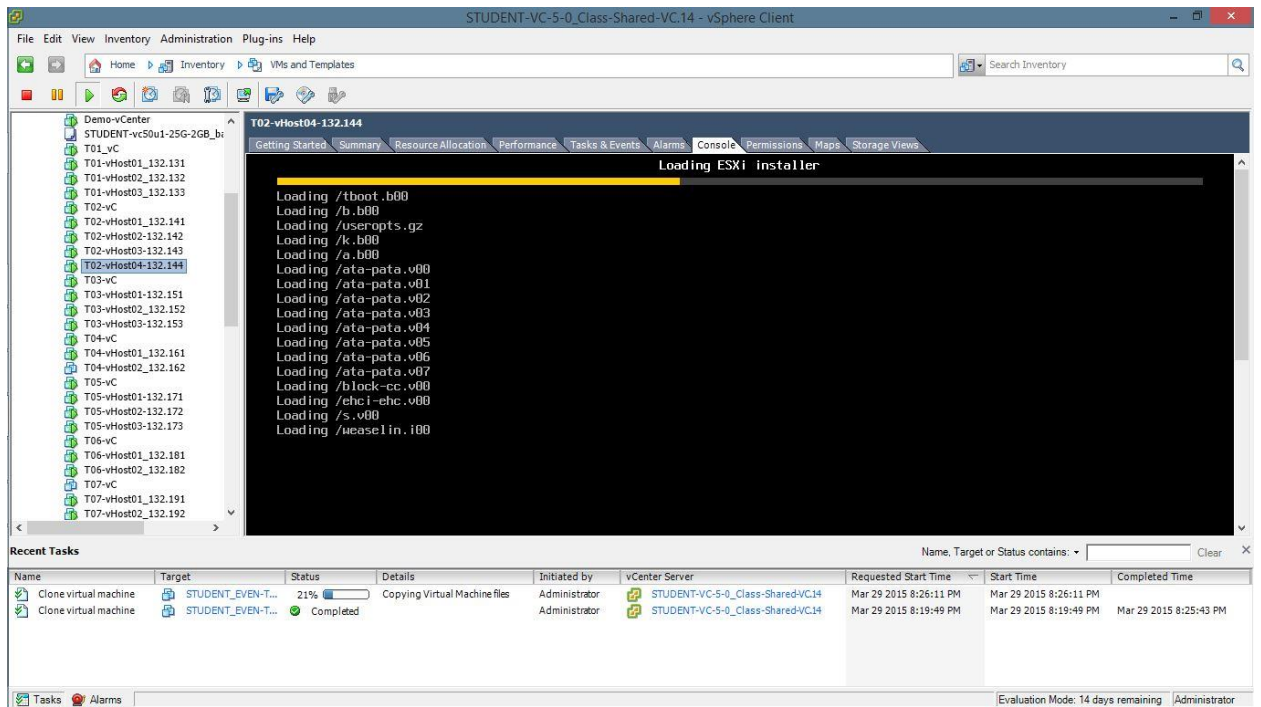
Get-VM | Select-Object -Property Name, Host, NumCpu, MemoryGB, PowerState, NetworkAdapters | Export-Csv "C:\283\VMStats.csv"

## Lab 3 Screenshots

### Phase 1:

#### Create a vHost

Name	Target	Status	Details	Initiated by	vCenter Server	Requested Start Time	Start Time	Completed Time
Clone virtual machine	STUDENT_EVEN-Team_vHost_cum1-2GB-NFS2_Template	28% 	Copying...	Administrator	STUDENT-VC-5-0_Class-Shared-VC14	Mar 30 2015 11:03:06 AM	Mar 30 2015 11:03:06 ...	
Power On virtual mach...	T15-vC-old	Completed		Administrator	STUDENT-VC-5-0_Class-Shared-VC14	Mar 30 2015 11:02:06 AM	Mar 30 2015 11:02:07 ...	Mar 30 2015 11:0
Initialize powering On	CMPE283	Completed		Administrator	STUDENT-VC-5-0_Class-Shared-VC14	Mar 30 2015 11:02:06 AM	Mar 30 2015 11:02:06 ...	Mar 30 2015 11:0
Power On virtual mach...	T02-vC	Completed		Administrator	STUDENT-VC-5-0_Class-Shared-VC14	Mar 30 2015 10:59:21 AM	Mar 30 2015 10:59:21 ...	Mar 30 2015 10:5
Initialize powering On	CMPE283	Completed		Administrator	STUDENT-VC-5-0_Class-Shared-VC14	Mar 30 2015 10:59:21 AM	Mar 30 2015 10:59:21 ...	Mar 30 2015 10:5
Clone virtual machine	STUDENT_EVEN-Team_vHost_cum1-2GB-NFS2_Template	Completed		Administrator	STUDENT-VC-5-0_Class-Shared-VC14	Mar 30 2015 10:52:58 AM	Mar 30 2015 10:52:58 ...	Mar 30 2015 10:5



STUDENT-VC-5-0\_Class-Shared-VC.14 - vSphere Client

File Edit View Inventory Administration Plug-ins Help

Home Inventory VMs and Templates Search Inventory

UDENT-VC-5-0\_Class-Shared-VC.14  
CMPE283  
Discovered virtual machines  
Student\_Templates  
STUDENT\_EVEN-Team  
STUDENT\_EVEN-Team  
STUDENT\_EVEN-Team  
STUDENT\_ODD-Team  
STUDENT\_ODD-Team  
STUDENT\_ODD-Team  
STUDENT\_ODD-Team  
STUDENT-vc50u1-25G  
Demo-vCenter  
STUDENT-vc50u1-25G-2G  
T01-vc  
T01-vHost01-132.131  
T01-vHost02-132.132  
T01-vHost03-132.133  
T02-vc  
T02-vHost01-132.141  
T02-vHost02-132.142  
T02-vHost03-132.143  
T02-vHost04-132.144  
T03-vc  
T03-vHost01-132.151  
T03-vHost02-132.152  
T03-vHost03-132.153  
T04-vc  
T04-vHost01-132.161  
T04-vHost02-132.162  
T04-vHost03-132.163  
T05-vc  
T05-vHost01-132.171  
T05-vHost02-132.172

T02-vHost04-132.144

Getting Started Summary Resource Allocation Performance Tasks & Events Alarms Console Permissions Maps Storage Views

Please enter a root password (recommended)

Root password: \*\*\*\*\*  
Confirm password: \*\*\*\*\*  
Passwords match.

(Esc) Cancel (F9) Back (Enter) Continue

Recent Tasks

Name, Target or Status contains: Clear

Tasks Alarms

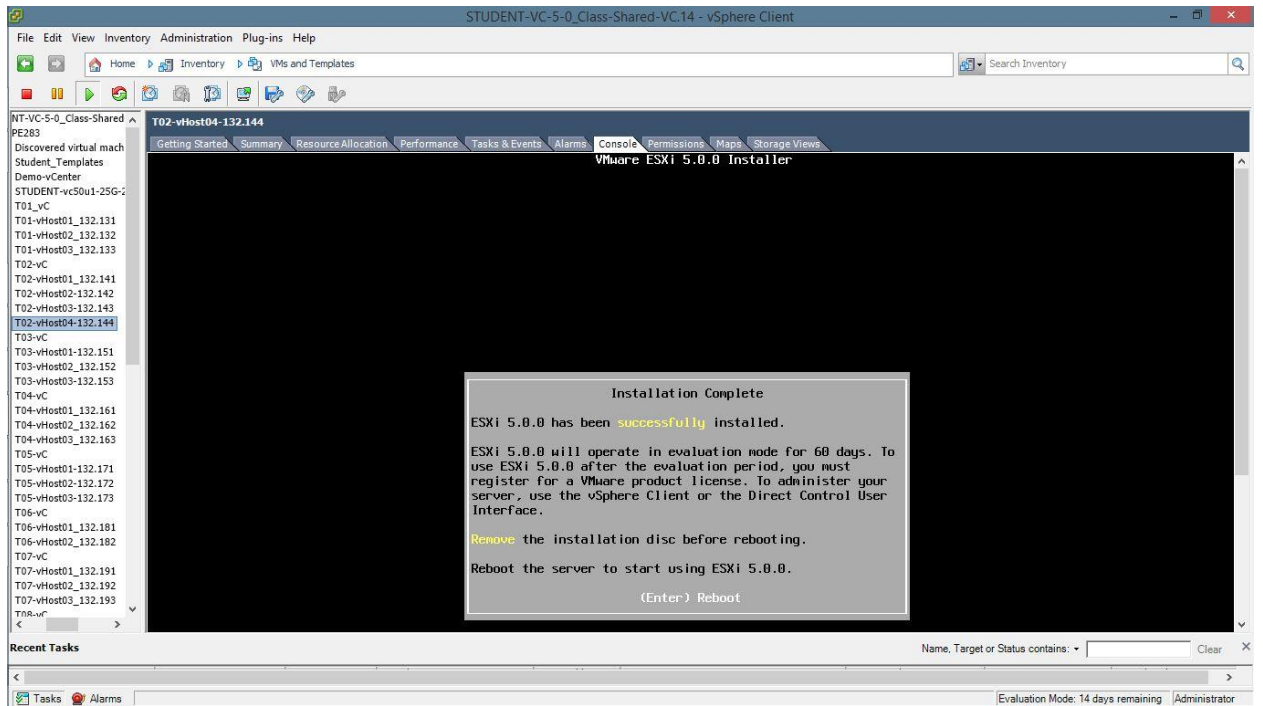
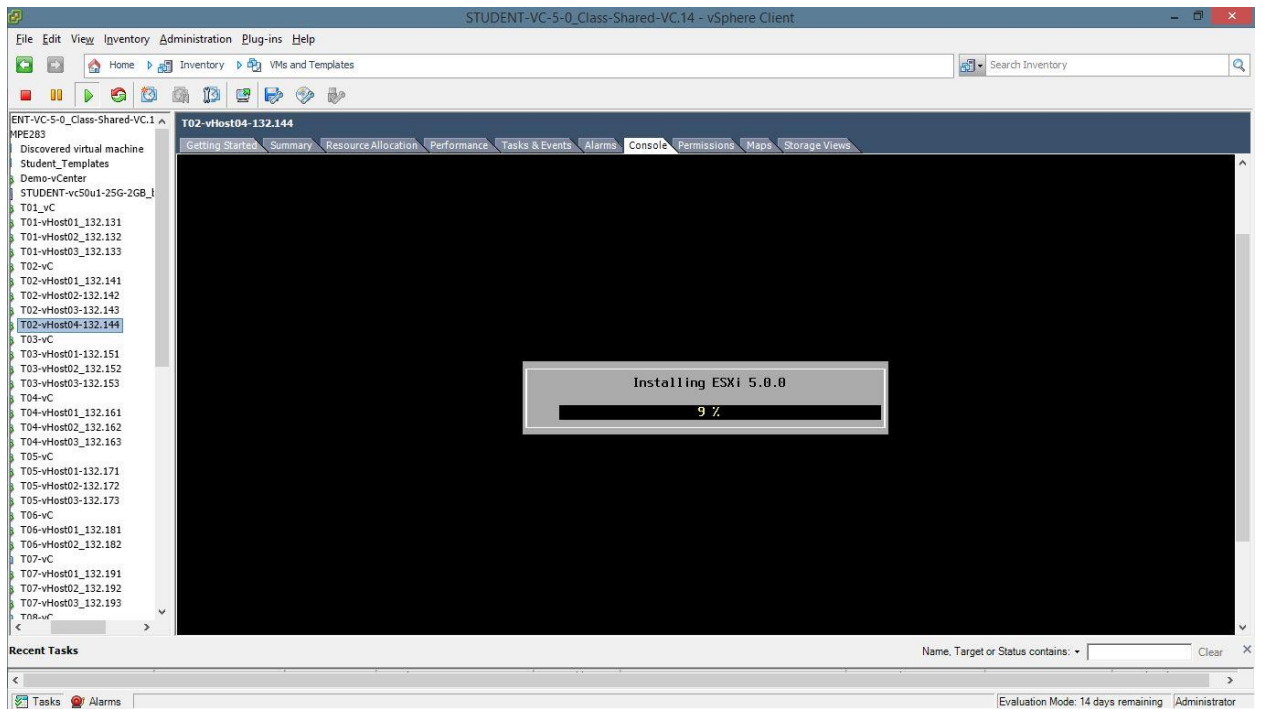
Evaluation Mode: 14 days remaining Administrator

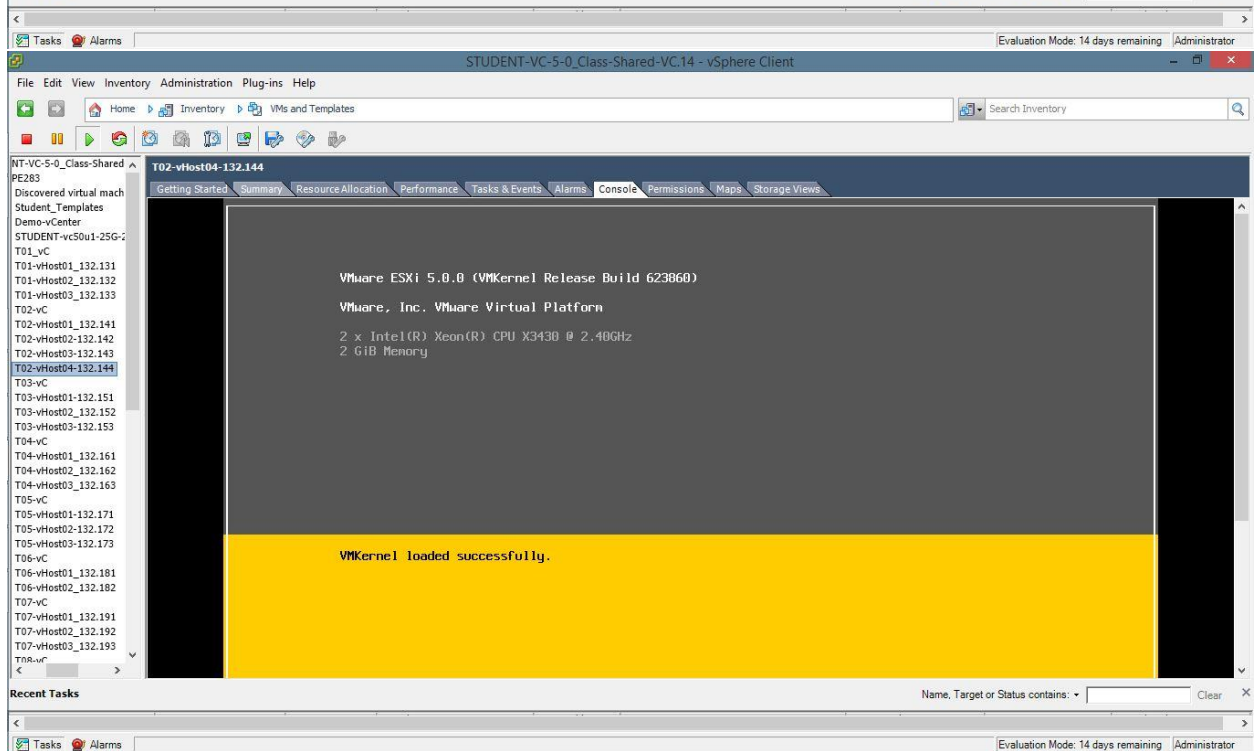
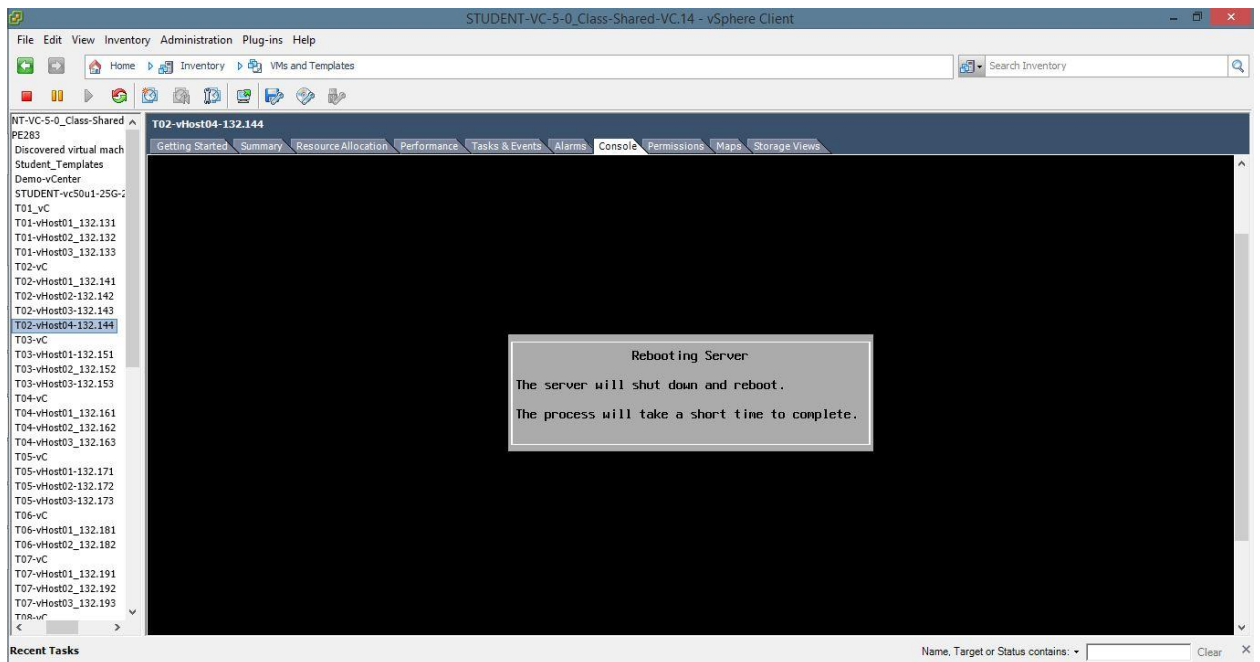
VMware vSphere PowerCLI 6.0 Release 1

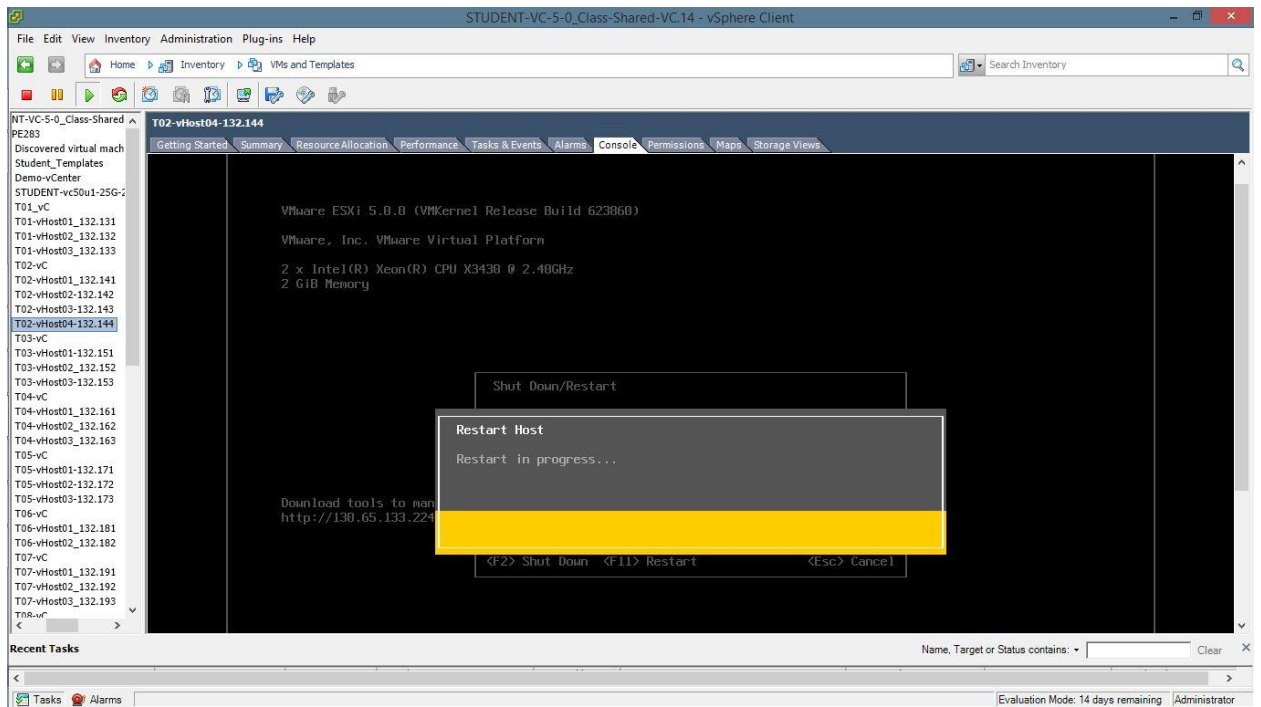
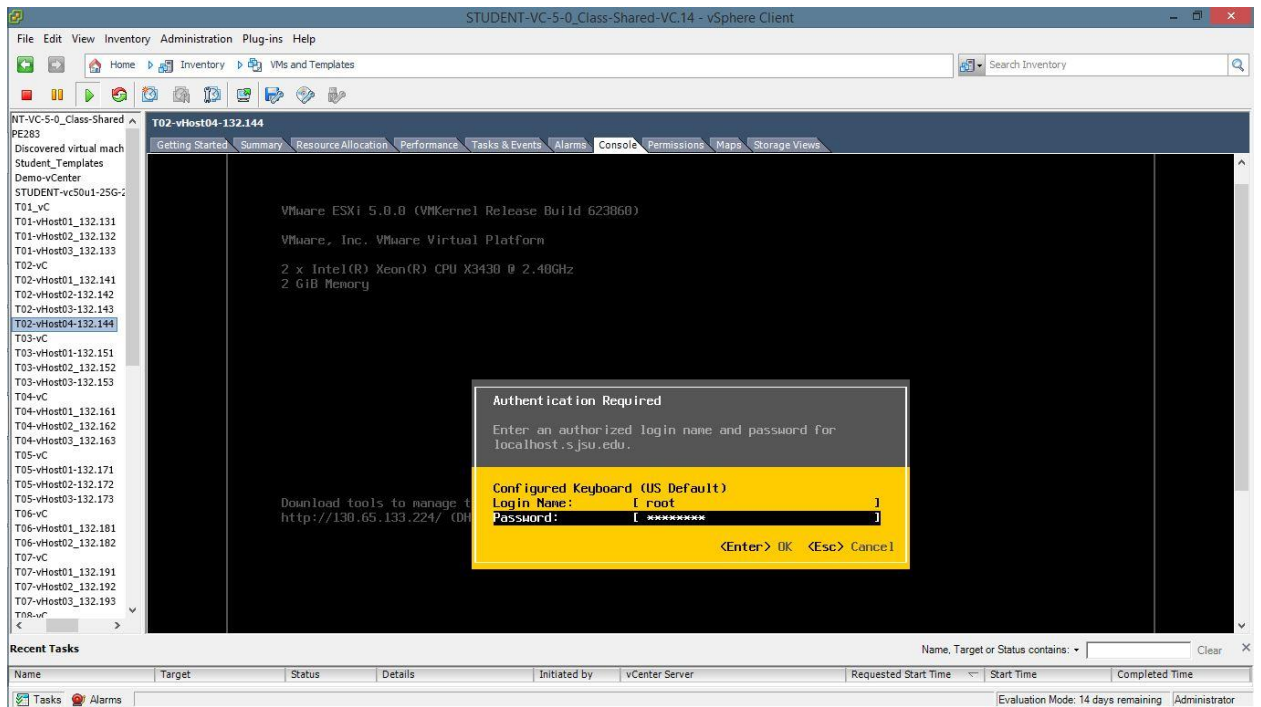
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI> Move-VMHost <Get-VMHost 130.65.132\*> -Destination <Get-Datacenter T02-DC-Bhargav>

Name	ConnectionState	PowerState	NumCpu	CpuUsageMhz	CpuTotalMhz
130.65.132.141	Connected	PoweredOn	2	89	4786
130.65.132.144	Connected	PoweredOn	2	179	4786
130.65.132.145	Connected	PoweredOn	2	82	4786
130.65.132.142	Connected	PoweredOn	2	214	4786
130.65.132.143	Connected	PoweredOn	2	166	4786

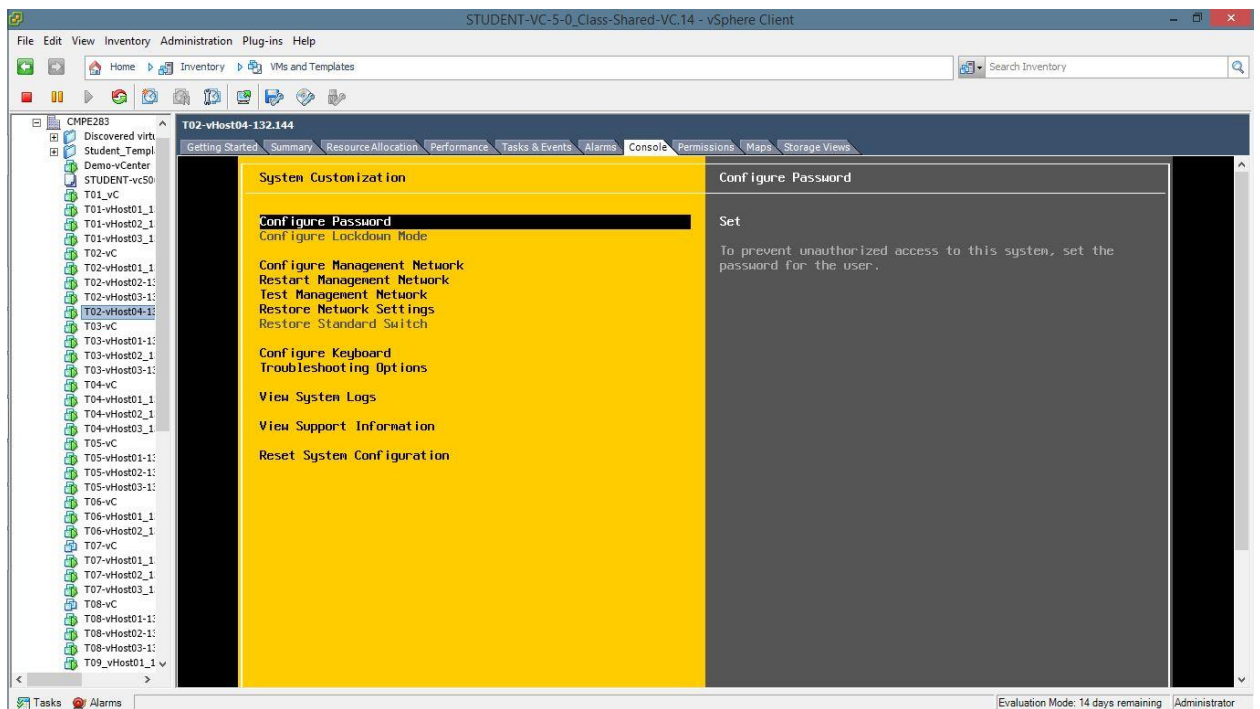
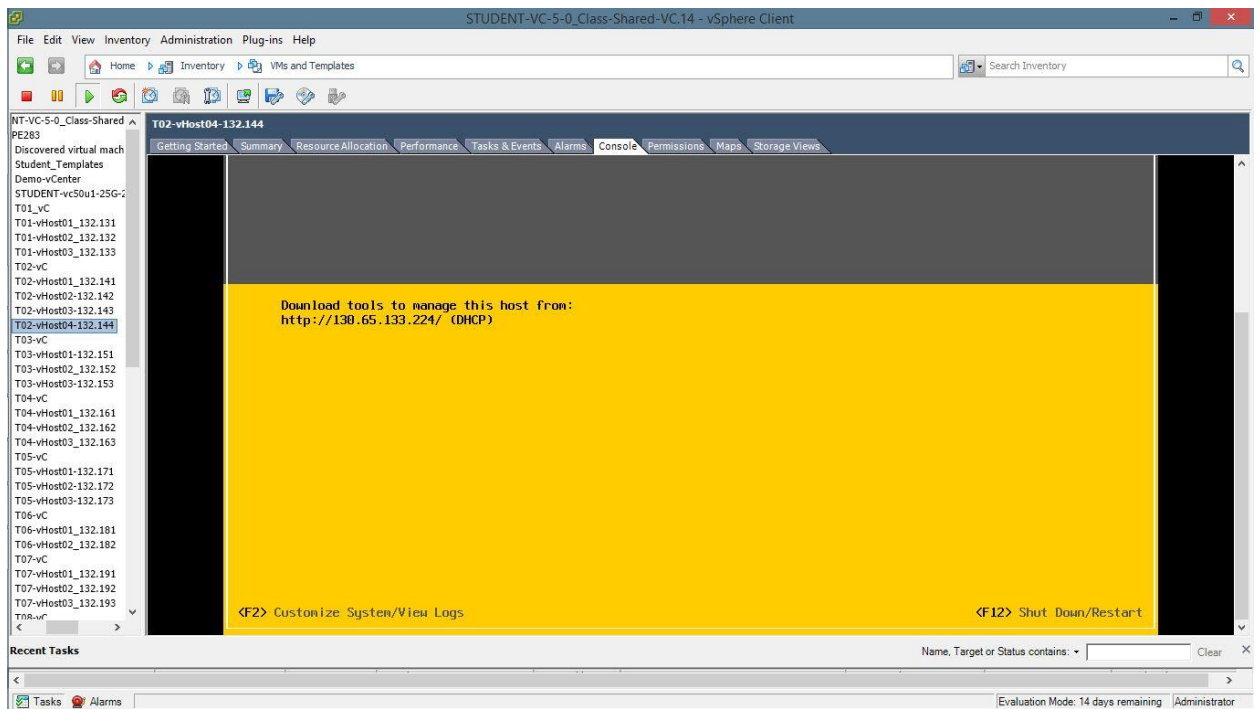
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI>

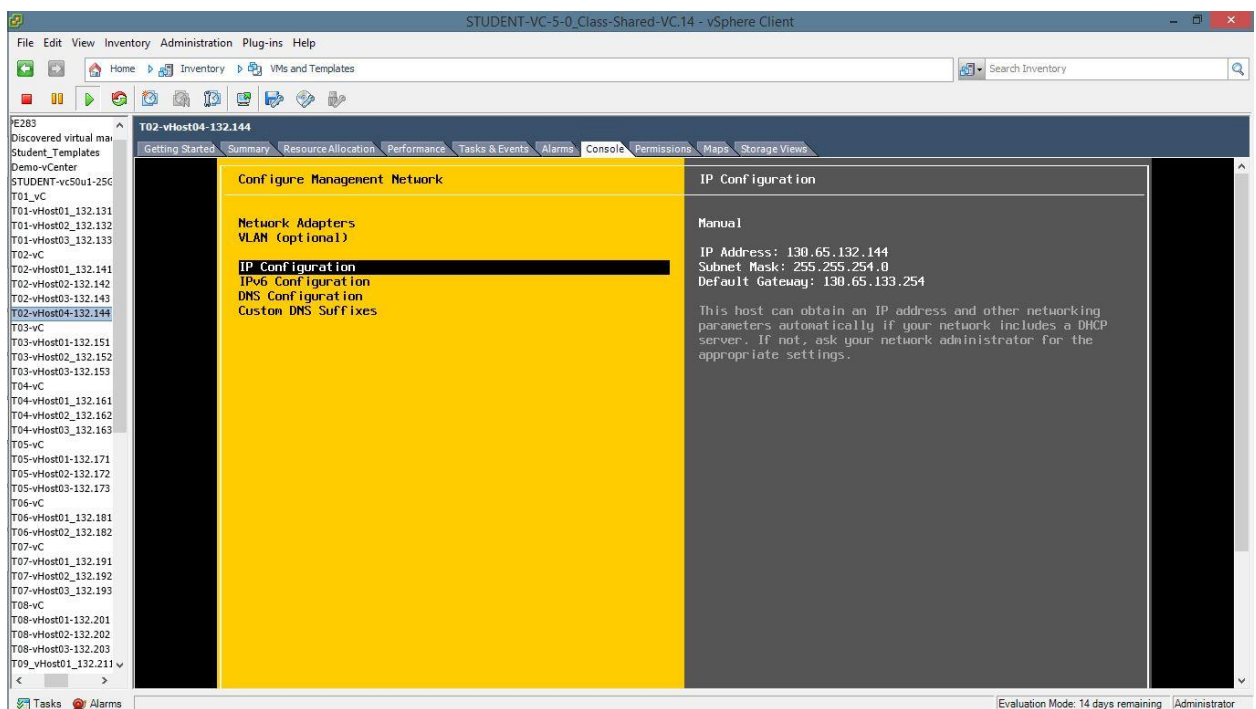
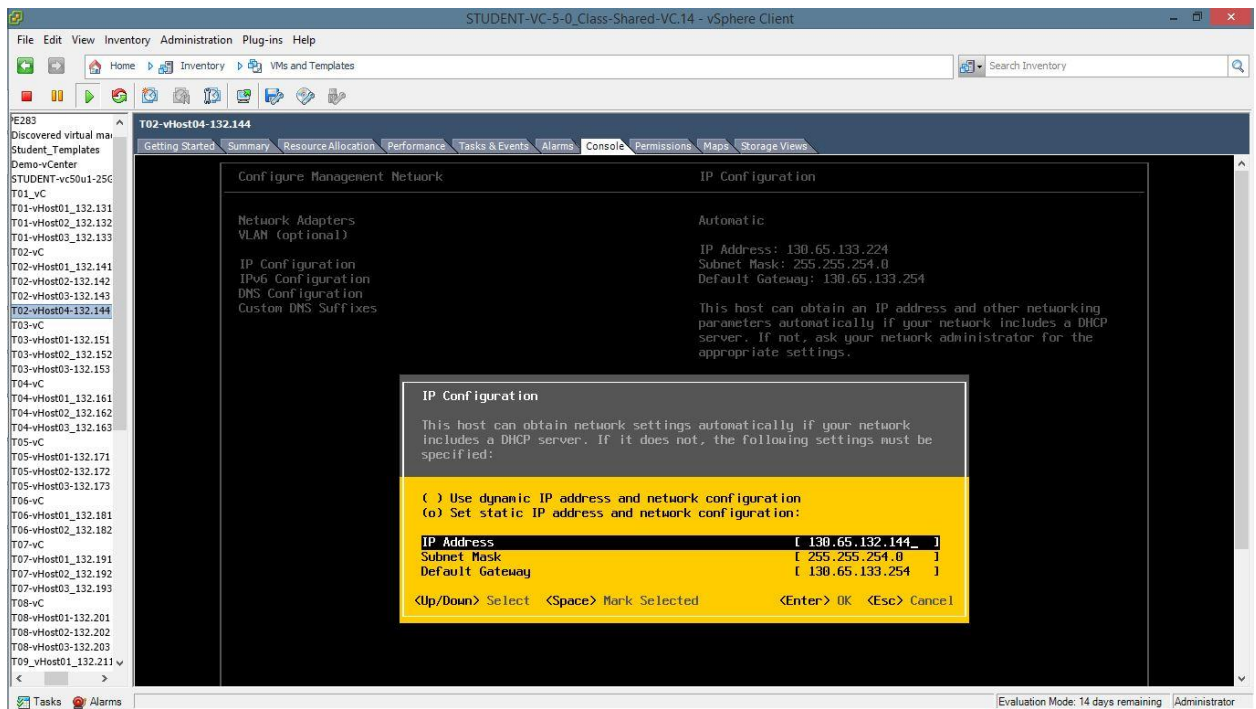


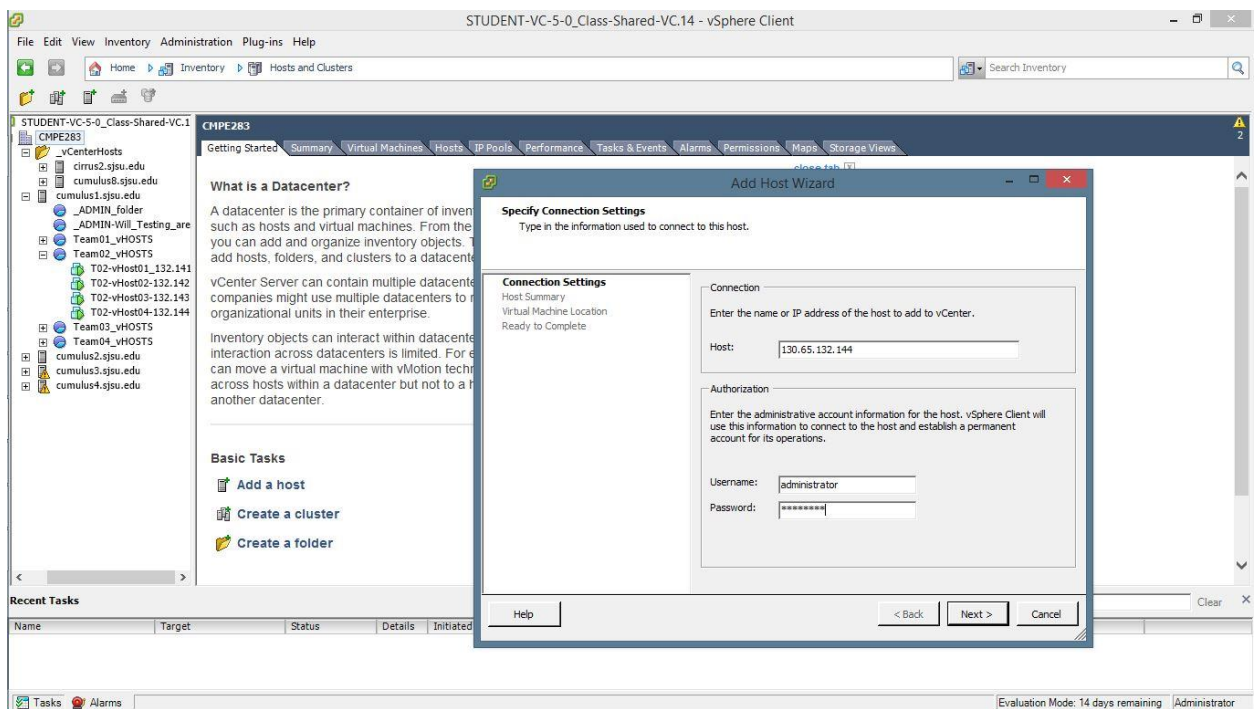
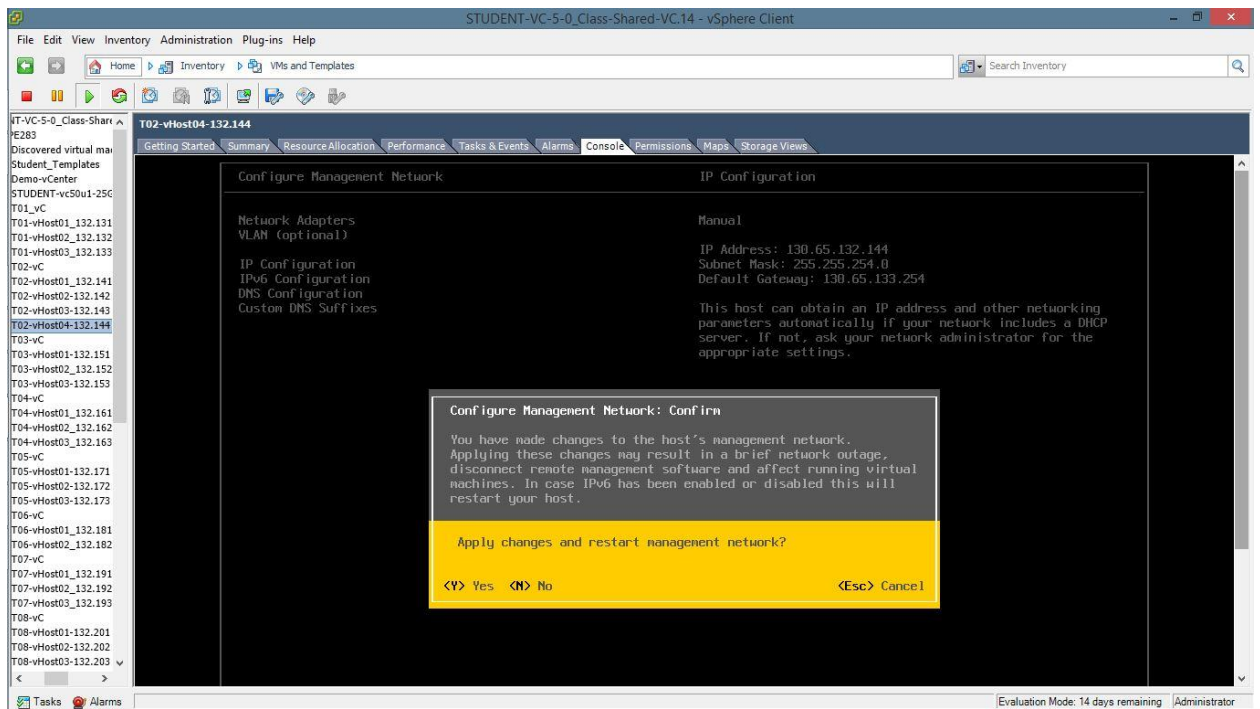












## Phase 2: Using PowerCLI

```
VMware vSphere PowerCLI 6.0 Release 1

Welcome to VMware vSphere PowerCLI!

Log in to a vCenter Server or ESX host:          Connect-UIServer
To find out what commands are available, type:   Get-UICommand
To show searchable help for all PowerCLI commands: Get-PowerCLIHelp
Once you've connected, display all virtual machines: Get-VM
If you need more help, visit the PowerCLI community: Get-PowerCLICommunity

Copyright (C) VMware, Inc. All rights reserved.

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\PowerCLI> Connect-
UIServer 130.65.132.102 -User administrator -Password 12!@qwQW
WARNING: There were one or more problems with the server certificate for the
server 130.65.132.102:443:

* A certification chain processed correctly, but terminated in a root
certificate which isn't trusted by the trust provider.

* The certificate's CN name does not match the passed value.

Certificate: [Subject]
E=support@vmware.com, CN=ADMIN-UC-5-0, OU="VMware, Inc.", O="VMware, Inc."
[Issuer]
E=support@vmware.com, CN=ADMIN-UC-5-0, OU="VMware, Inc.", O="VMware, Inc."
[Serial Number]
DB0E20CF
[Not Before]
Feb 10 2015 11:26:04 PM
[Not After]
Feb 7 2025 11:26:04 PM
[Thumbprint]
9D86F12243D5EF7250D1BC0BB13513A5413D9210

The server certificate is not valid.

WARNING: THE DEFAULT BEHAVIOR UPON INVALID SERVER CERTIFICATE WILL CHANGE IN A
FUTURE RELEASE. To ensure scripts are not affected by the change, use
Set-PowerCLIConfiguration to set a value for the InvalidCertificateAction
option.
```



```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Get-Datacenter
```

Name
T02-DC-Bhargav
T02-DC-Cha
T02-DC-Jawahar
T02-chanikya
T02
T02_DC-Bhargav
T02_DC
T02_DC1_PSC

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI>
```

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> New-Template -VM T02-UM05-Ubu-Cha -Name T02-UM-Template-Ubu -Location T02-DC-Cha
```

```
Clone virtual machine
percent complete: 96
[oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo ]
```

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Get-UMHost
```

Name	ConnectionState	PowerState	NumCpu	CpuUsageMhz	CpuTotalMhz
130.65.132.141	Connected	PoweredOn	2	39	4786
130.65.132.142	Connected	PoweredOn	2	2427	4786
130.65.132.143	Connected	PoweredOn	2	53	4786
130.65.132.144	Connected	PoweredOn	2	86	4786
130.65.132.145	Connected	PoweredOn	2	99	4786

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI>
```

VMware vSphere PowerCLI 6.0 Release 1

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI> Move-UMH  
ost <Get-UMHost 130.65.132.\*> -Destination <Get-Datacenter T02-DC-Bhargav>

Name	ConnectionState	PowerState	NumCpu	CpuUsageMhz	CpuTotalMhz
130.65.132.141	Connected	PoweredOn	2	89	4786
130.65.132.144	Connected	PoweredOn	2	179	4786
130.65.132.145	Connected	PoweredOn	2	82	4786
130.65.132.142	Connected	PoweredOn	2	214	4786
130.65.132.143	Connected	PoweredOn	2	166	4786

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI>

```
VMware vSphere PowerCLI 6.0 Release 1
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI> Move-VMHost <Get-VMHost 130.65.132.*> -Destination <Get-Datacenter T02-DC-Bhargav>

Clone virtual machine
percent complete: 7
10000
1
130.65.132.145    Connected    PoweredOn    2           82          4786
130.65.132.142    Connected    PoweredOn    2          214          4786
130.65.132.143    Connected    PoweredOn    2          166          4786

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI> Get-VM
Name                               PowerState Num CPUs MemoryGB
----
T02-VM01-Ubu-Jaw                   PoweredOff 1         1.000
T02-VM05-Ubu-Pal                   PoweredOn  1         1.000
T02-VM01-Ubu-Jaw-...               PoweredOff 1         1.000
T02-VM04-Ubu-Jaw                   PoweredOff 1         1.000
T02-VM04-Ubu-Raghav                PoweredOn  1         1.000
T02-VM07-Ubu-Pala...               PoweredOff 1         1.000
T02-VM01-Ubu-Jaw-...               PoweredOff 1         1.000
T02-VM02-Ubu-Bhargav               PoweredOn  1         1.000

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI> Get-VMHost
Name                               ConnectionState PowerState NumCpu CpuUsageMhz CpuTotalMhz
----
130.65.132.141                     Connected      PoweredOn  2       58          4786
130.65.132.144                     Connected      PoweredOn  2       93          4786
130.65.132.145                     Connected      PoweredOn  2       47          4786
130.65.132.142                     Connected      PoweredOn  2      2331          4786
130.65.132.143                     Connected      PoweredOn  2      112          4786

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI> Get-Template ; New-VM -VMHost 130.65.132.142 -Name T02-VM02-Ubu-Bhargav -Datastore nfs2team02_1
```

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI> Get-Template ; New-VM -VMHost 130.65.132.142 -Name T02-VM02-Ubu-Bhargav -Datastore nfs2team02_1

Name                               PowerState Num CPUs MemoryGB
----
T02-VM02-Ubu-Bhargav               PoweredOff 1         1.000

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\VMware PowerCLI>
```

Name	State	% Complete	Start Time	Finish Time
	Running	0	12:38:02 PM	
	Running	0	12:38:02 PM	

Name	Mac	DhcpEnabled	IP	SubnetMask	Device Name
vmk0	00:50:56:97:10:d4	False	130.65.132.141	255.255.254.0	vmk0
vmk0	00:50:56:97:7b:15	False	130.65.132.144	255.255.254.0	vmk0
vmk0	00:50:56:97:7b:14	False	130.65.132.145	255.255.254.0	vmk0
vmk0	00:50:56:97:10:d8	False	130.65.132.142	255.255.254.0	vmk0
vmk0	00:50:56:97:7a:ed	False	130.65.132.143	255.255.254.0	vmk0

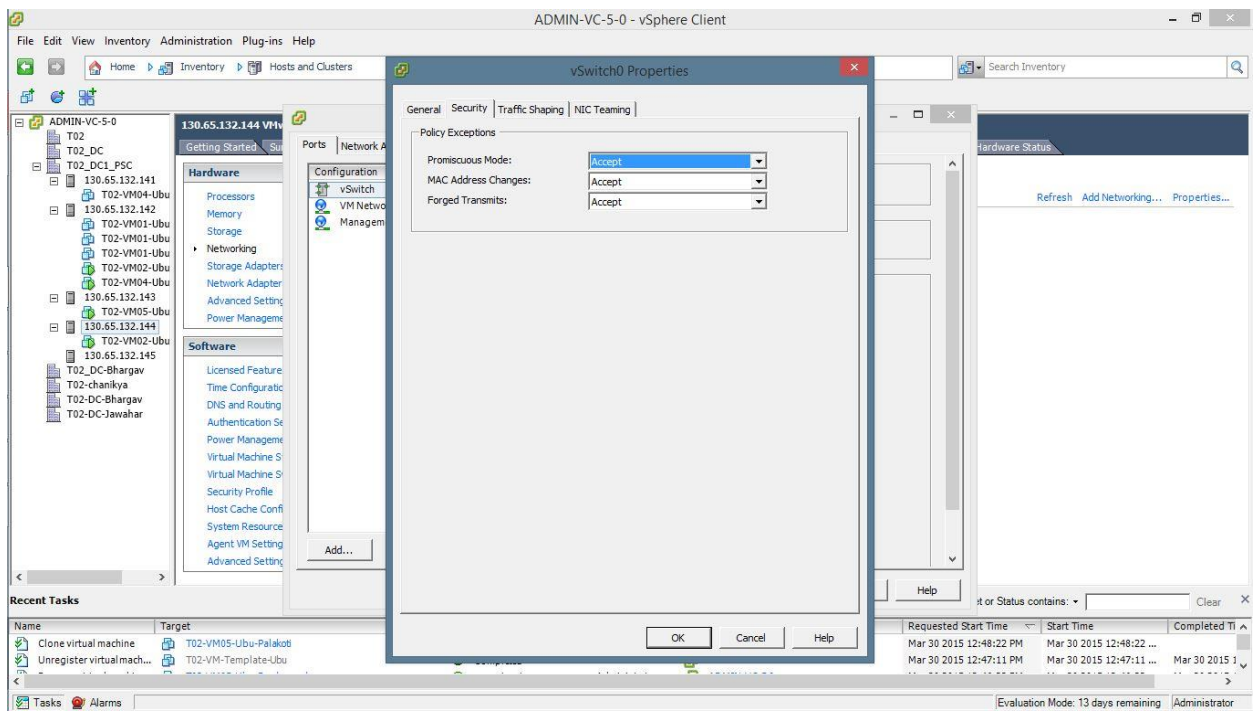
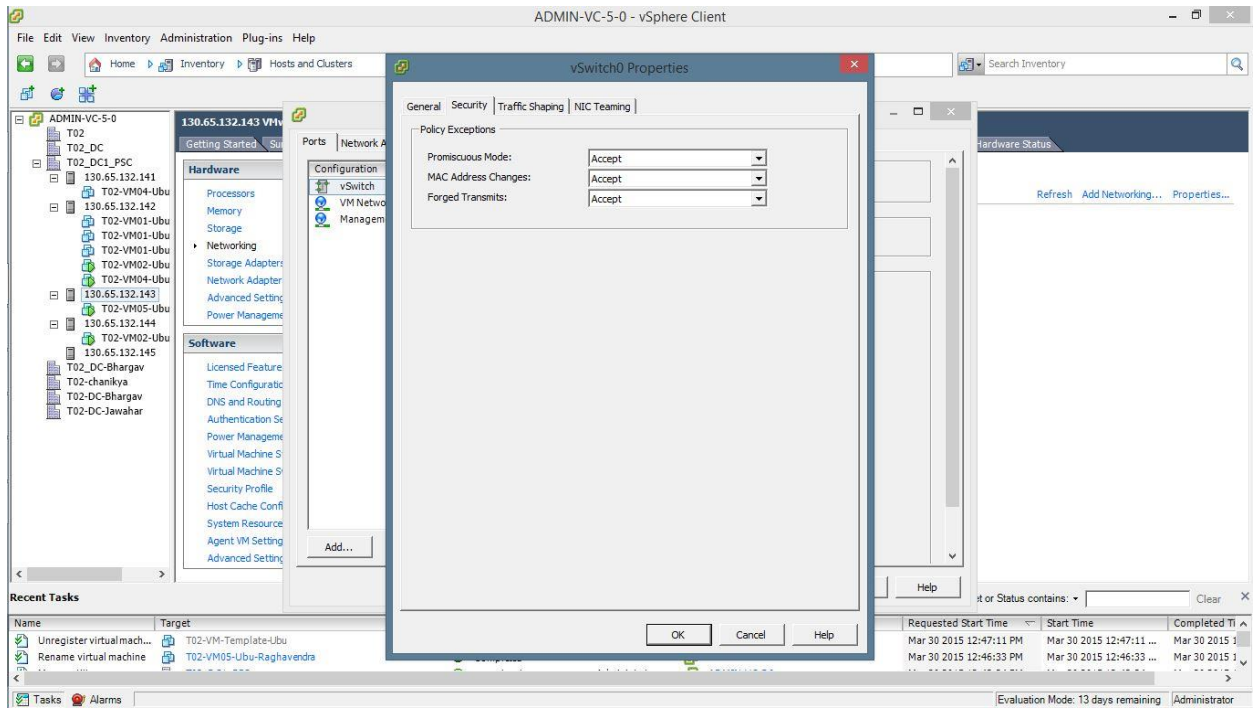
Name	ConnectionState	PowerState	NumCpu	CpuUsageMhz	CpuTotalMhz
Relocate virtual machine					
percent complete: 50					
[ooo					]

Name	PowerState	Num CPUs	MemoryGB
T02-UM02-Ubu-Bhargav	PoweredOn	1	1.000

Name	PowerState	Num CPUs	Memory (MB)
T02-UM04-Ubu-chan...	PoweredOn	1	1024

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\uSphere PowerCLI>
```





```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI> Stop-VM
-UM T02-UM04-Ubu-chanikya -Confirm:$false

Name                               PowerState Num CPUs Memory (MB)
-----
T02-UM04-Ubu-chan... PoweredOff 1          1024

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI>
```

•

•

```
VMware vSphere PowerCLI 6.0 Release 1
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI> Get-VM

Remove-VM
percent complete: 0
[ ]

T02-VM01-Ubu-Jaw-... PoweredOff 1          1.000
T02-VM04-Ubu-Jaw    PoweredOff 1          1.000
T02-VM04-Ubu-Raghav PoweredOn  1          1.000
T02-VM01-Ubu-Jaw-... PoweredOff 1          1.000
T02-VM05-Ubu-Rag    PoweredOn  1          1.000
T02-VM02-Ubu-Bhargav PoweredOn  1          1.000

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI> Remove-VM
M T02-VM02-Ubu-Bhargav -Confirm:$false
```

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI> Get-Datacenter

Name
-----
T02-DC-Bhargav
T02-DC-Jawahar
T02-chanikya
T02
T02_DC-Bhargav
T02_DC
T02_DC1_PSC

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI> Remove-Datacenter T02_DC-Bhargav

Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-Datacenter" on target "Datacenter
'T02_DC-Bhargav'".
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help
(default is "Y"):Y
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vSphere PowerCLI>
```

•

```

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Get-Data
center
Name
----
T02-DC-Bhargav
T02-DC-Jawahar
T02-chanikya
T02
T02_DC-Bhargav
T02_DC
T02_DC1_PSC

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Remove-D
atcenter T02_DC-Bhargav

Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-Datacenter" on target "Datacenter
'T02_DC-Bhargav'".
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help
<default is "Y">:Y
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Get-Data
center
Name
----
T02-DC-Bhargav
T02-DC-Jawahar
T02-chanikya
T02
T02_DC
T02_DC1_PSC

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI>

```

### Phase 3:

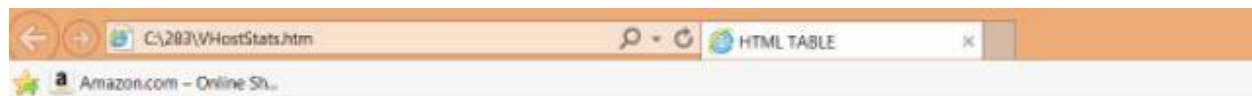
```

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Remove-Datacenter T02-Rag

Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-Datacenter" on target "Datacenter 'T02-Rag'".
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "Y"): Y_

```





Name	NumCpu	MemoryUsageGB	Version	ConnectionState	PowerState	CpuUsageMhz	CpuTotalMhz
130.65.132.141	2		5.0.0	Connected	PoweredOn	27	4786
130.65.132.142	2		5.0.0	Connected	PoweredOn	30	4786
130.65.132.143	2		5.0.0	Connected	PoweredOn	27	4786

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Get-UHost | Select-Object *Property Name, NumCpu, MemoryUsageGB, Version, ConnectionState, PowerState, CpuUsageMhz, CpuTotalMhz | ConvertTo-Html | Out-File "C:\283\UHostStats.htm"
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> _

PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Get-VM | Select-Object *Property Name, Host, NumCpu, MemoryGB, PowerState, NetworkAdapters | ConvertTo-Html | Out-File "C:\283\VMStats.htm"
WARNING: 'Host' property is obsolete. Use 'UHost' instead.
WARNING: 'NetworkAdapters' property is obsolete. Use 'Get-NetworkAdapter' cmdlet instead.
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> _
```



Name	Host	NumCpu	MemoryGB	PowerState	NetworkAdapters
T02-VM01-Ubu-Jaw	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]
T02-VM01-Ubu-Jaw-Clone2	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]
T02-VM04-Ubu-Jaw	130.65.132.141	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]
T02-VM07-Ubu-Palakoti	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]
T02-VM01-Ubu-Jaw-Clone	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]
T02-VM05-Ubu-Cha	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]

```
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> Get-VM | Select-Object *Property Name, Host, NumCpu, MemoryGB, PowerState, NetworkAdapters | Export-Csv "C:\283\VMStats.htm"
PowerCLI C:\Program Files (x86)\VMware\Infrastructure\vsphere PowerCLI> _
```



Windows (C:) 283

Name	Date modified	Type	Size
VMStats.csv	3/28/2015 9:12 PM	Microsoft Excel Co...	1 KB
VMStats.htm	3/28/2015 9:11 PM	HTML Document	3 KB
VHostStats.htm	3/28/2015 9:10 PM	HTML Document	2 KB
VHostStats.csv	3/28/2015 9:08 PM	Microsoft Excel Co...	1 KB
New Microsoft Excel Worksheet.xlsx	3/27/2015 10:24 PM	Microsoft Excel W...	7 KB

FILE

HOME

INSERT

PAGE LAYOUT

FORMULAS

DATA

REVIEW

VIEW

Cut

Copy

Paste

Format Painter

Clipboard

Calibri

11

A<sup>+</sup>

A<sup>-</sup>

B

I

U

Text Color

Background Color

Font

Wrap Text

Alignment

General

Number

Conditional Formatting

Format as Table

Normal

Bad

Neutral

Calculation

Styles

A1

#TYPE Selected.VMware.VimAutomation.ViCore.Impl.V1.Inventory.VirtualMachineImpl

	A	B	C	D	E	F	G
1	#TYPE Selected.VMware.VimAutomation.ViCore.Impl.V1.Inventory.VirtualMachineImpl						
2	Name	Host	NumCpu	MemoryGi	PowerState	NetworkAdapters	
3	T02-VM01-Ubu-Jaw	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]	
4	T02-VM01-Ubu-Jaw-Clone2	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]	
5	T02-VM04-Ubu-Jaw	130.65.132.141	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]	
6	T02-VM07-Ubu-Palakoti	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]	
7	T02-VM01-Ubu-Jaw-Clone	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]	
8	T02-VM05-Ubu-Cha	130.65.132.142	1		PoweredOff	VMware.VimAutomation.ViCore.Types.V1.VirtualDevice.NetworkAdapter[]	
9							
10							