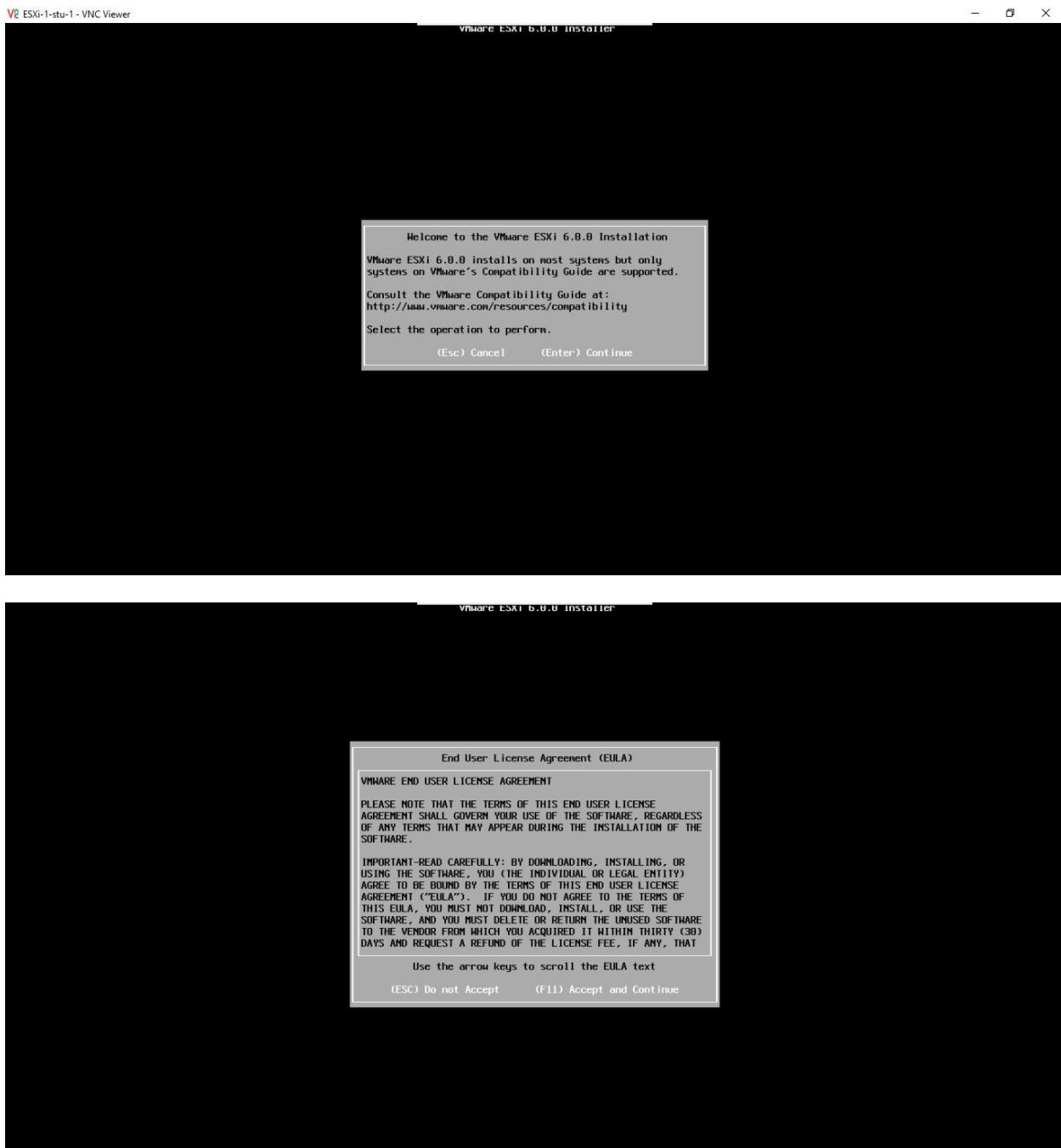
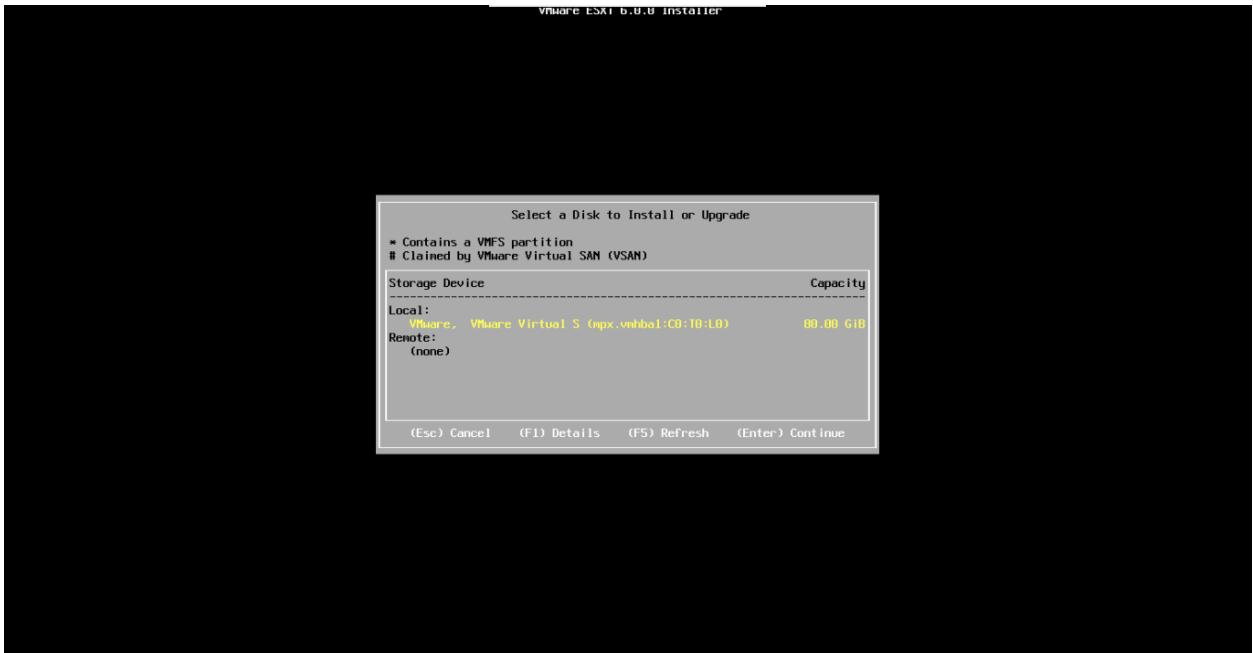
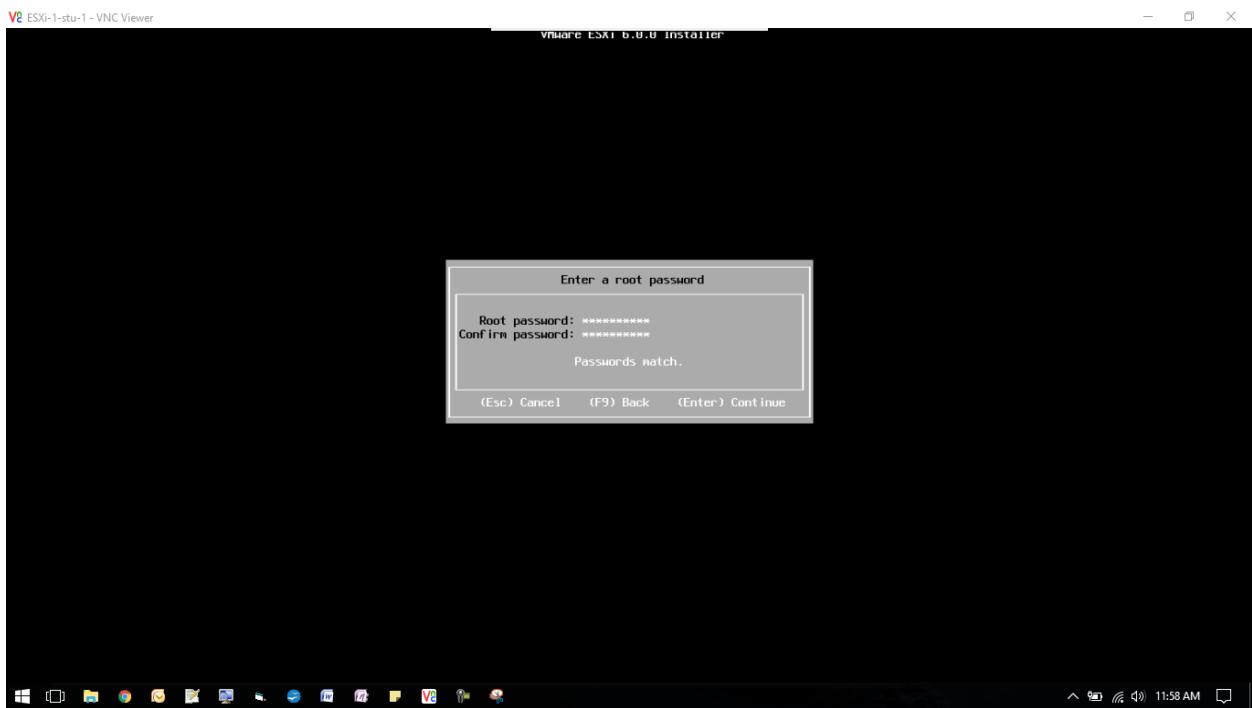
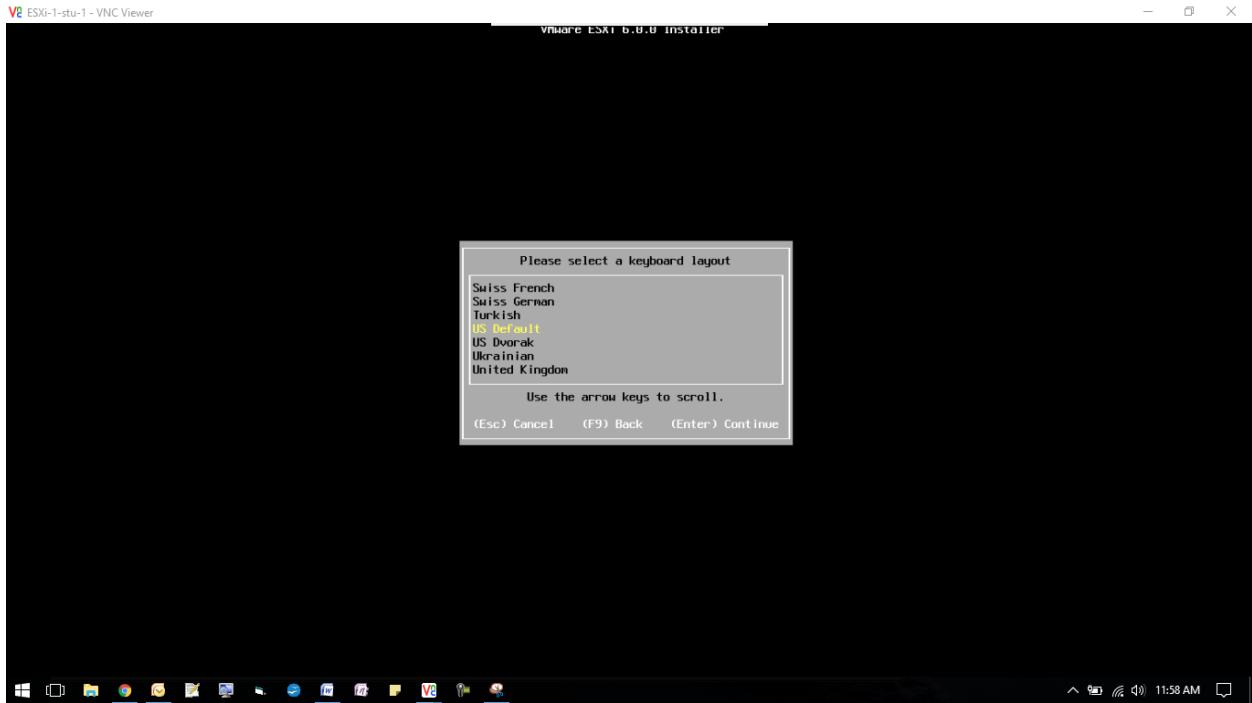


VMWare ESXi 6.0 Installation & Configuration

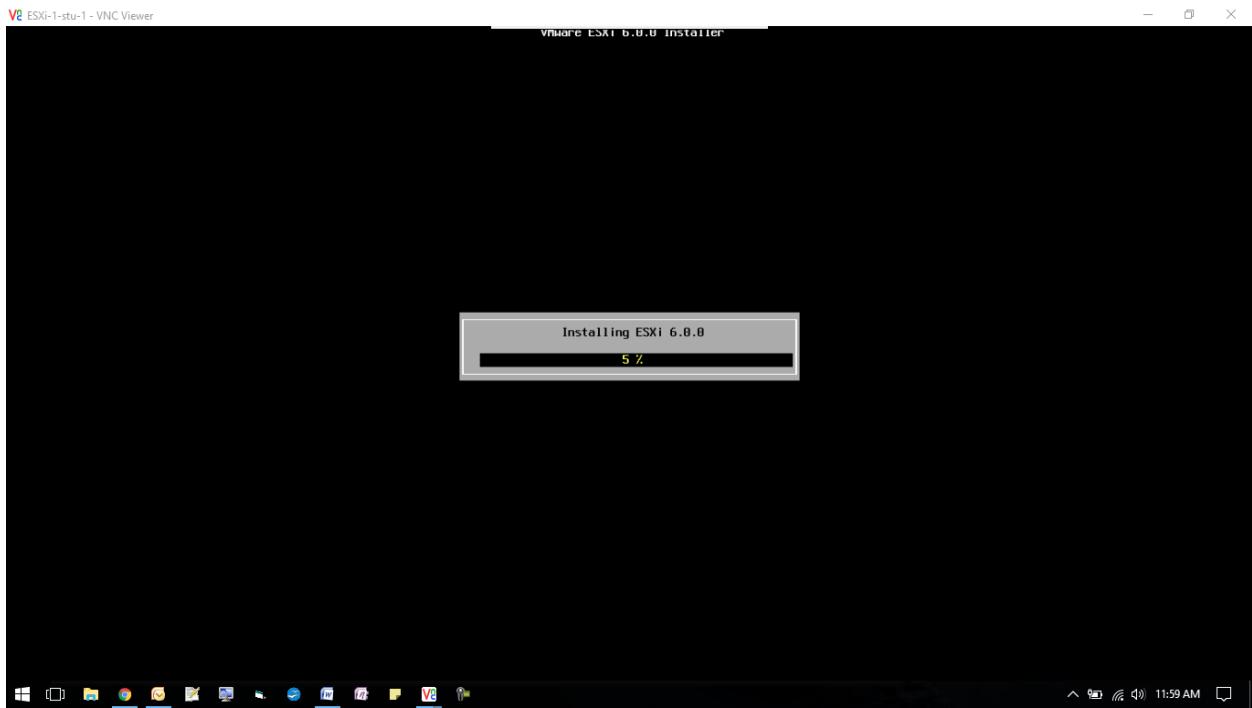
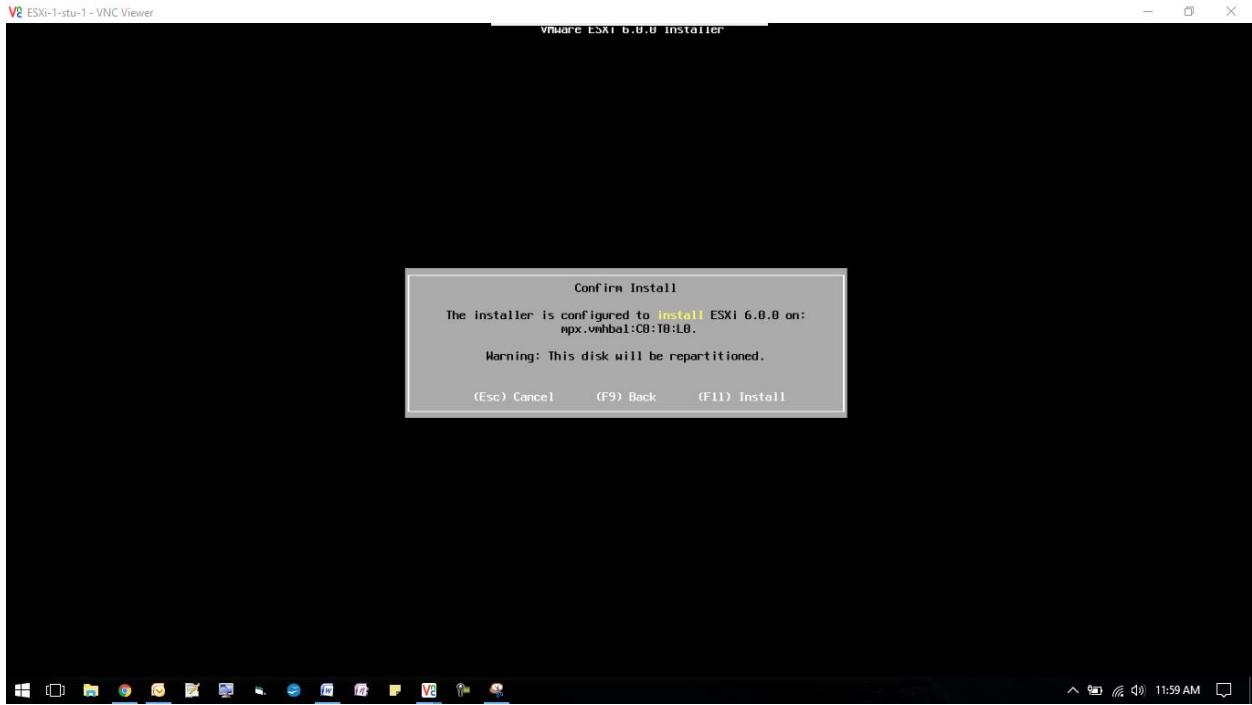




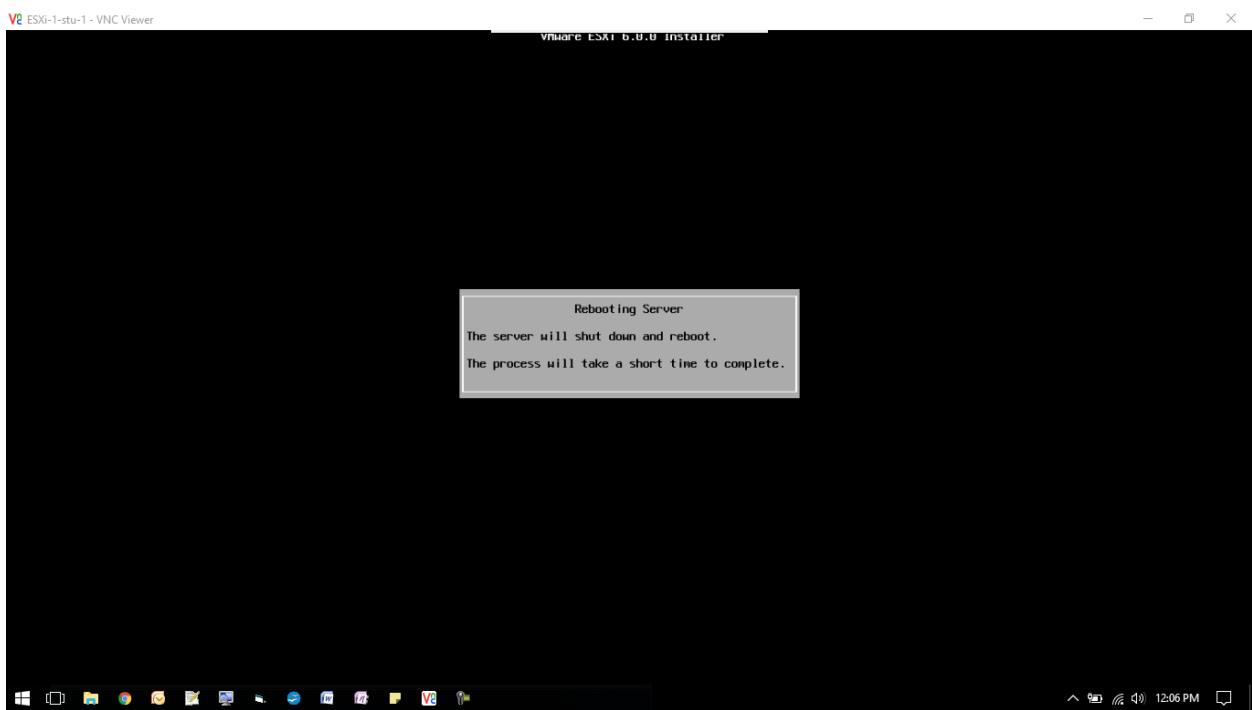
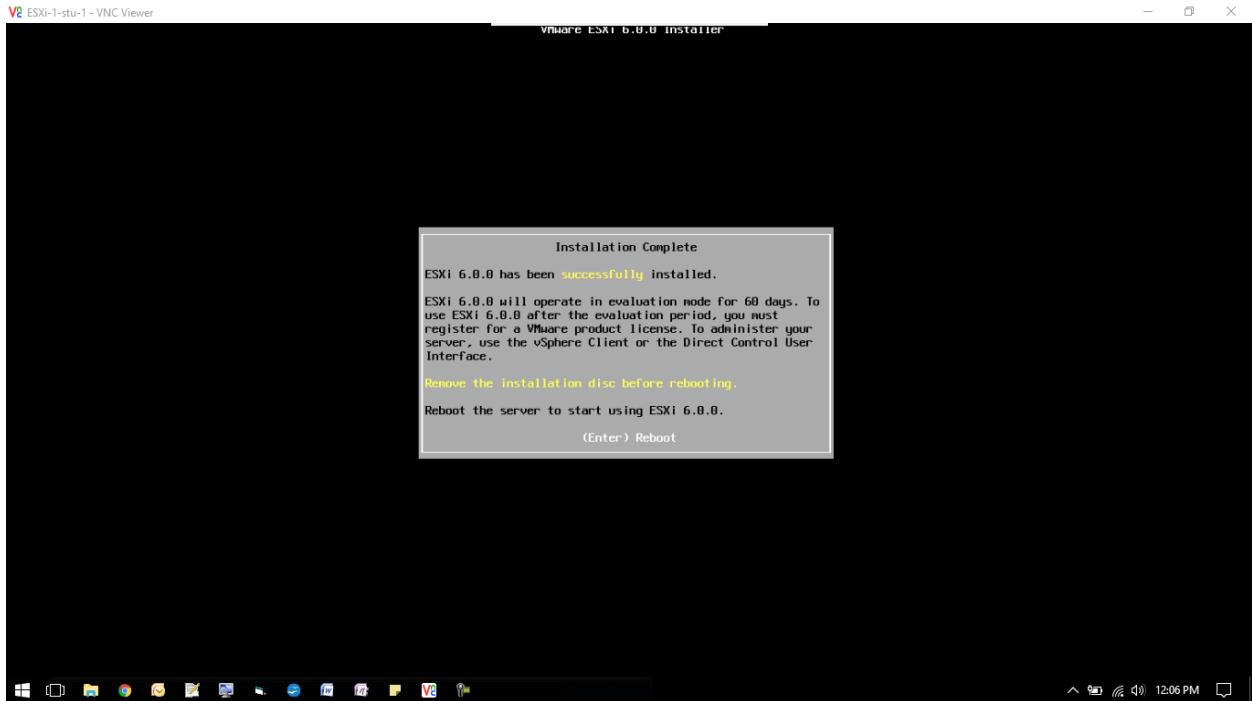
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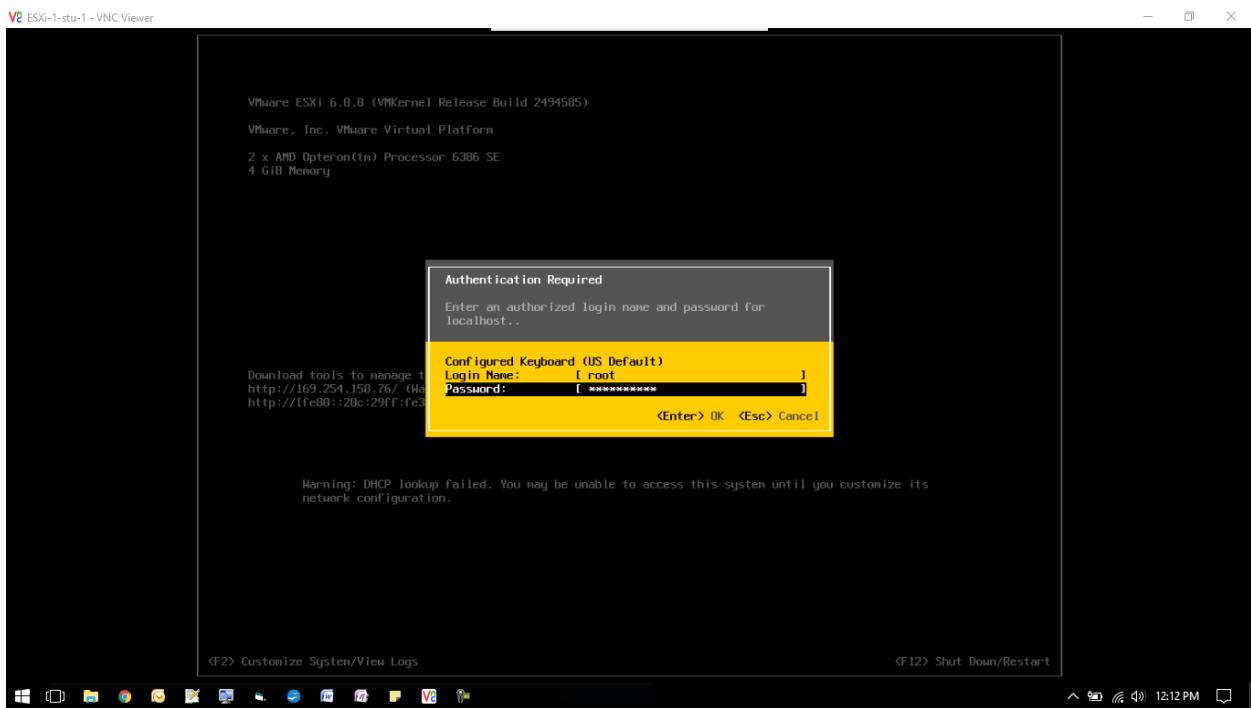
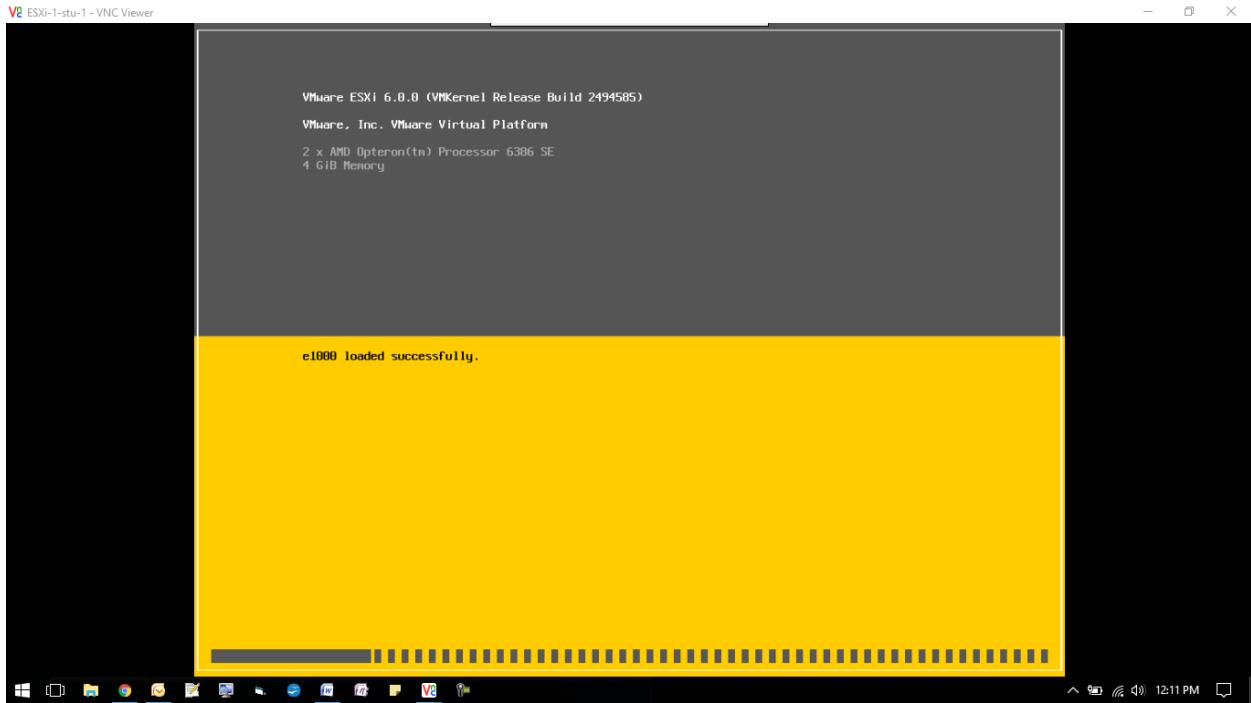
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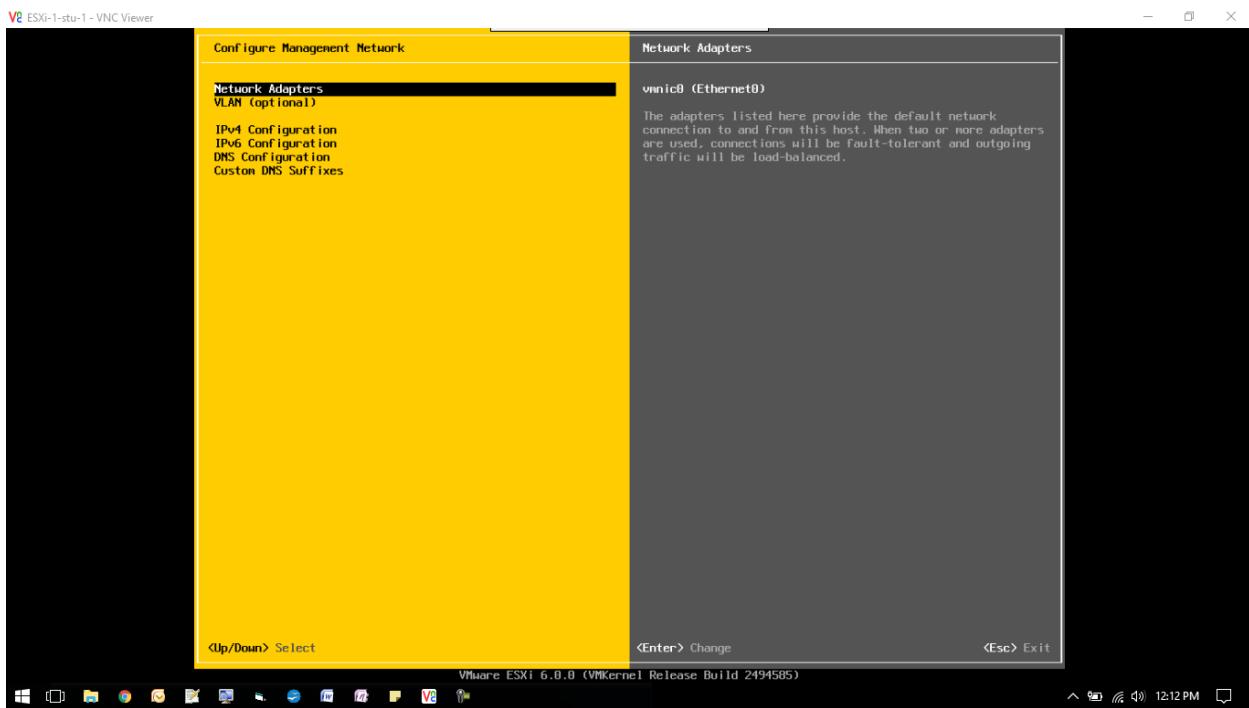
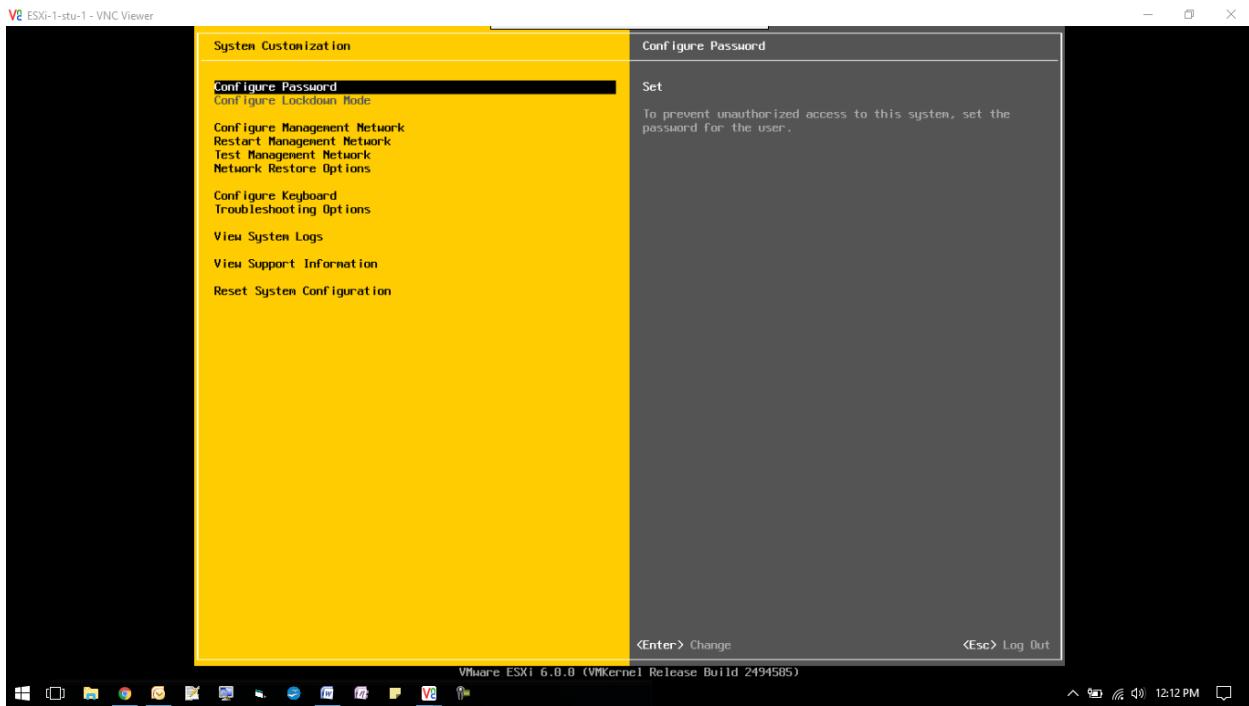
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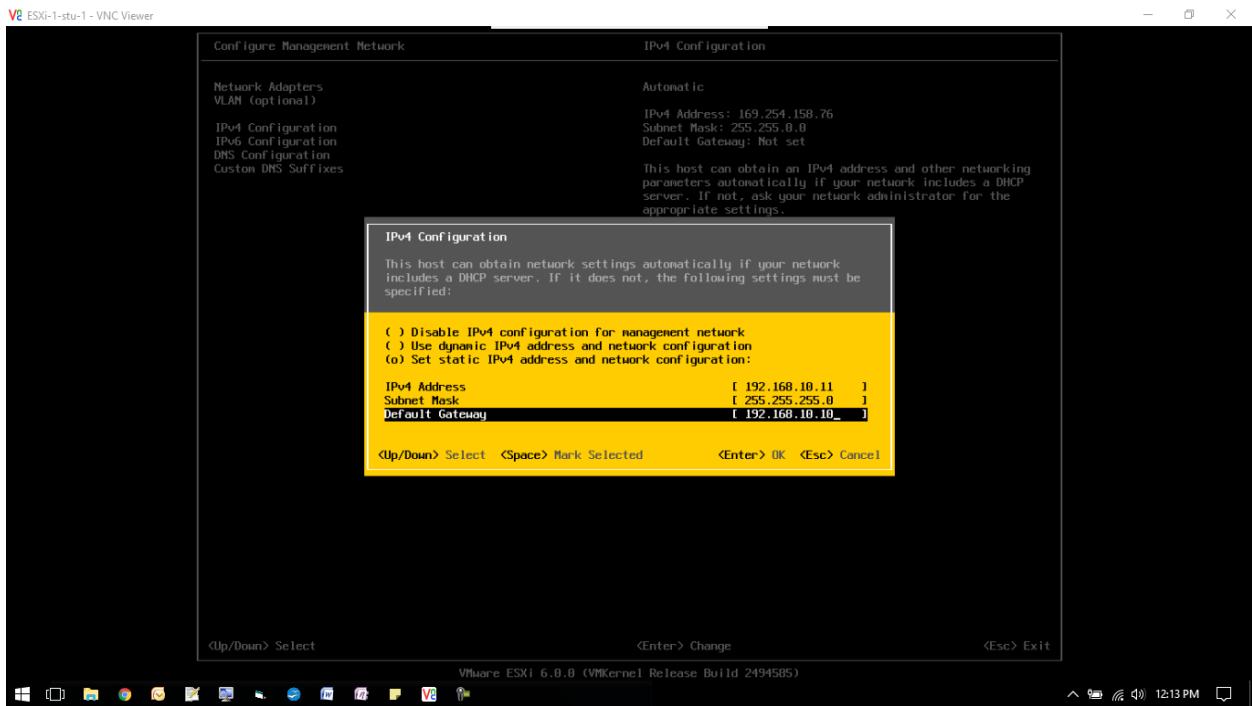
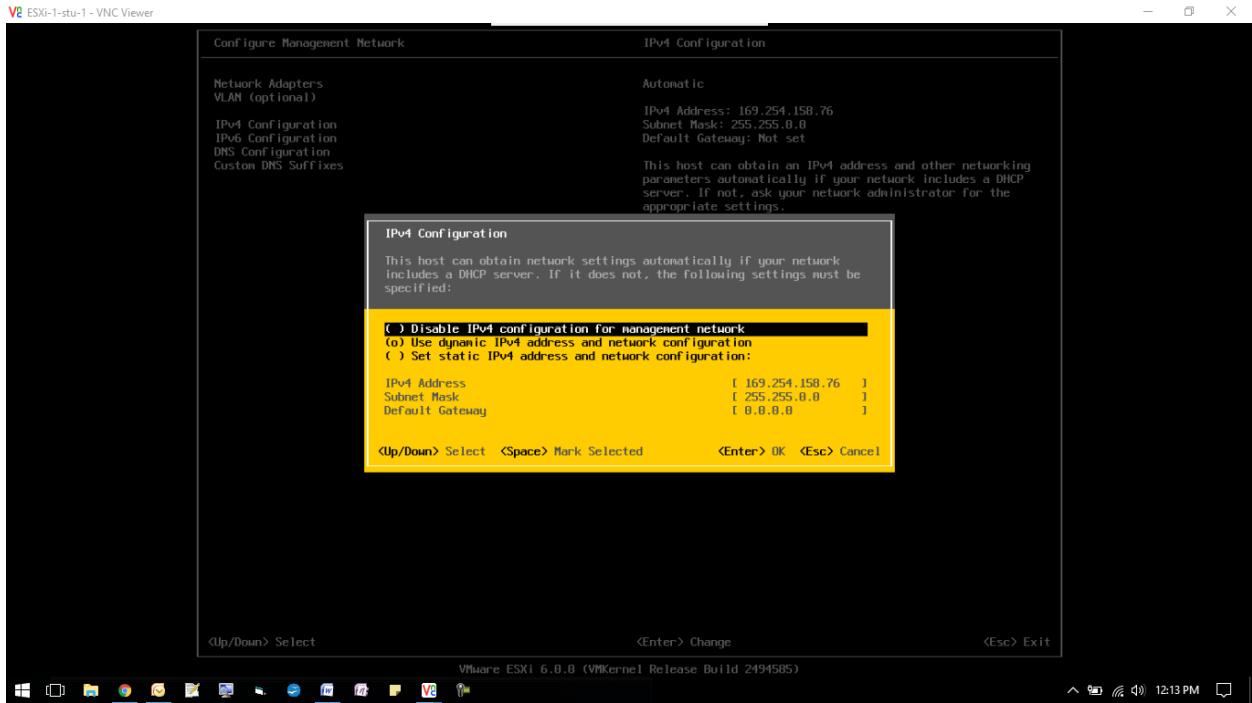
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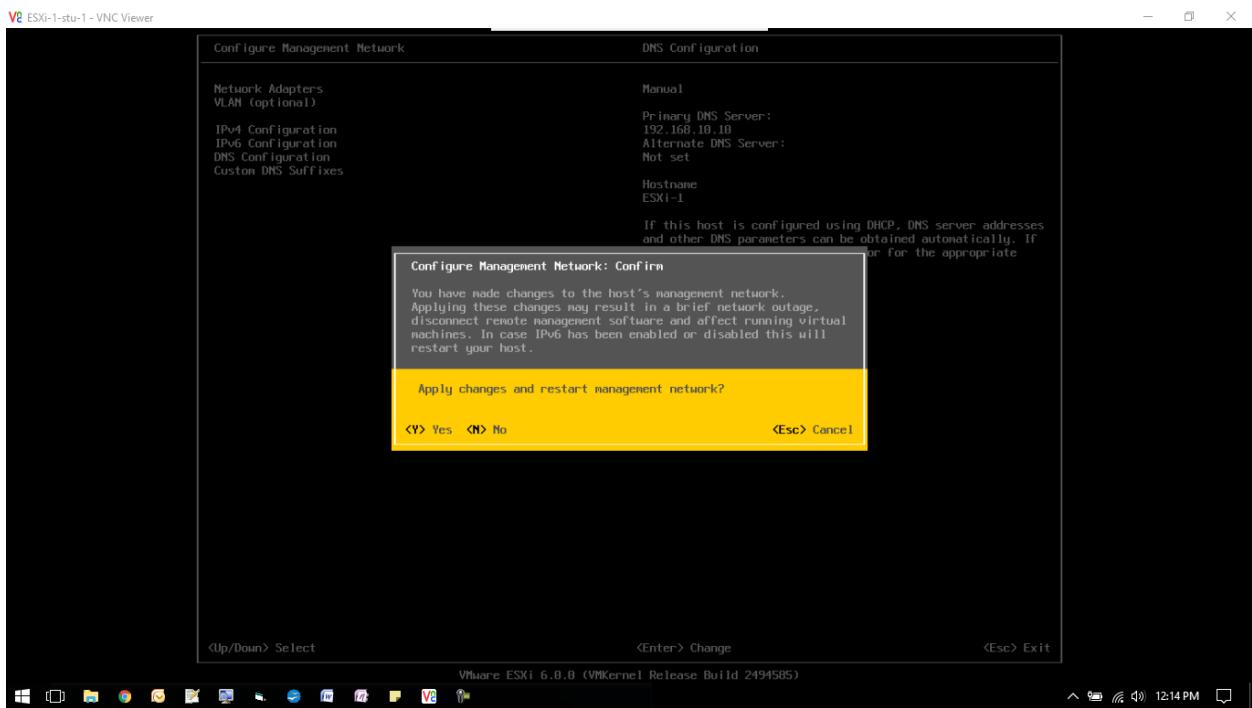
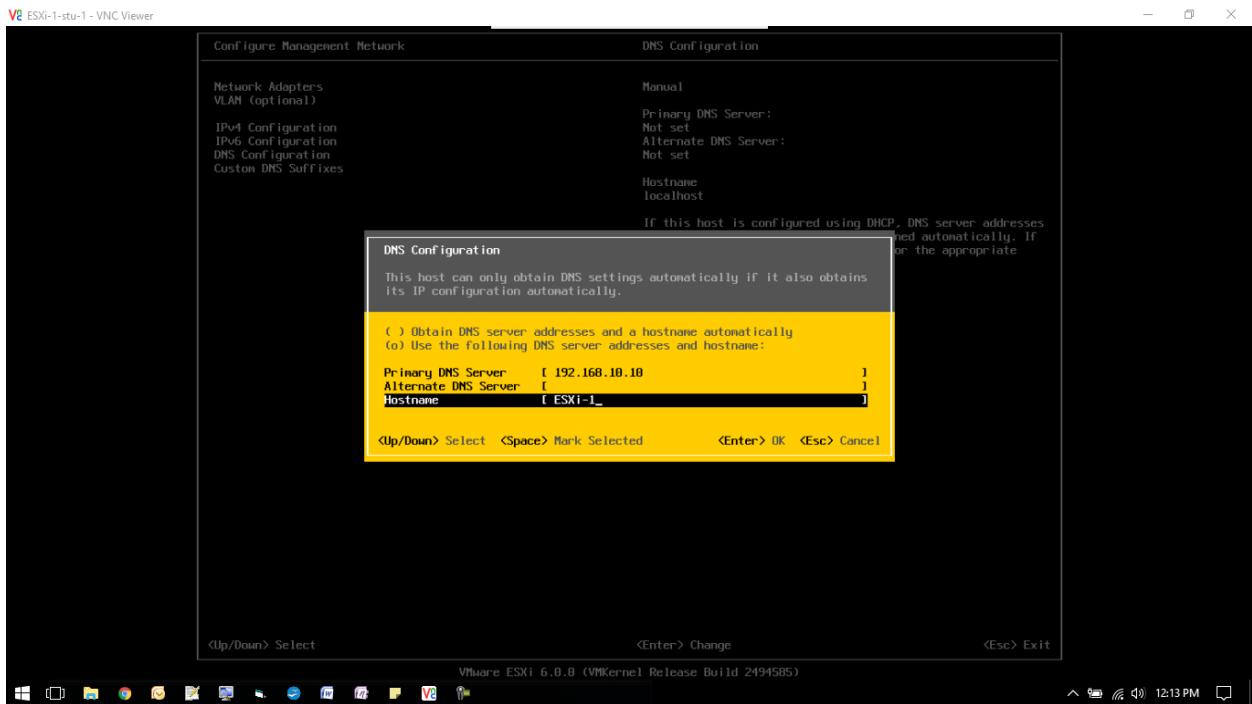
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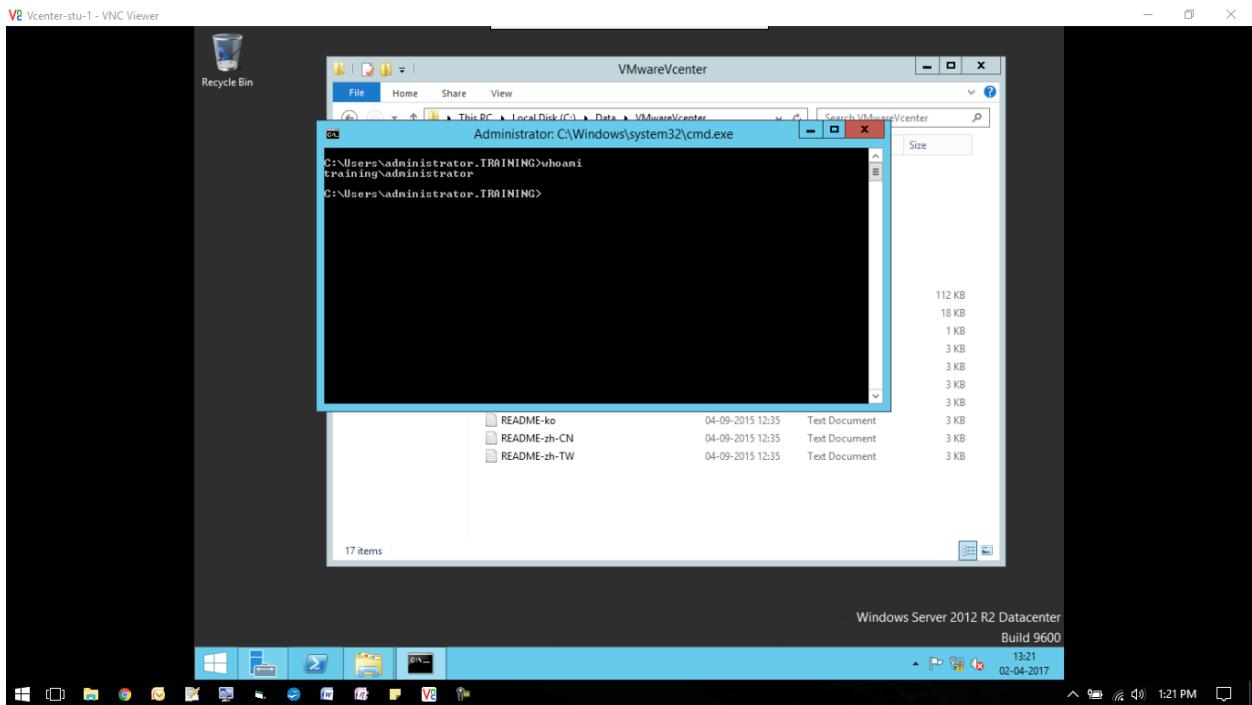
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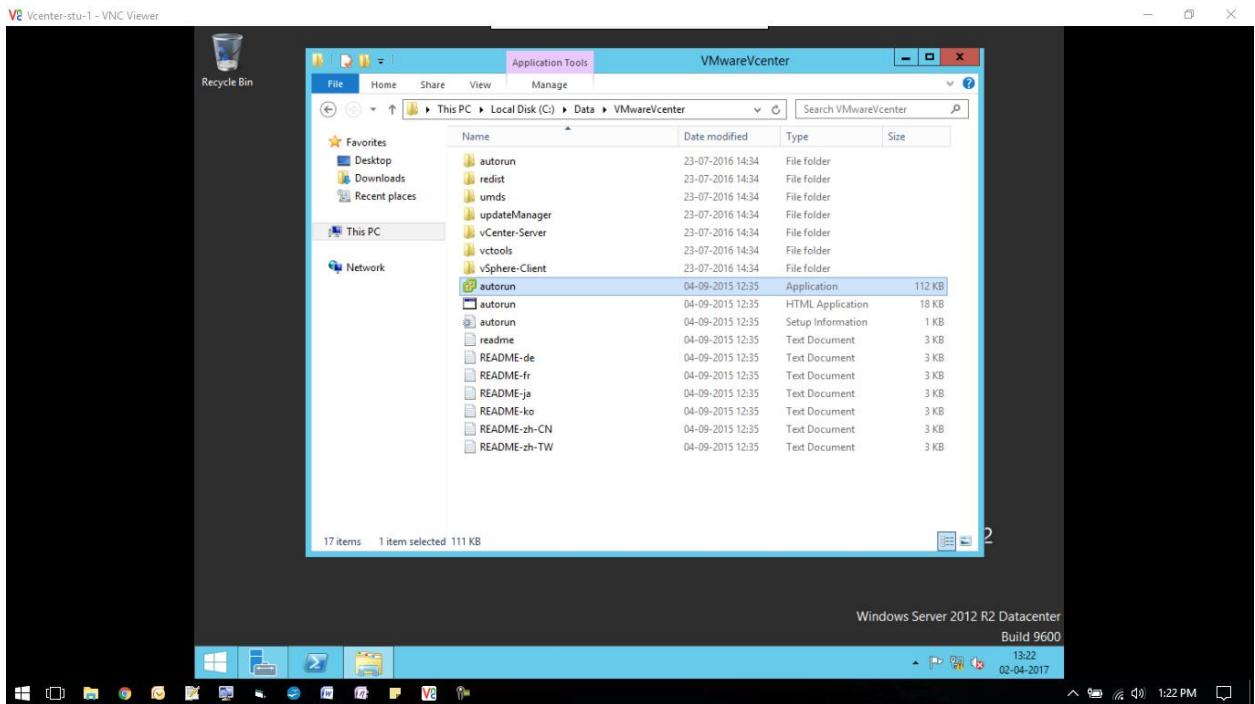
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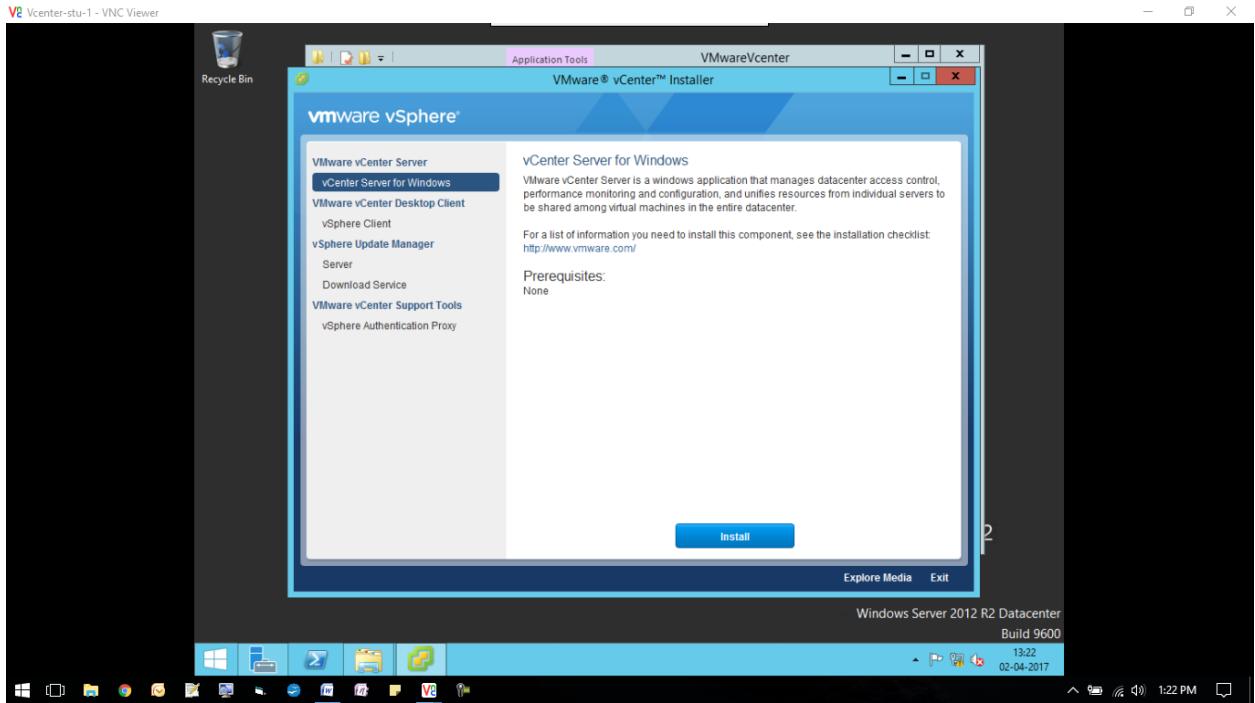
vCenter Installation



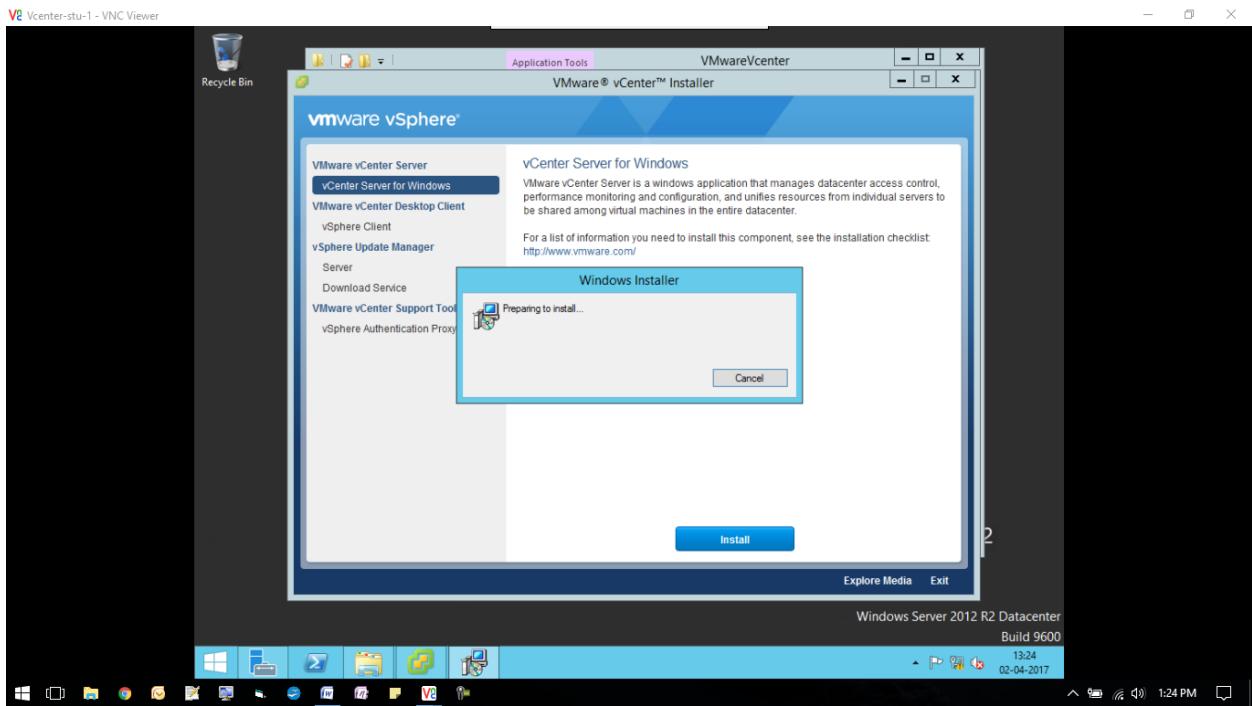
In vCenter login with DOMAIN admin, as vCenter must be domain joined.



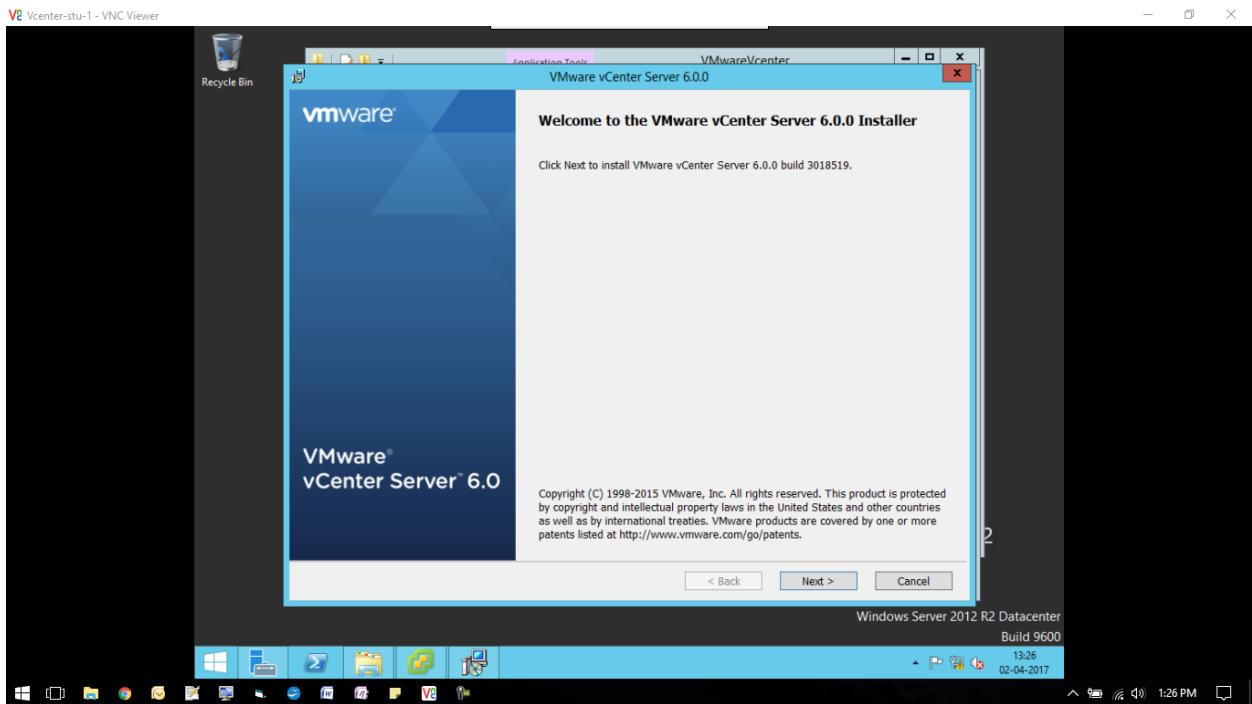
Click on “autorun” setup to start the installation of vCenter.



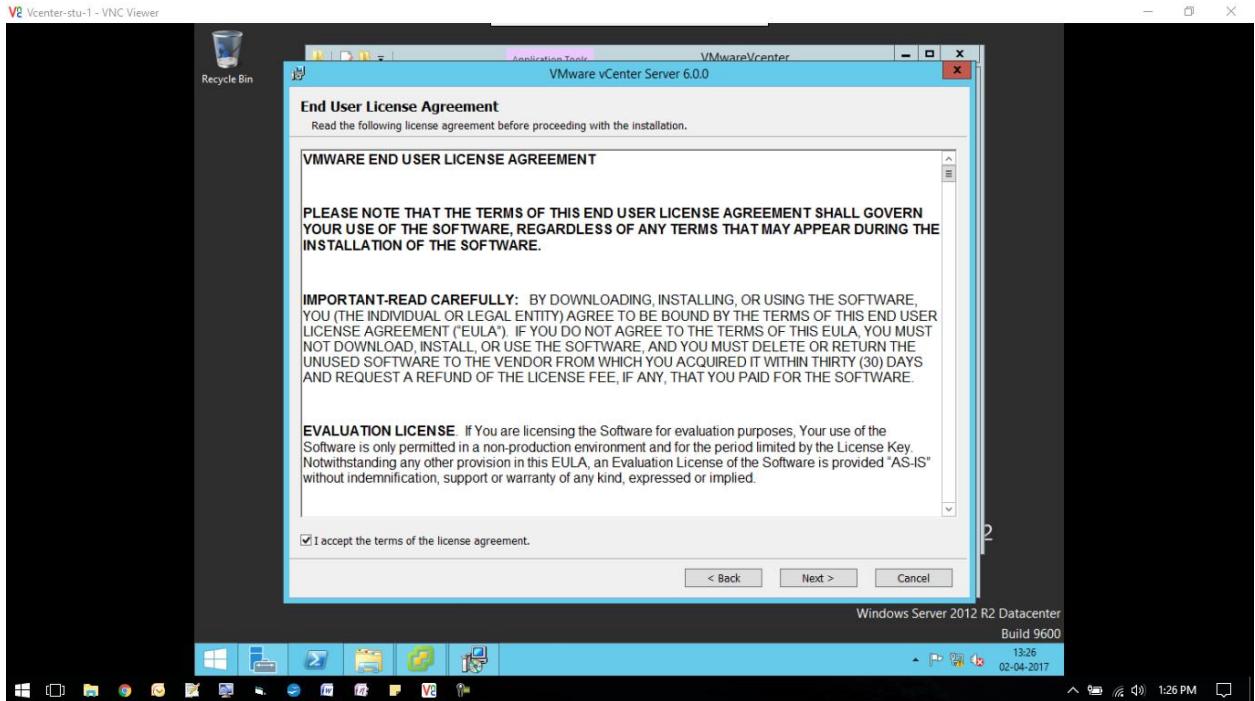
Click on INSTALL.



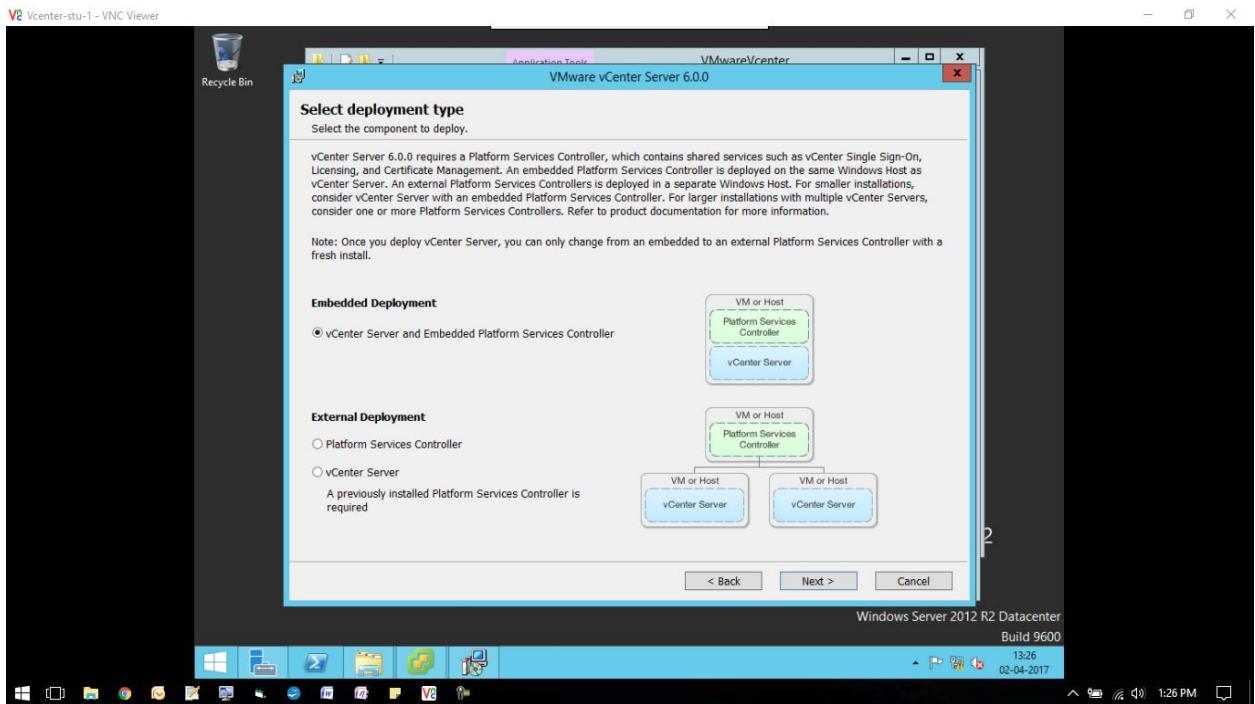
Wait for the page to get loaded.



Click on NEXT, to continue.

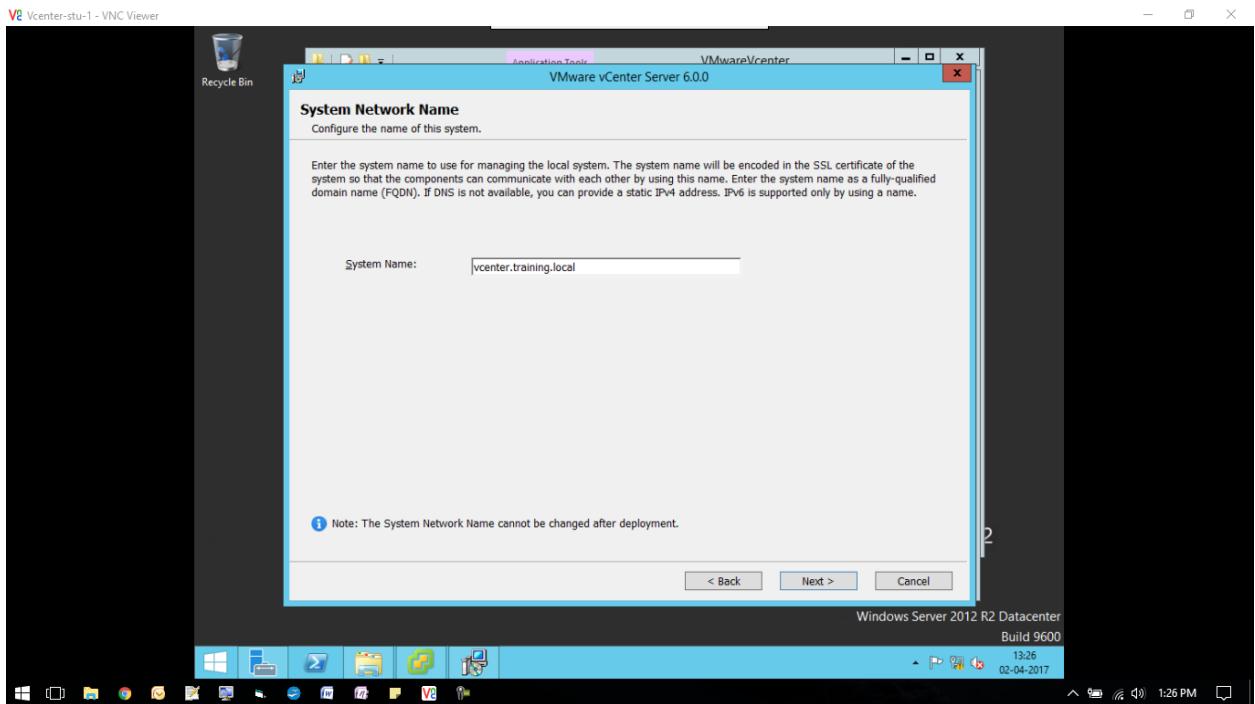


ACCEPT the license agreement.

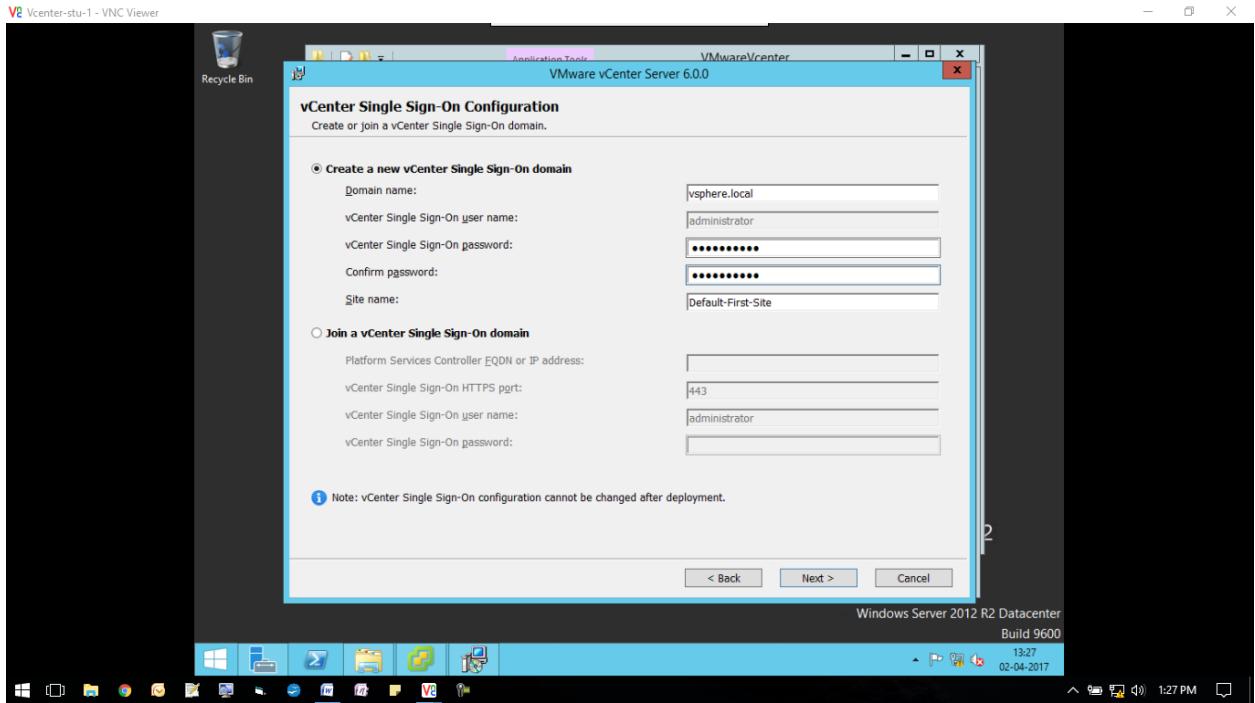


If you have already installed vCenter server in your environment, select "**External Deployment**"

Else select "**Embedded deployment**", for a fresh vCenter server.

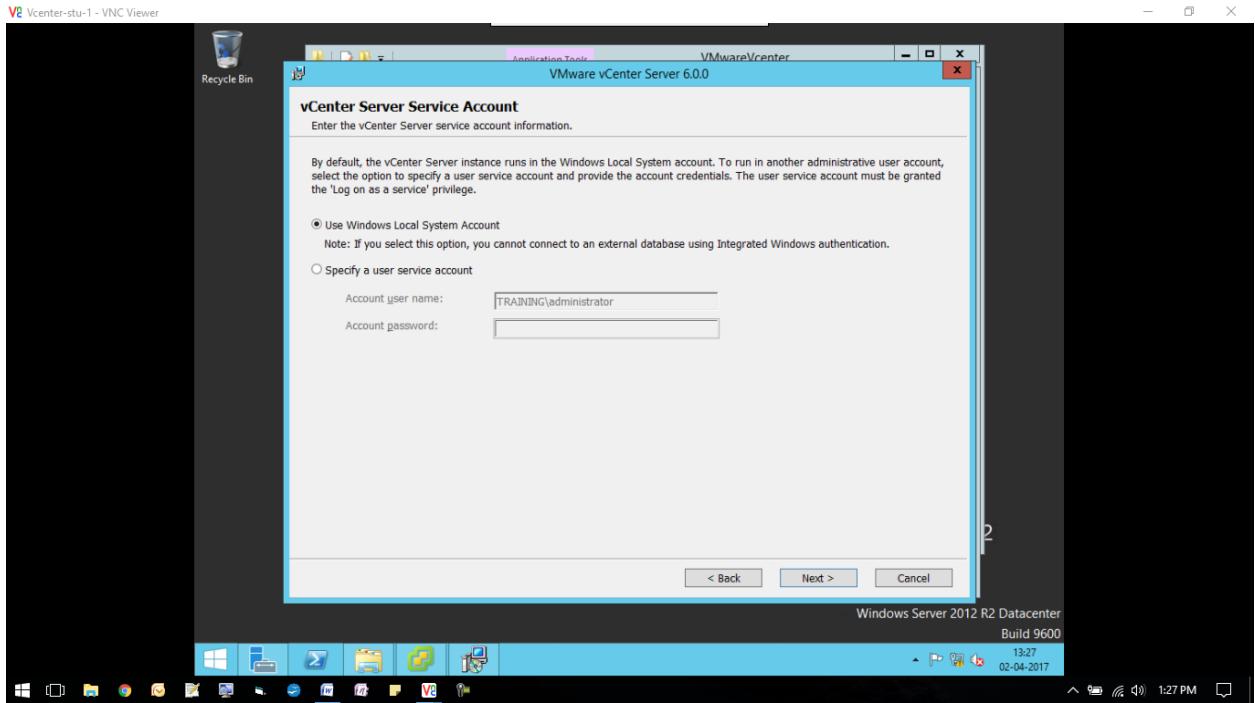


Give the domain name for your vCenter.

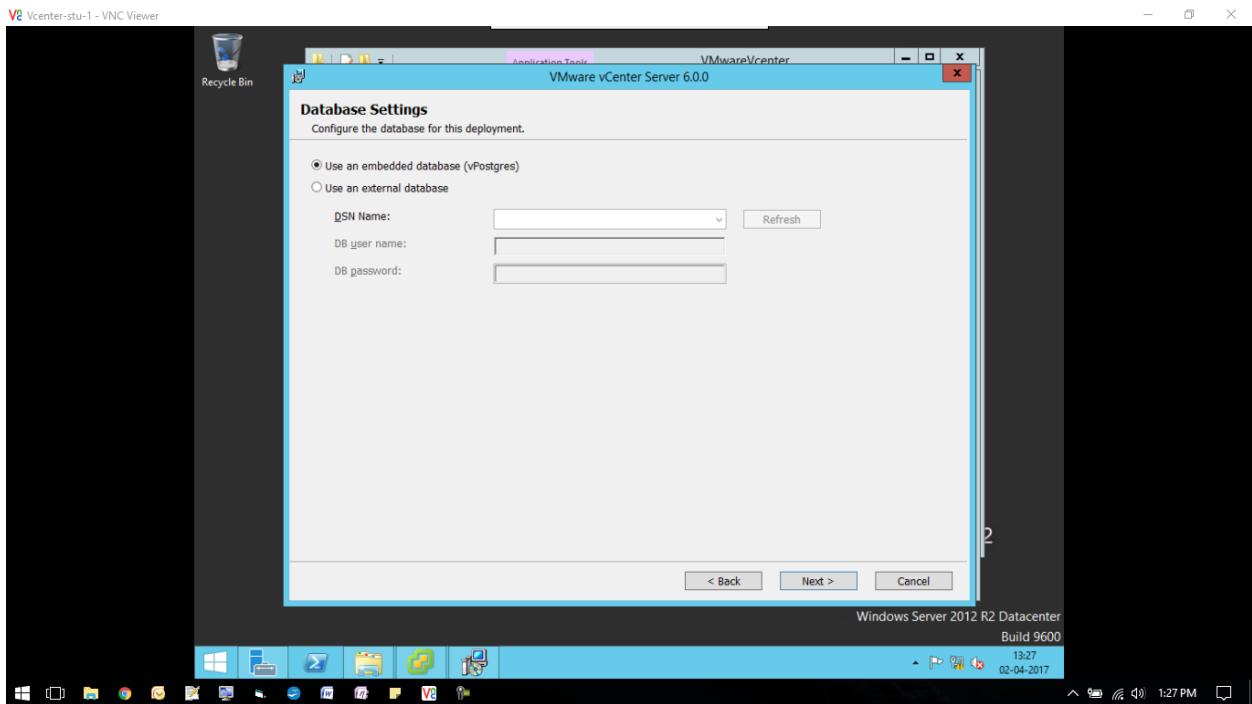


If already you have a running SSO service in your environment, provide its credentials,

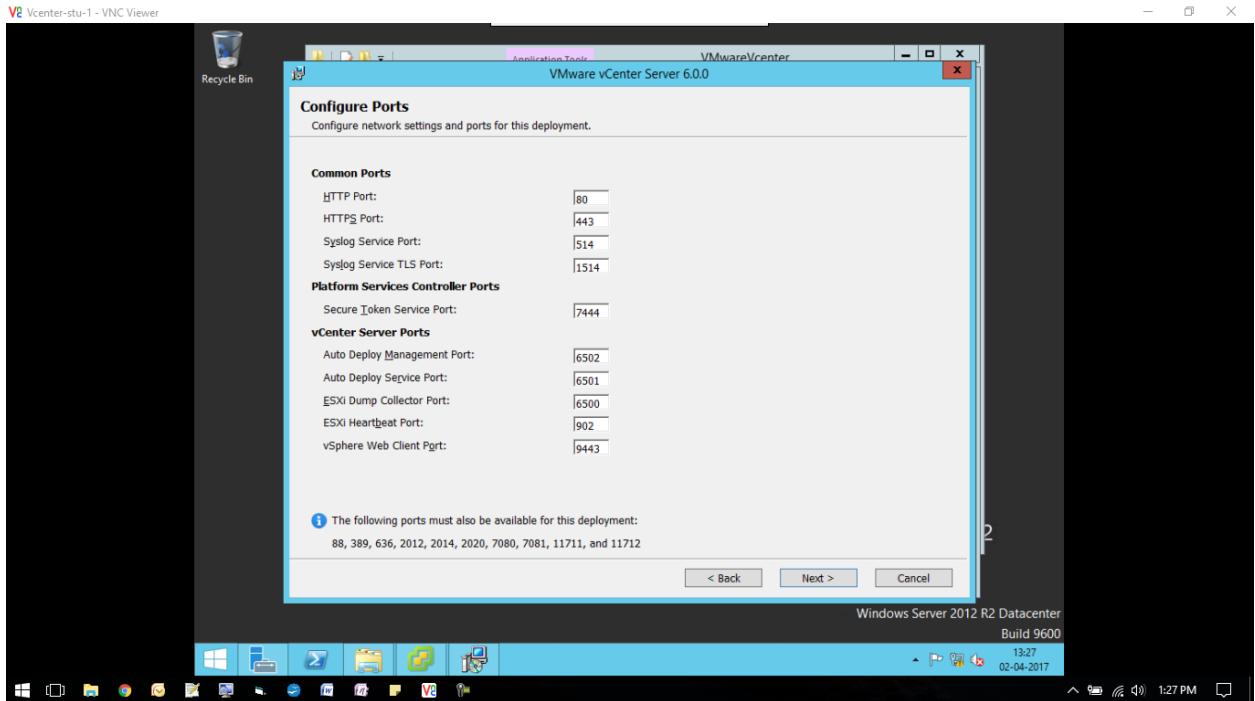
Else click on “**create a new vCenter SSO**” & give proper details.



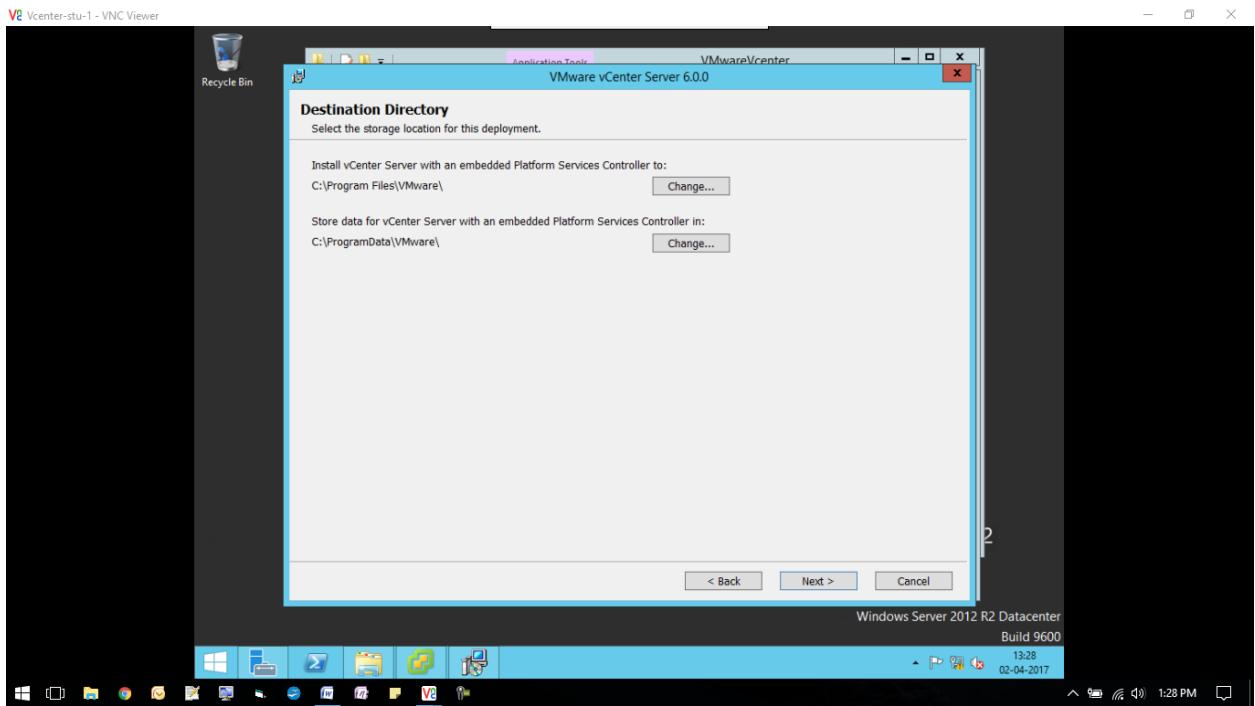
1. Select “use windows local system account” → when you want to allow default domain admin to manage vCenter services.
2. Select “specify a user service account” → when you want only **specific** user to manage all the services of vCenter server, which can be done by creating a identical copy of admin with different name for security reasons.



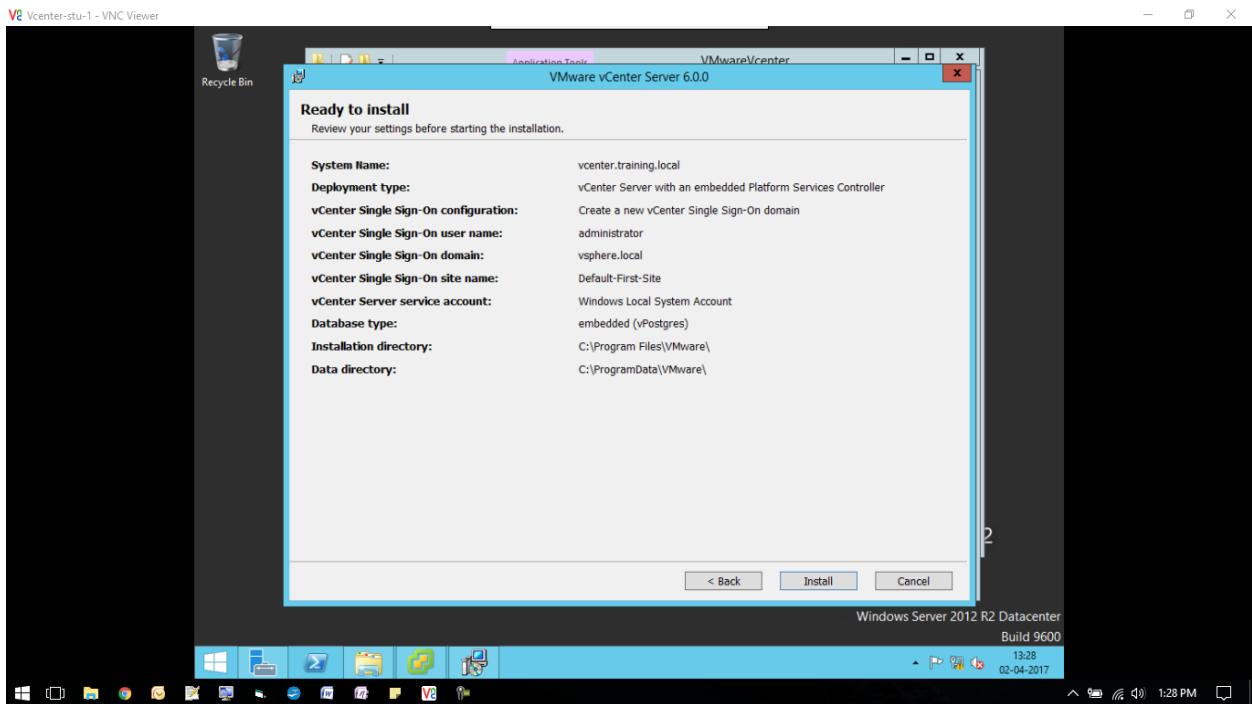
1. Select “use an embedded database” →
2. Select “use an external database” →



Save all specified port numbers for management purpose & click next.

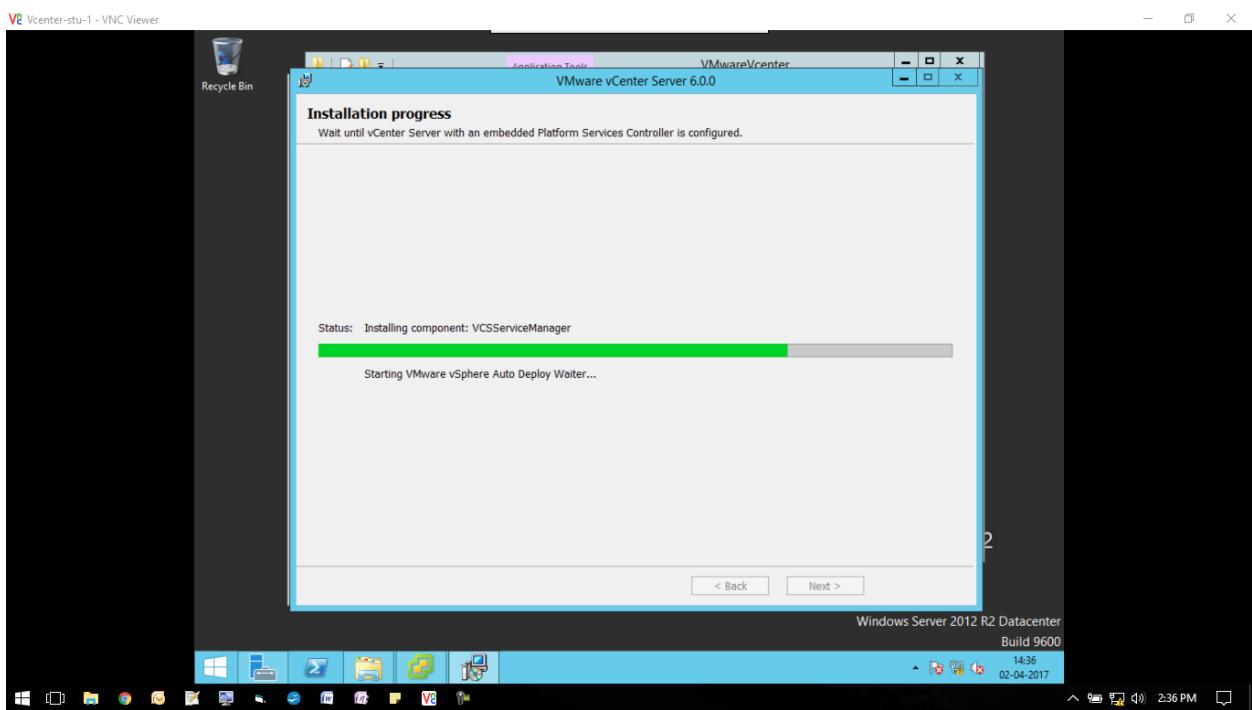
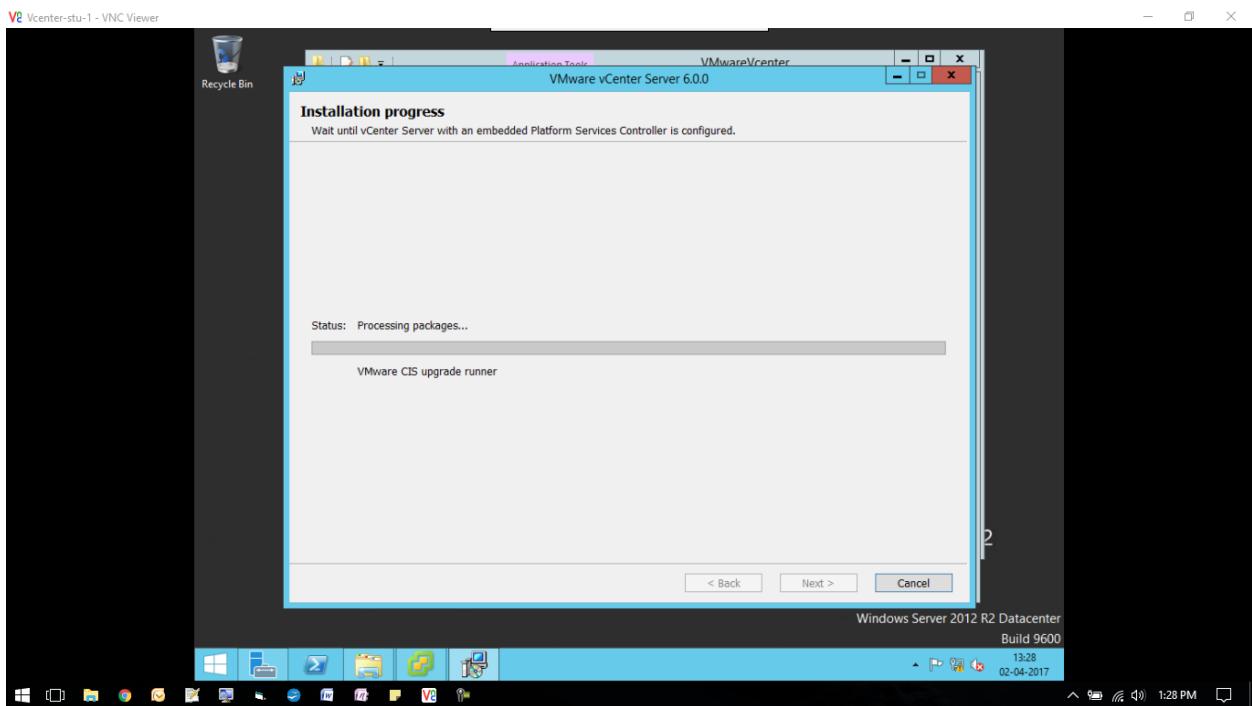


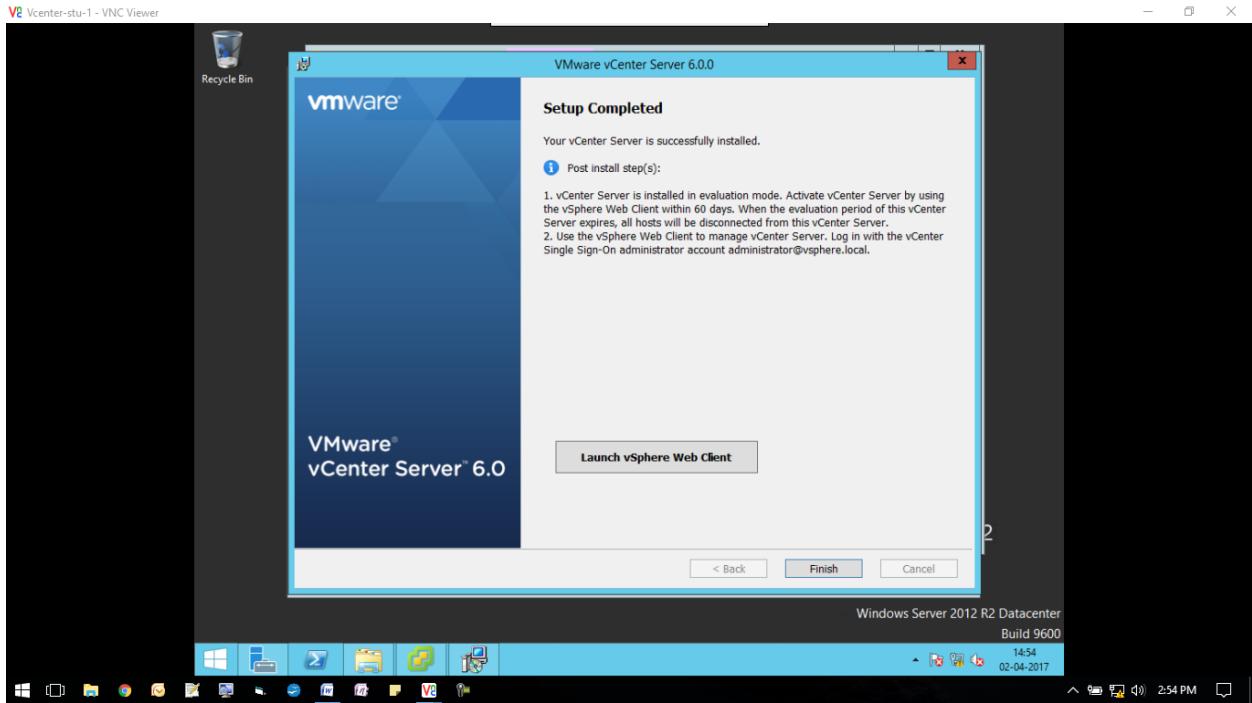
Select destination directories for deployment.



Cross check all the configuration and click on install.

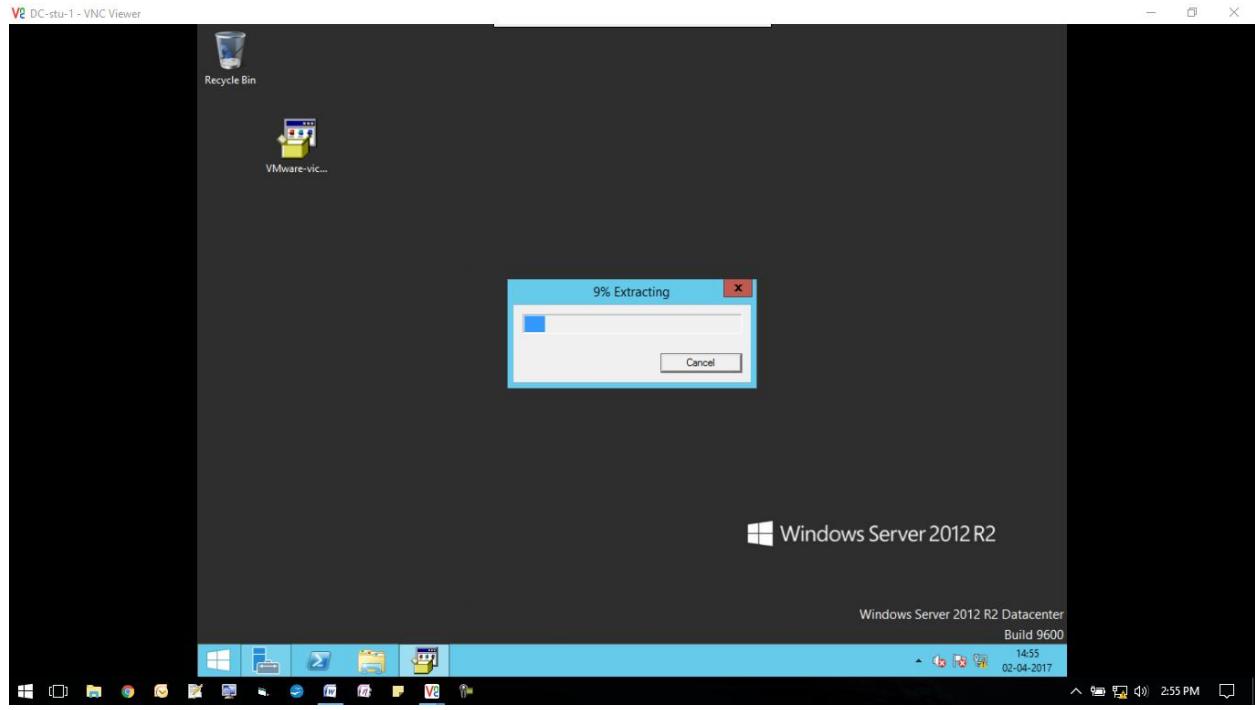
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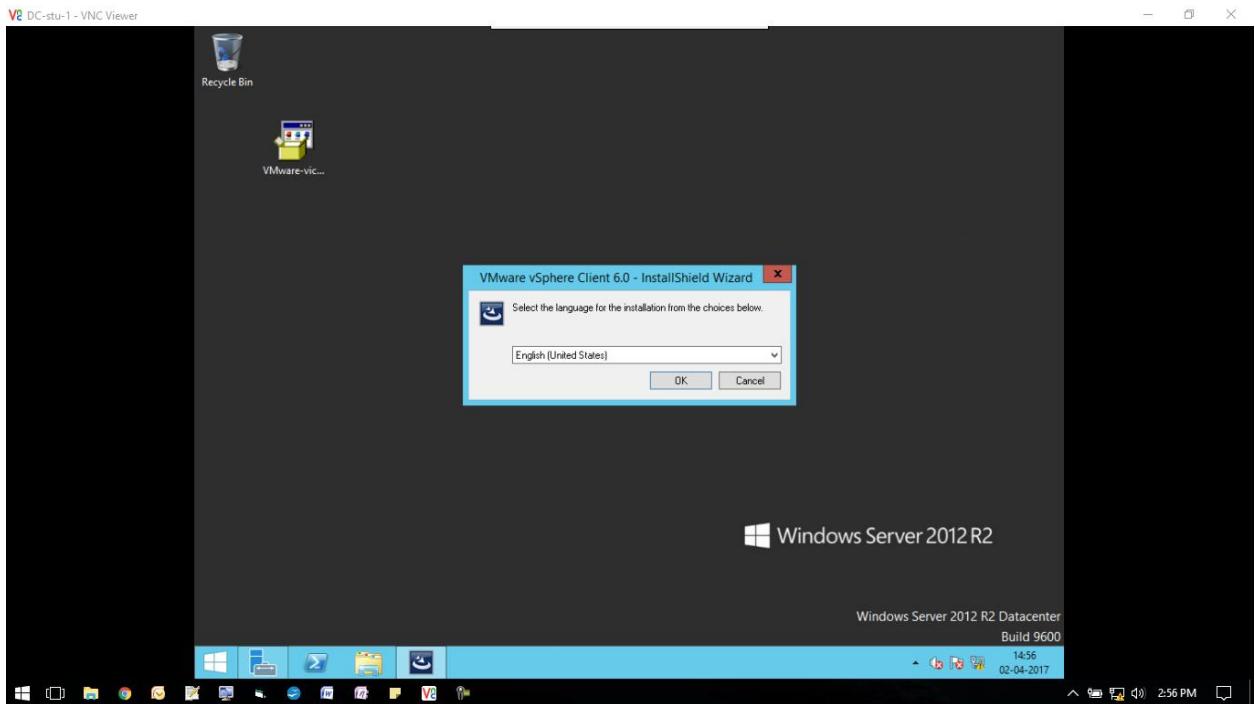


To launch vSphere web client, click on the button else click finish.

VMWare vSphere Installation

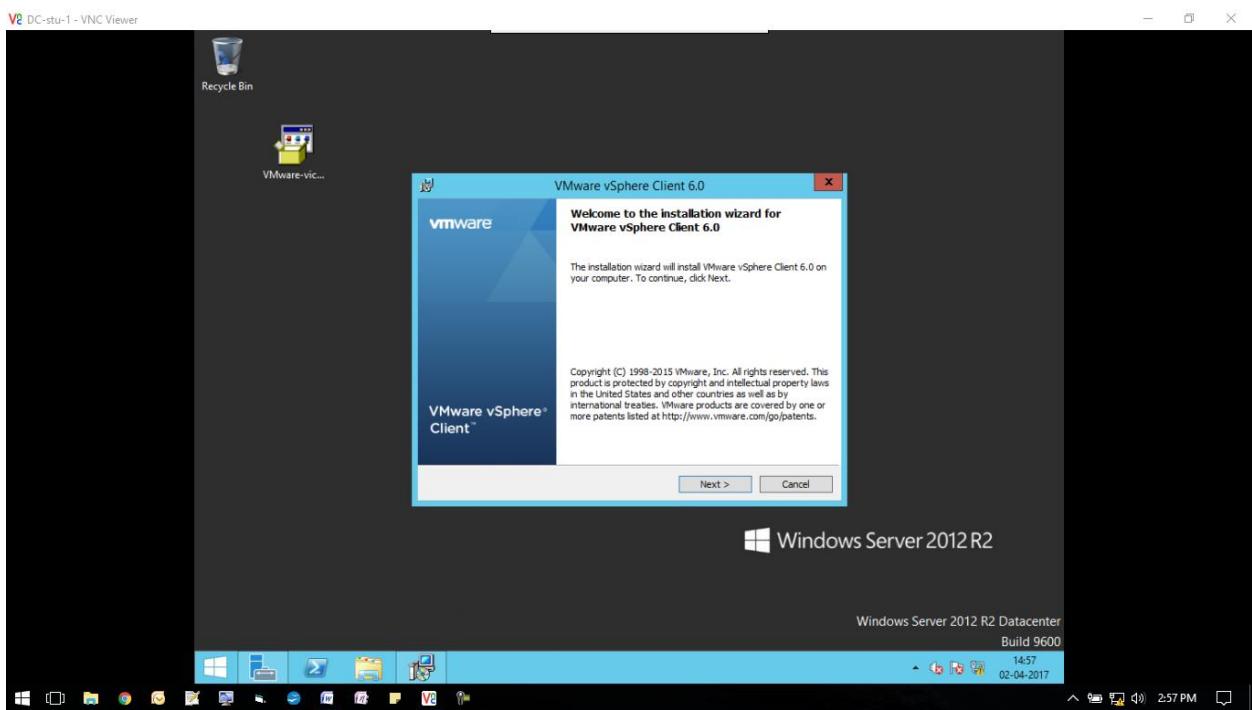
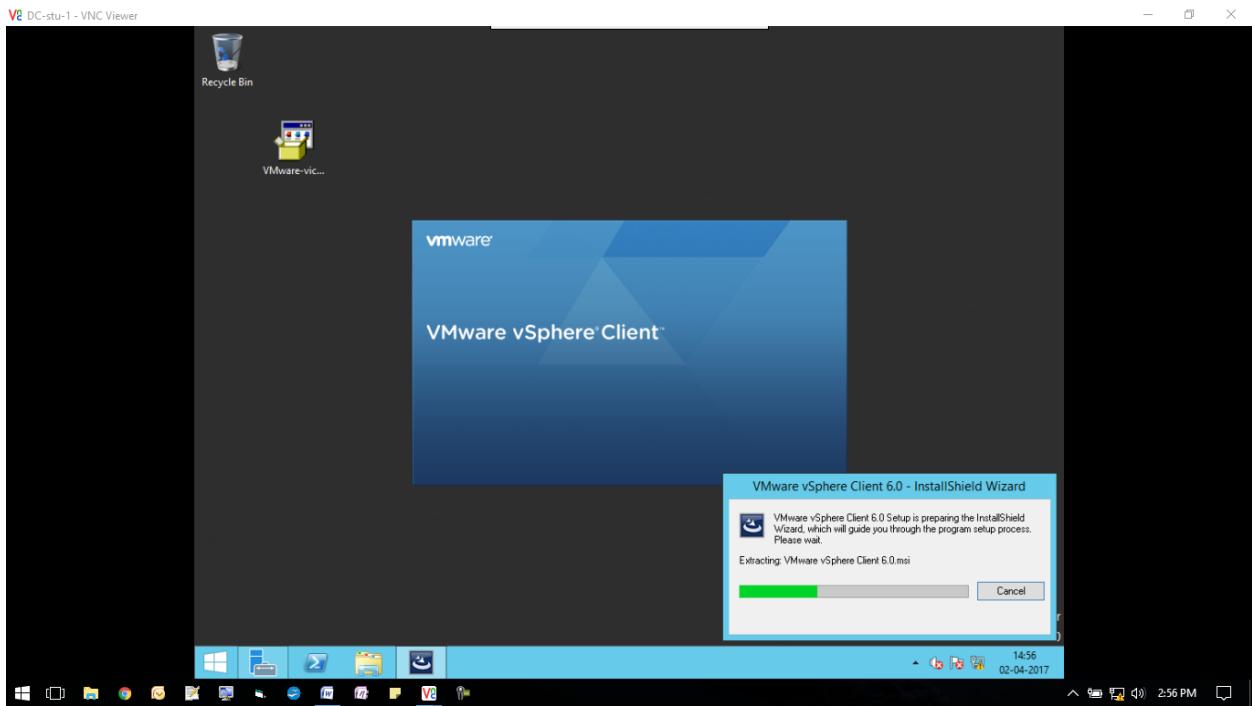


1. For the installation of vSphere, Microsoft DotNet 3.5 framework is compulsory.
2. Download VMWare vSphere client setup from internet & double click on it.

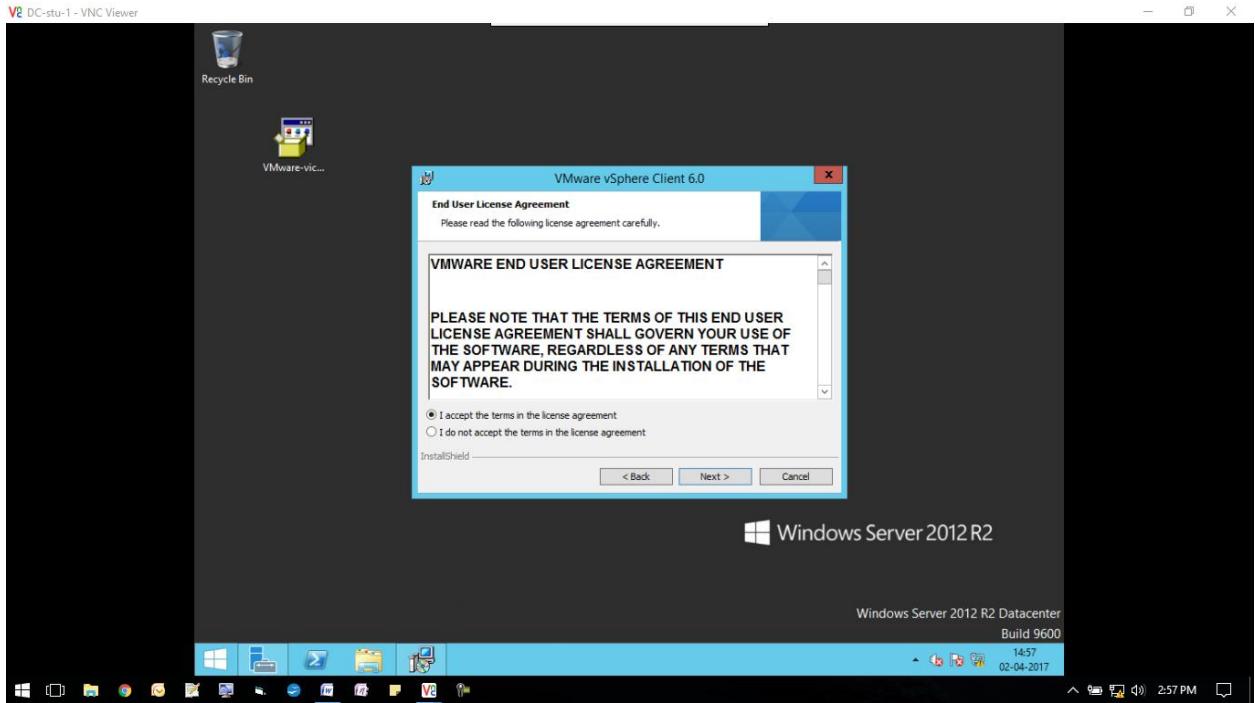


Select language.

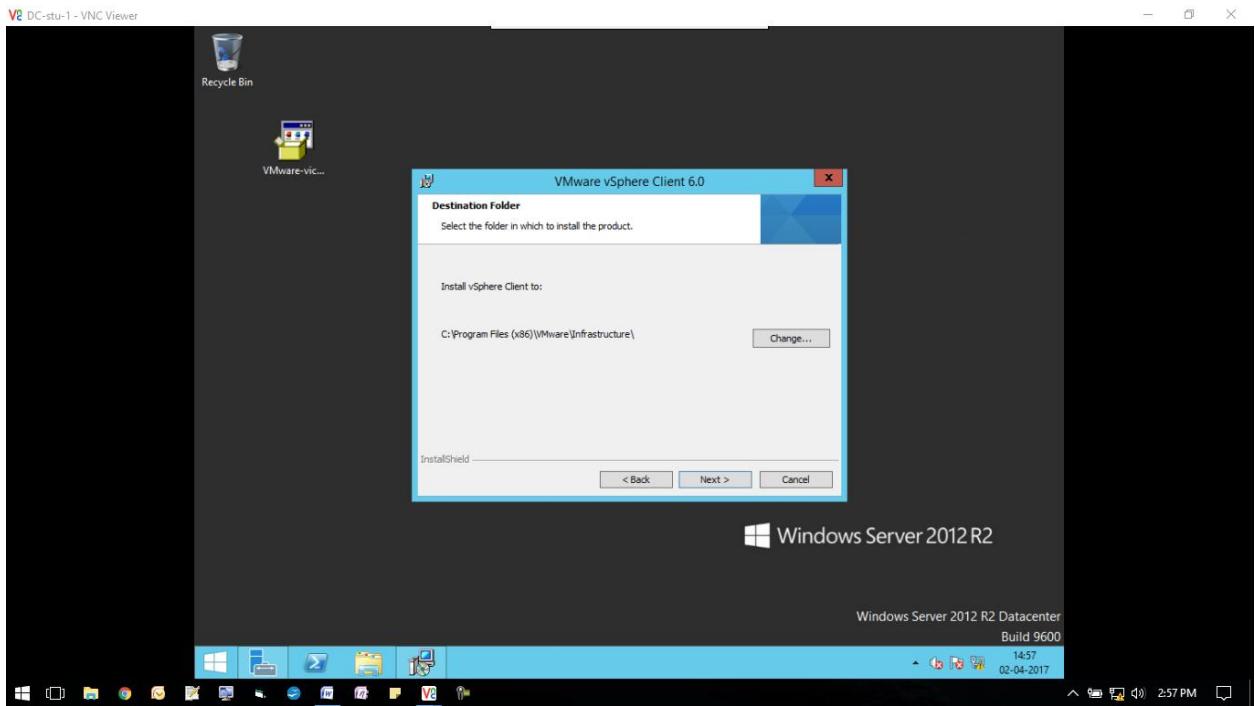
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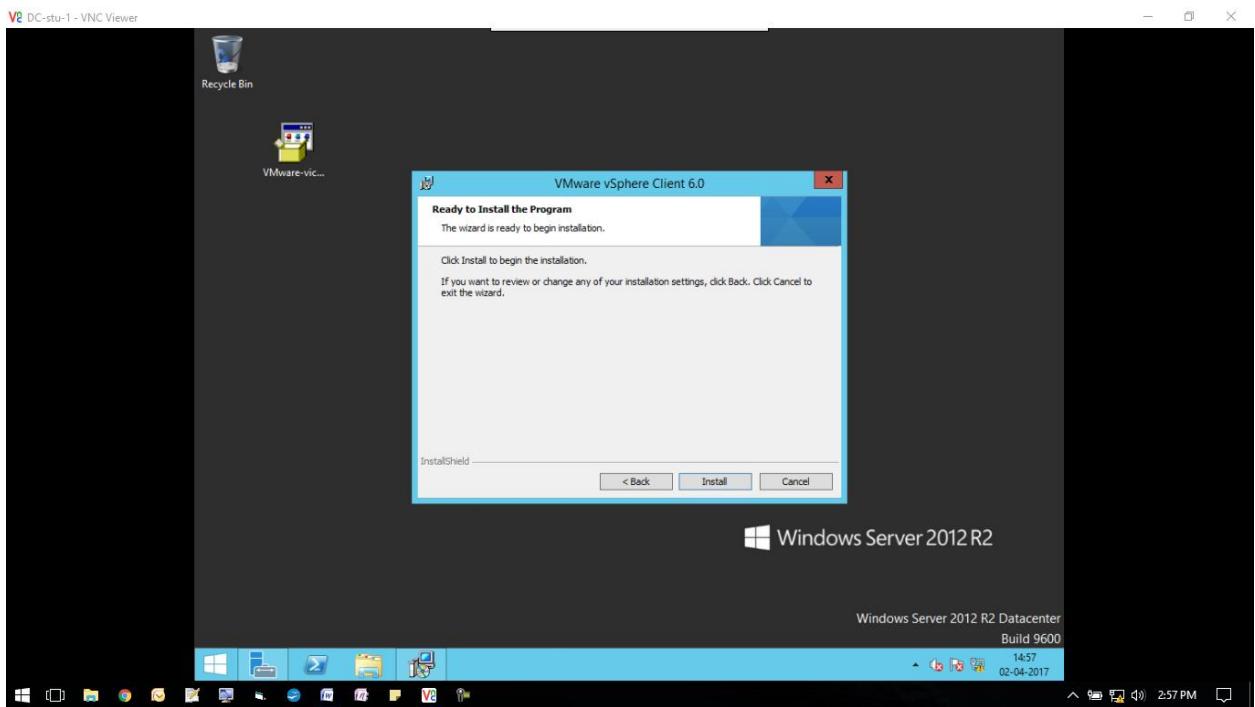
Click NEXT



Read and accept license agreement and click on NEXT.

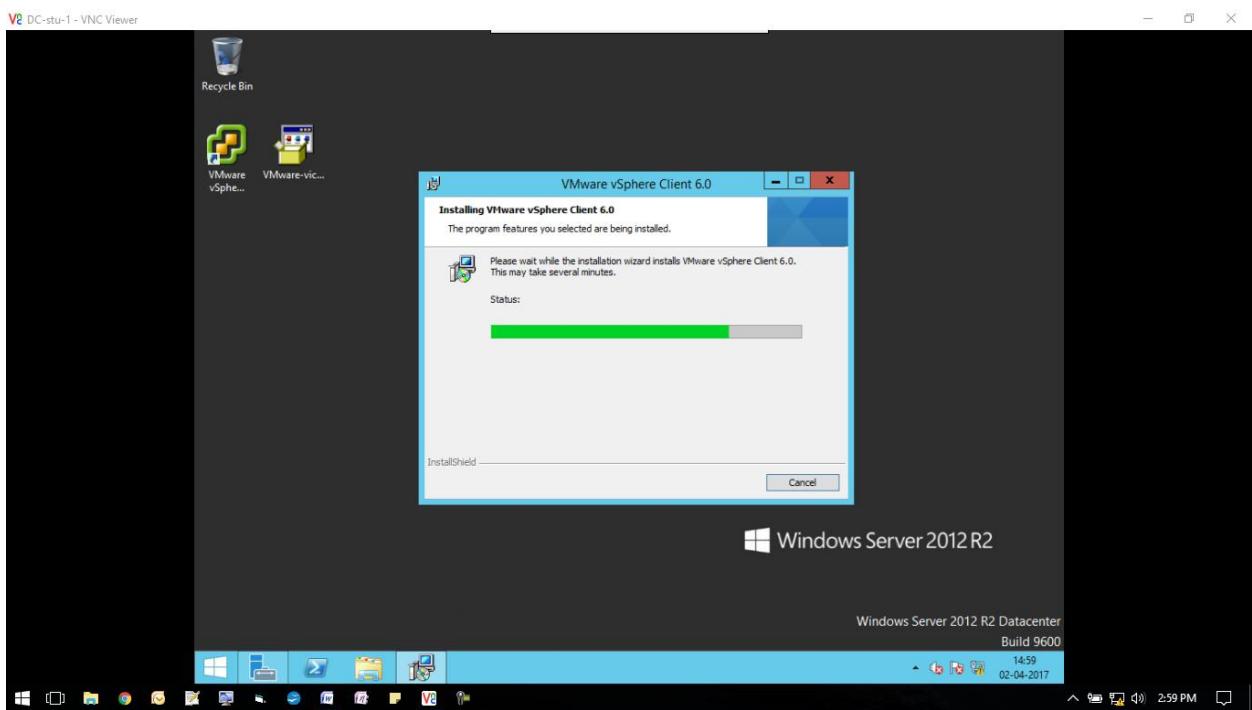
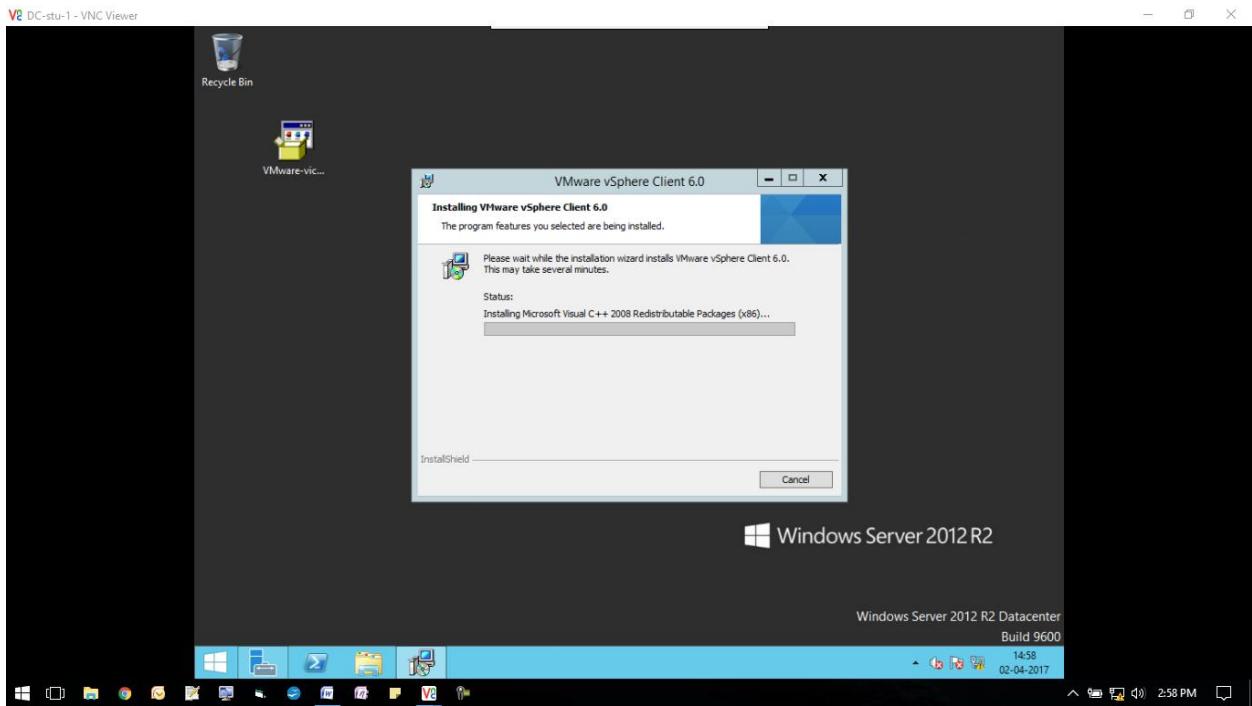


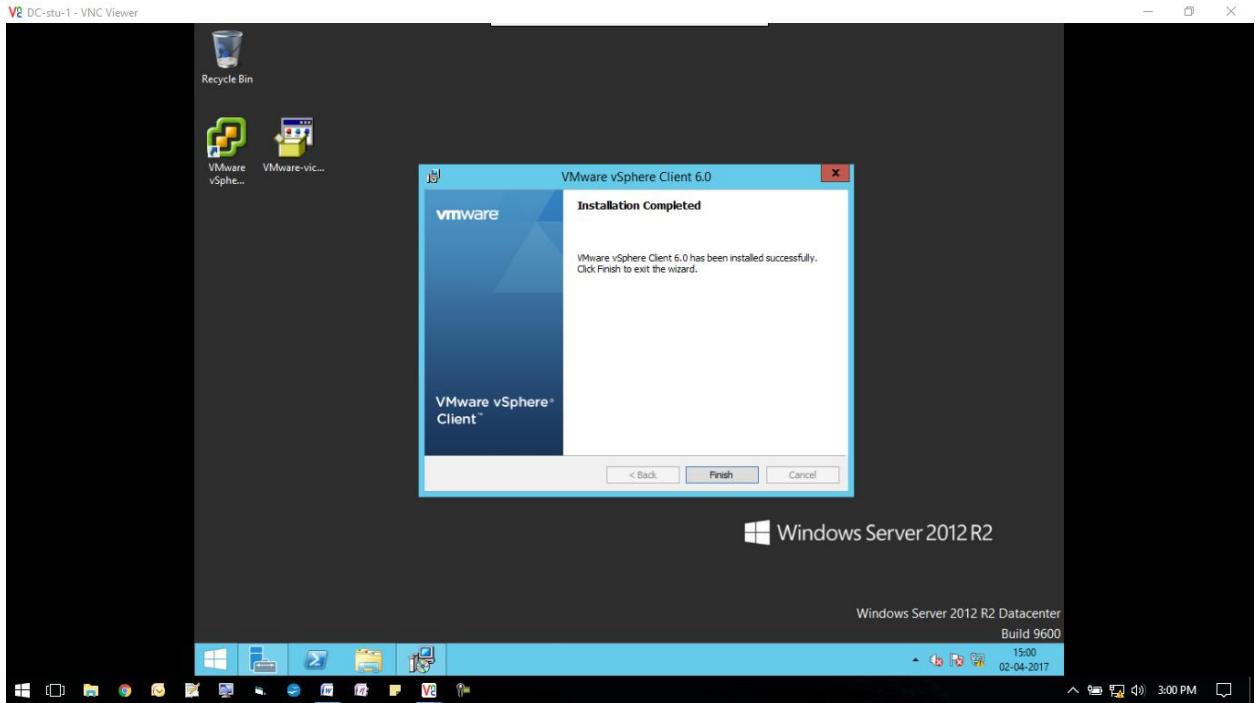
Select destination folder for vSphere.



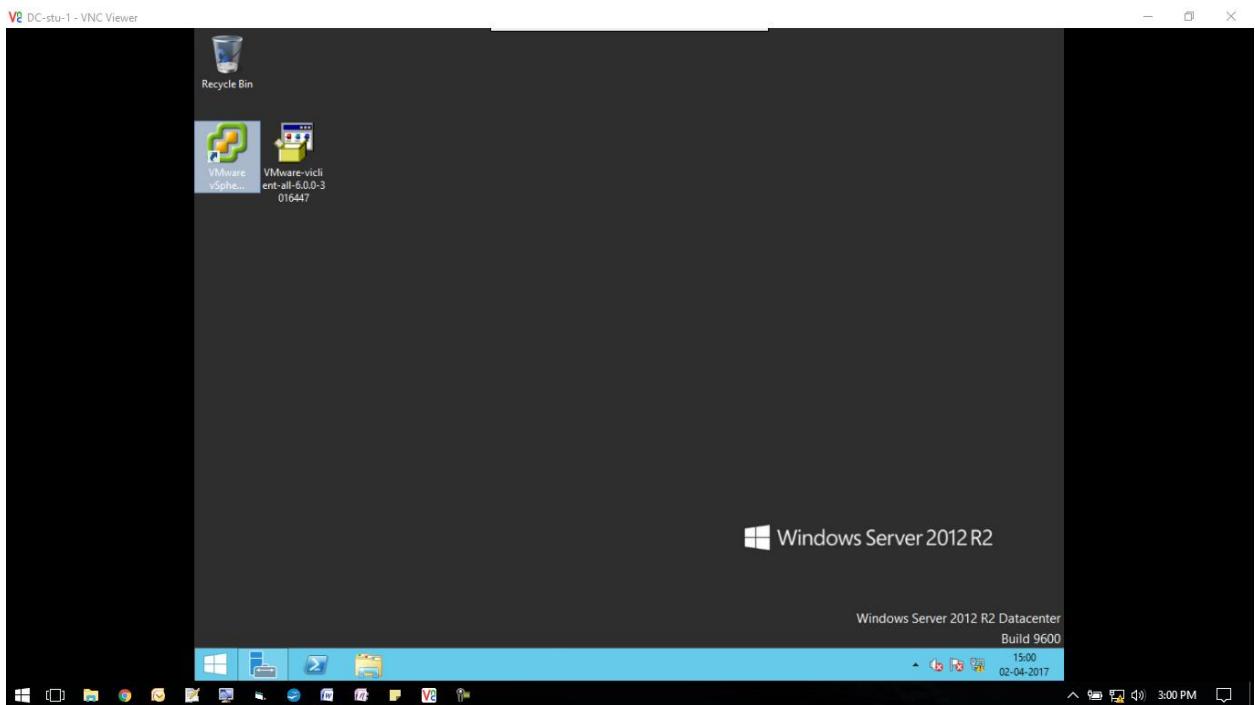
And click on INSTALL.

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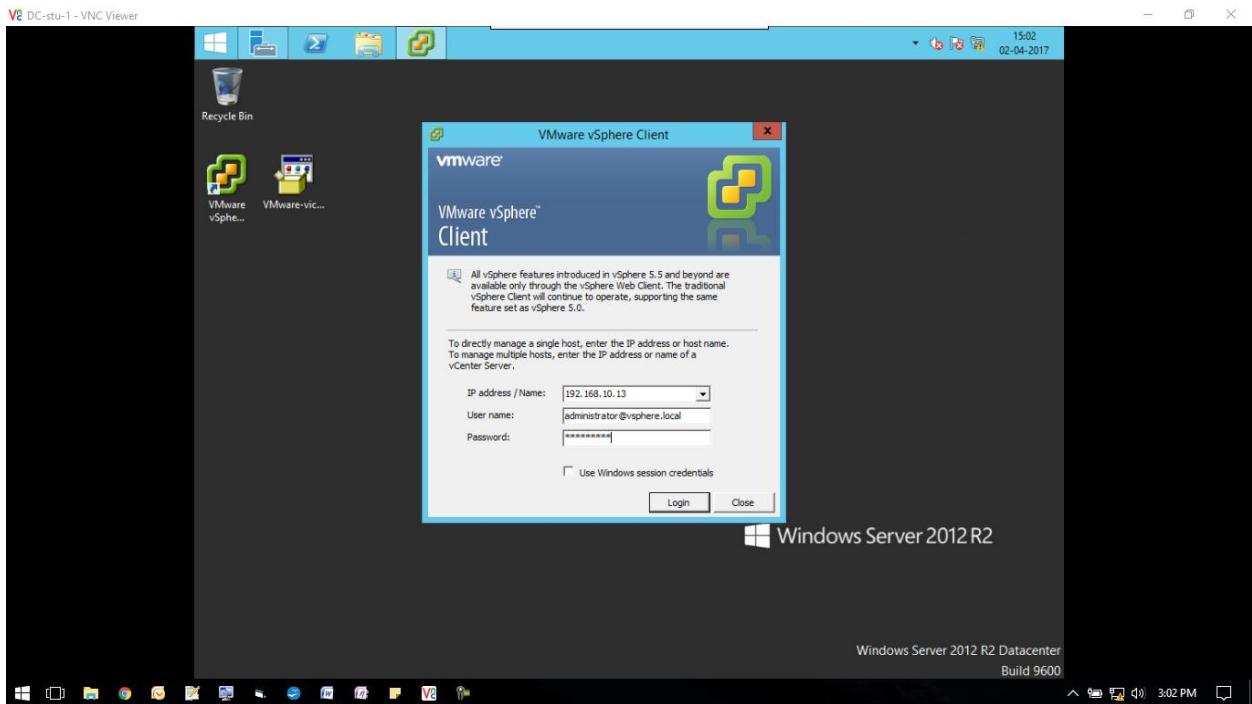




Click on finish



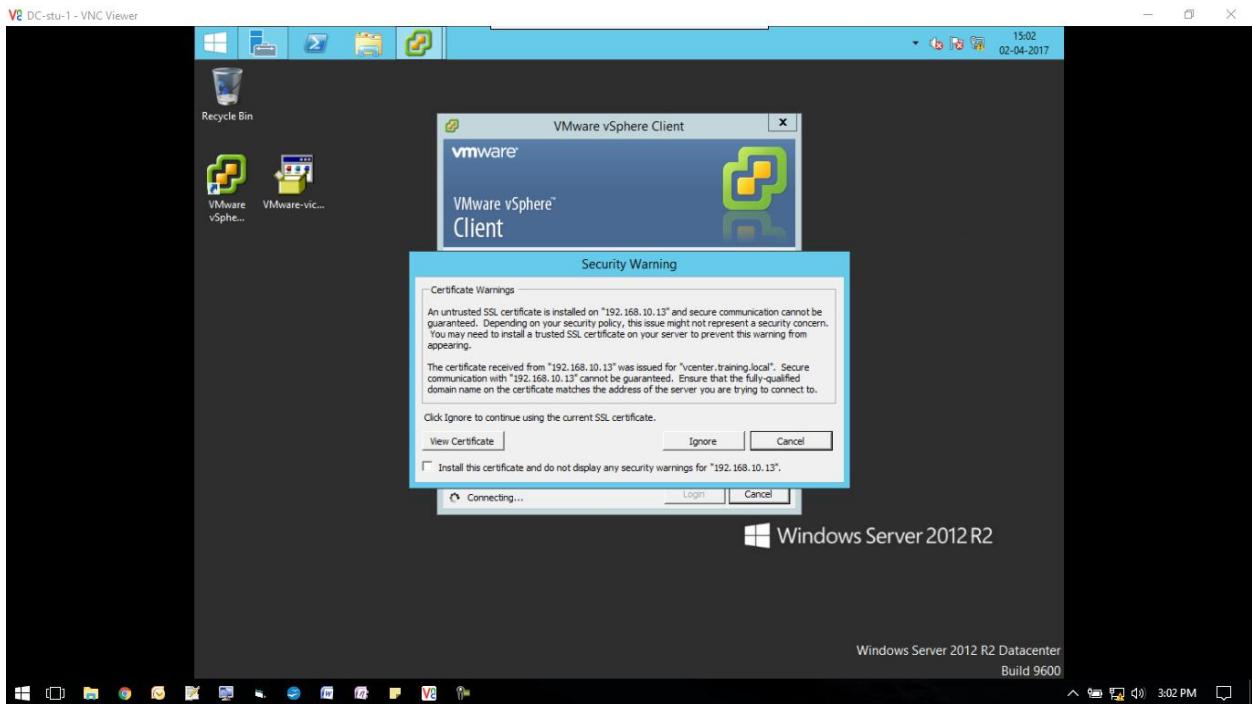
Double click on VMWare vSphere icon on desktop.



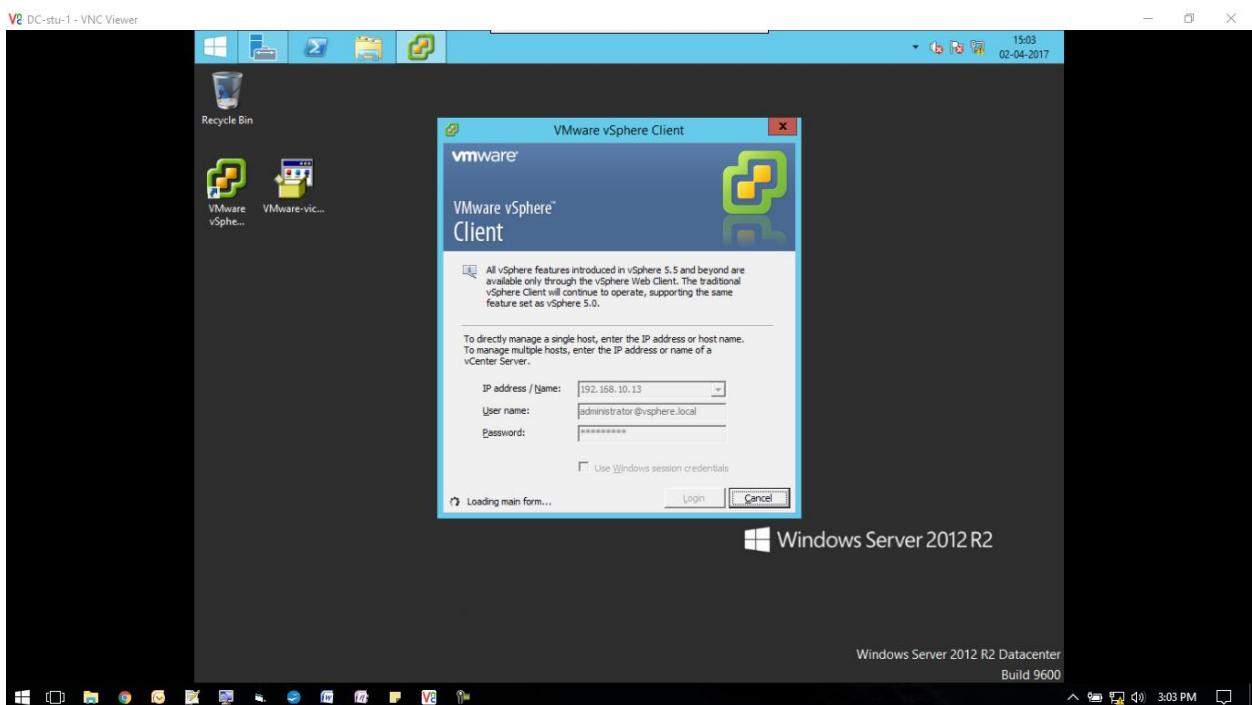
In the vSphere console,

1. Type IP address/name of vCenter server
2. User name of vCenter server : **administrator@vspherelocal**
3. Password : **given@timeOfSSO**

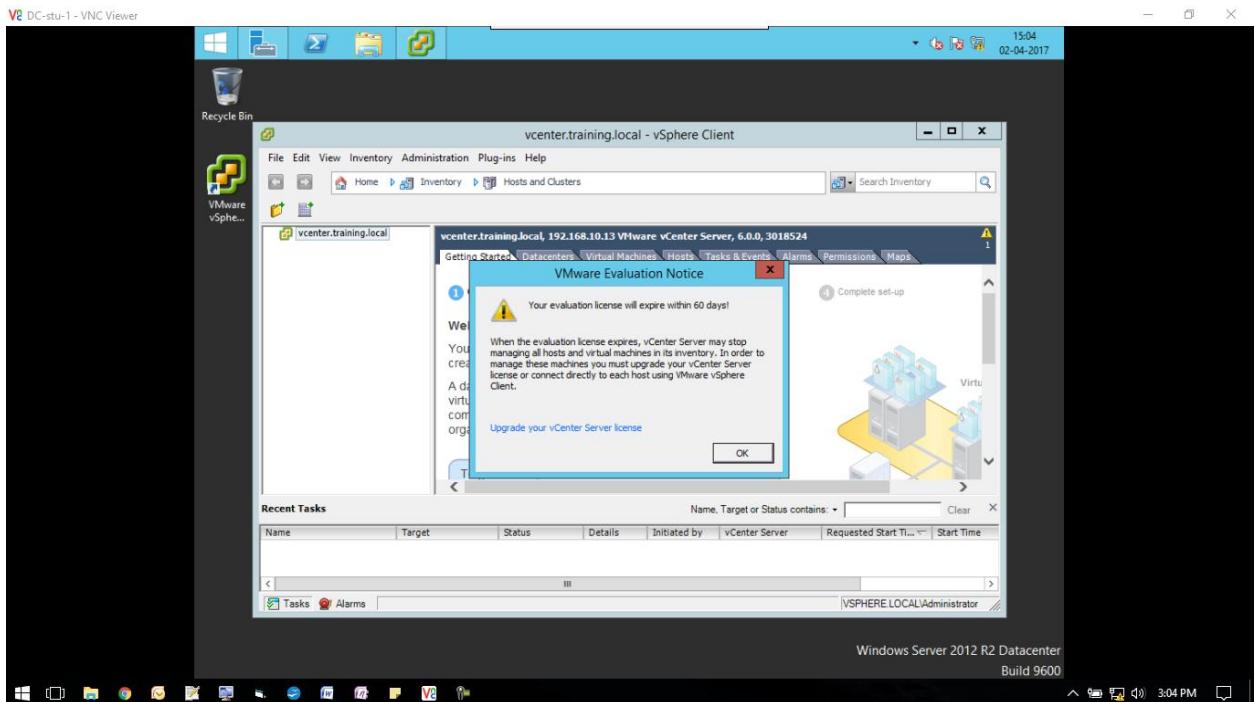
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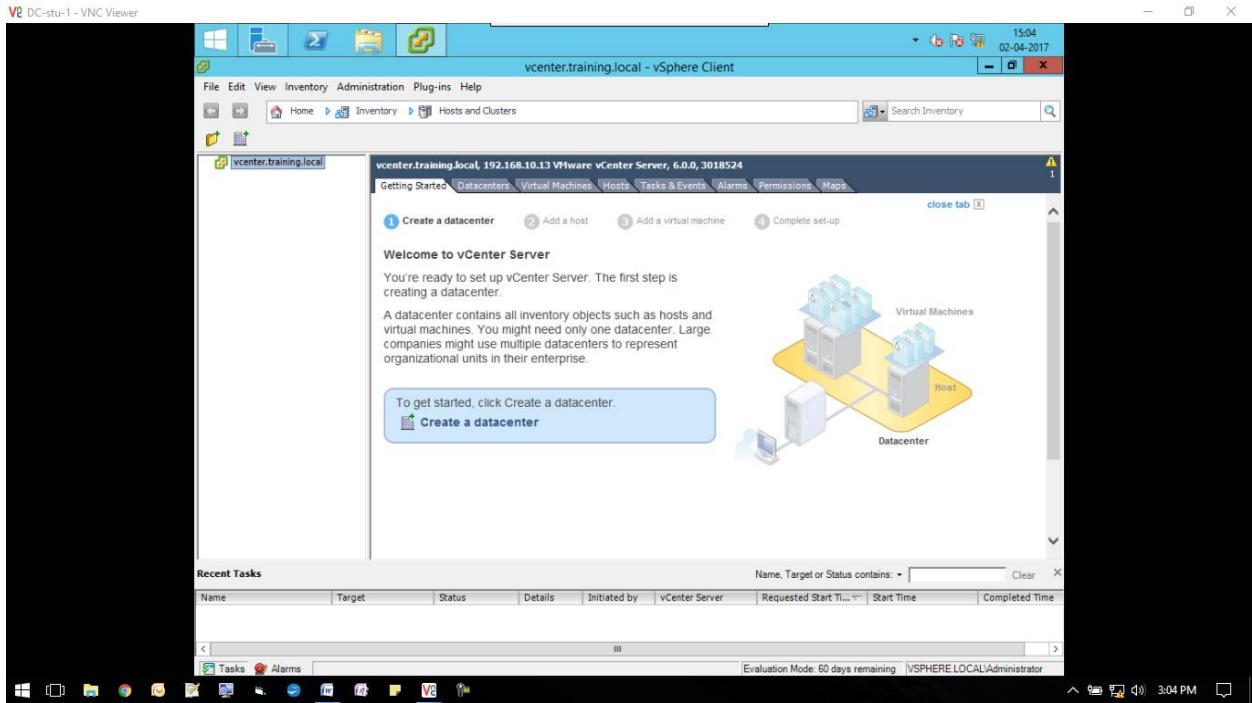


Click on IGNORE.

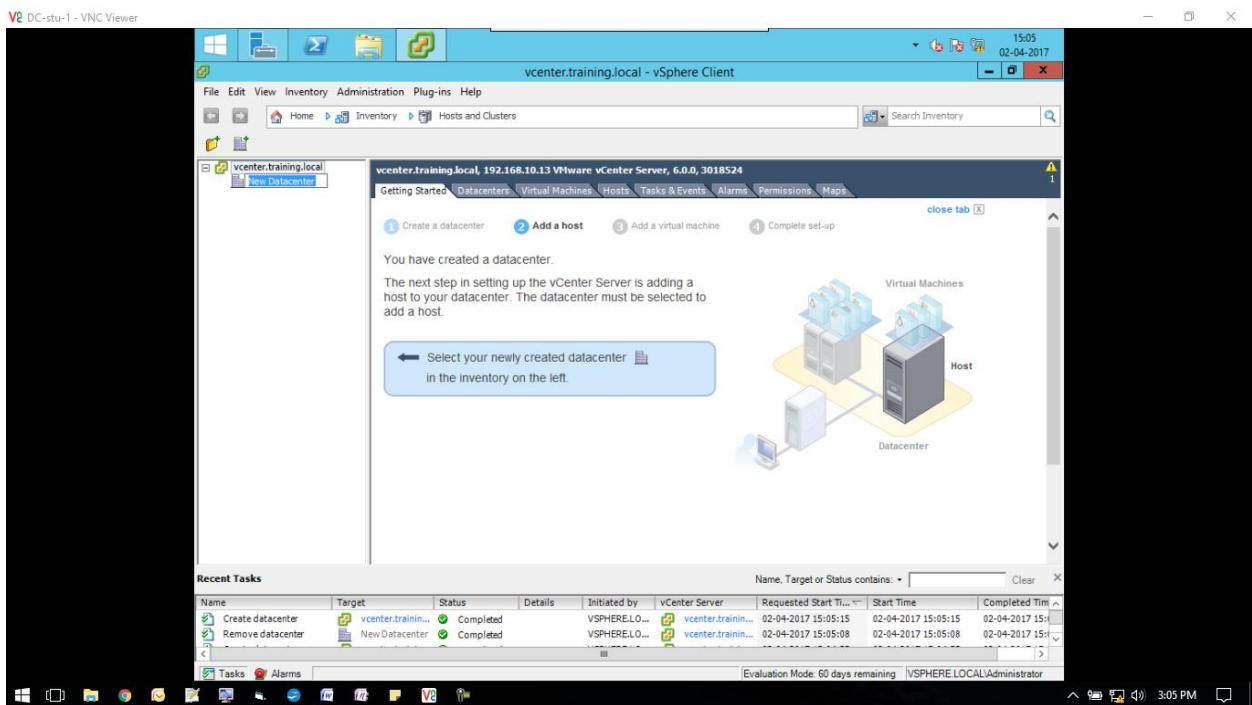


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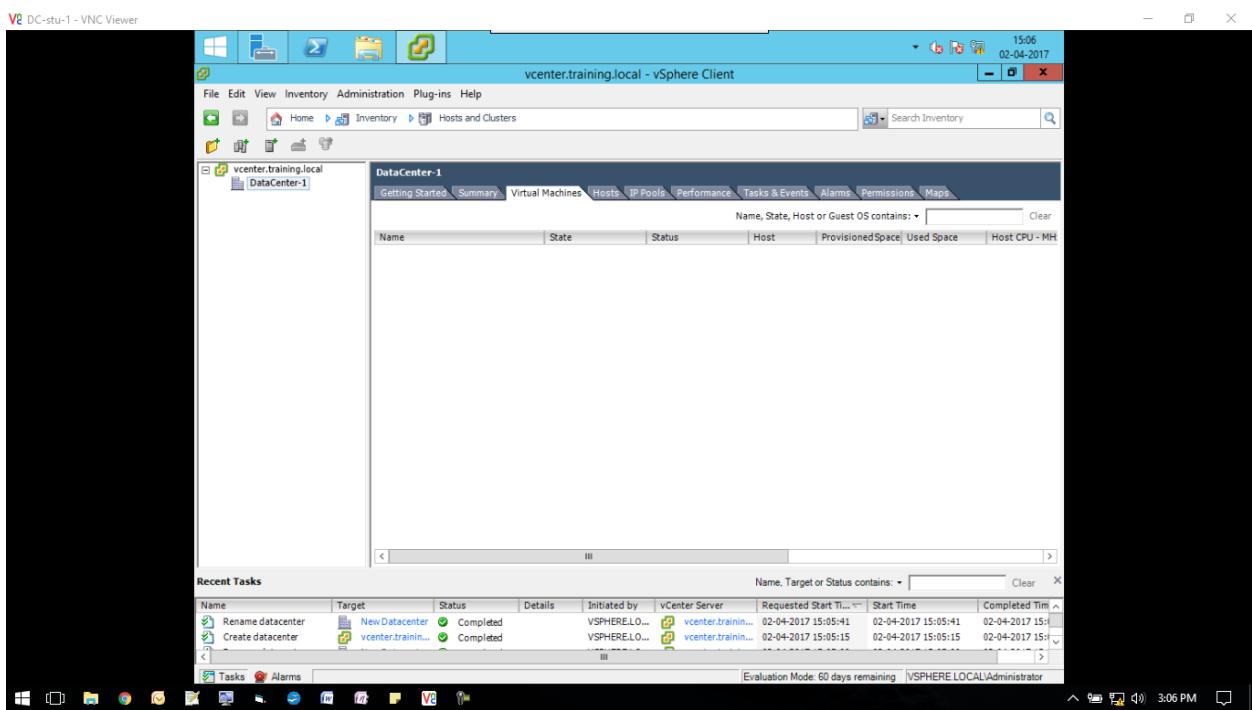
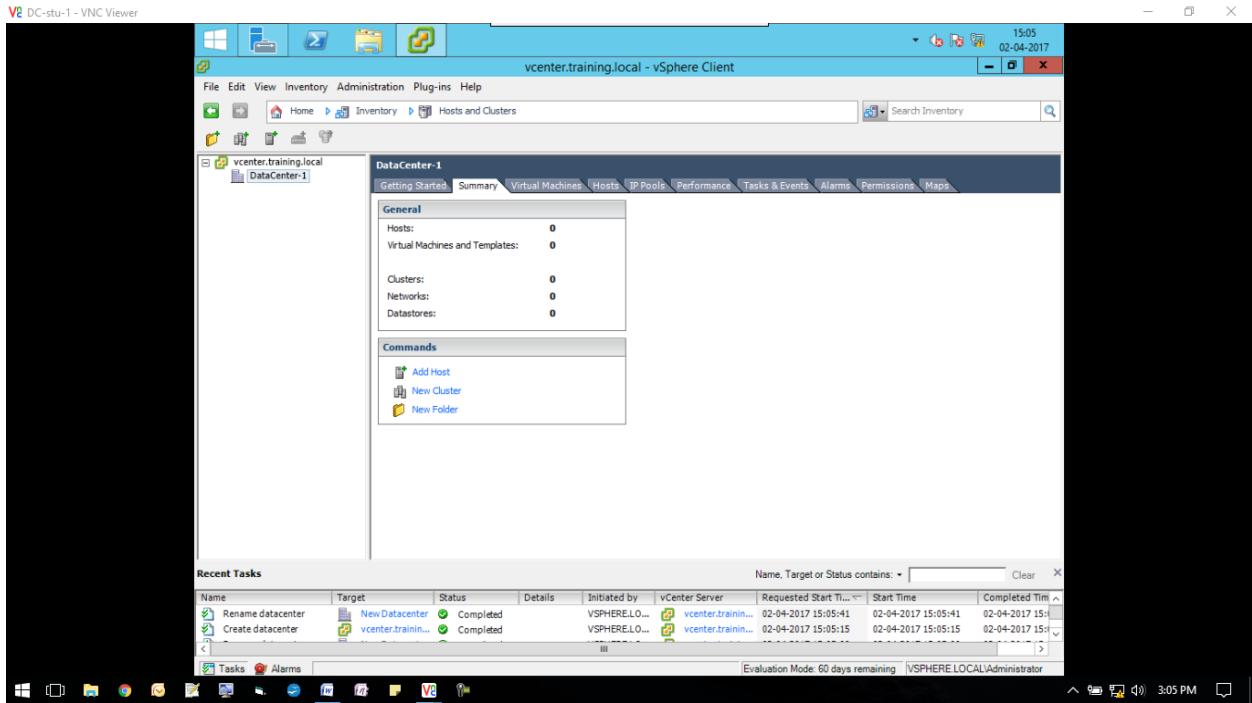


On 'host & cluster' page, select **Create a datacenter**, to create software defined datacenter.

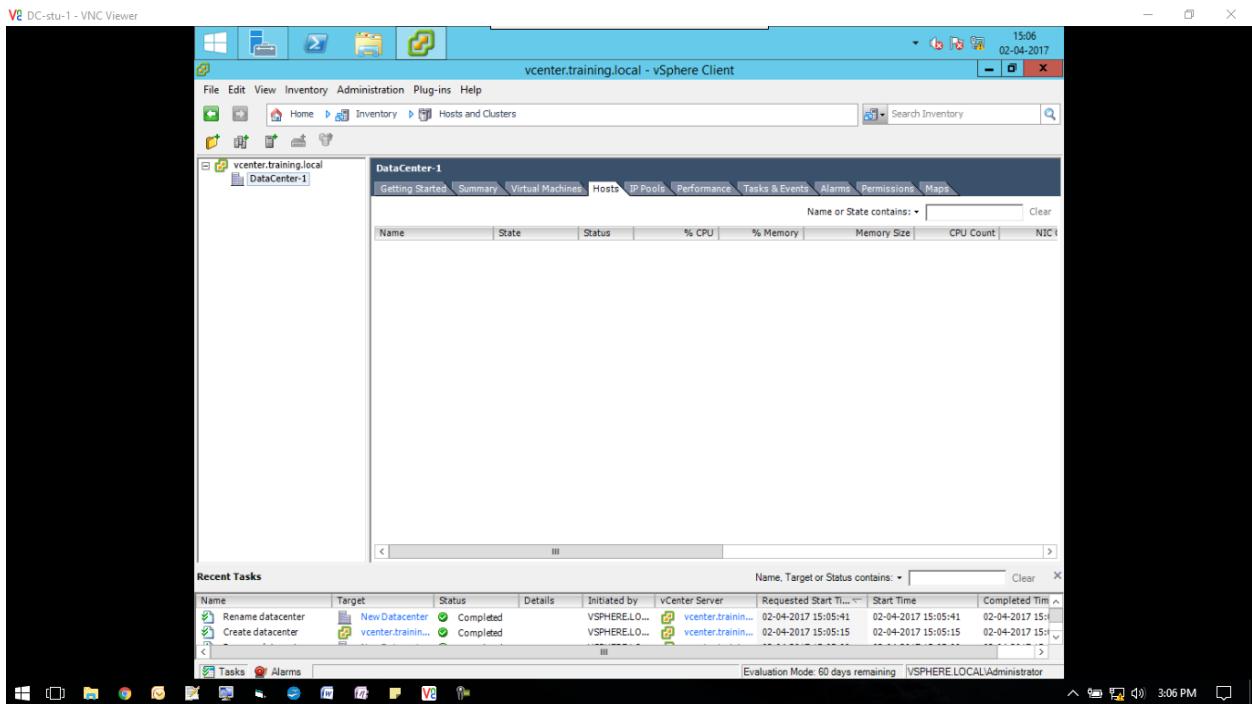


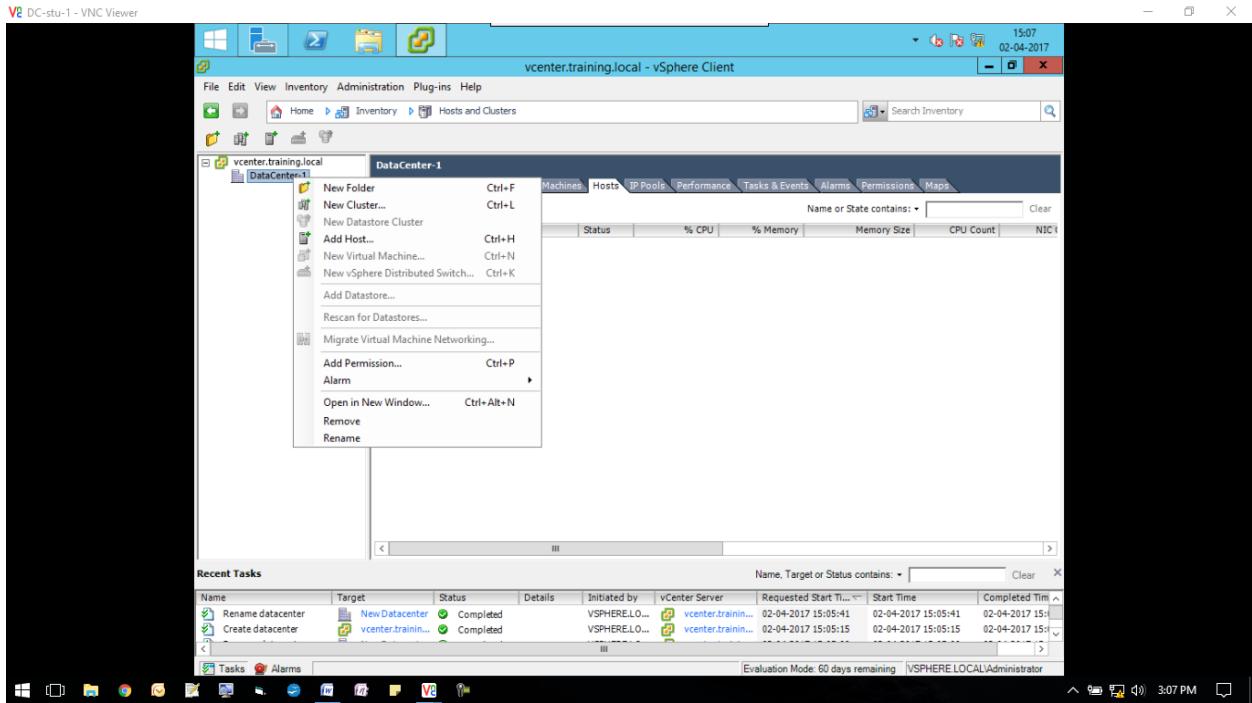
Rename this datacenter

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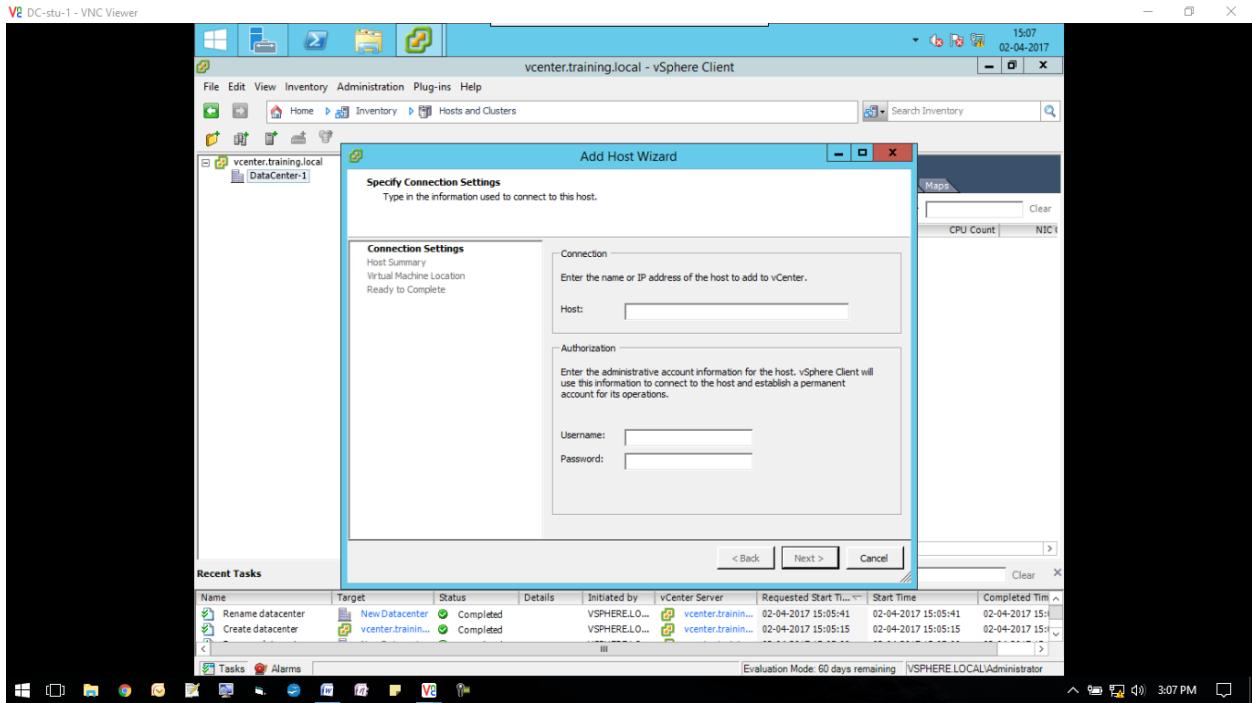


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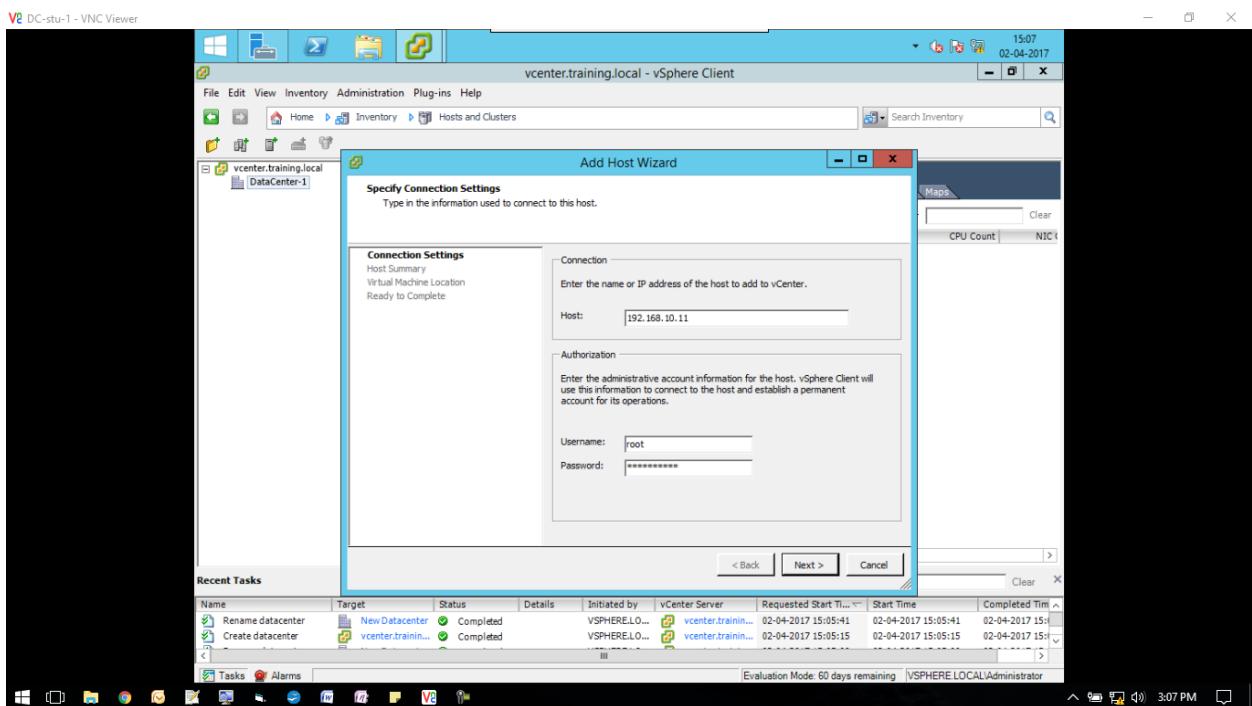


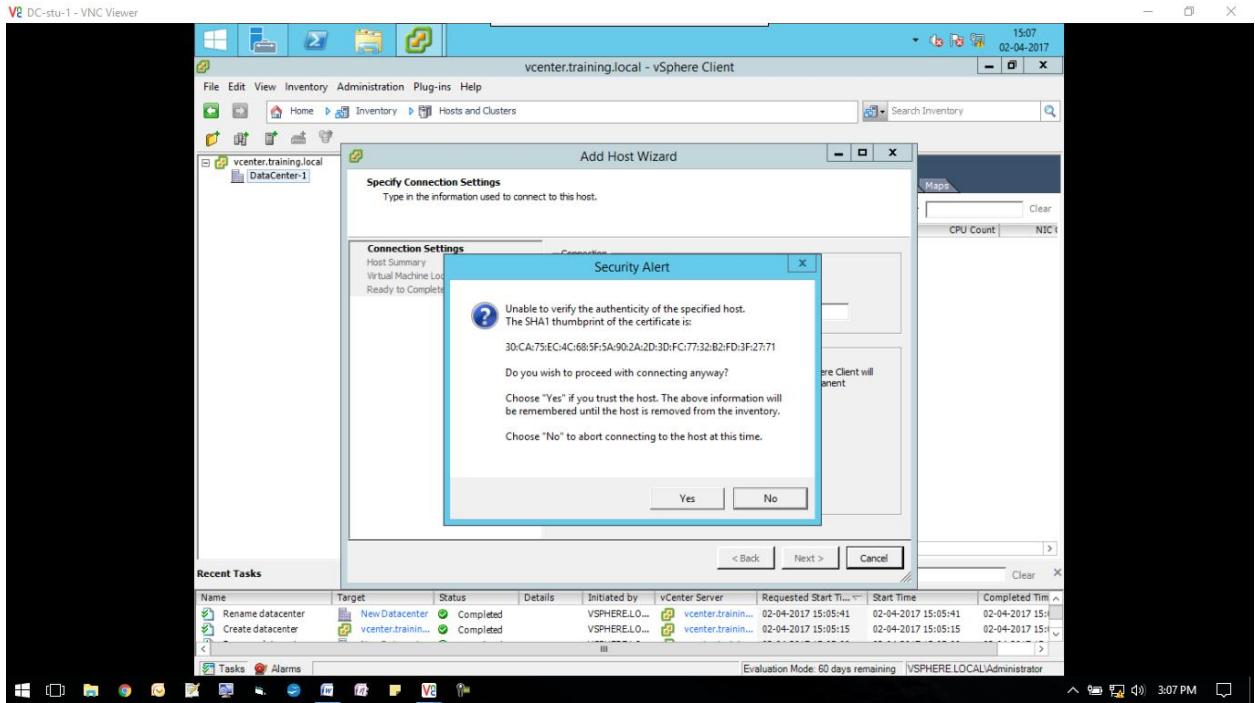


Now right click on datacenter & click on **ADD HOST**, to add an ESXi host.

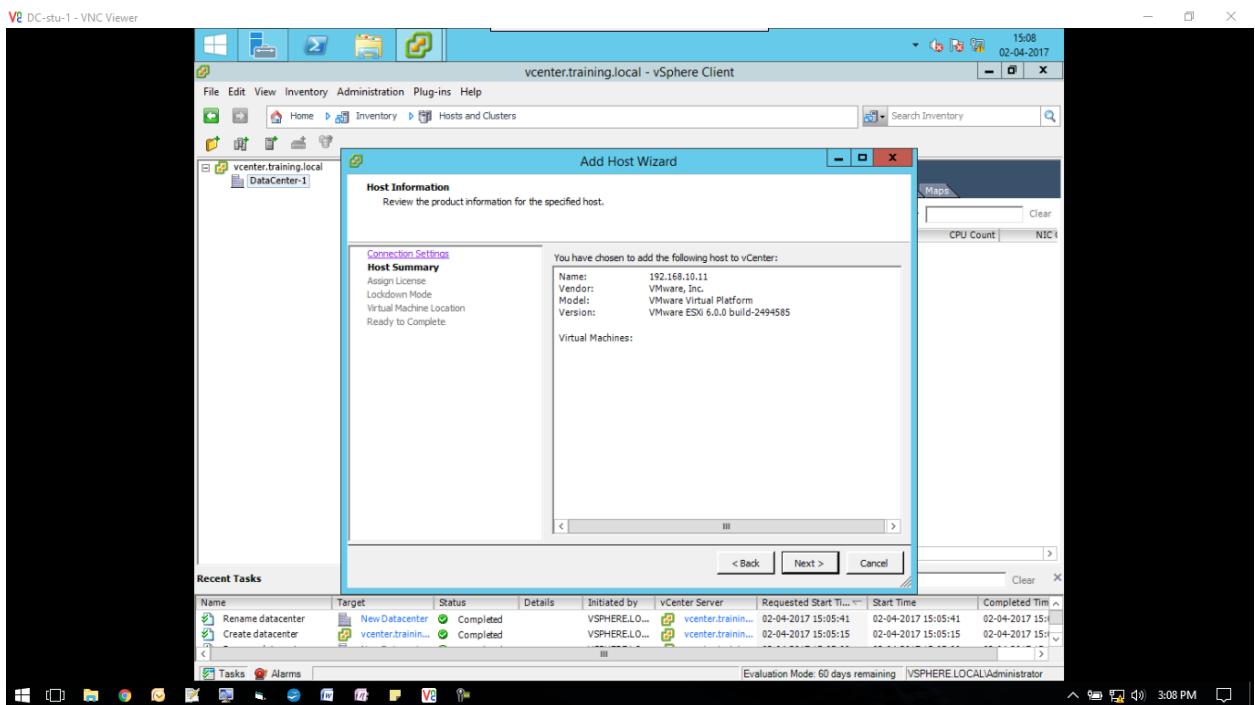


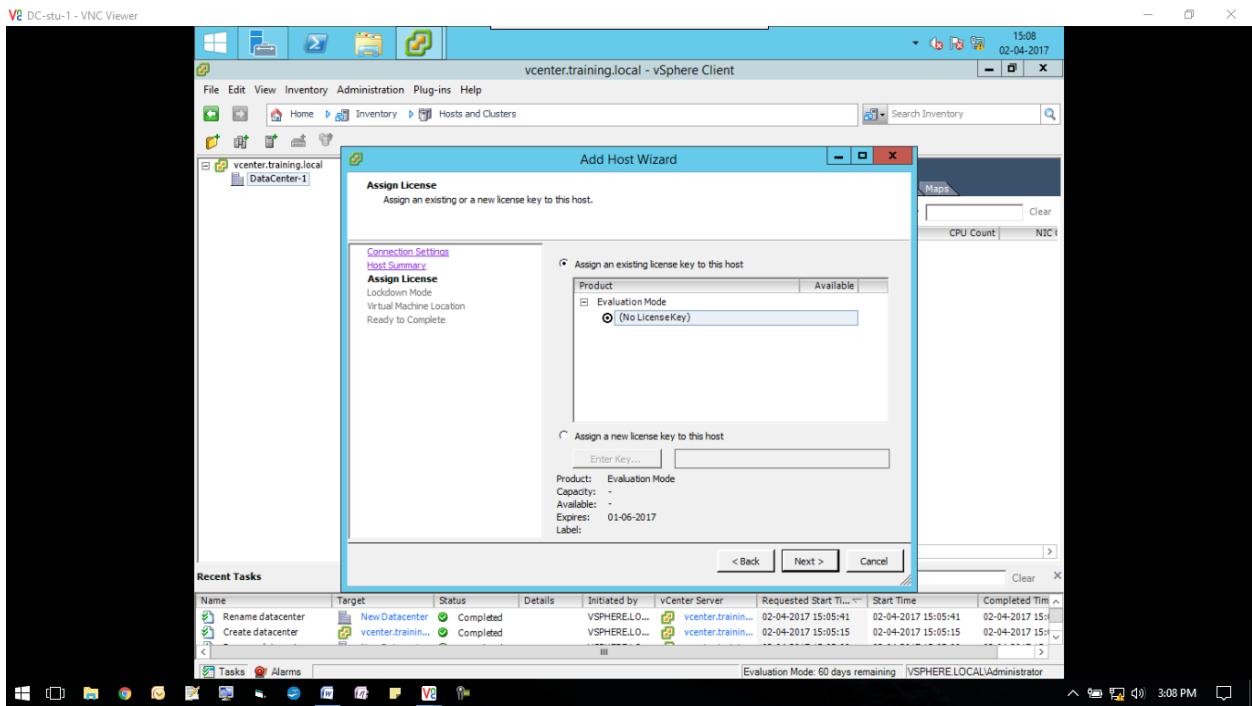
1. In host tab : **IP address of ESXi host**
2. User name : **root** (first user created by ESXi kernel)
3. Password : **password given in ESXi host while installing**
4. Click on next.



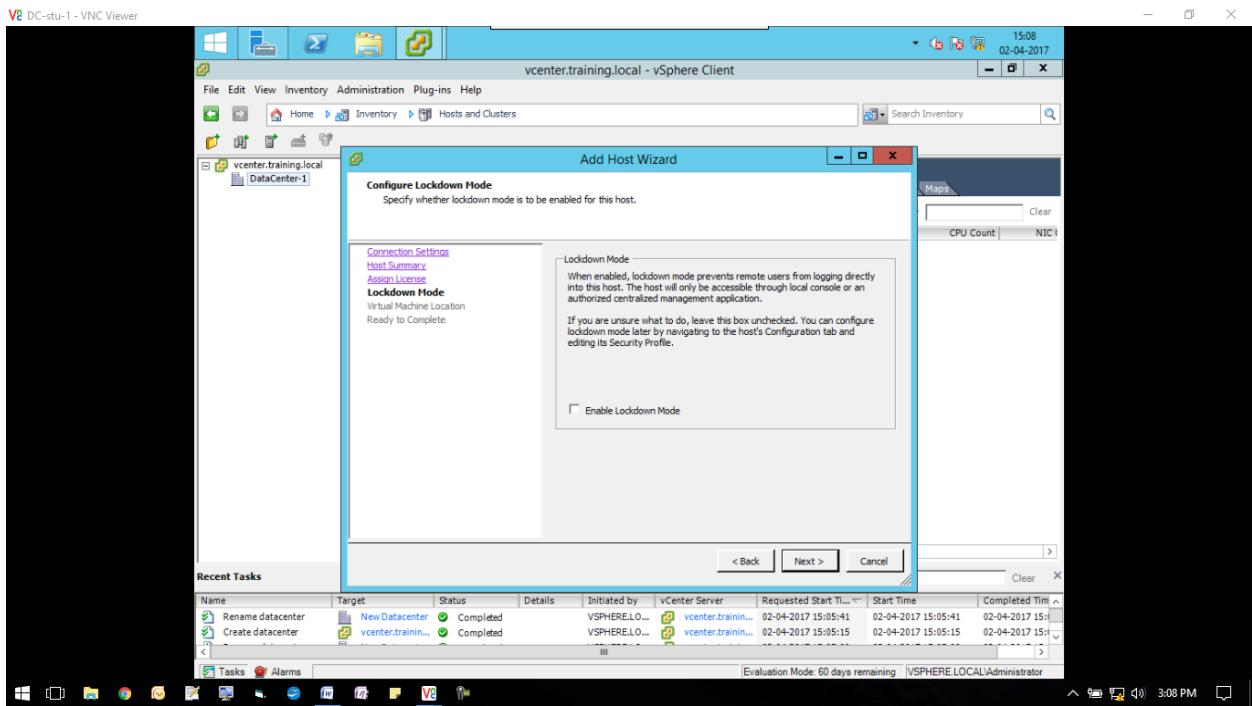


Click YES for security alert



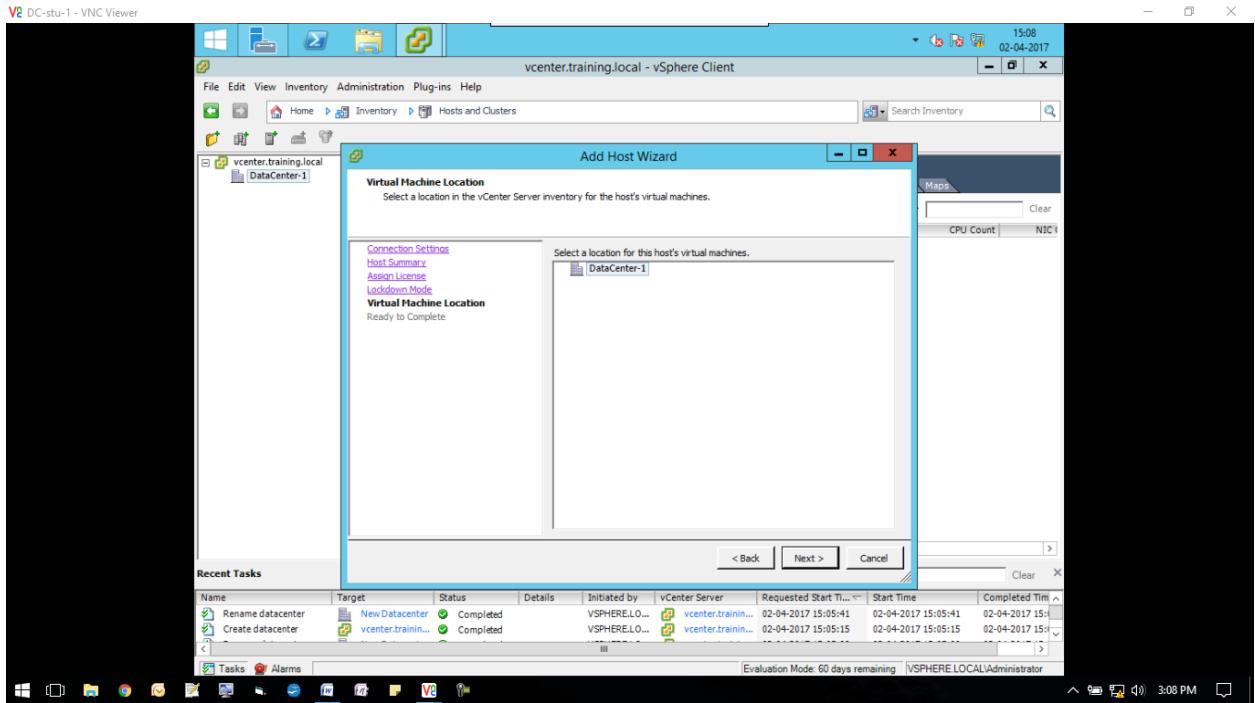


On Assign License page, select “assign a new license key to this host”, if you have genuine key. Else select “evaluation mode”, which will be active for 60 days.

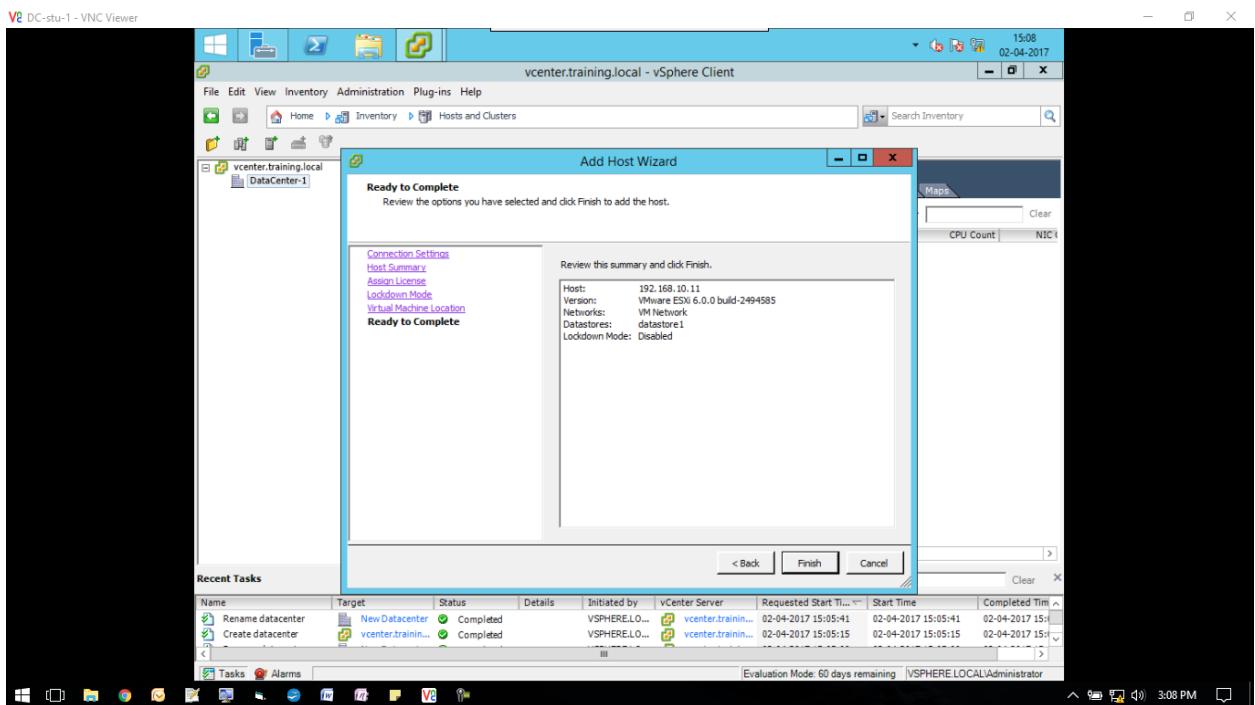


On configure Lock down mode page, tick on ‘enable lock down mode’ if you don’t want to allow direct access of ESXi server using vSphere client application, else leave it.

And press NEXT.

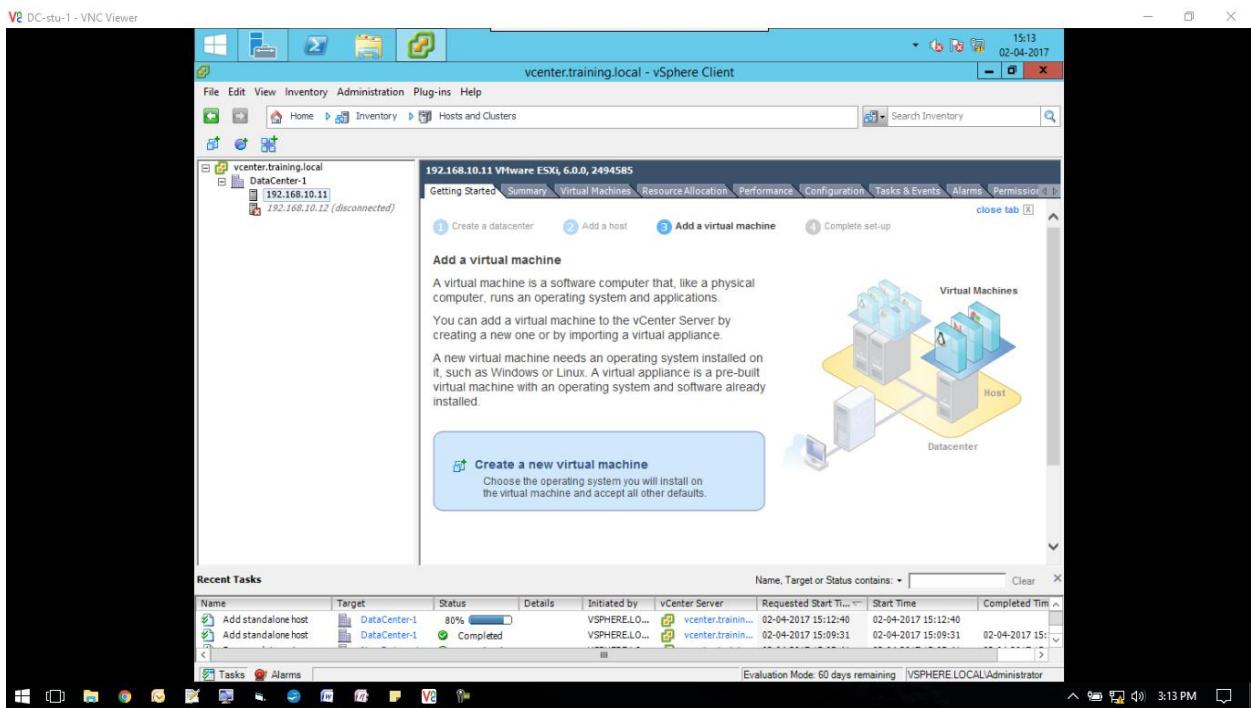
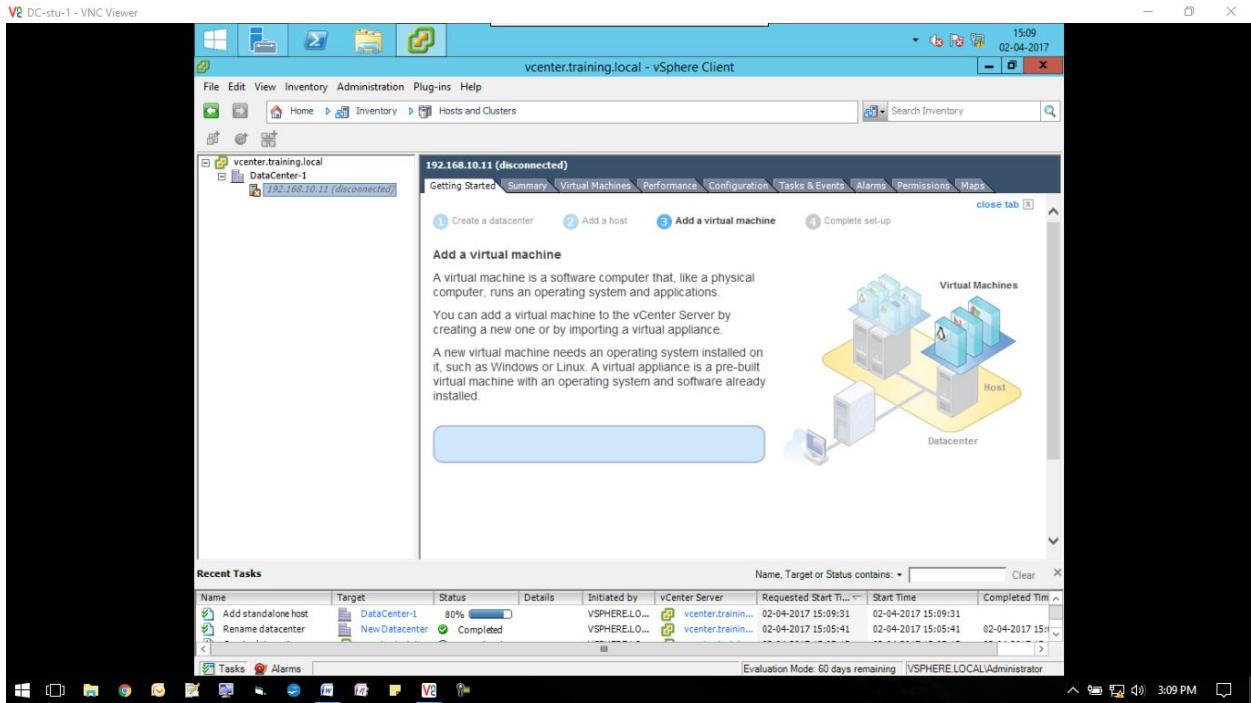


Select your virtual machine location in datacenter



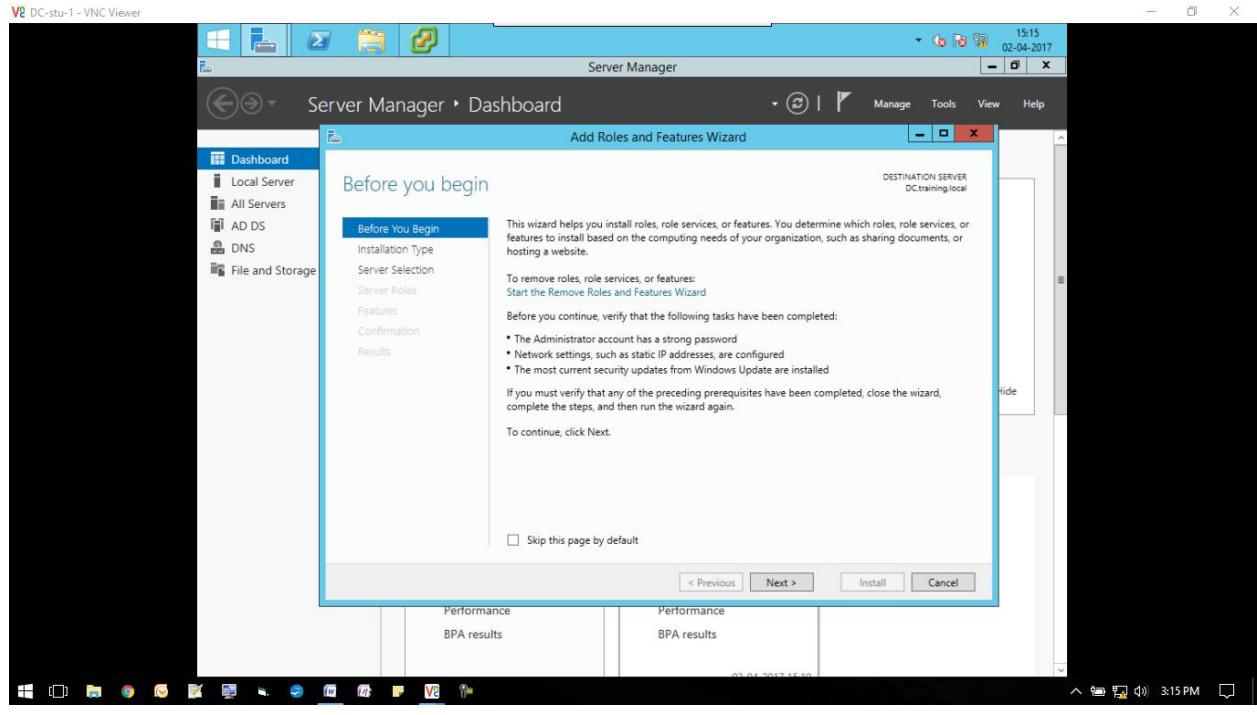
Press finish to complete it.

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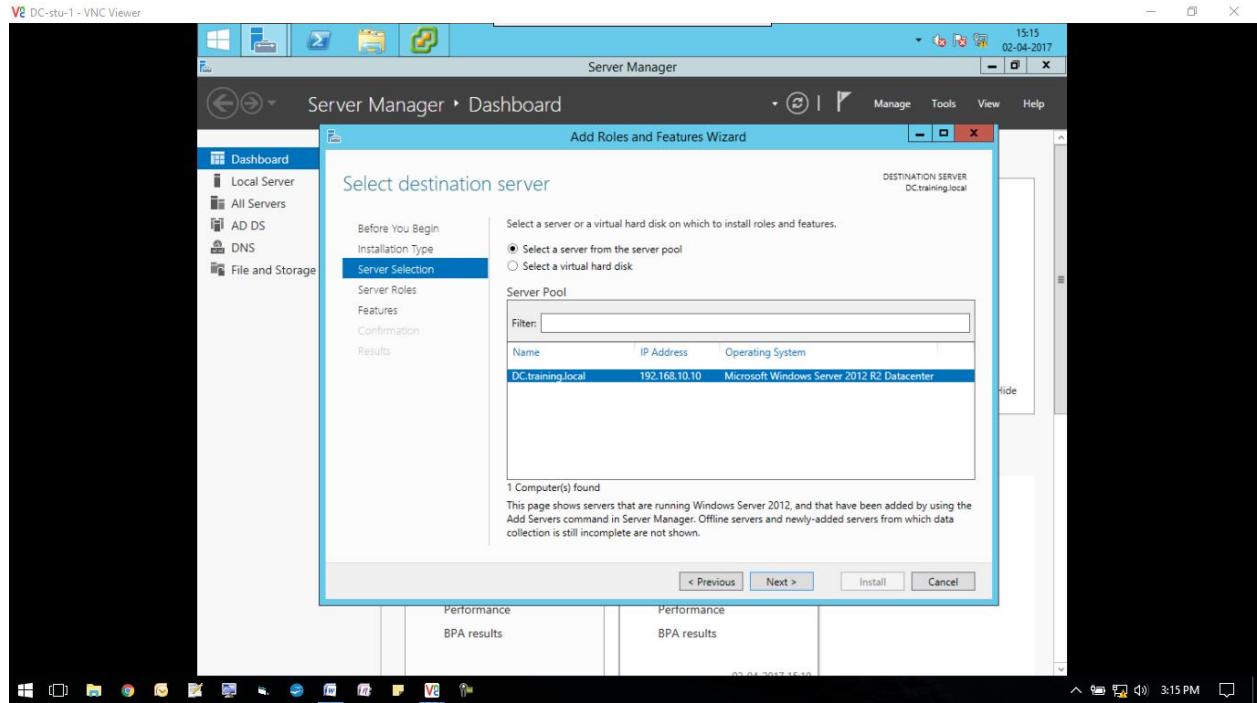


After adding multiple host in the same way, wait until 'disconnected' gets removed.

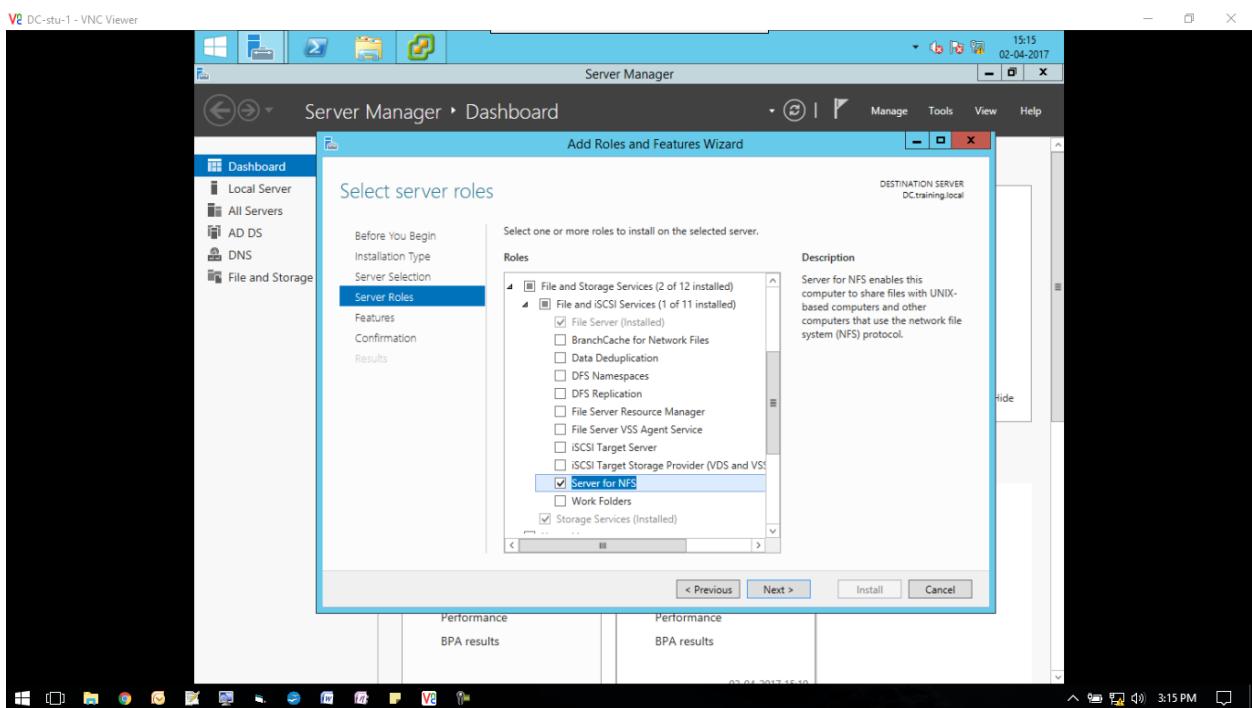
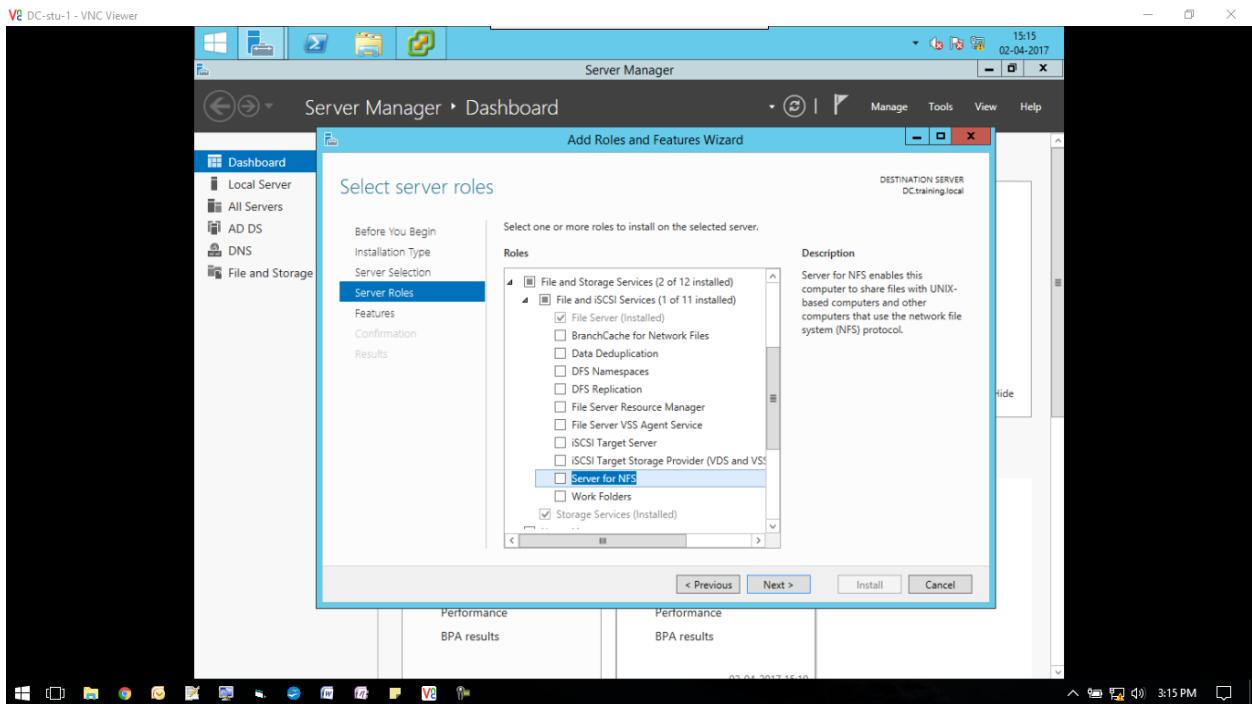
Creating NFS Storage on DC machine.



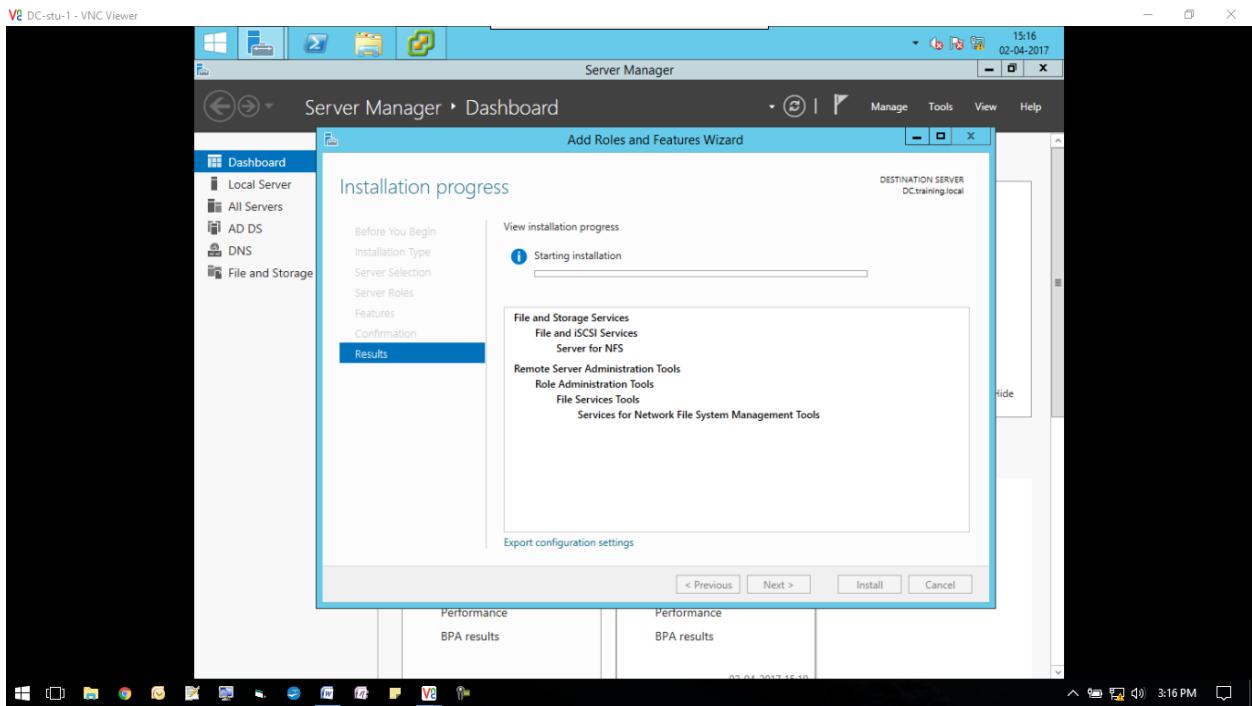
On Domain Controller machine, install “**server for NFS**” role.

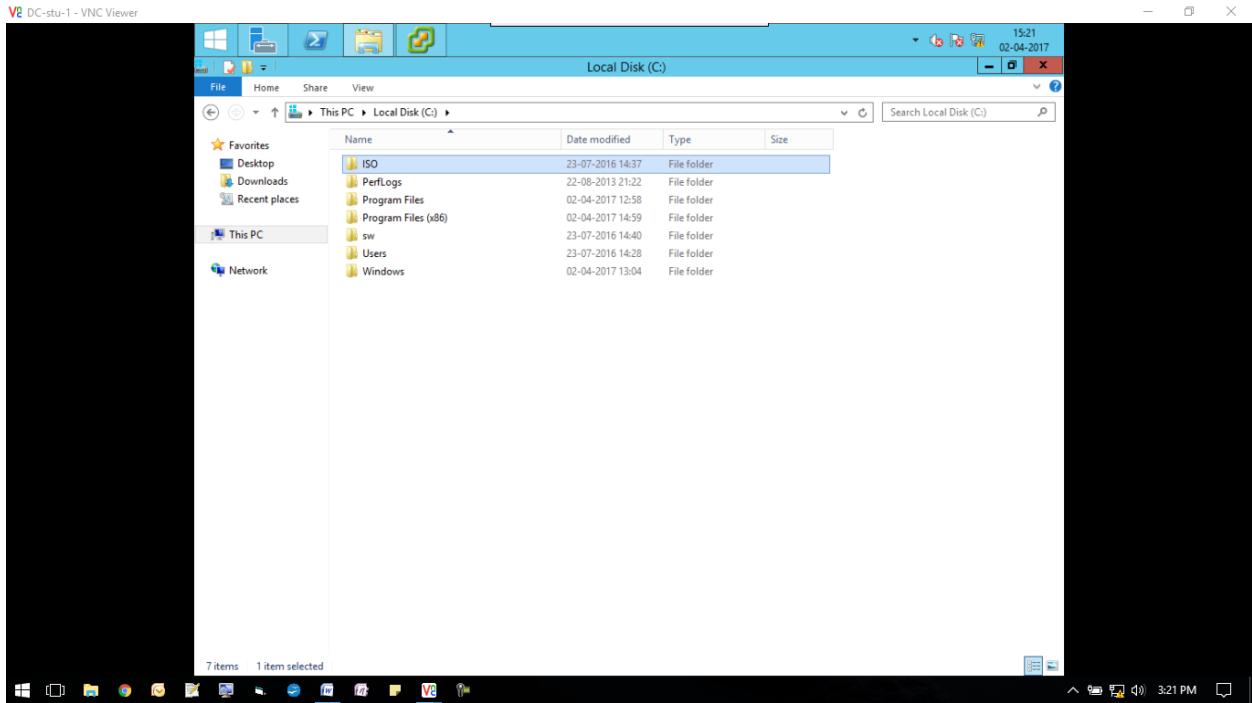


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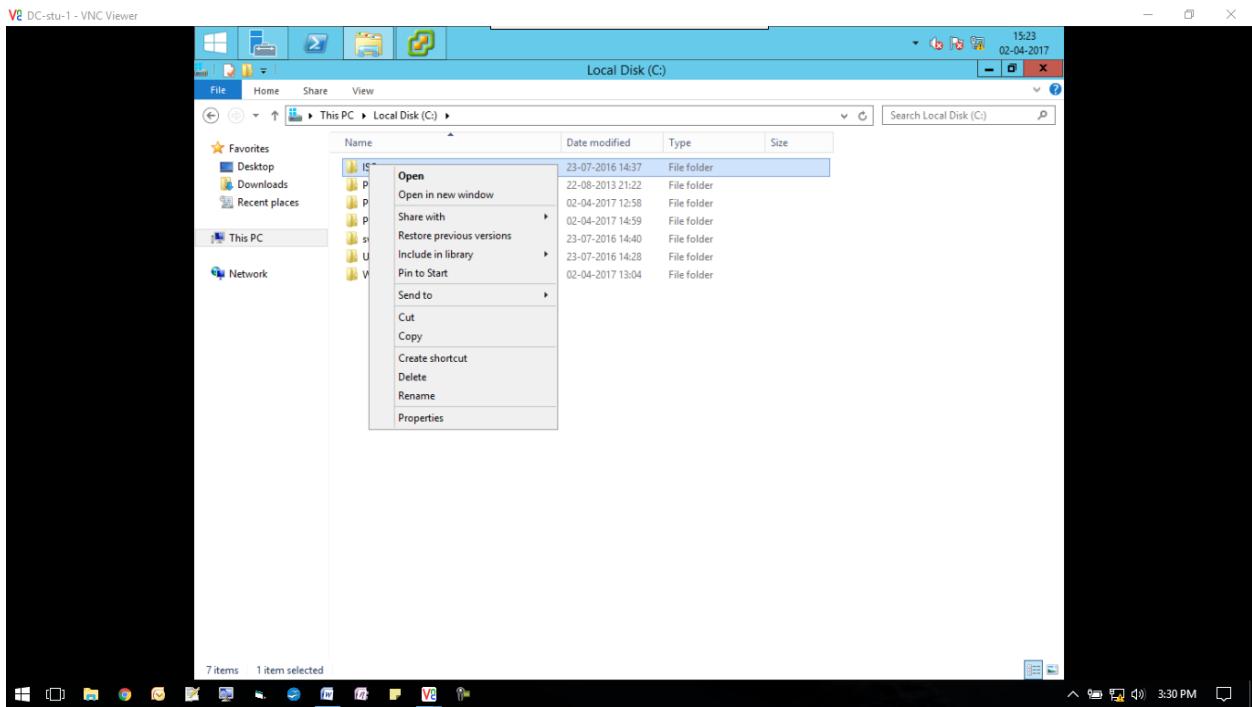
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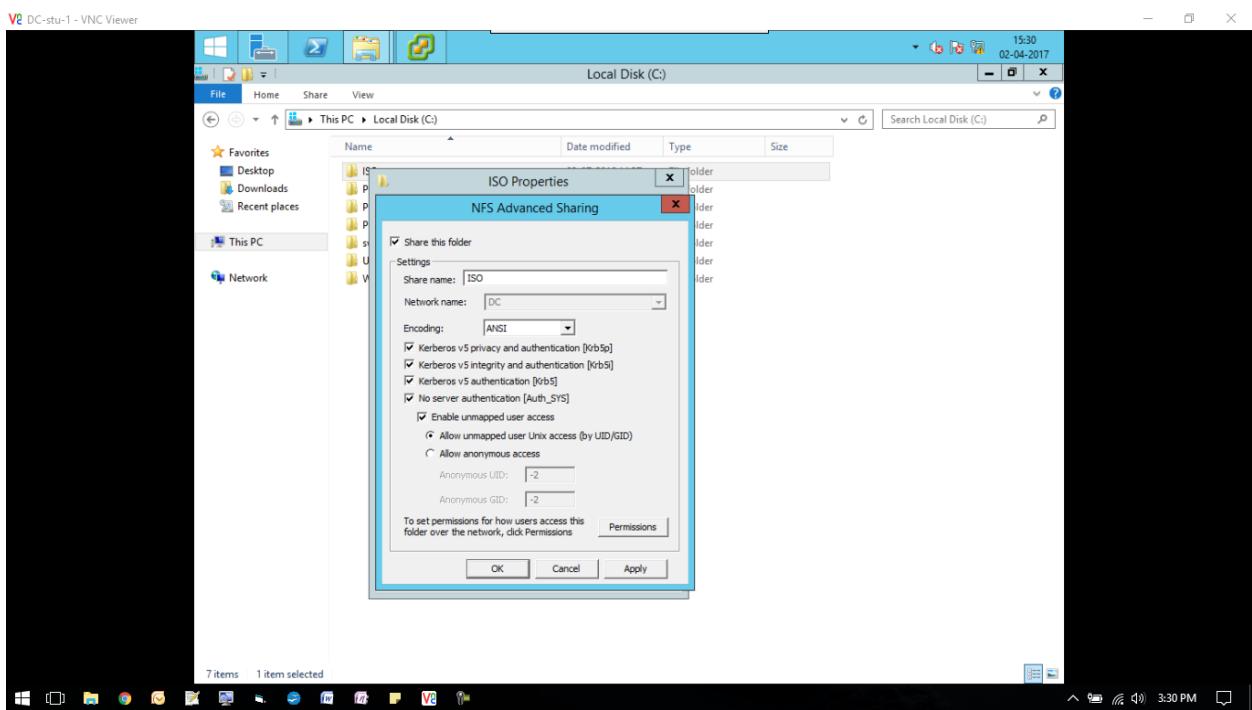
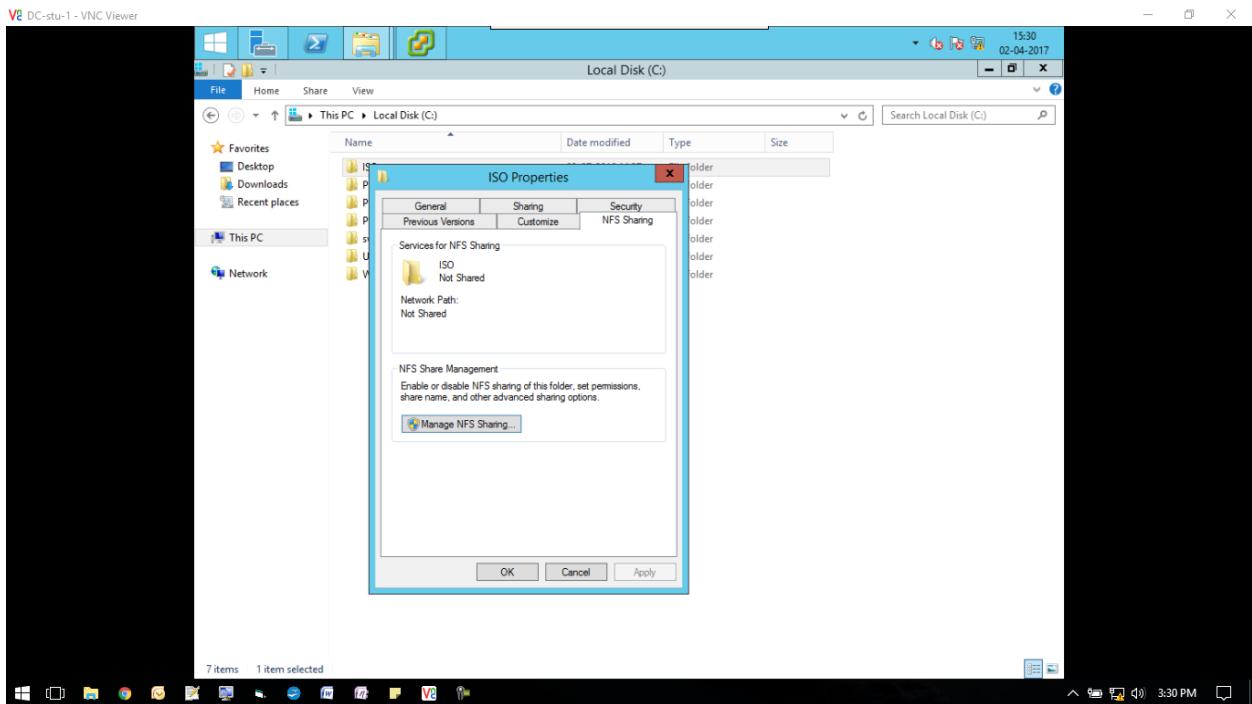


Now in 'C:' drive, create 2 folders as storage

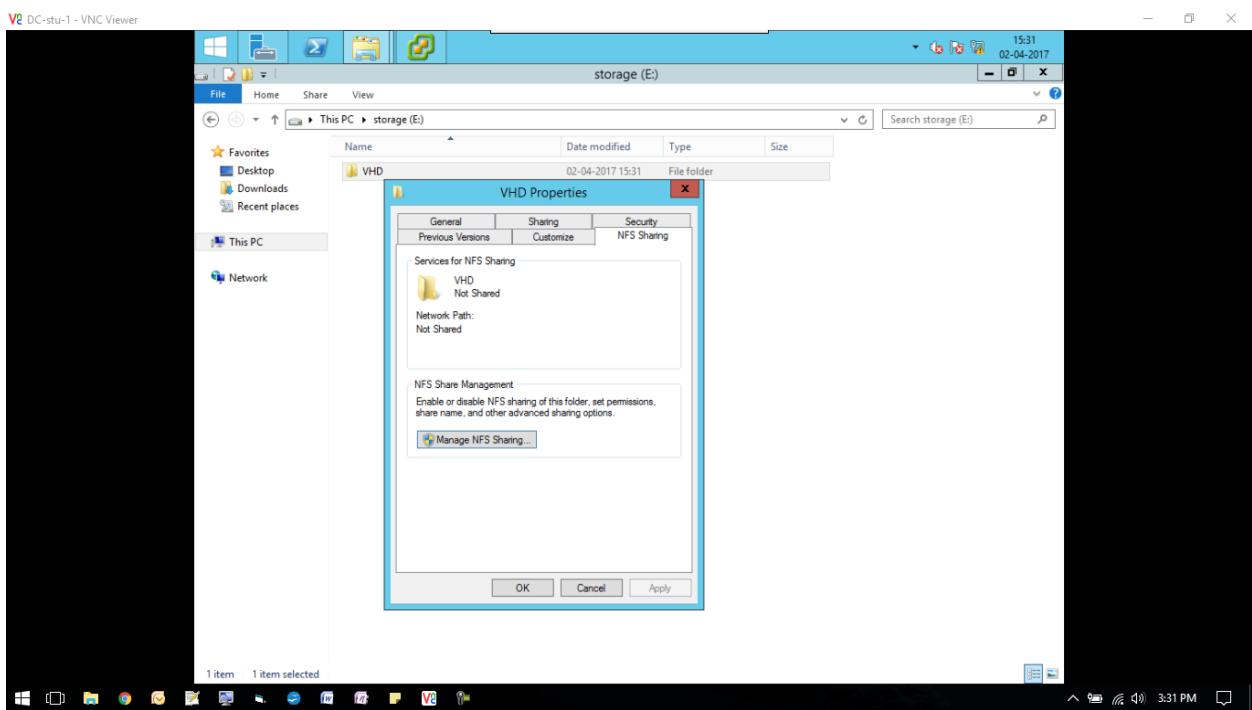
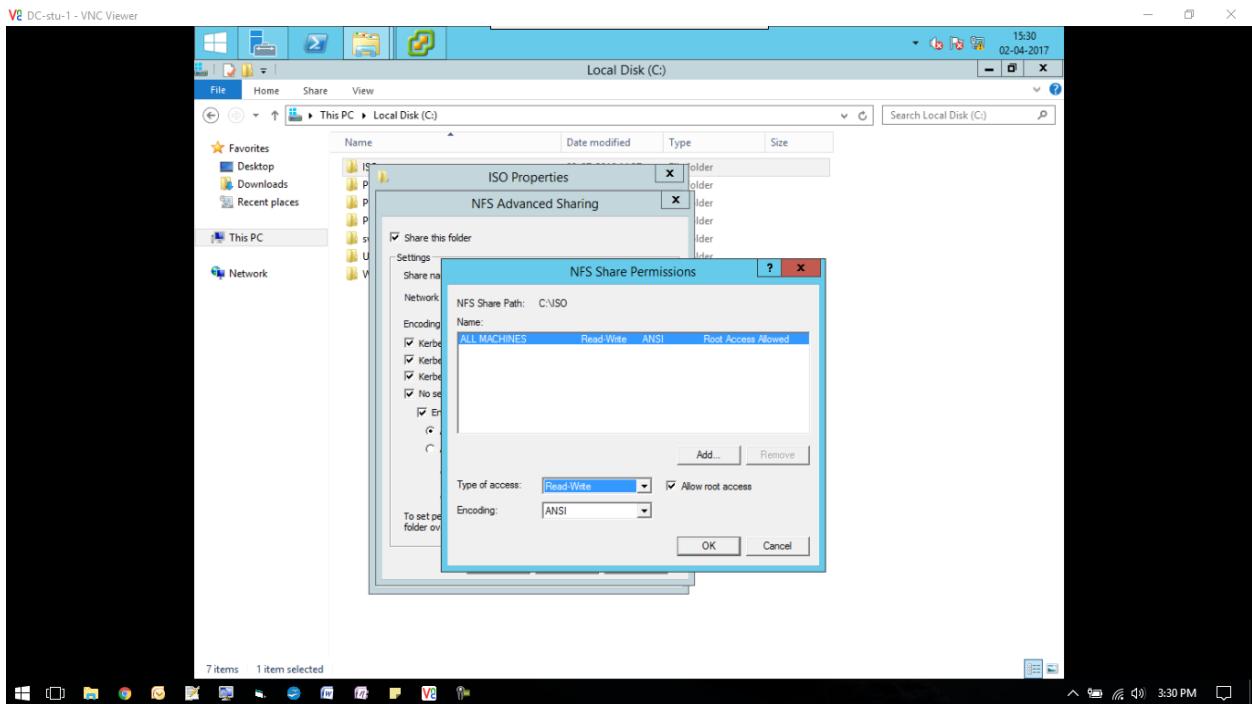
1. ISO → for ISO repository
2. VHD → for virtual hard disk repository
3. Go to properties of those folders & enable NFS sharing.



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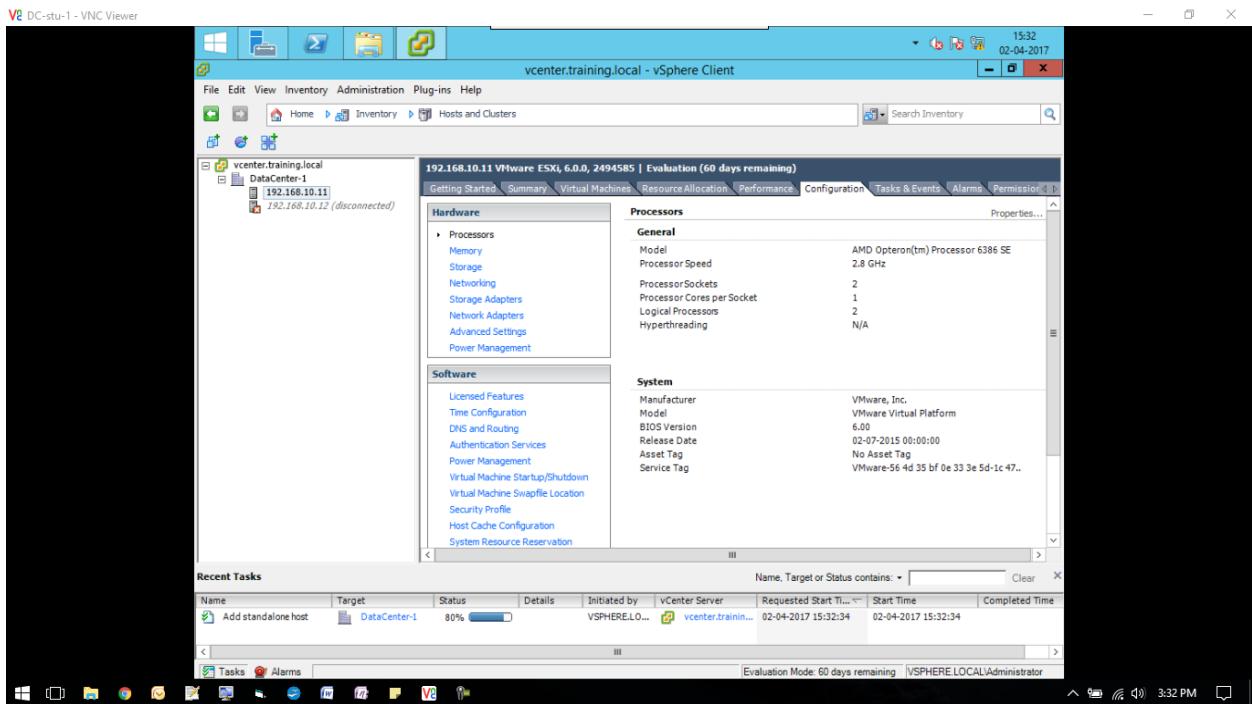


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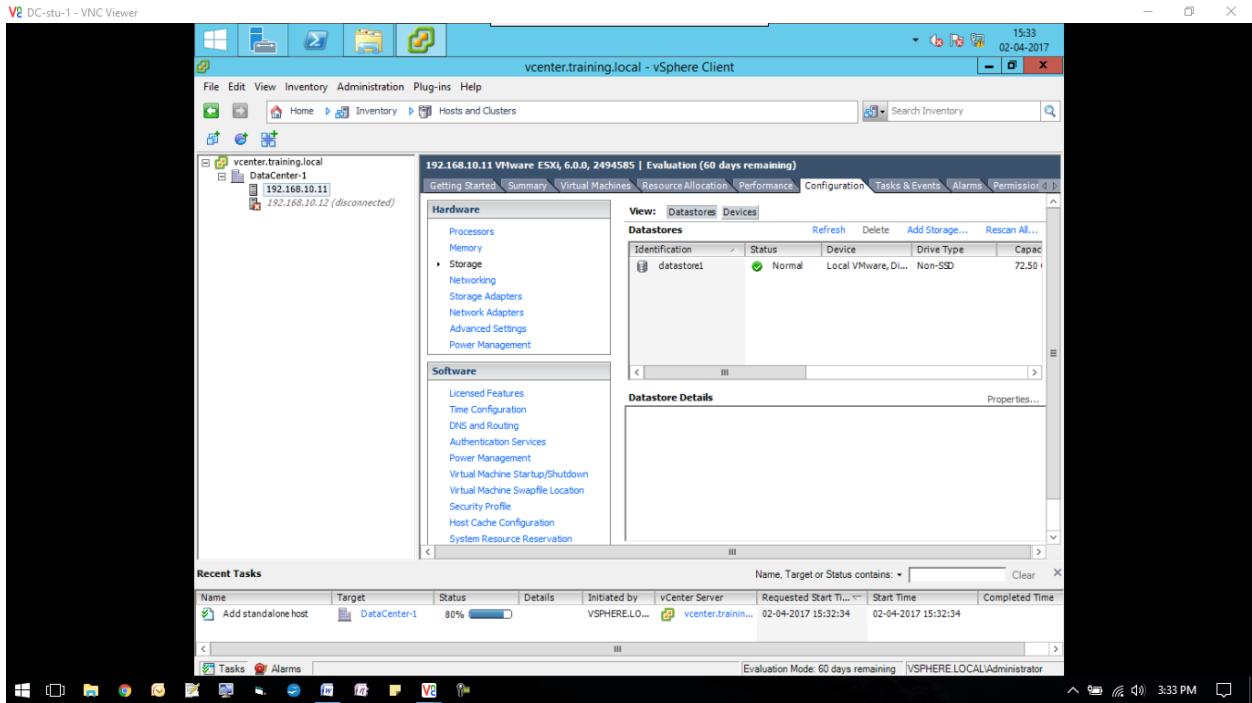


Switch to vSphere

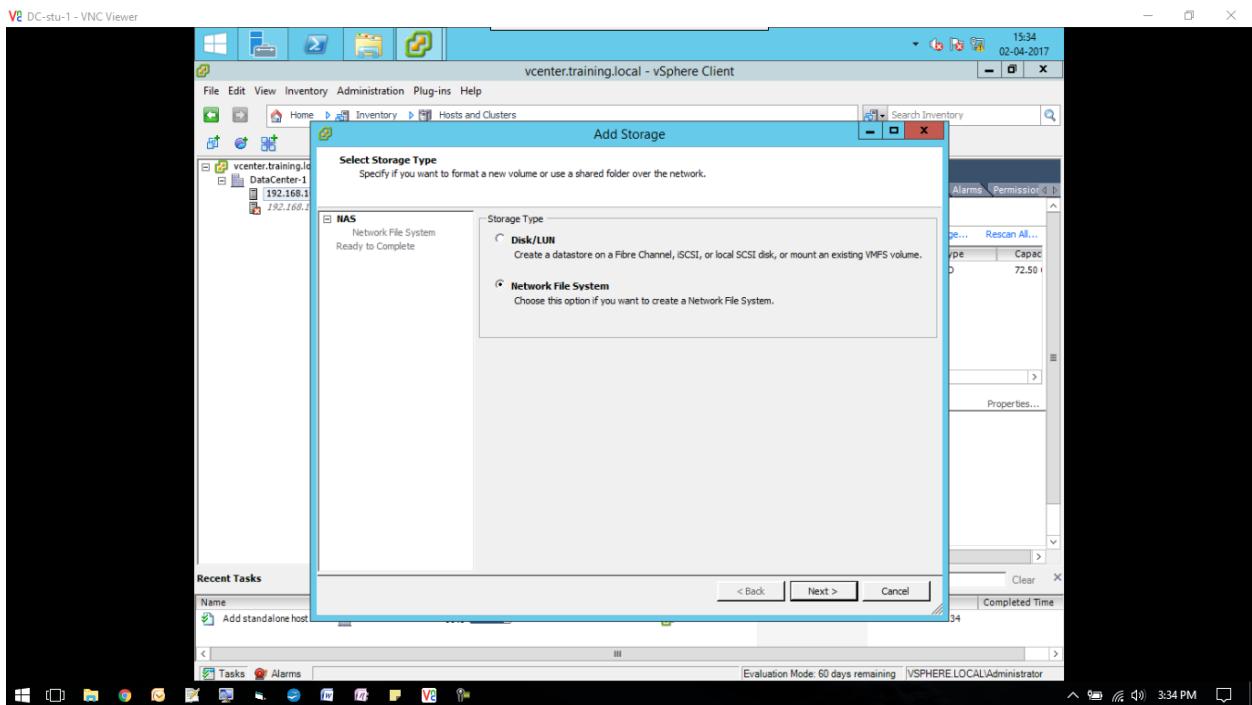
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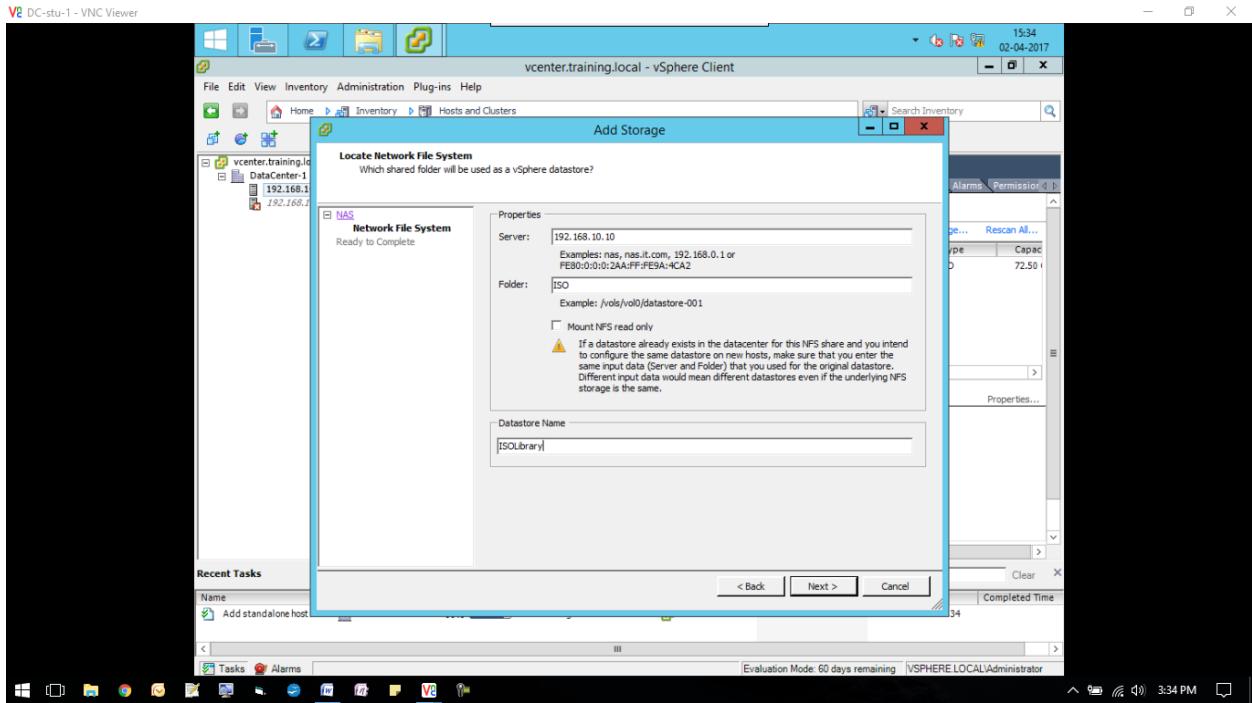
Add those NFS shared folder on ESXi host in vCenter machine.



1. Click on HOST-1, click on '**configuration**' tab, click on storage.
2. In the center pane, click on '**add storage**'.

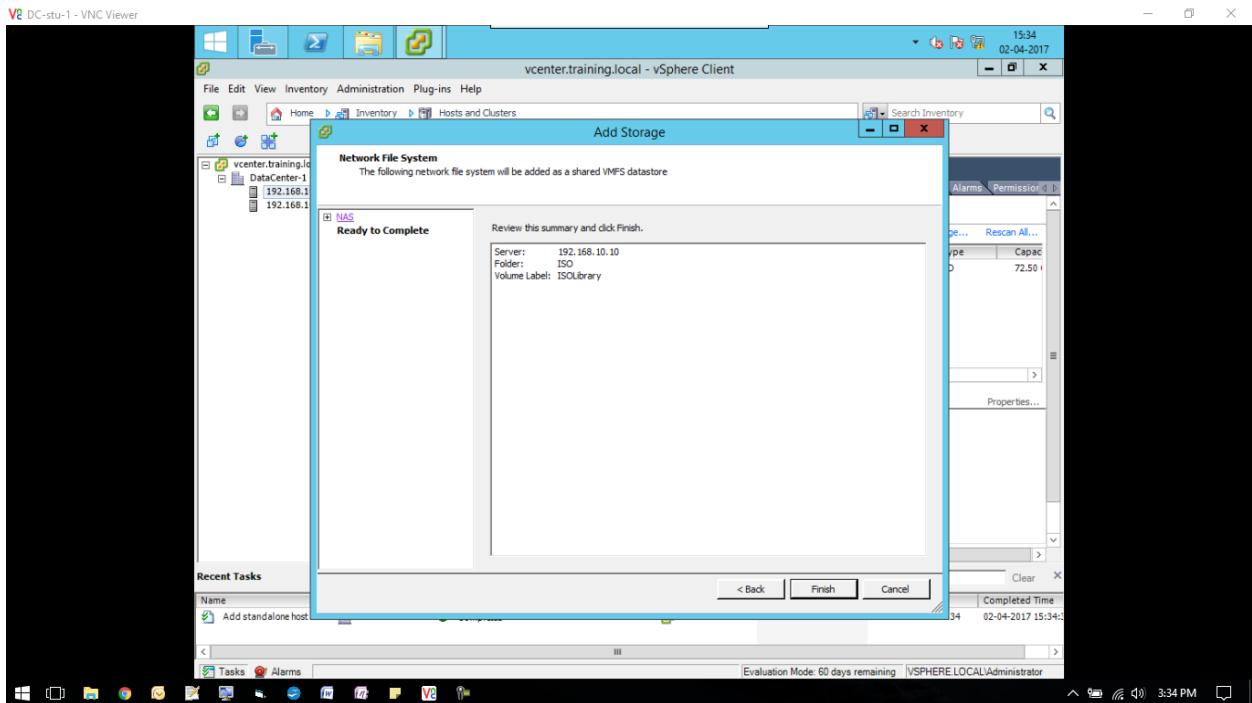


If in your environment, SAN storage is available, select Disk/LUN else select NFS.

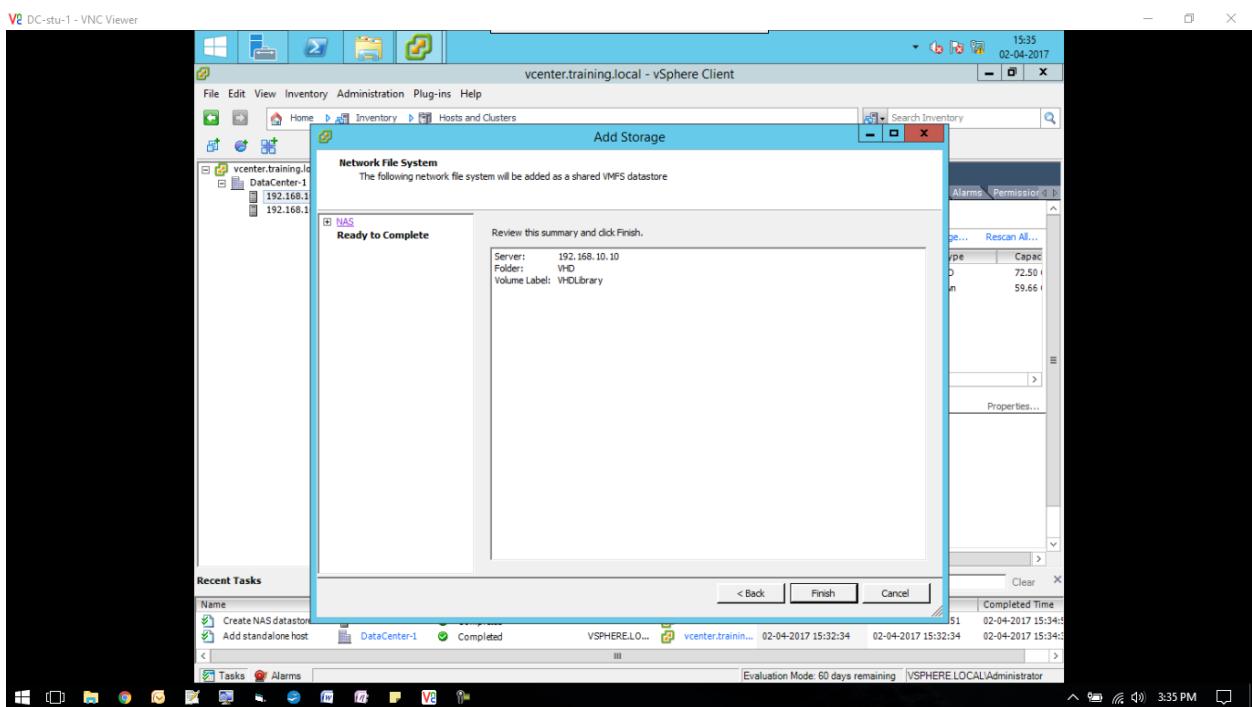
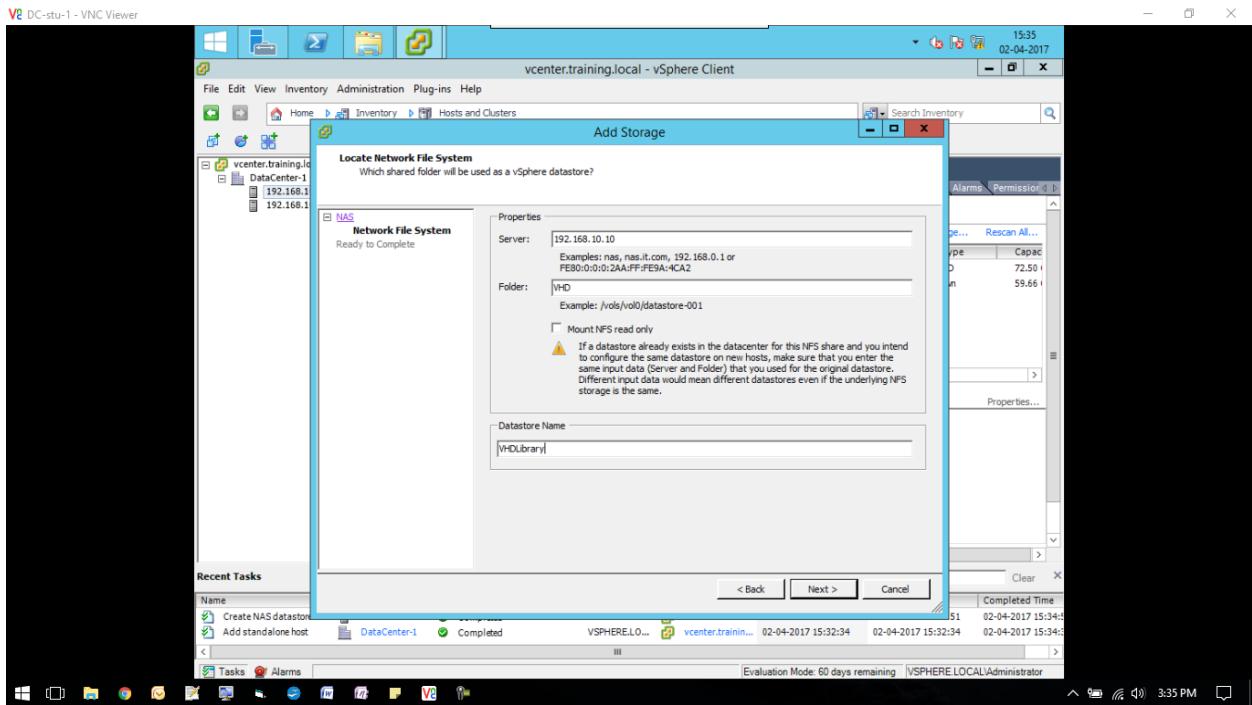


In locate NFS page,

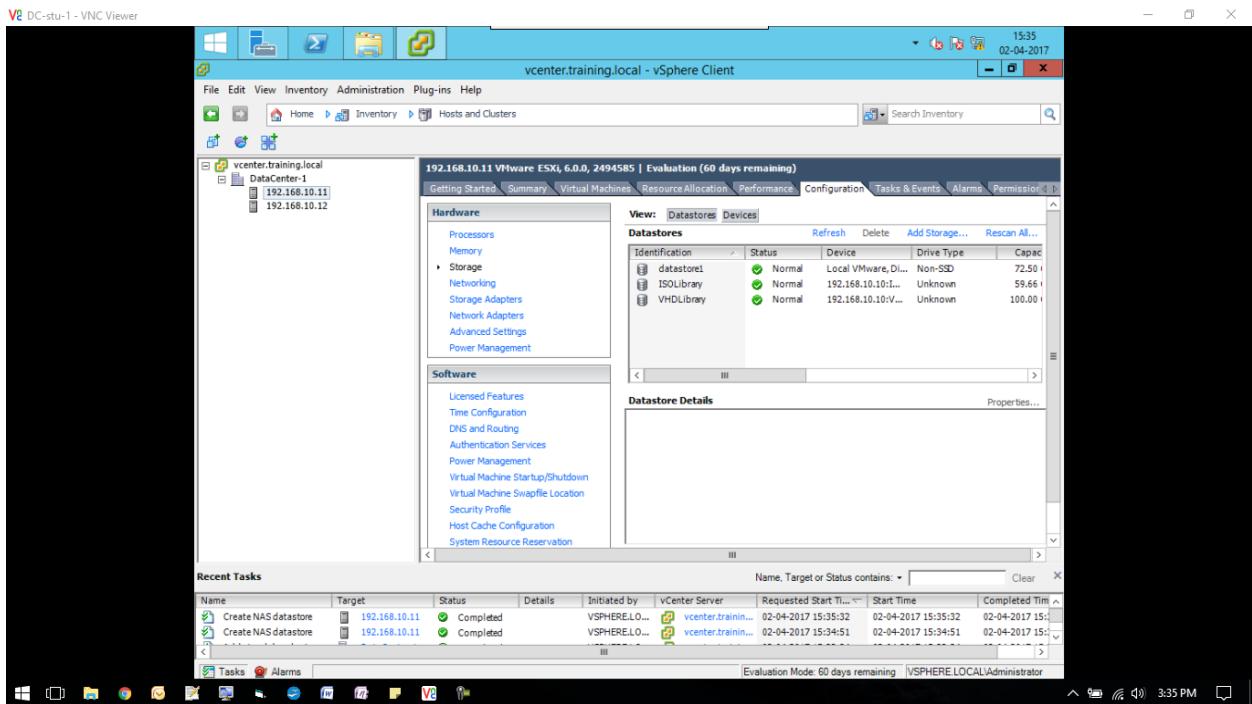
1. Server : **IP of DC machine**
2. Folder : **NFS folders name (ISO & VHD)**



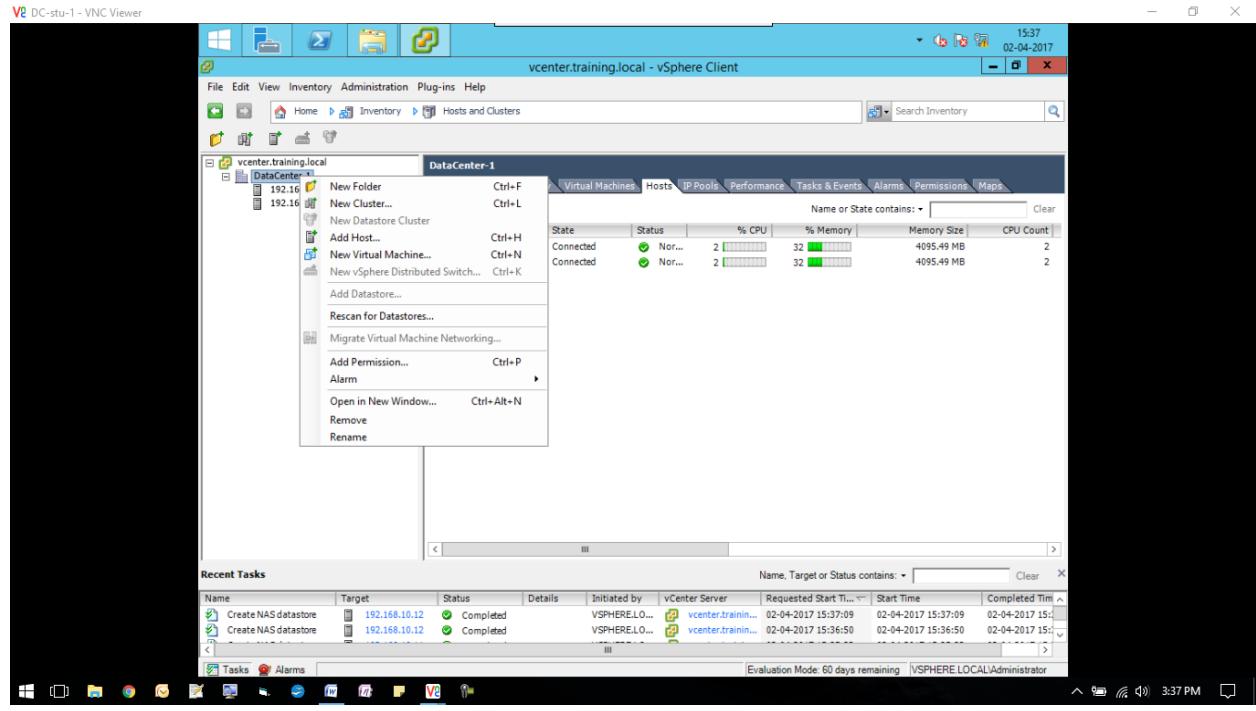
& click on finish



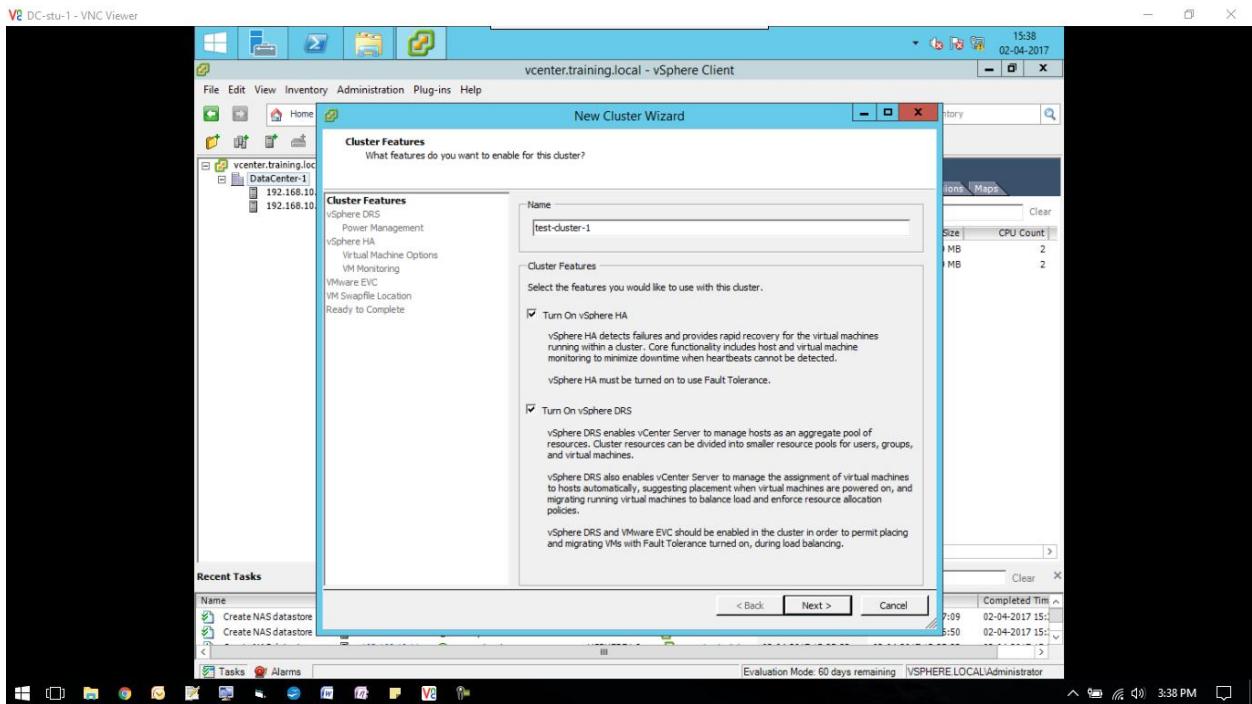
Virtualization with VMWare ESXi | Jitendra Singh Tomar



Creating Cluster

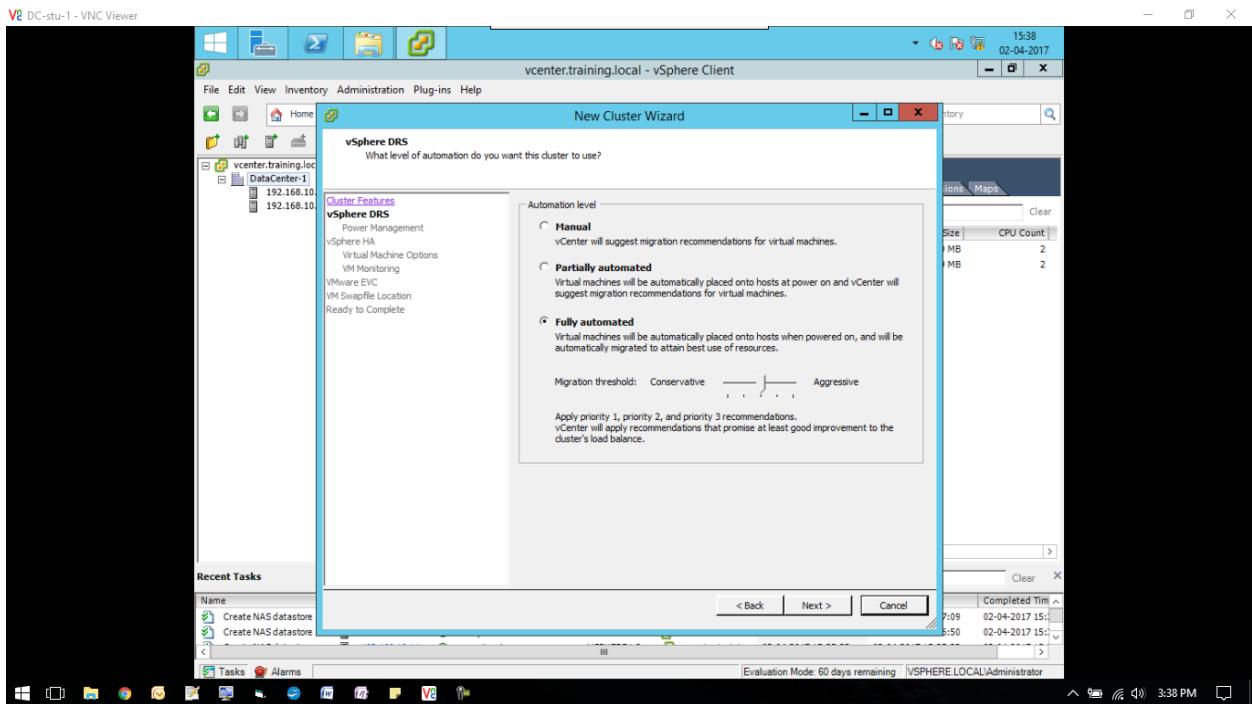


To create a cluster, right click on data center & select “**New Cluster**”.



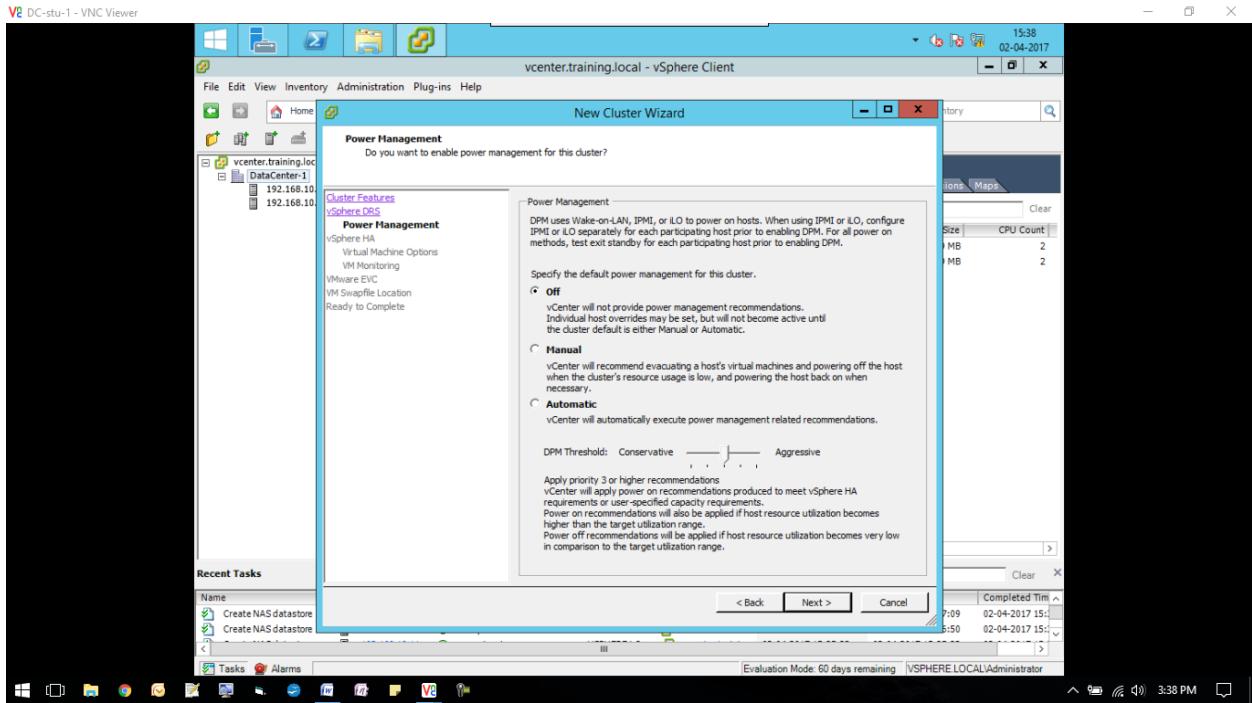
In cluster feature page,

1. Give cluster name
2. Check “Turn on vSphere HA” → for High Availability
3. Check “Turn on vSphere DRS” → for Distributed Resource Allocation.
4. Click next.



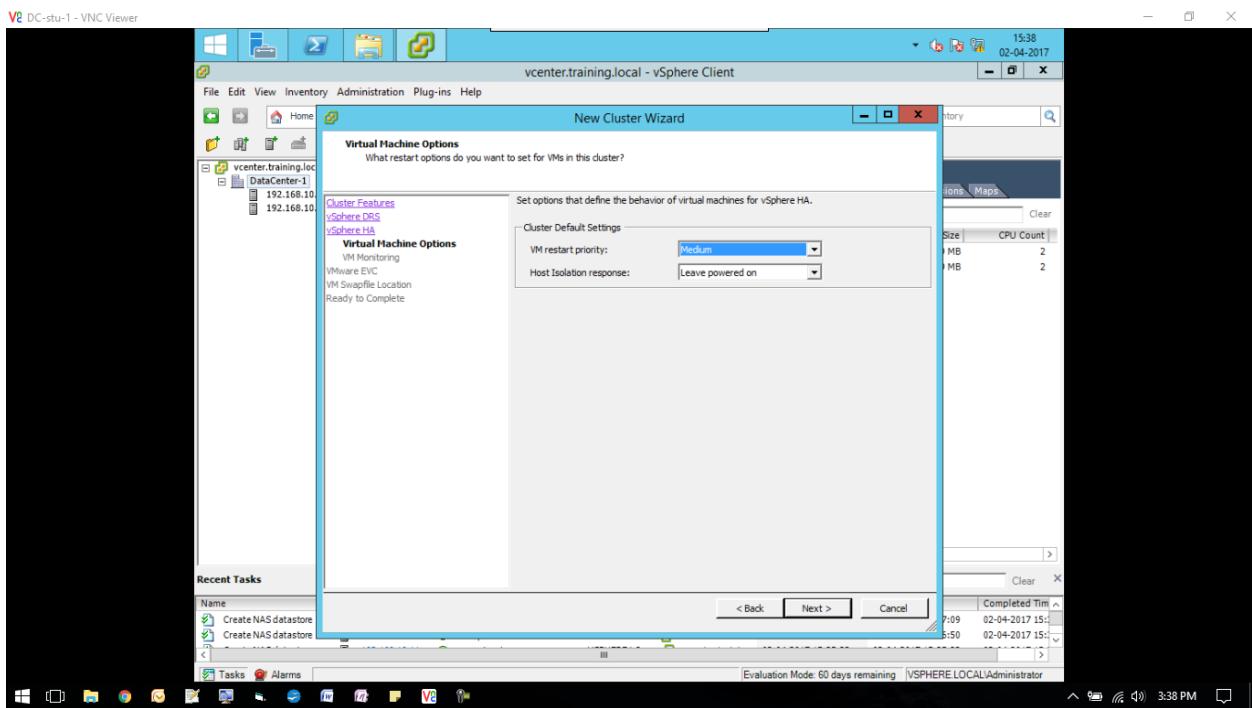
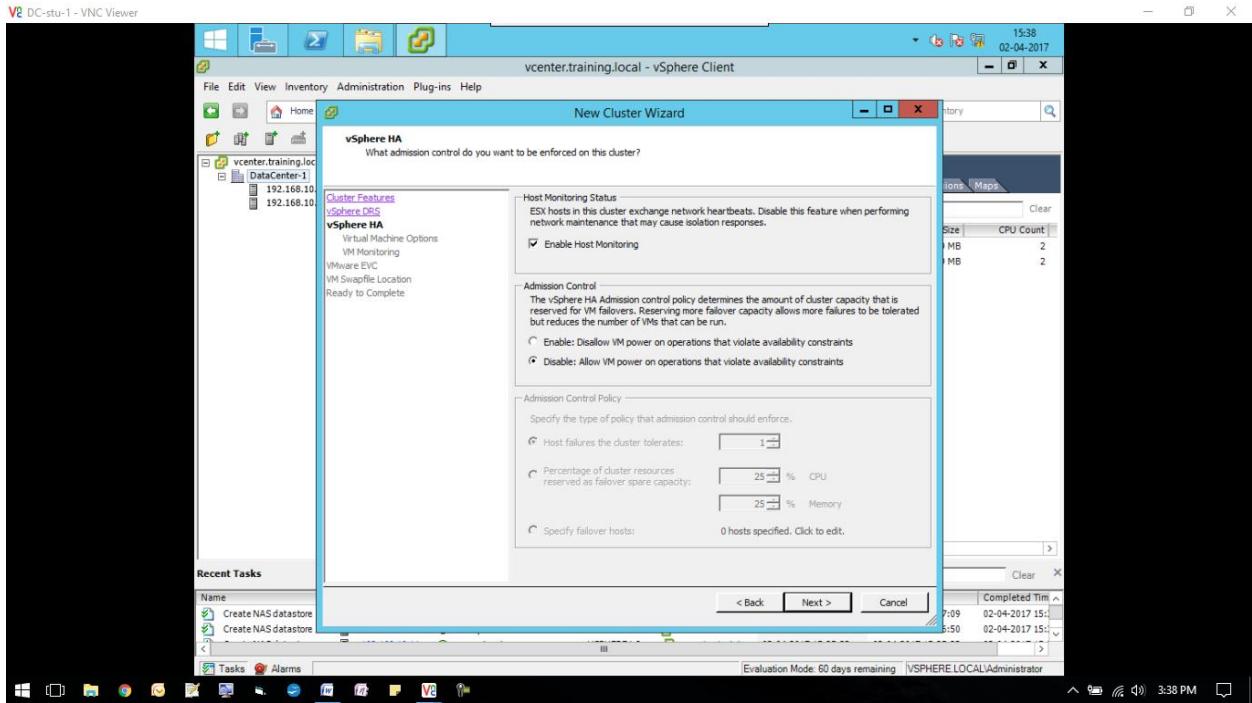
On vSphere DRS page, select type of automation

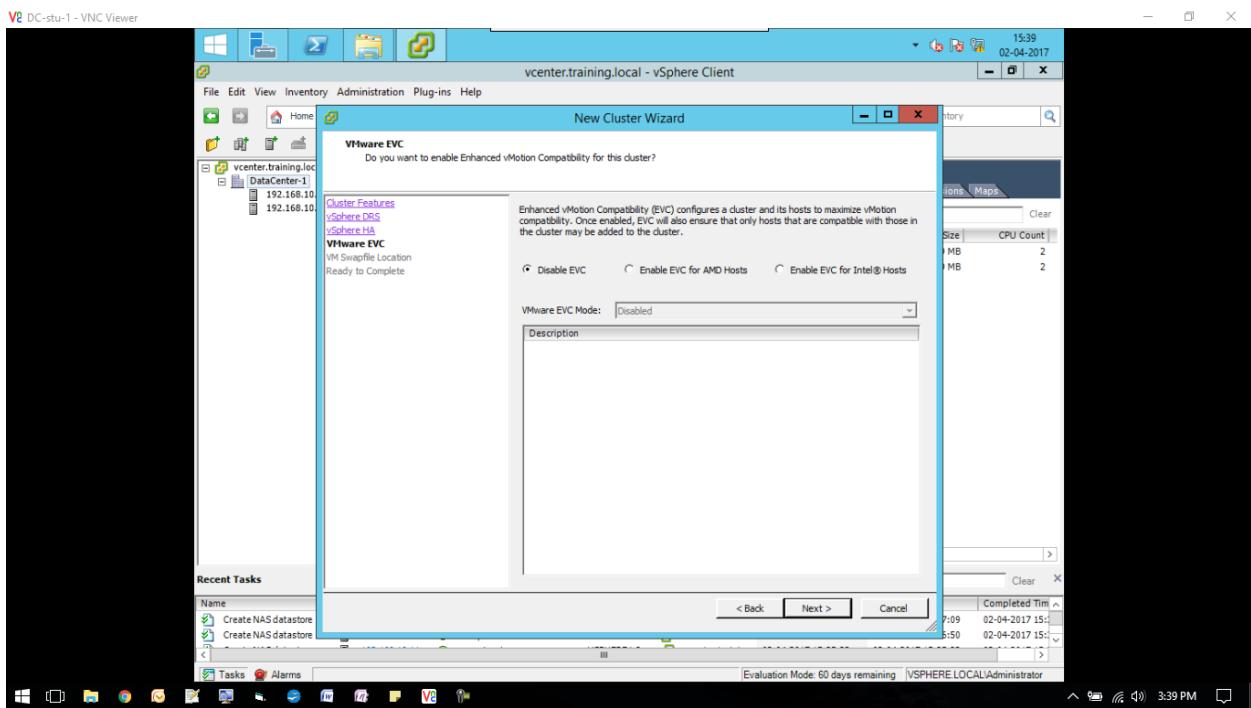
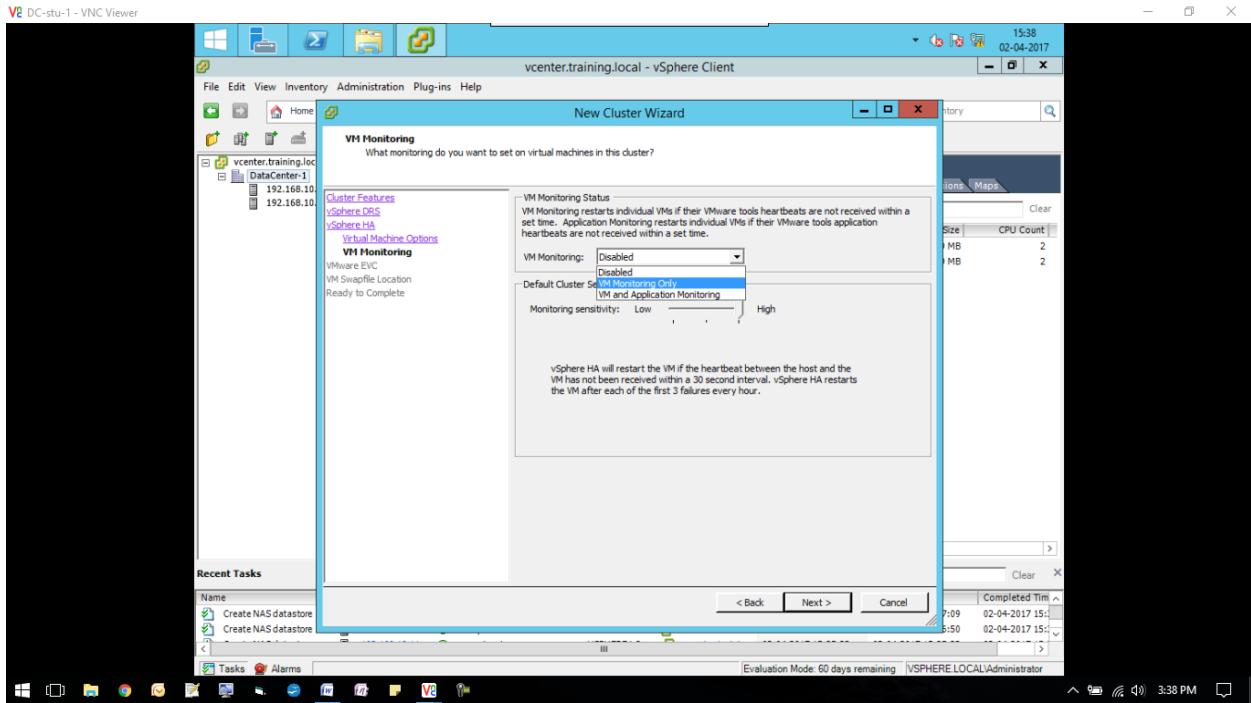
1. Manual → manual migration & alert on higher usage
2. Partially automated → VMs at power on will be placed to the host & will suggest for migration.
3. Fully automated → VMs at power on will automatically placed on host & migrate.



On power management page, which uses concept of ‘wake-on-LAN’, will decide that how a non-utilized server will be used.

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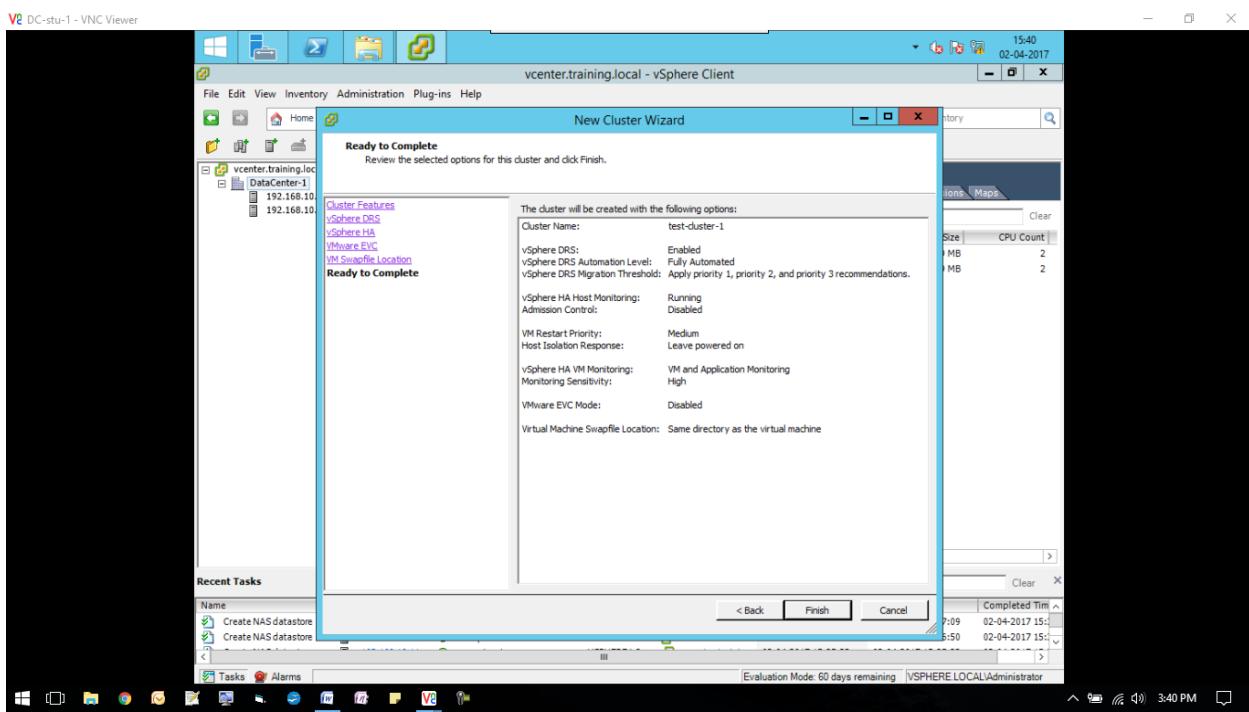
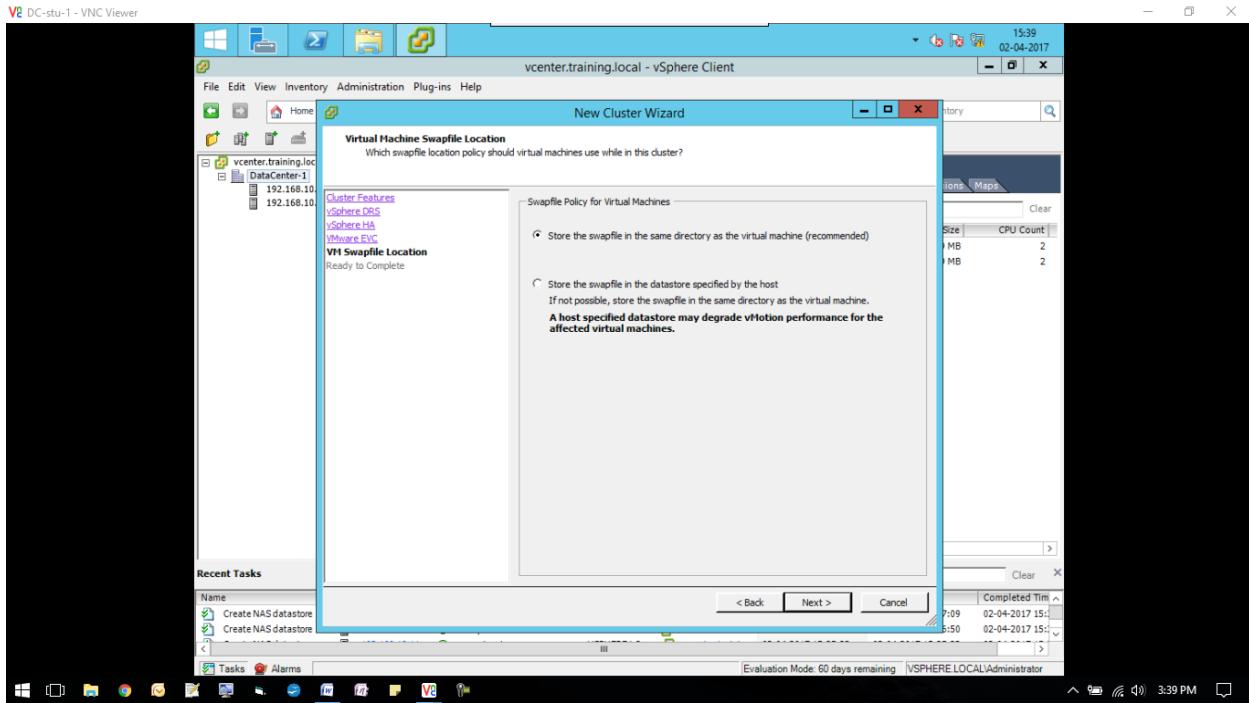




On EVC page, select the option as per your production environment.

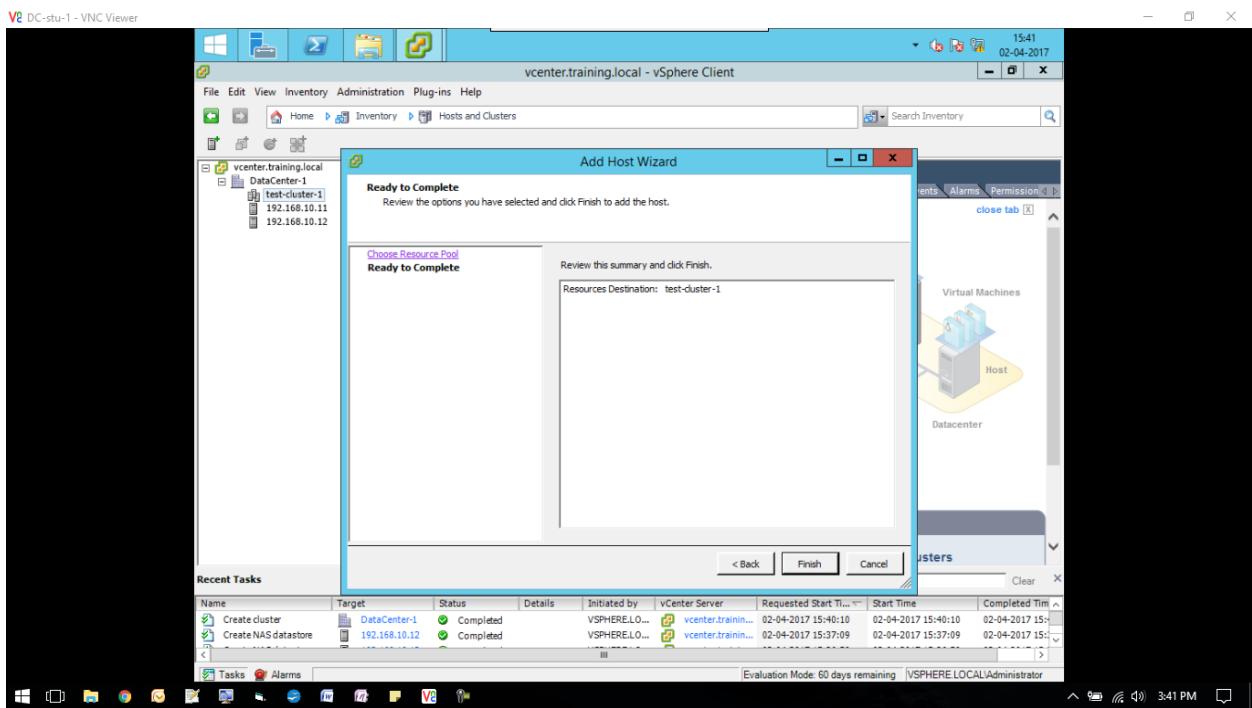
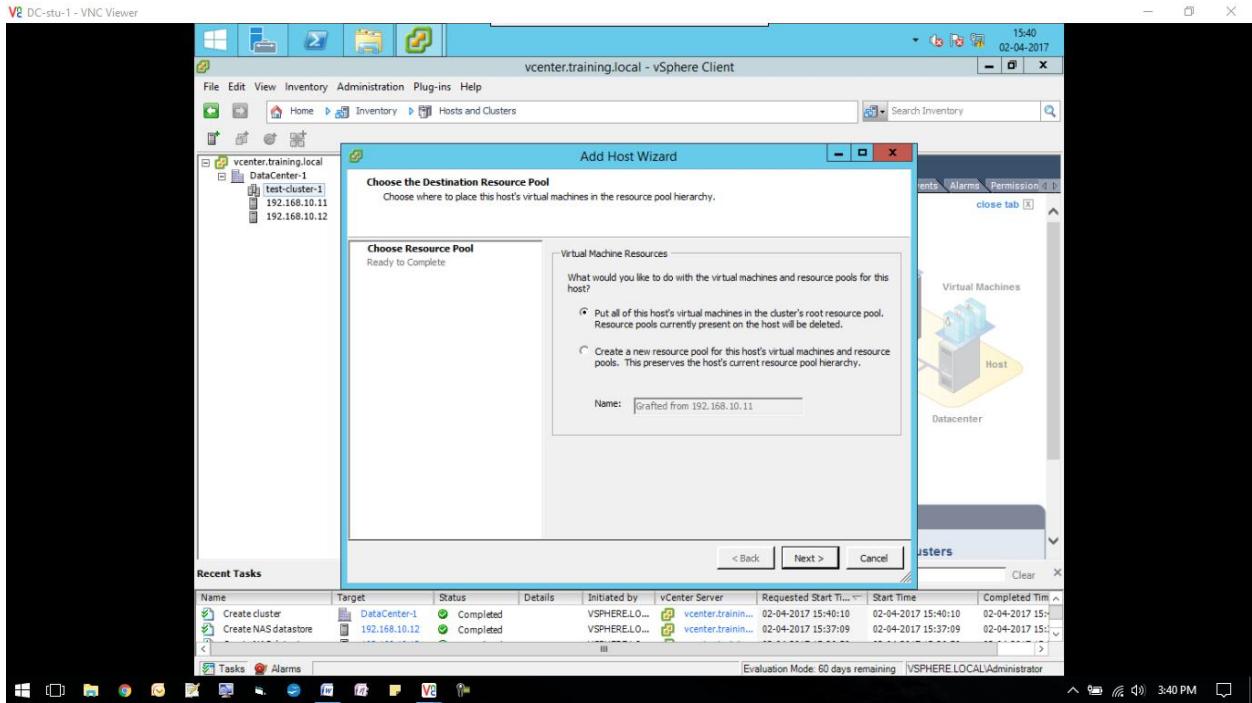
1. If production consists of mixed processor architecture → disable EVC
2. If prod. Consists of only AMD → enable for AMD hosts
3. If prod. Consists of only Intel → enable for Intel hosts

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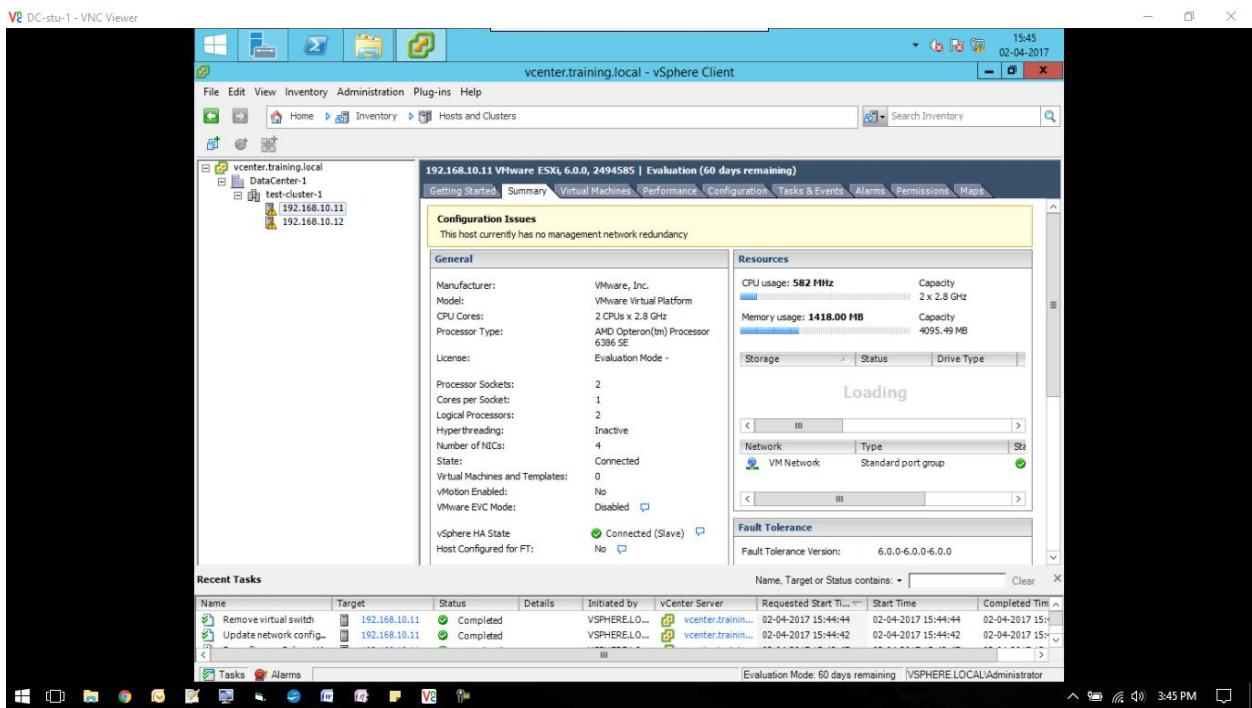
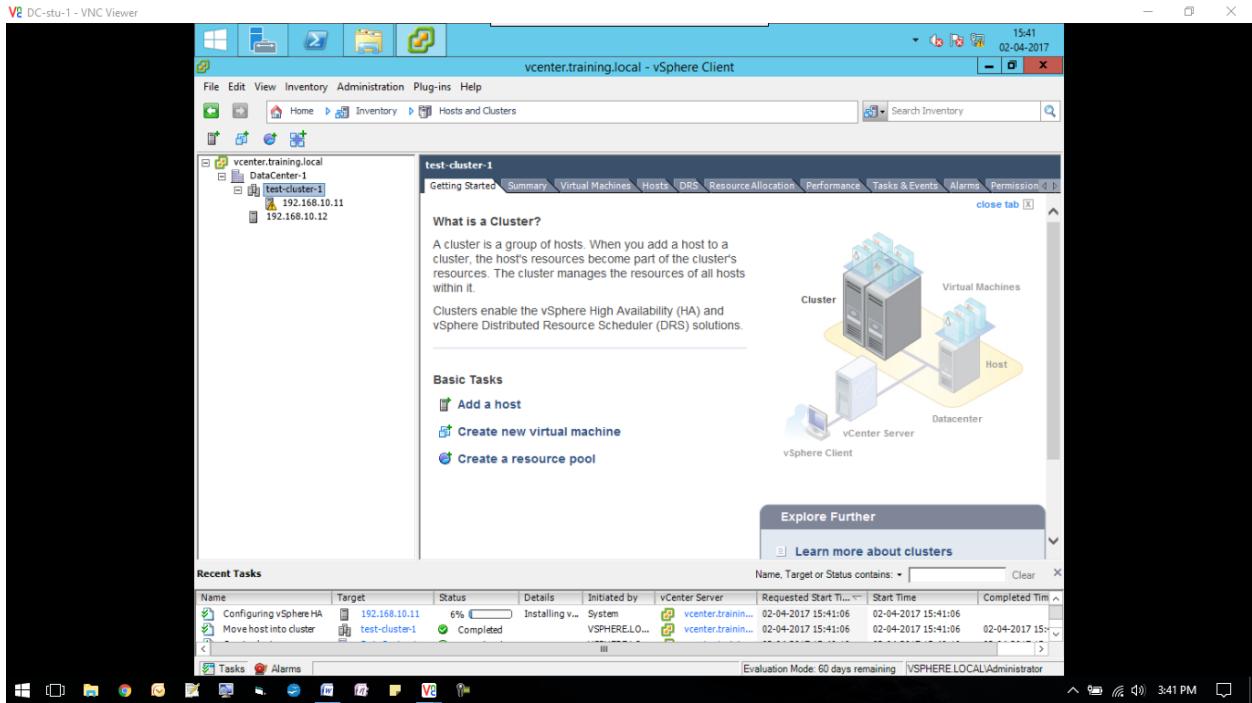


Once clicked on finish, add host to the cluster by simple 'drag & drop' into cluster

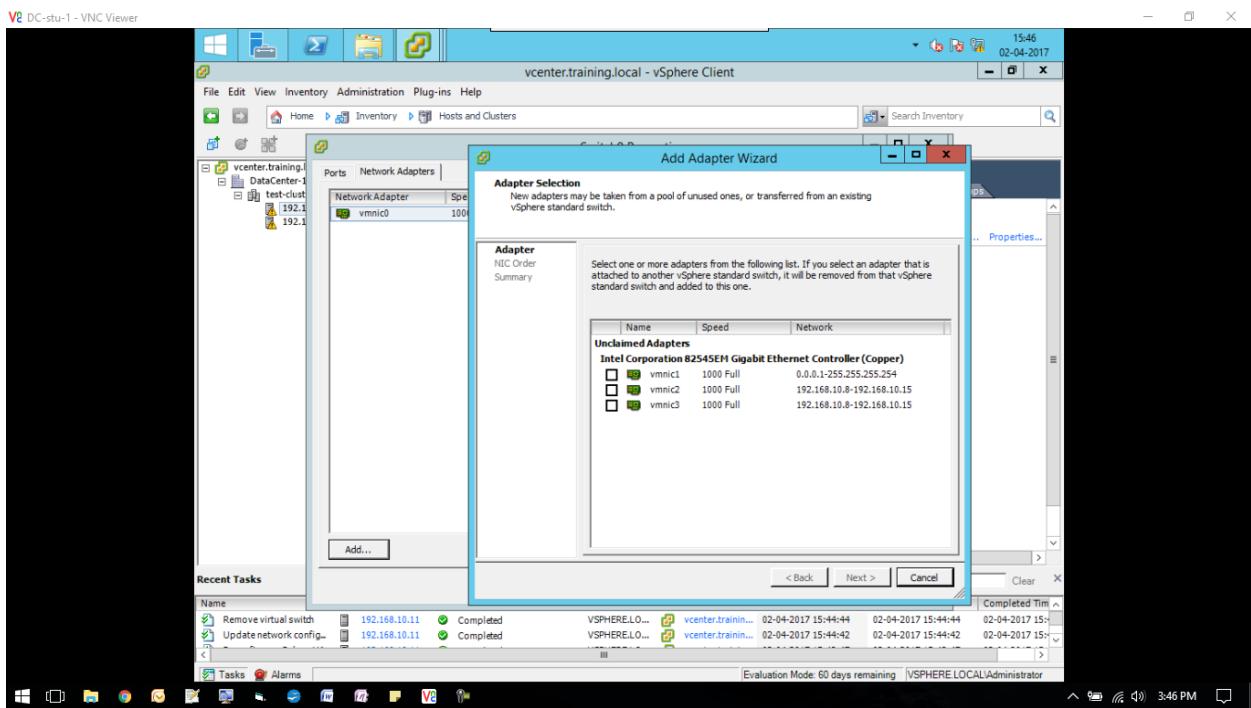
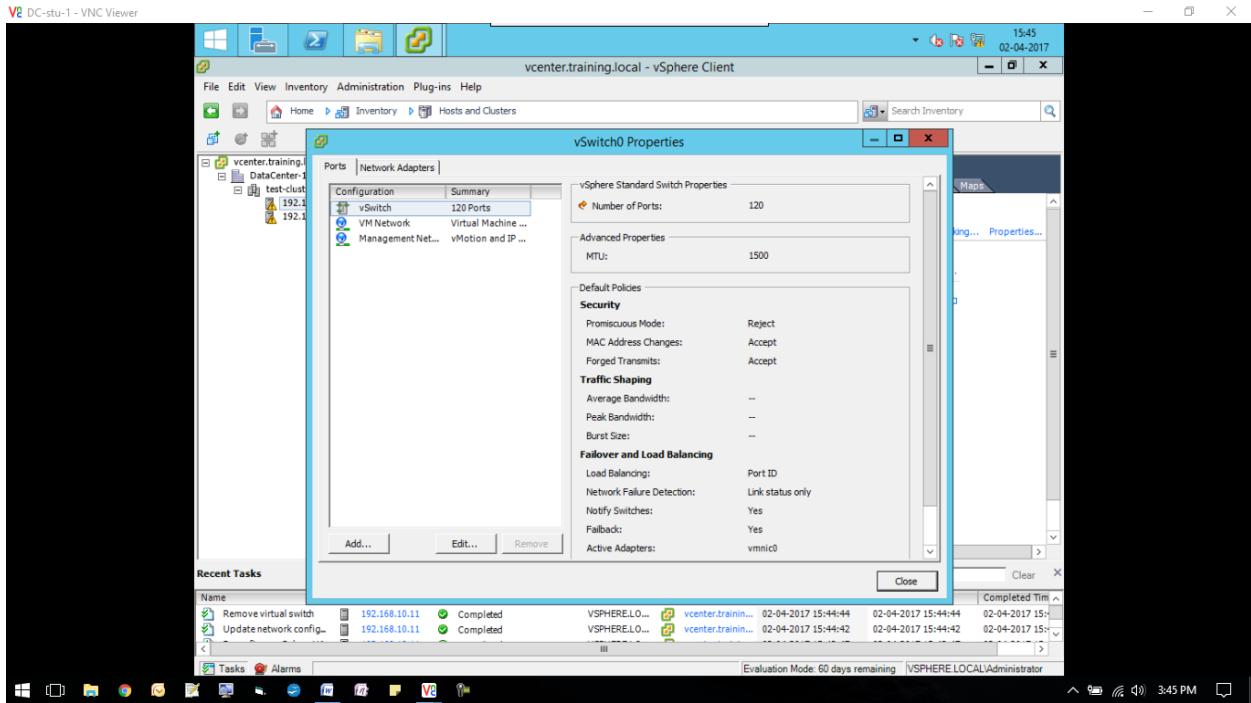
Virtualization with VMWare ESXi | Jitendra Singh Tomar



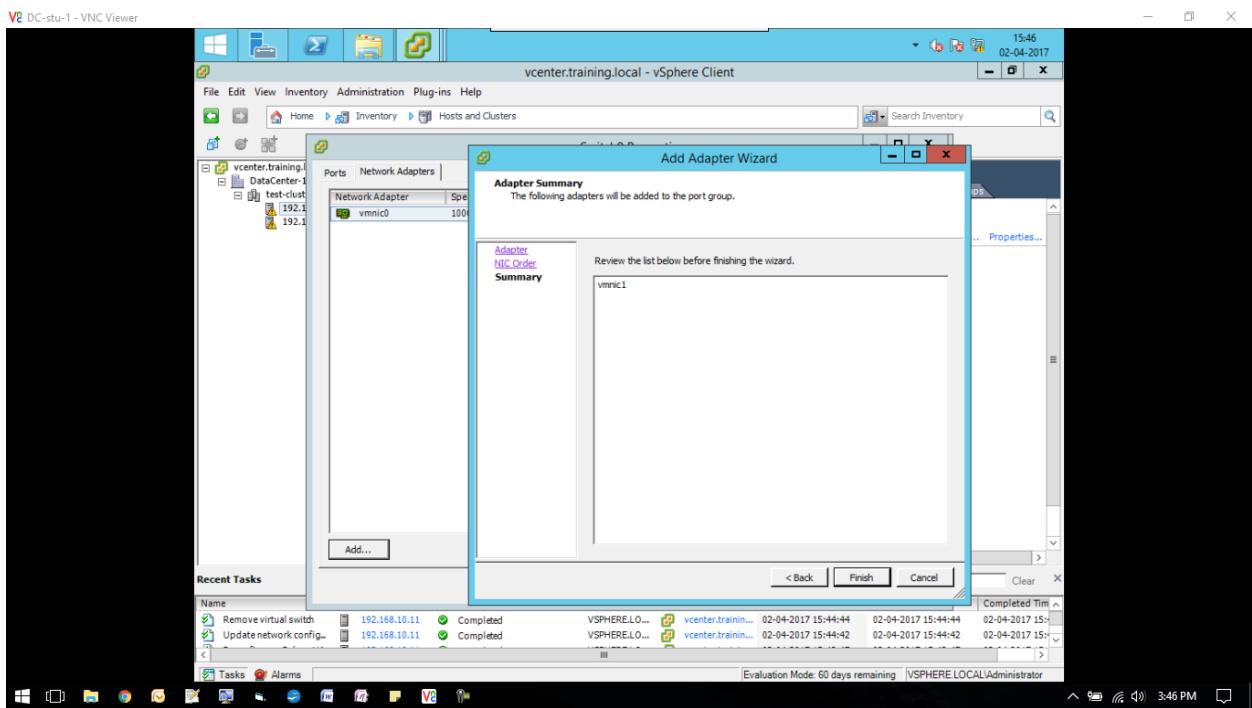
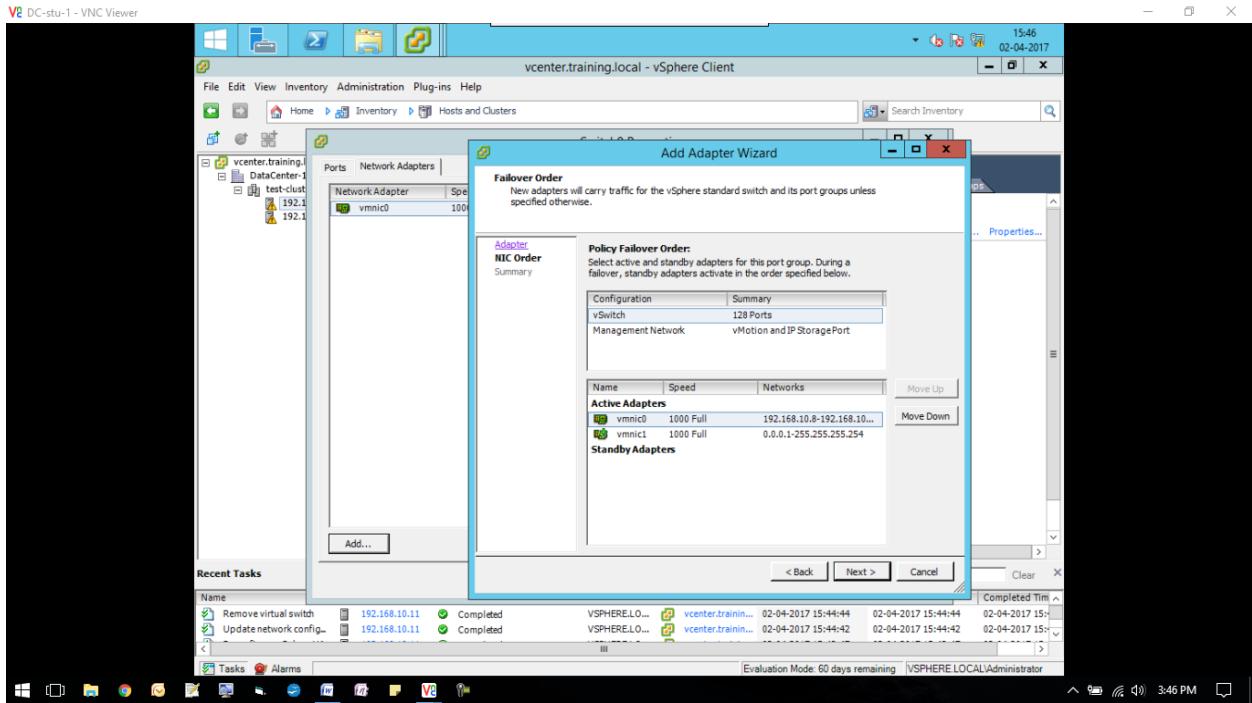
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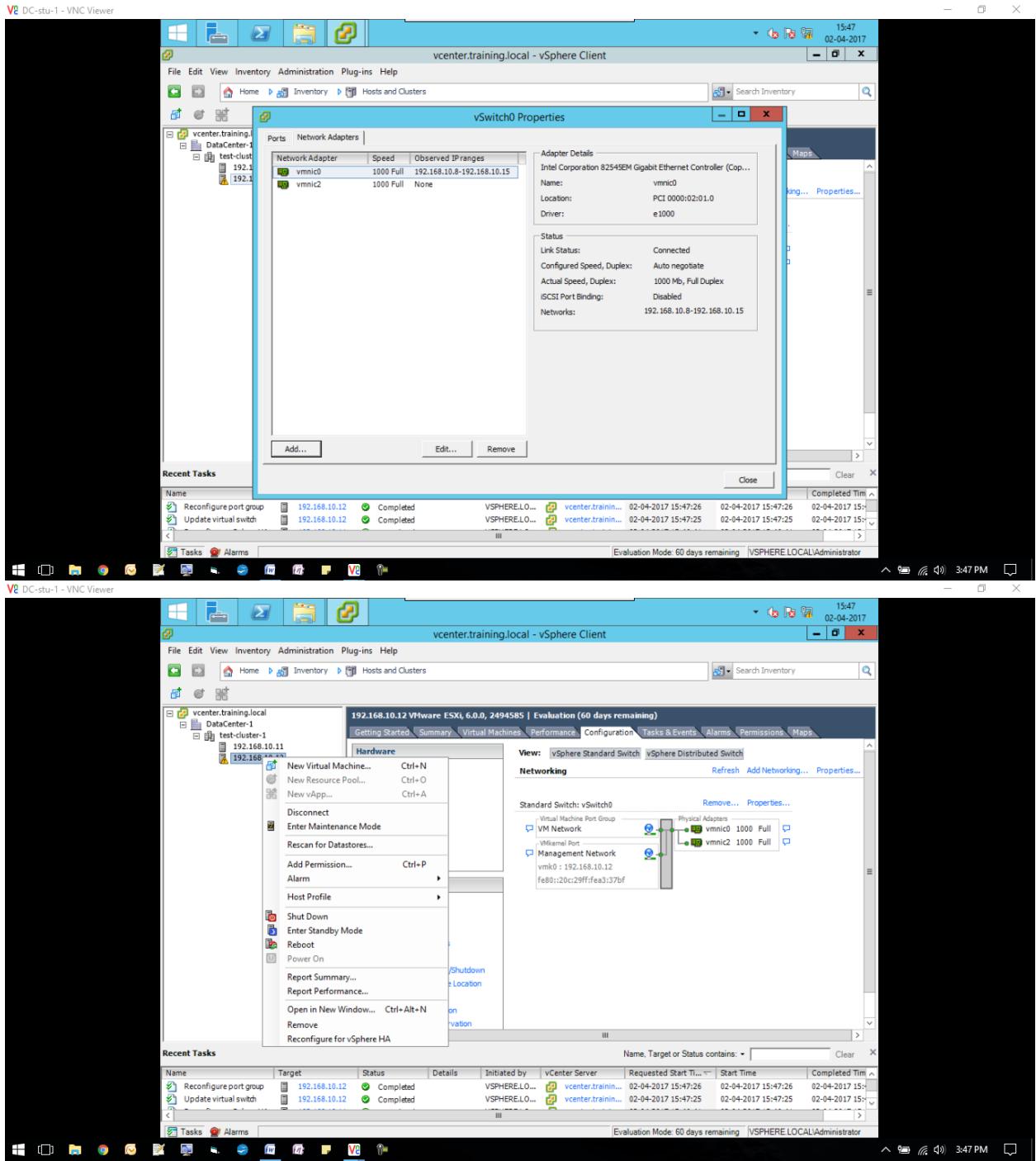


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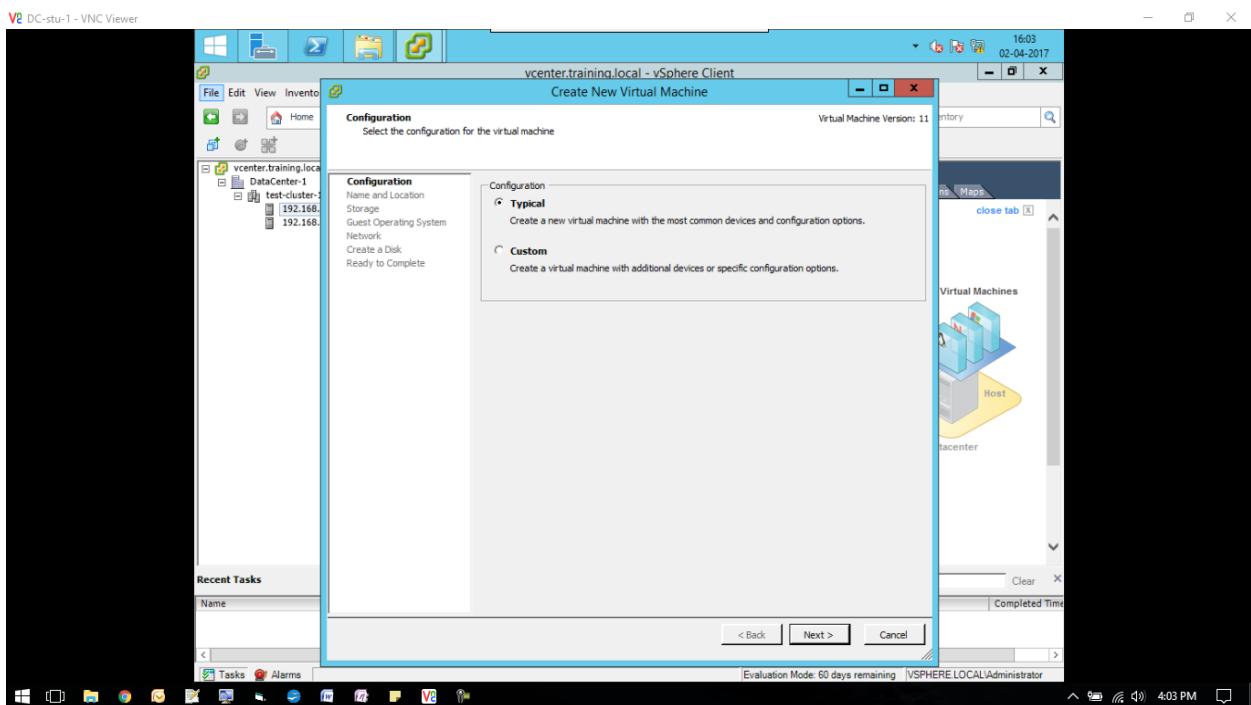
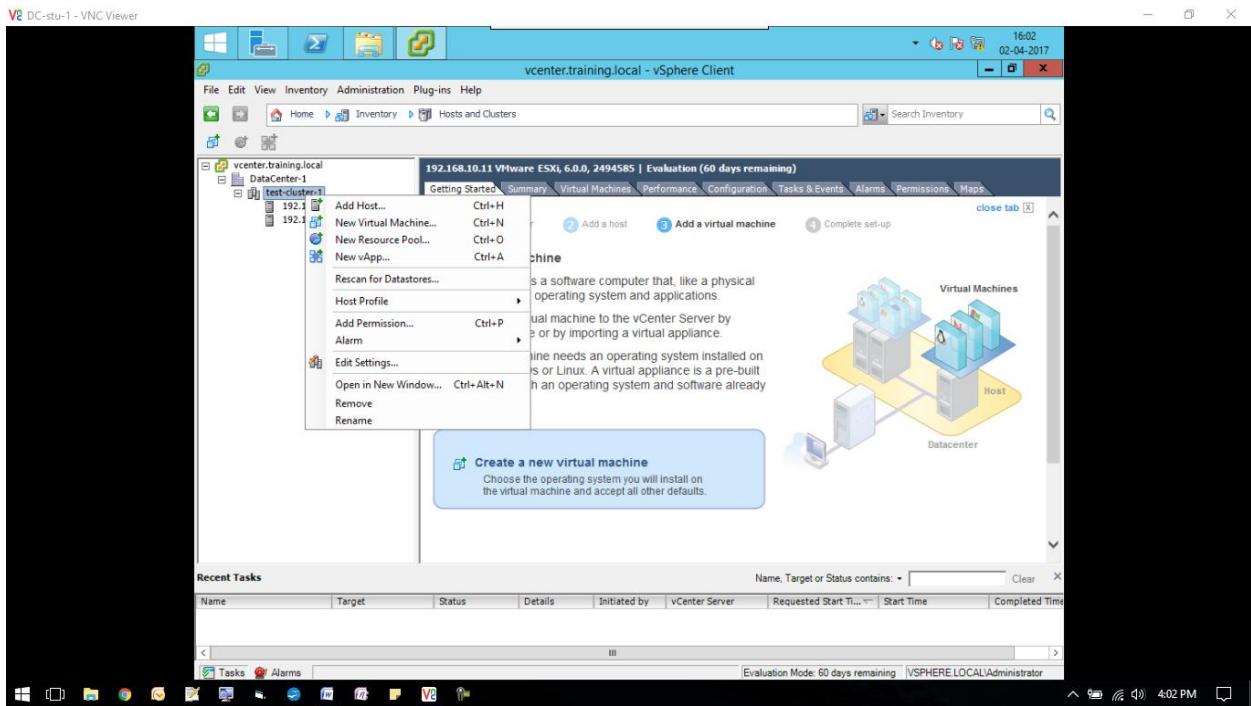
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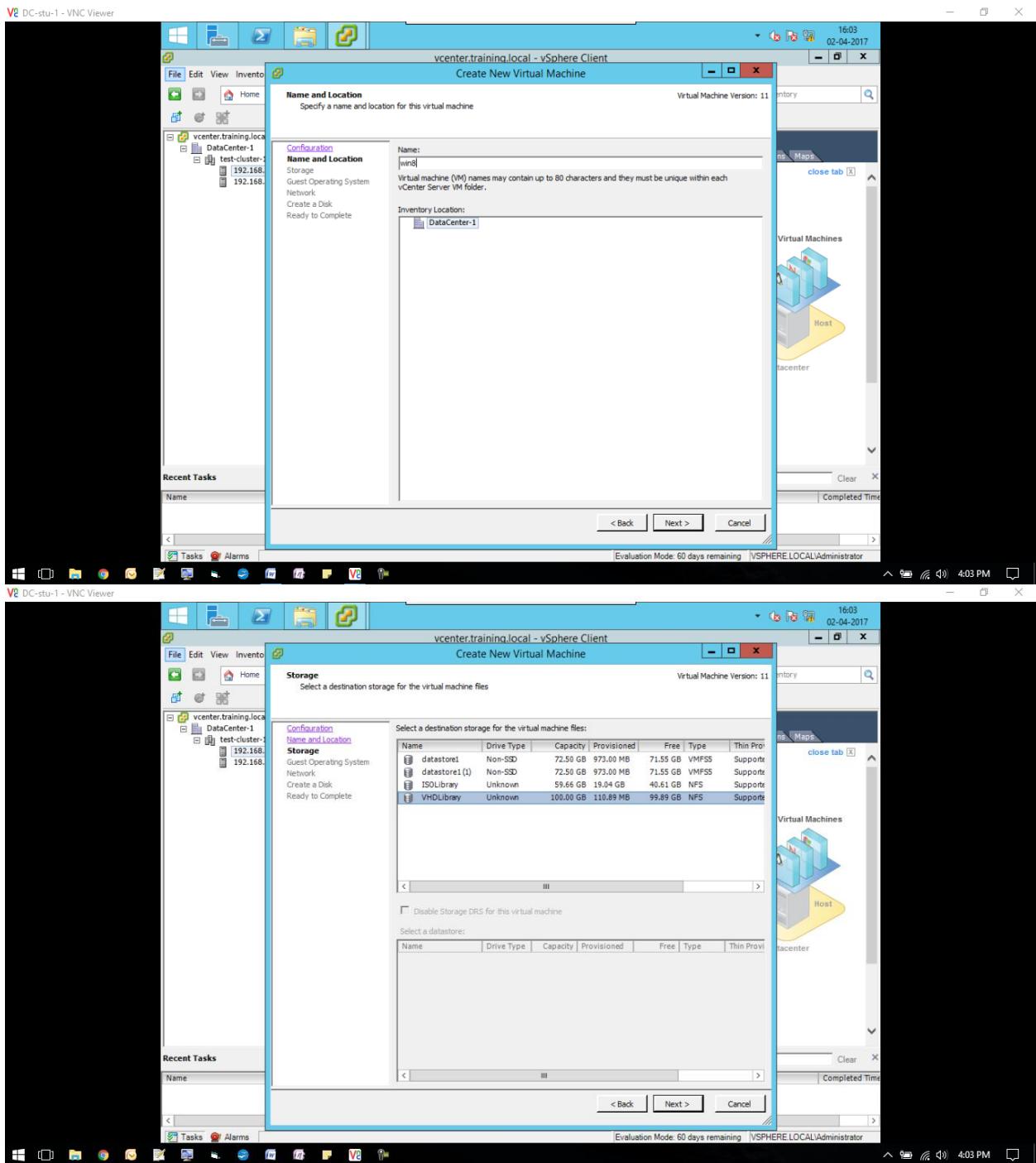


Click on Reconfigure for vSphere HA

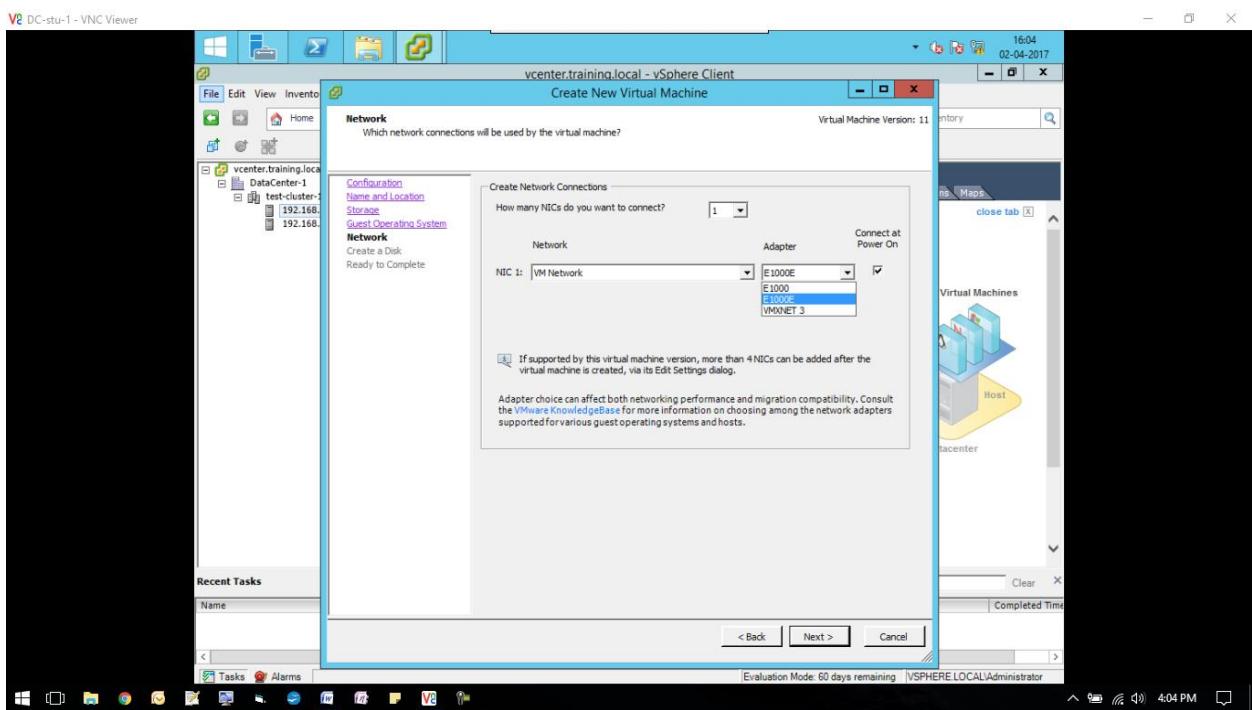
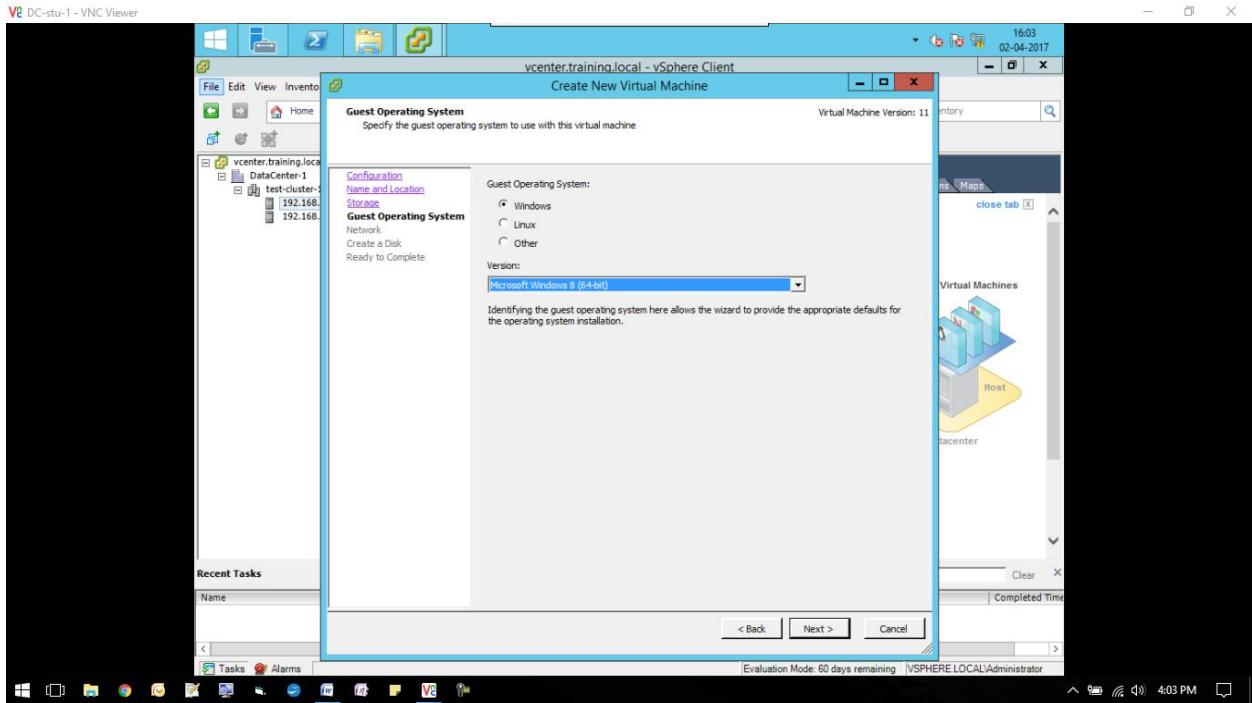
Creating new Virtual Machine



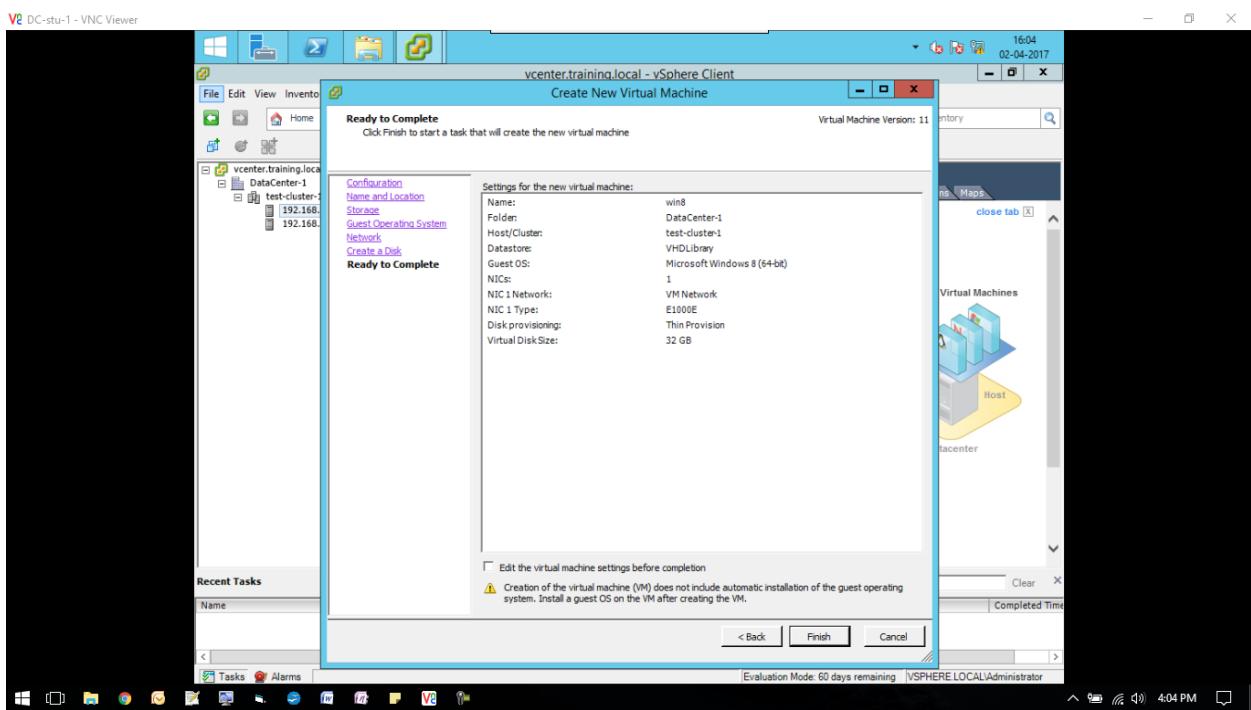
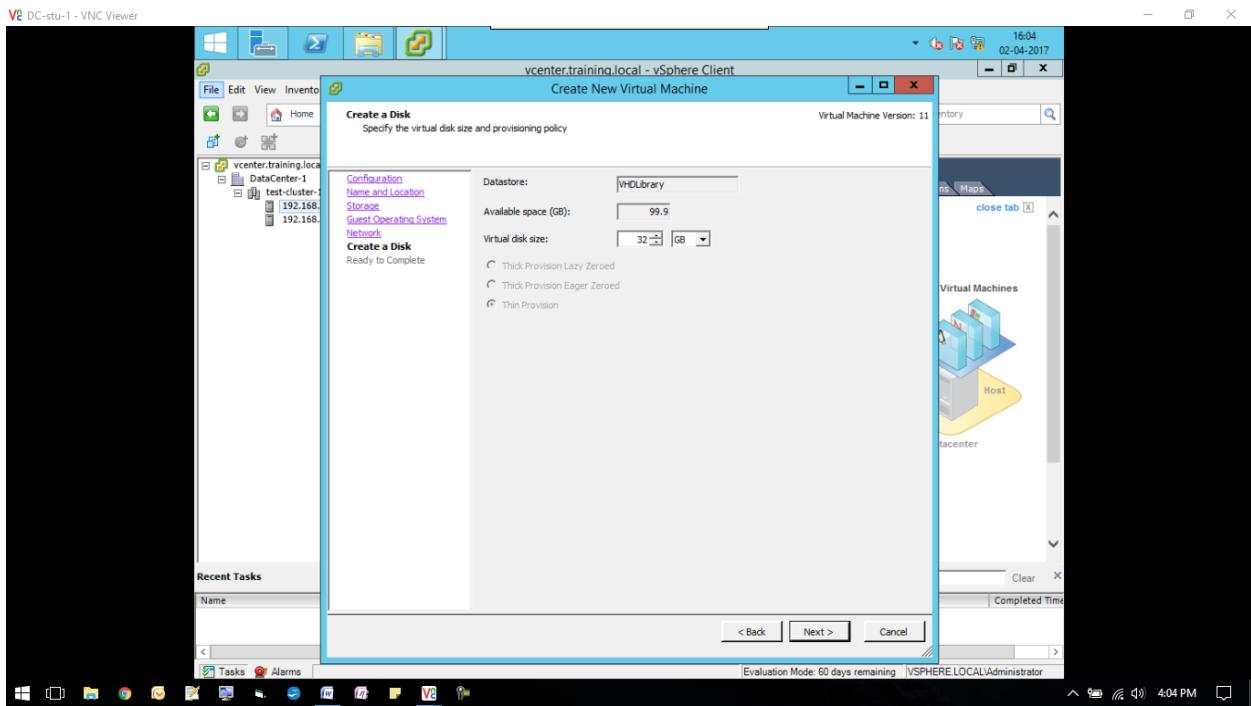
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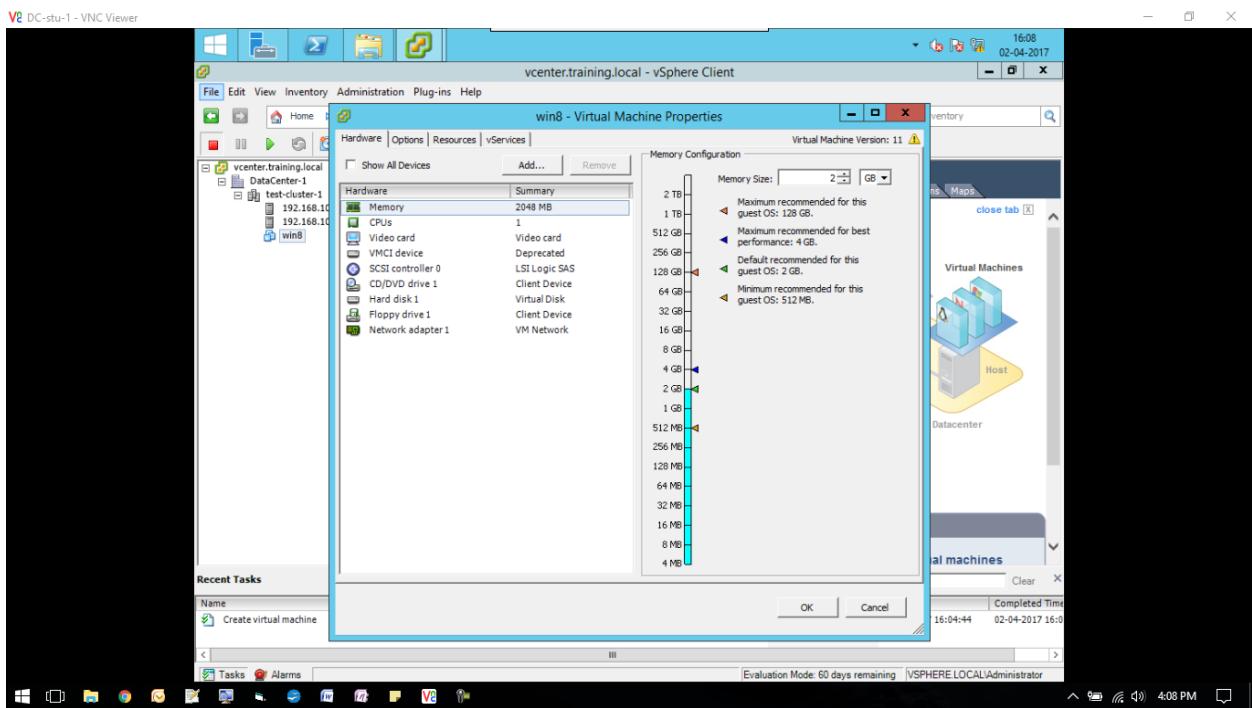
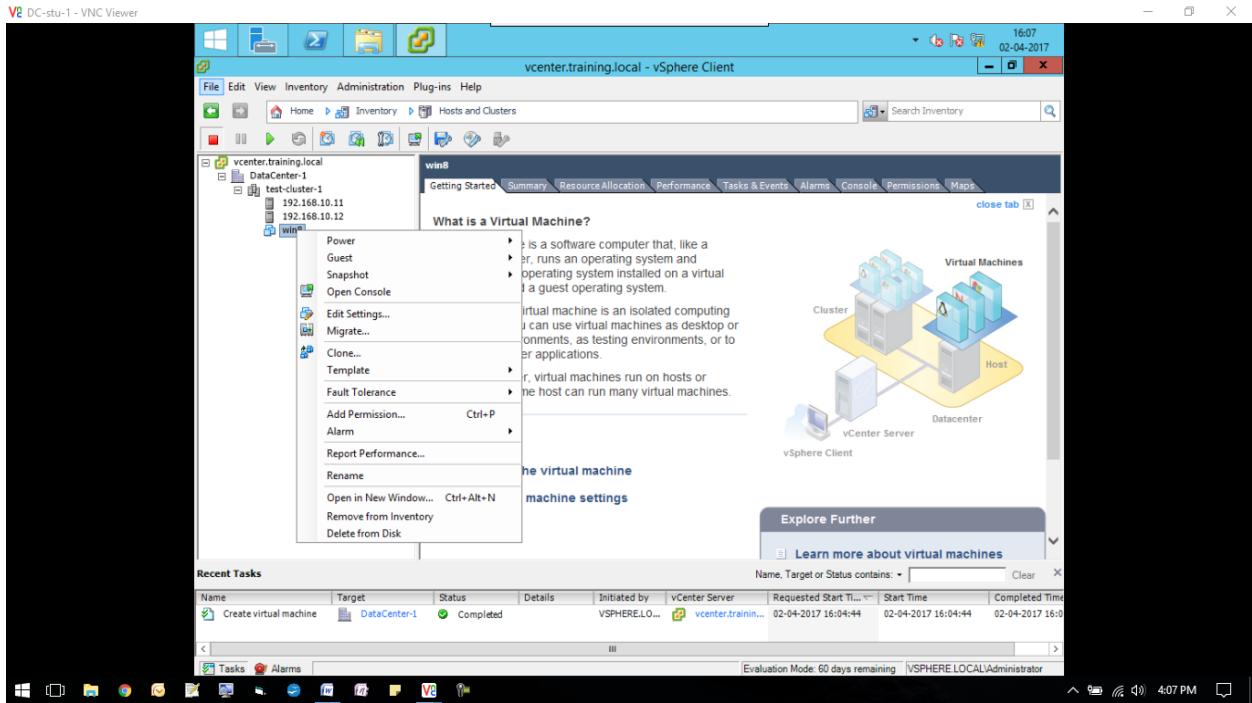
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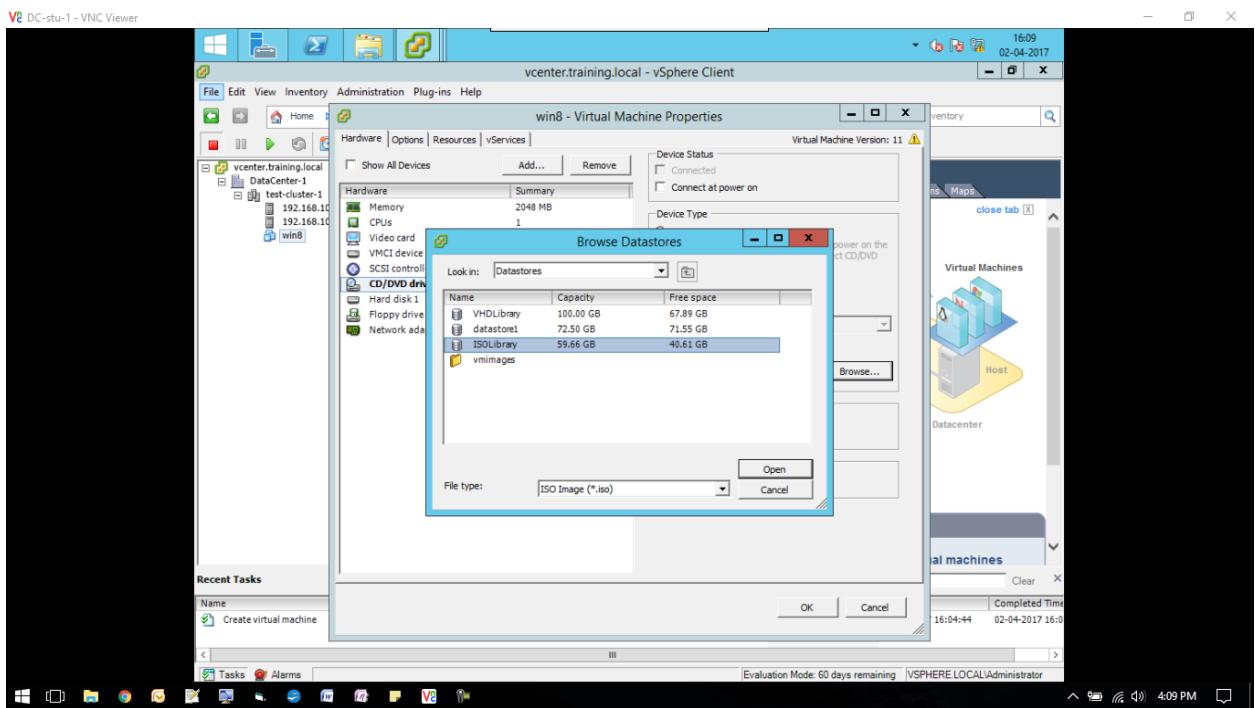
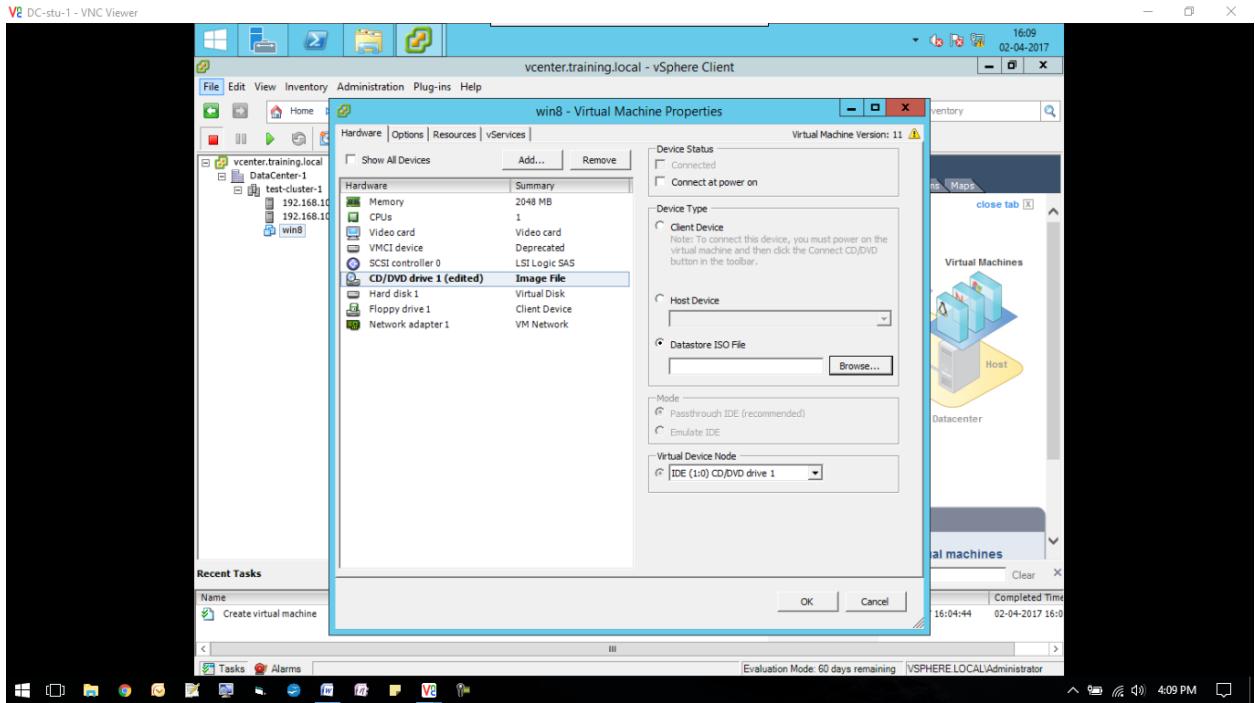
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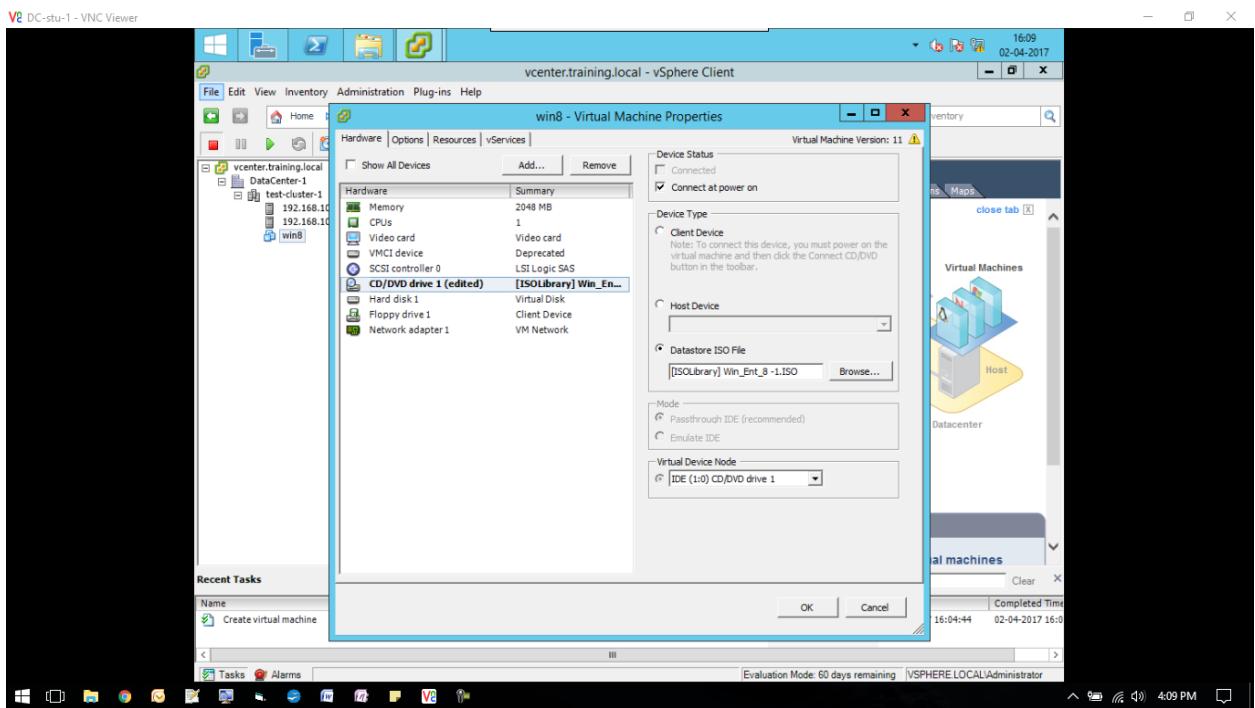
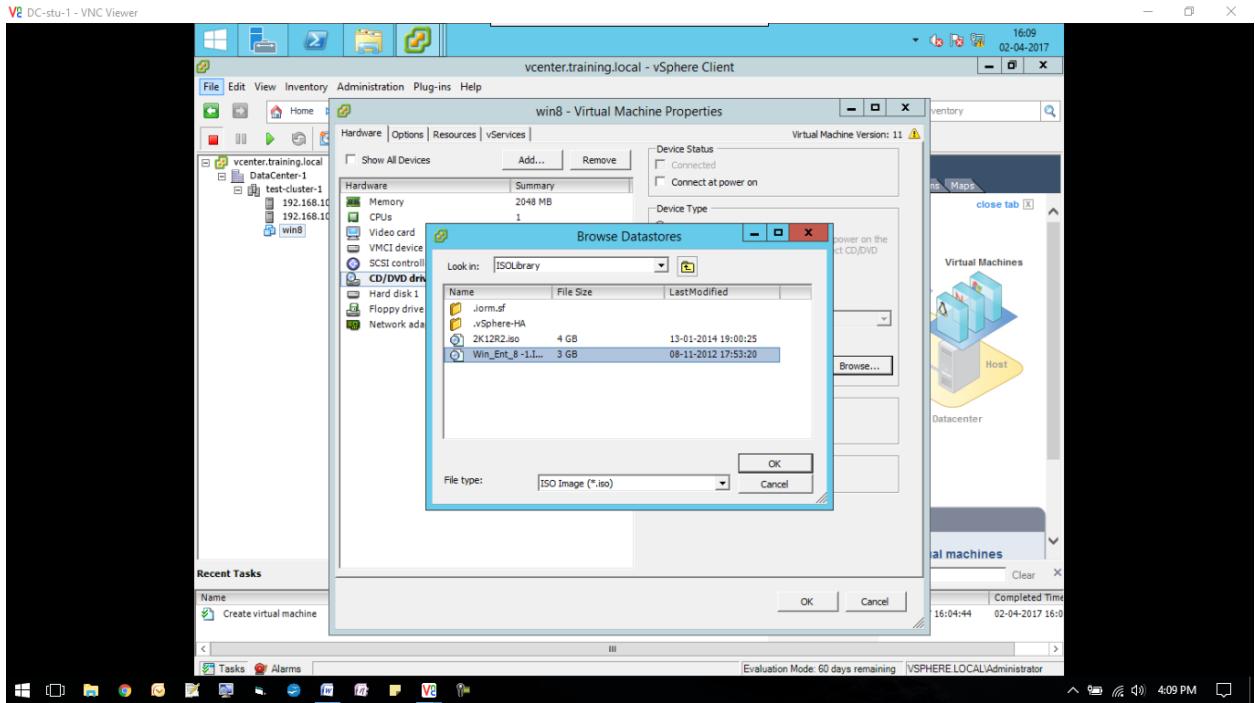


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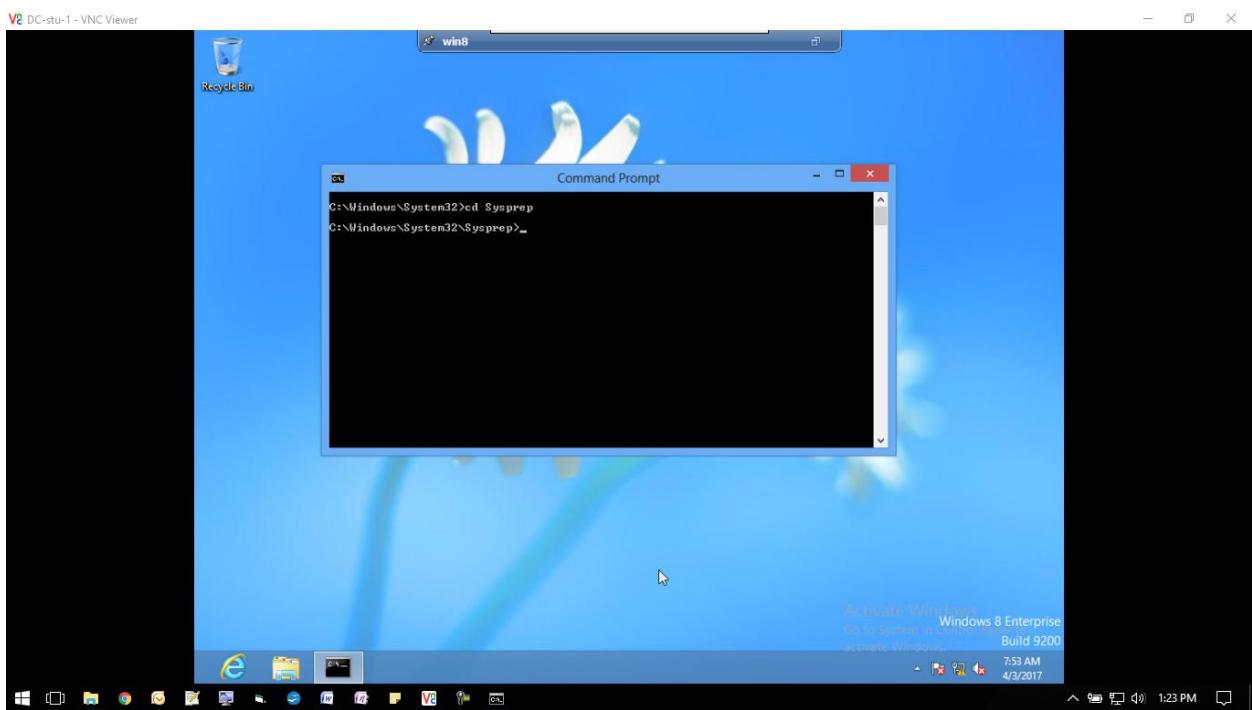
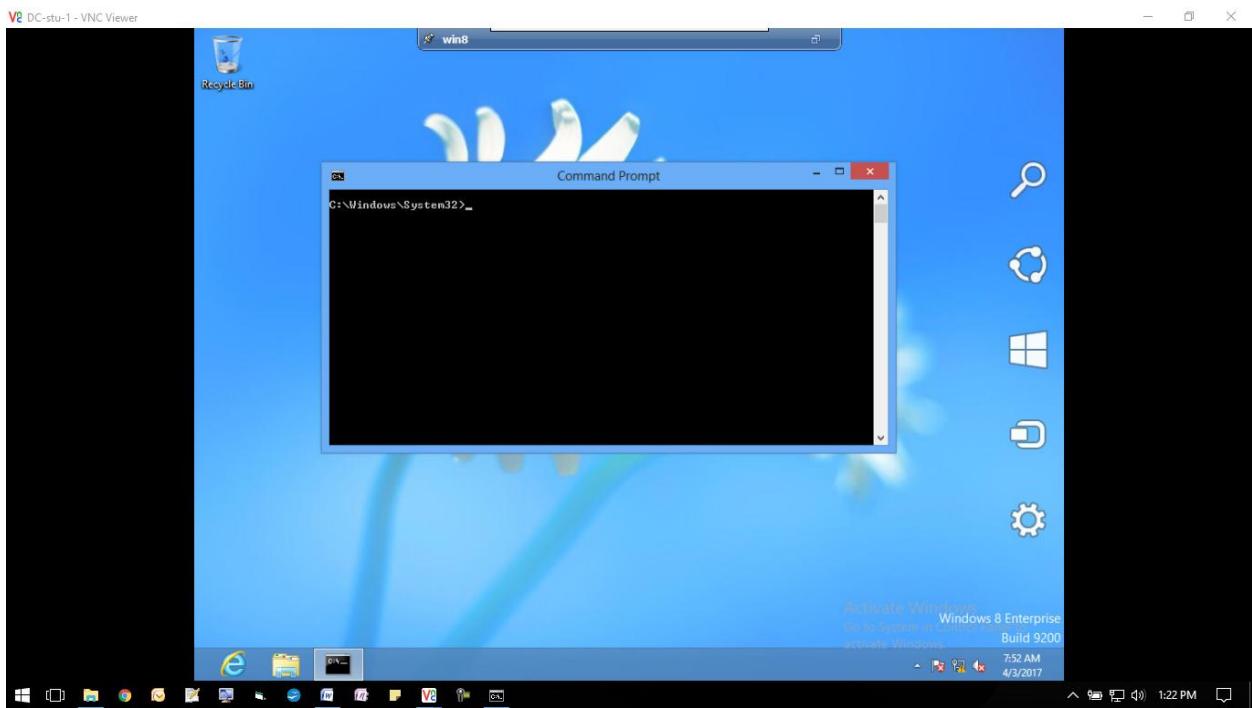
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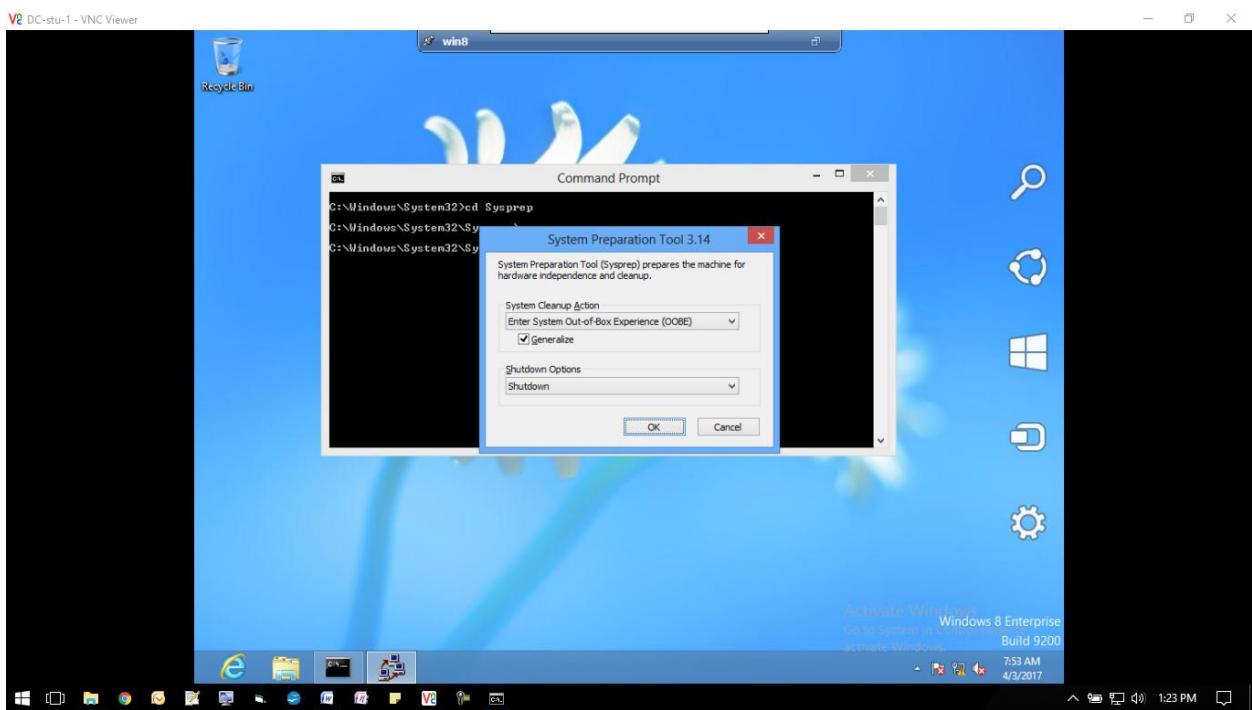
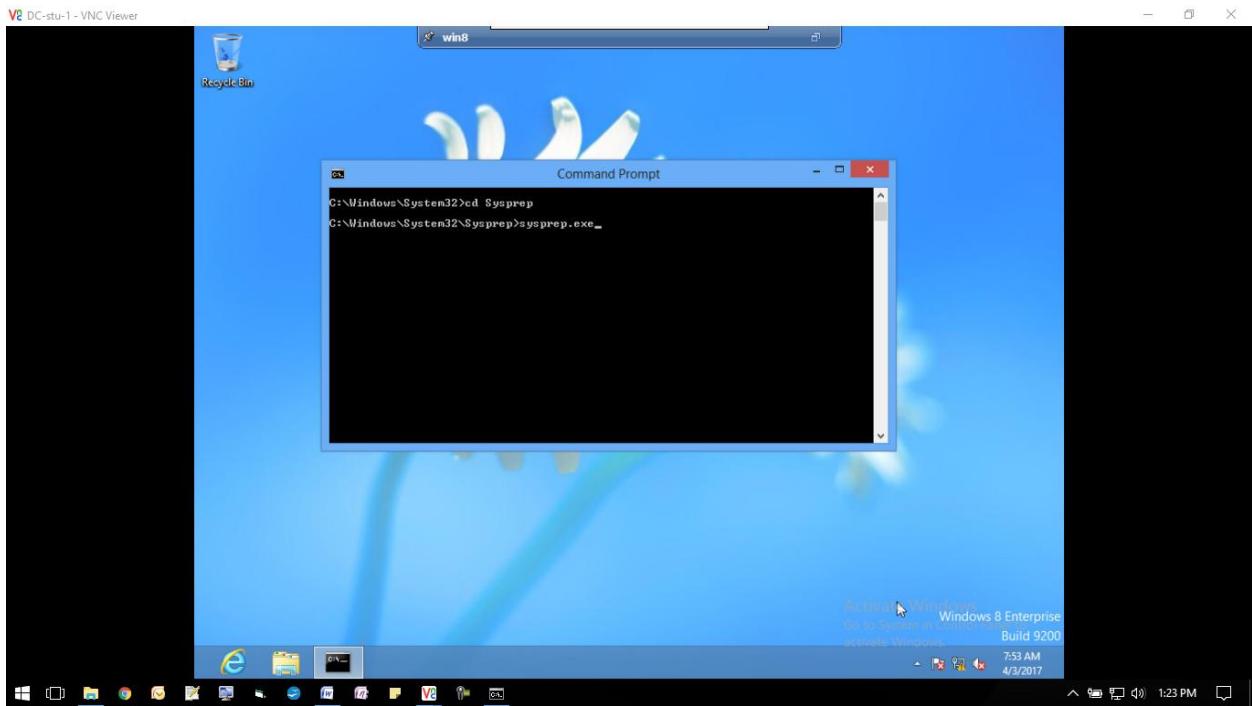


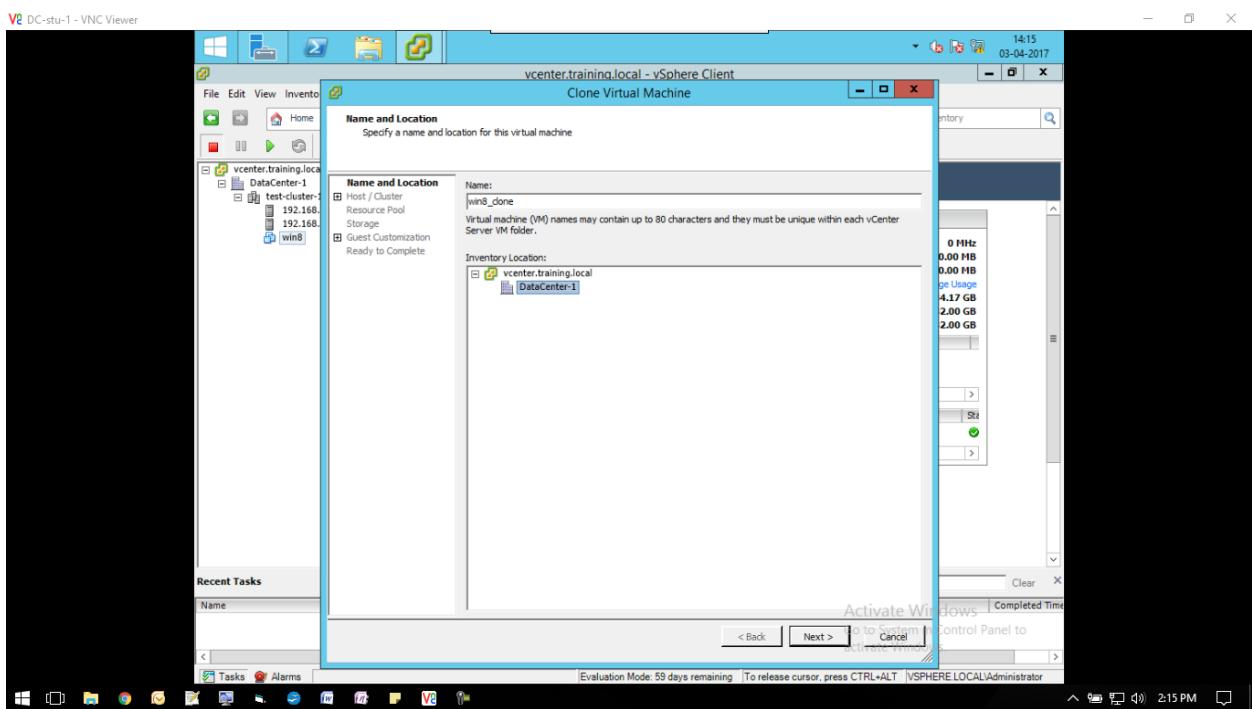
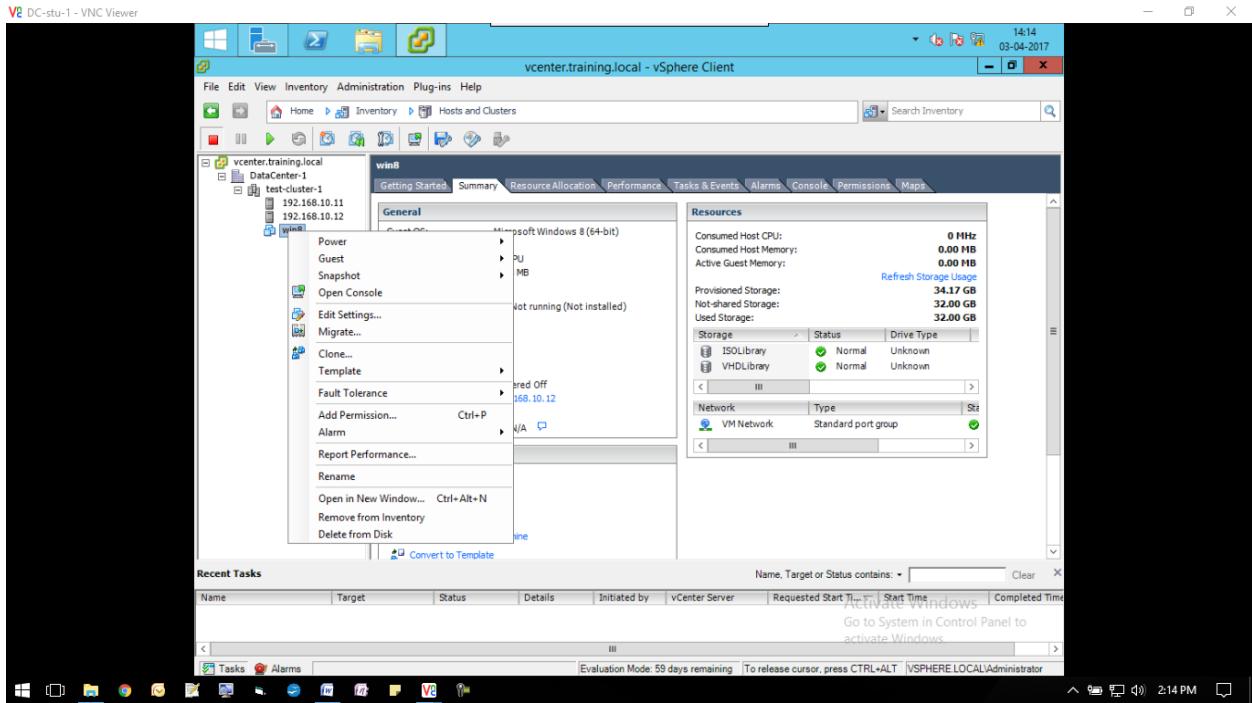
After installation prepare for cloning using “**sysprep.exe**”.

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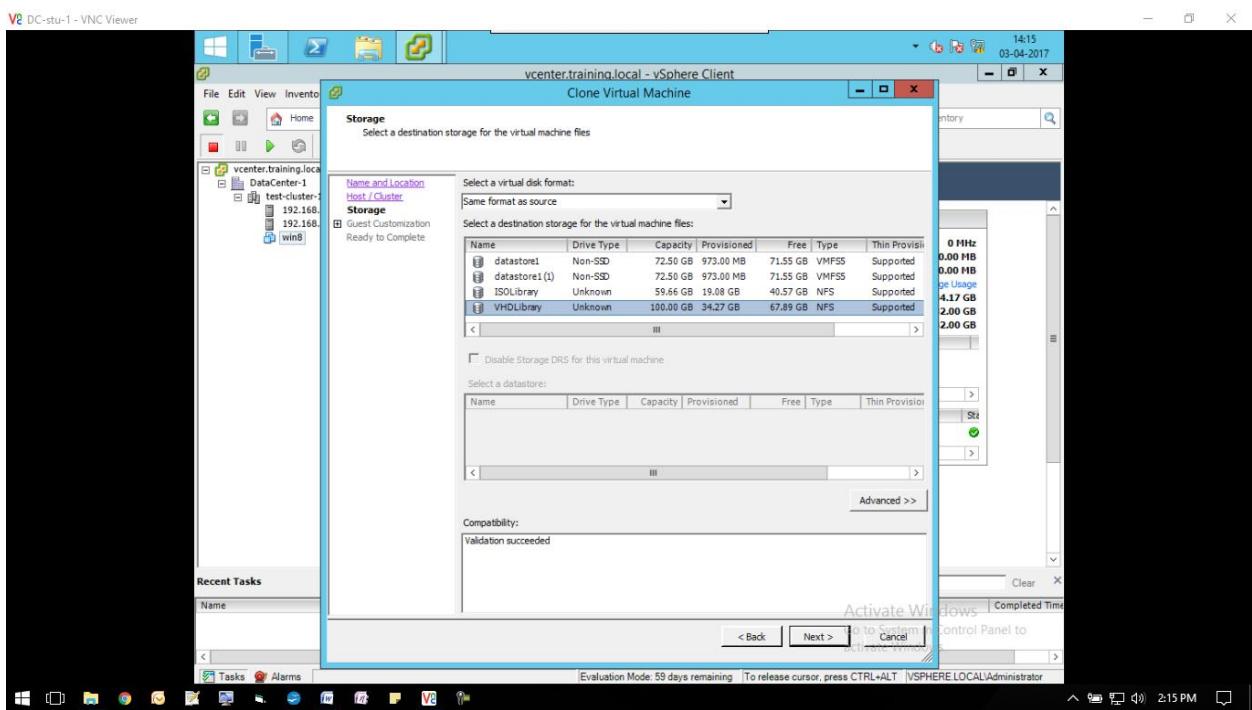
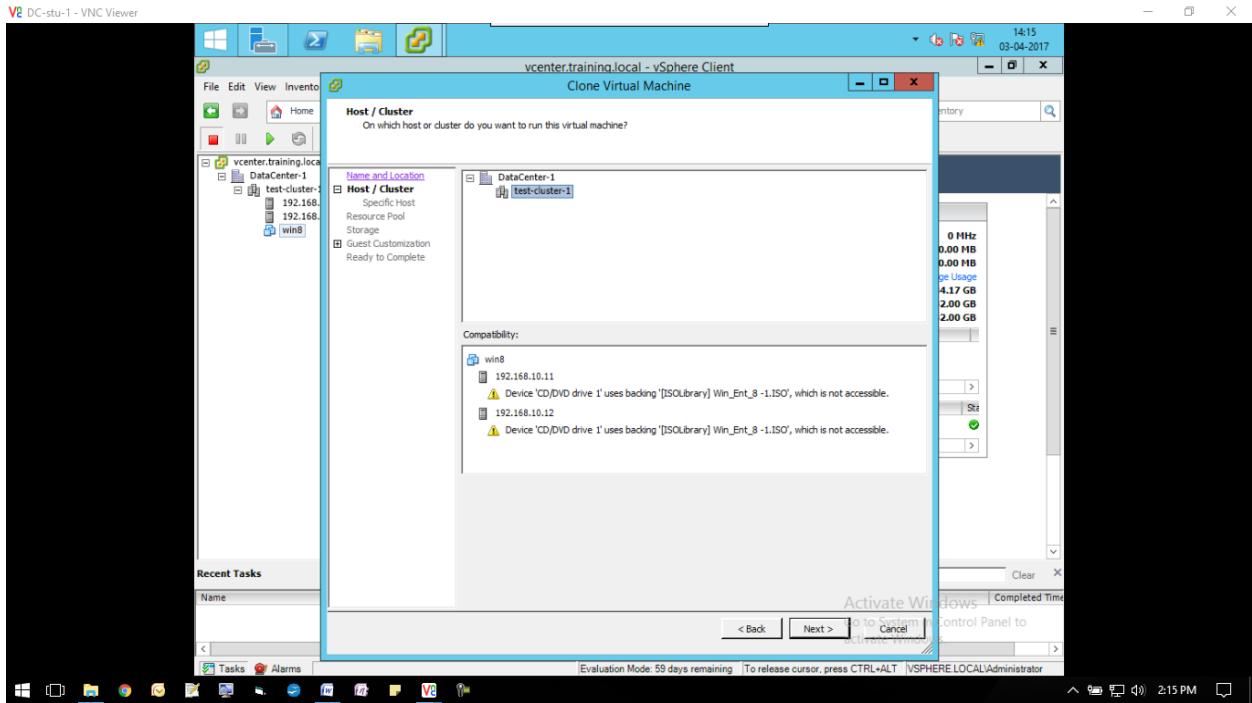


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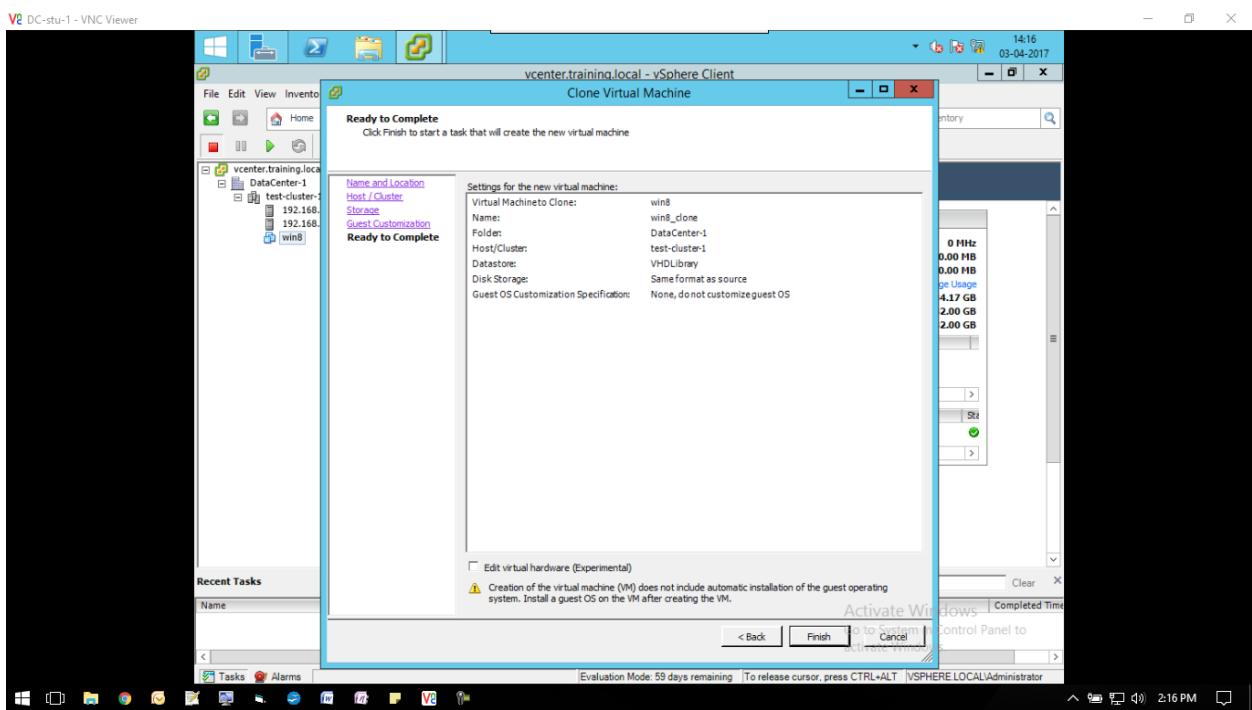
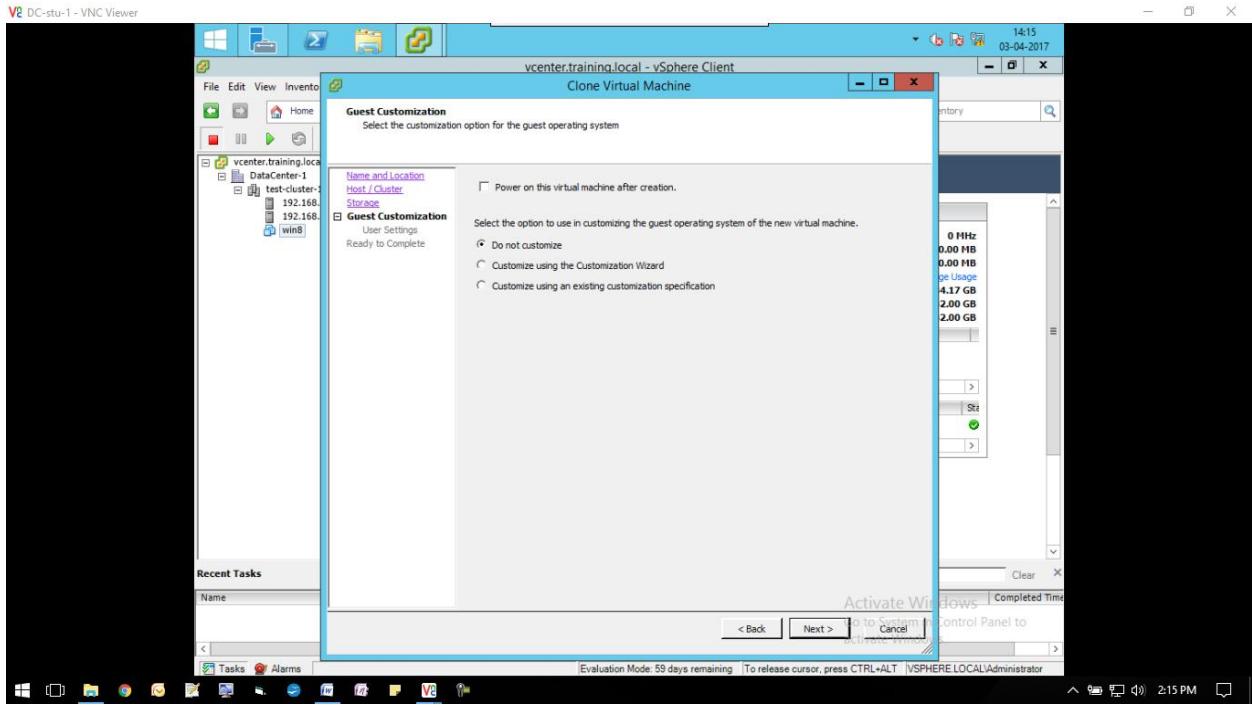


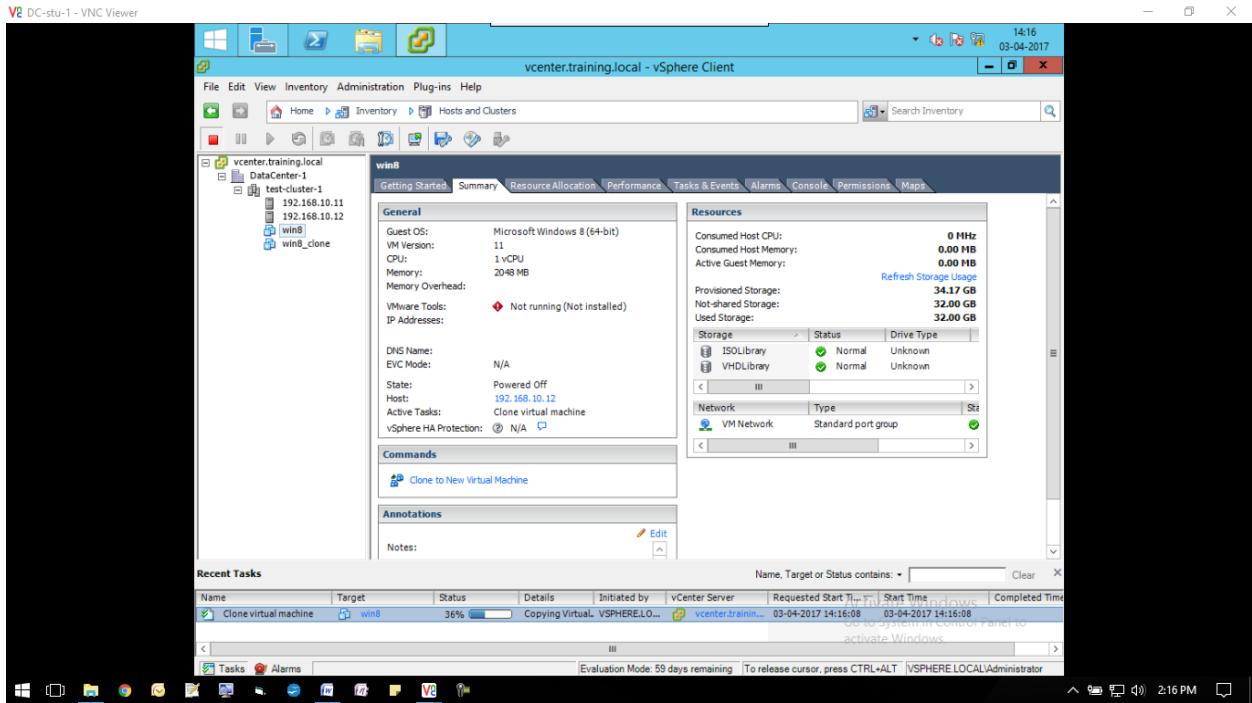


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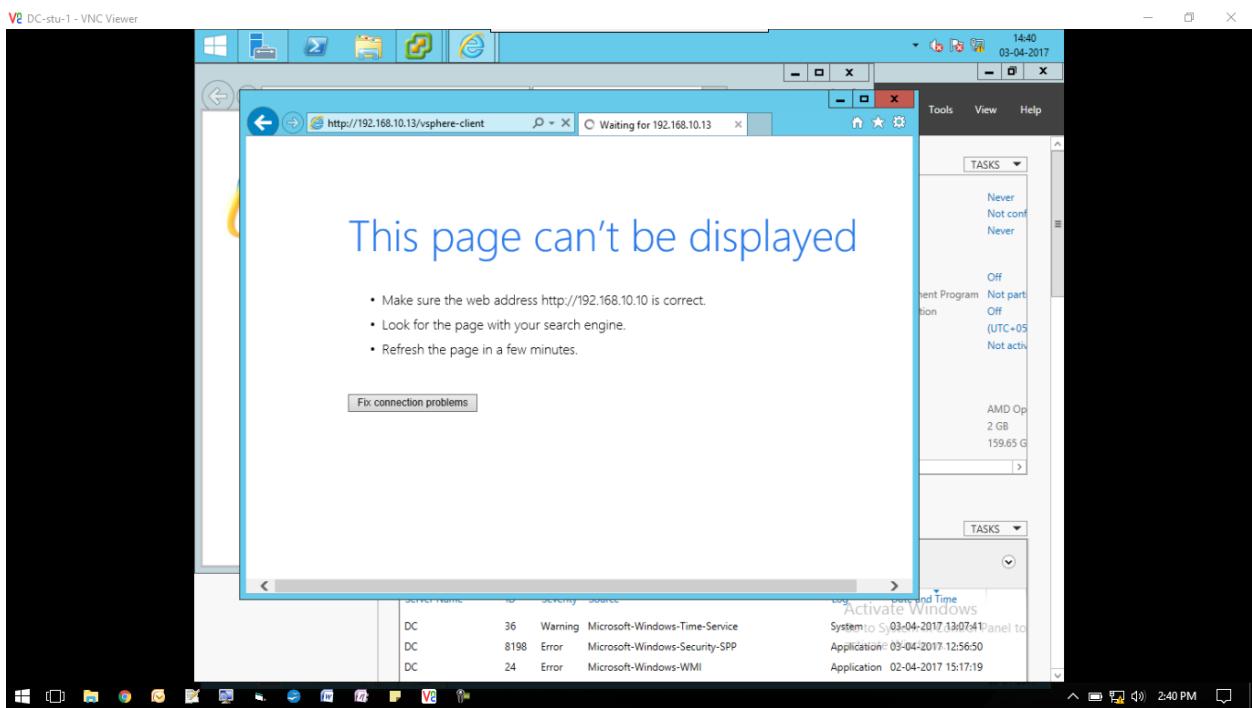


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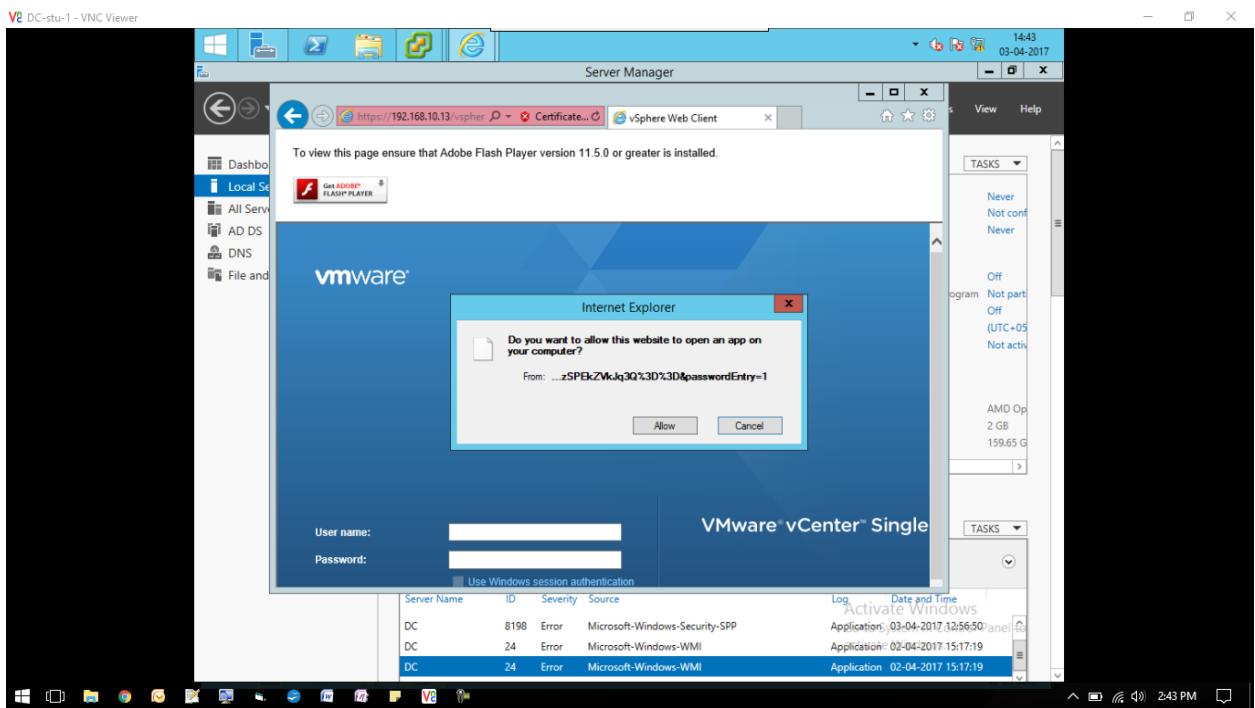
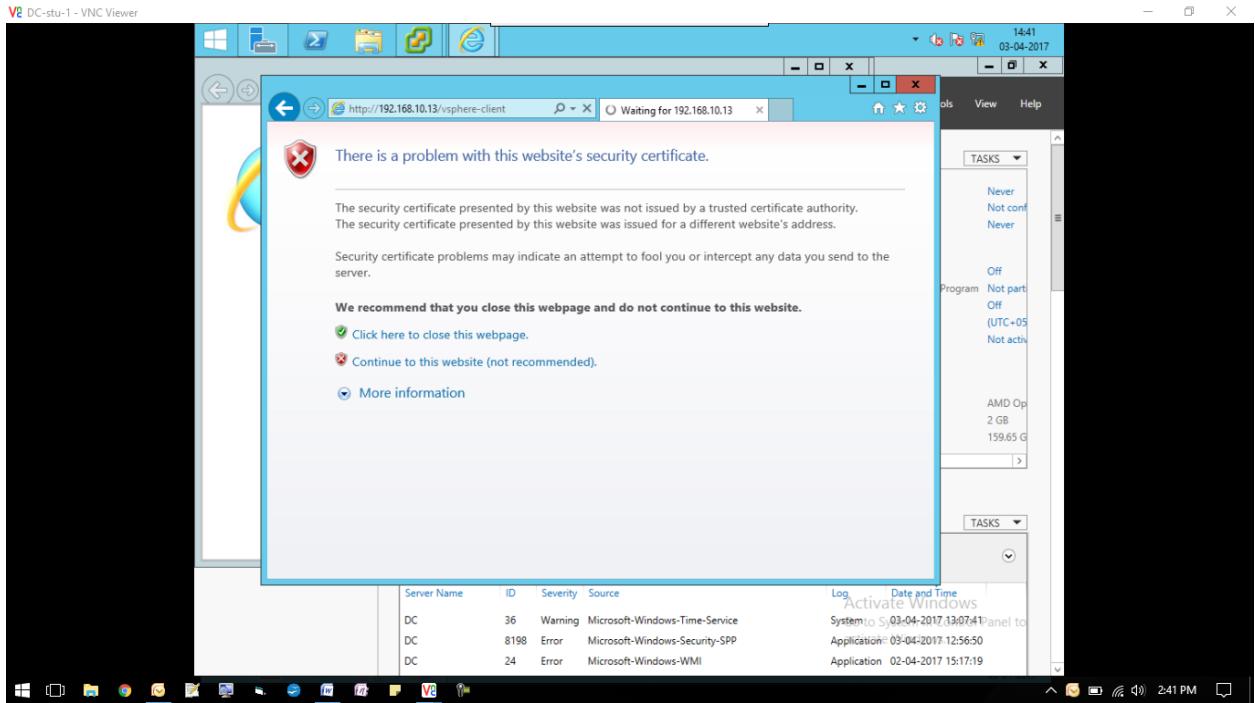




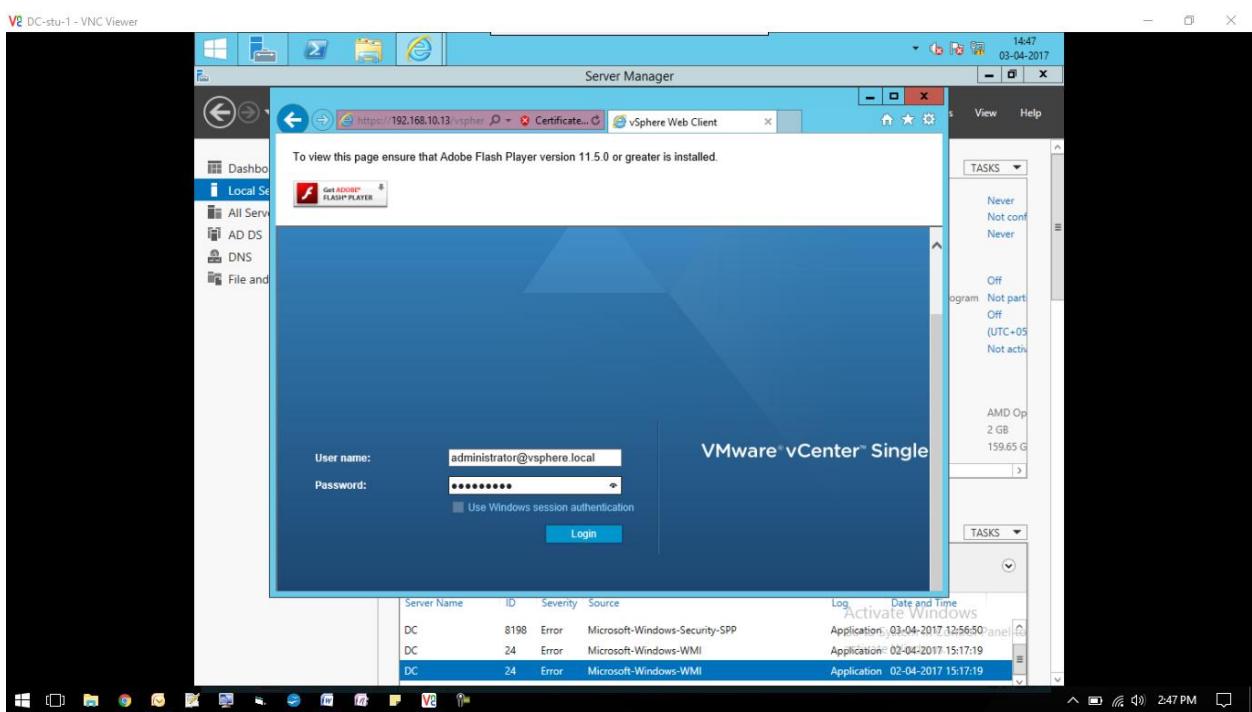
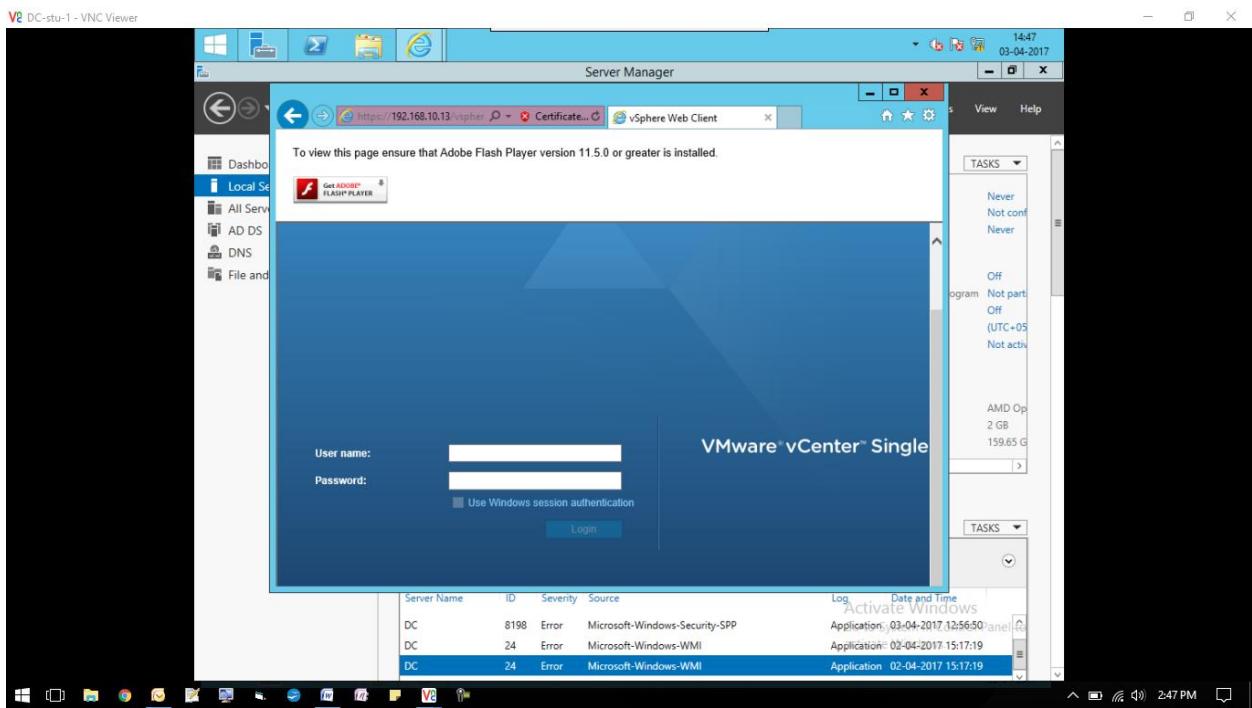
Web client



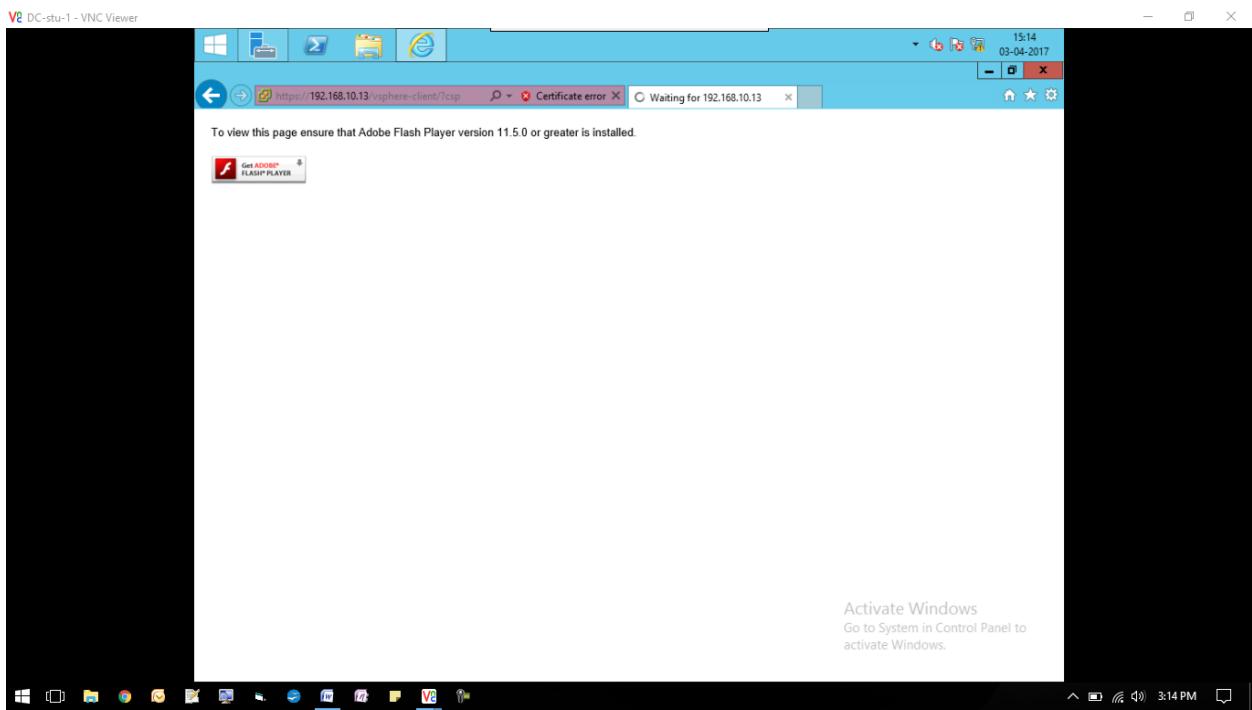
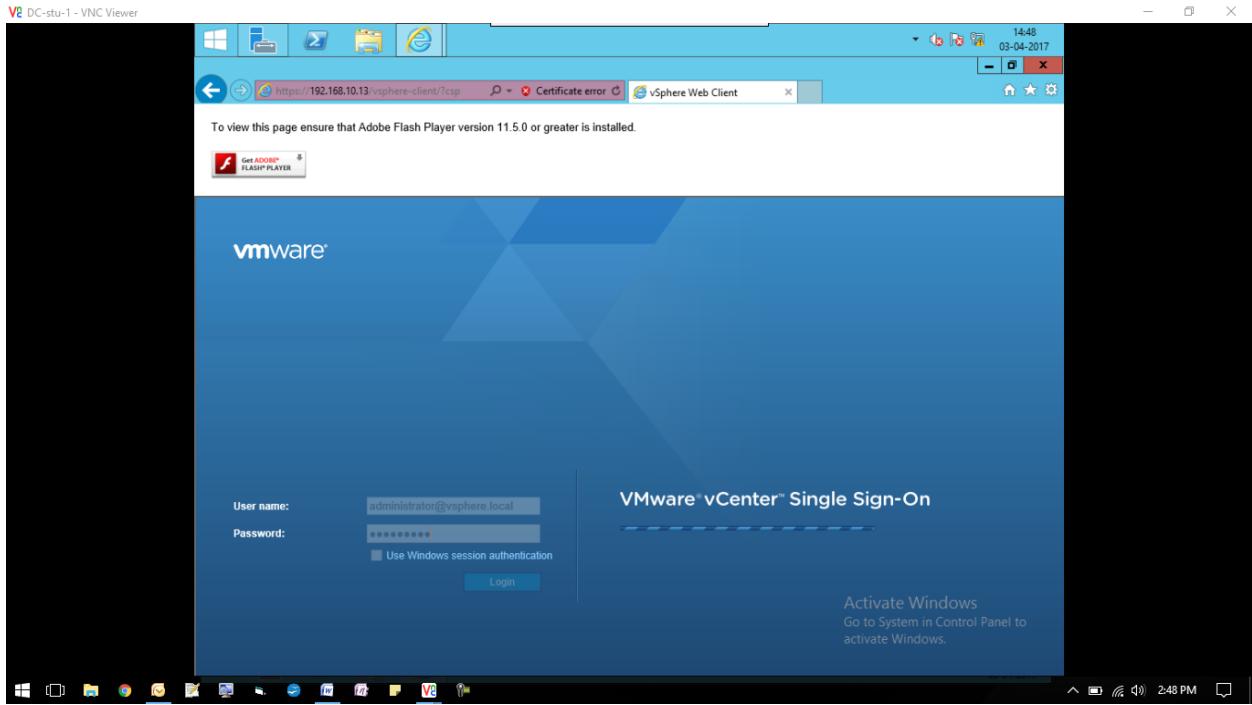
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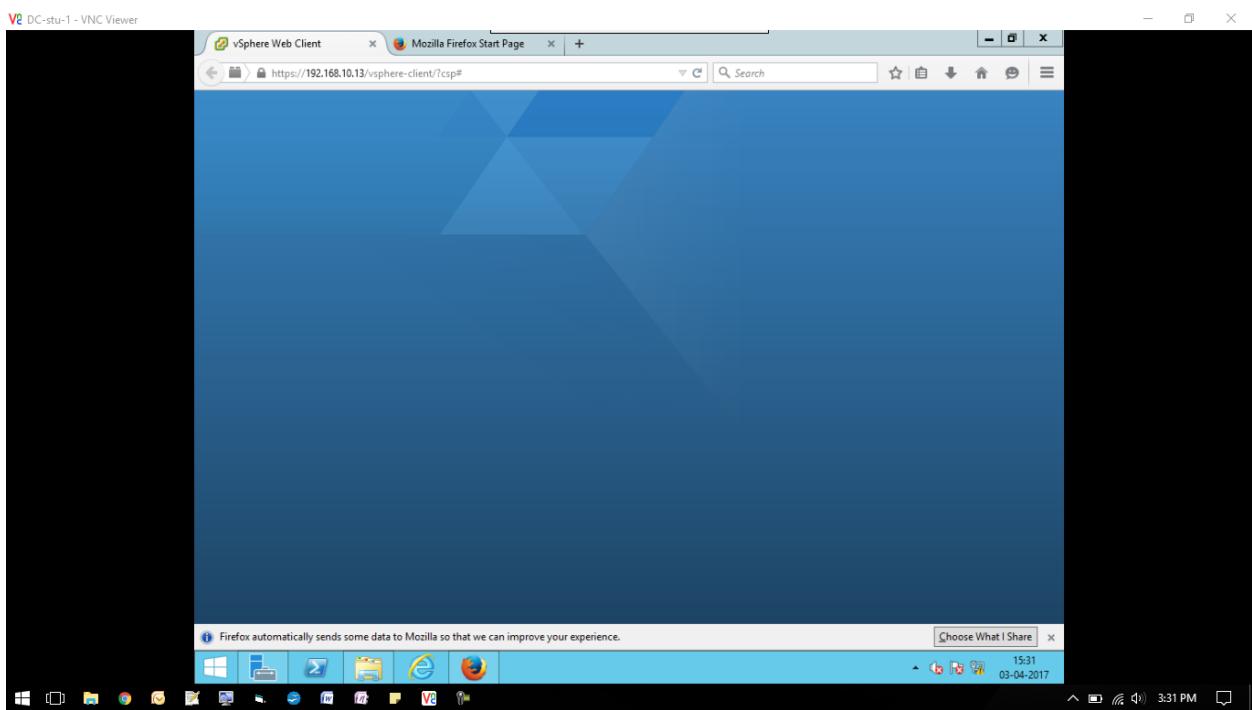
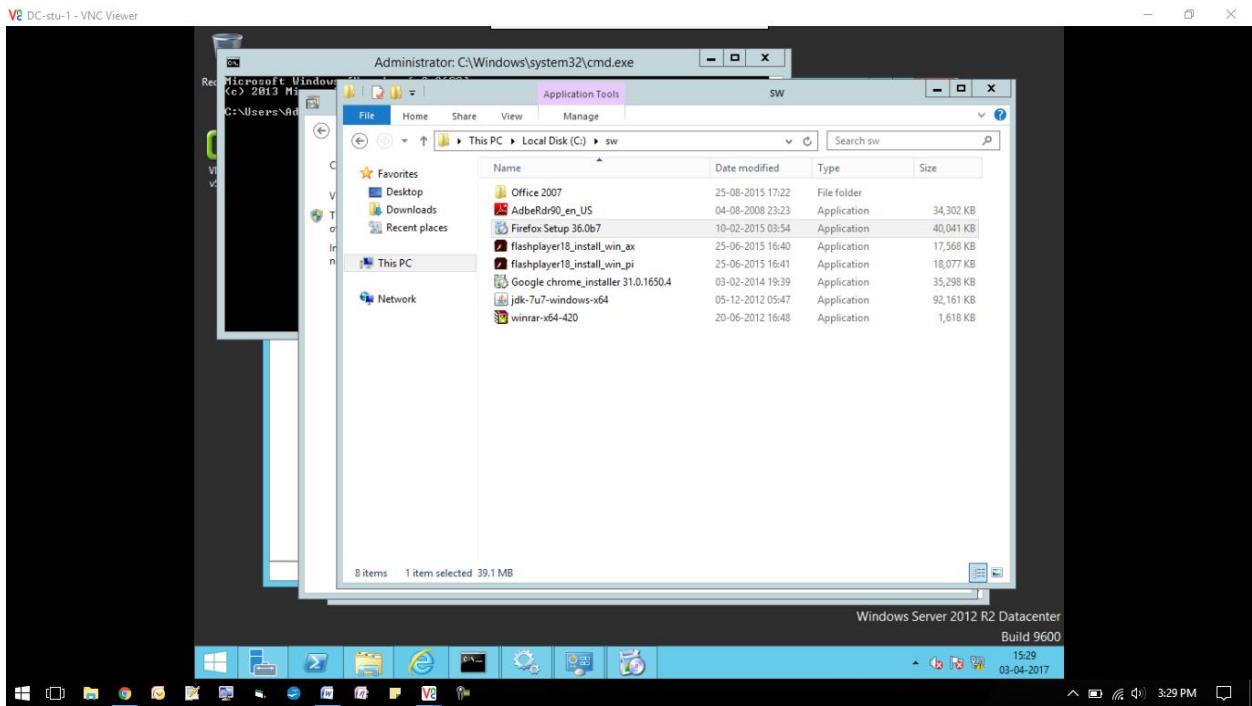
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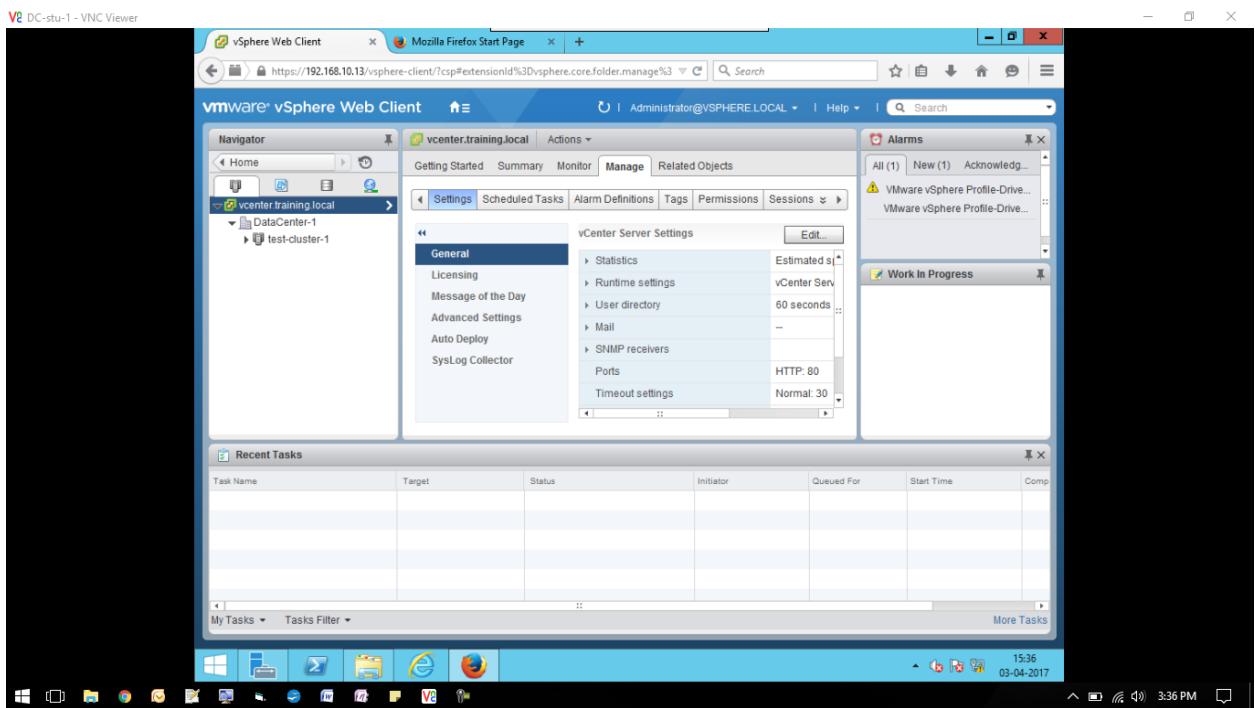
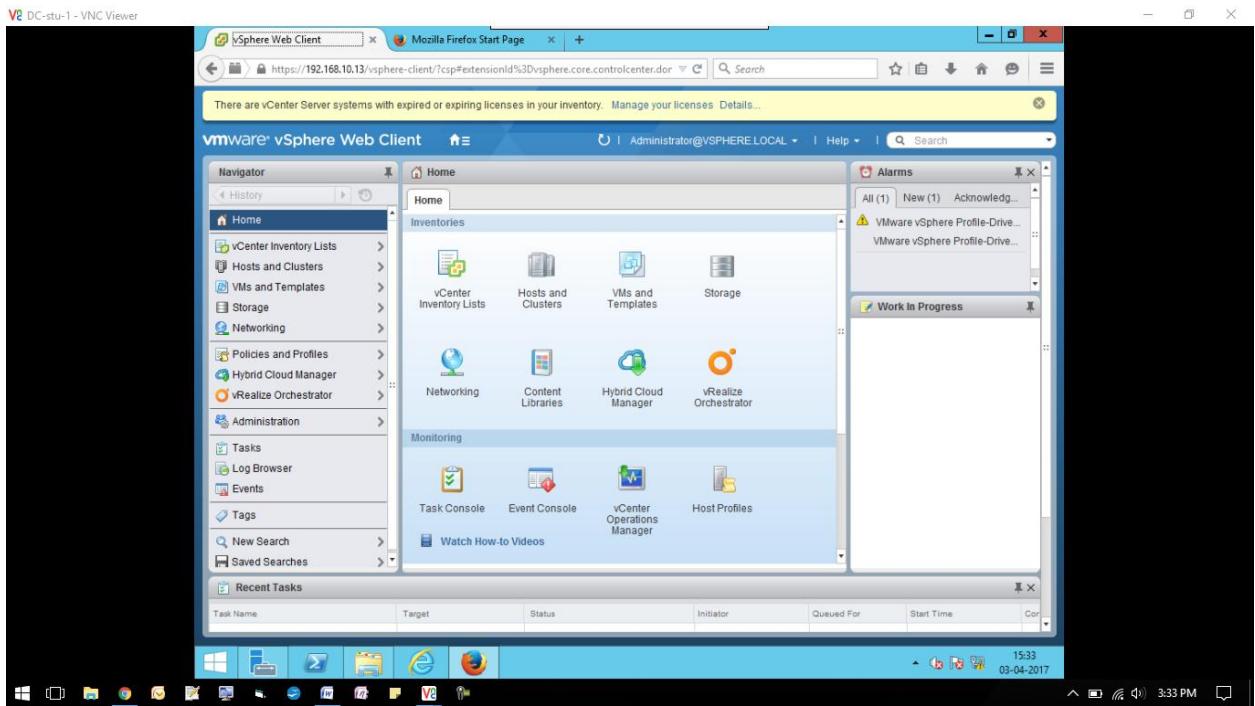
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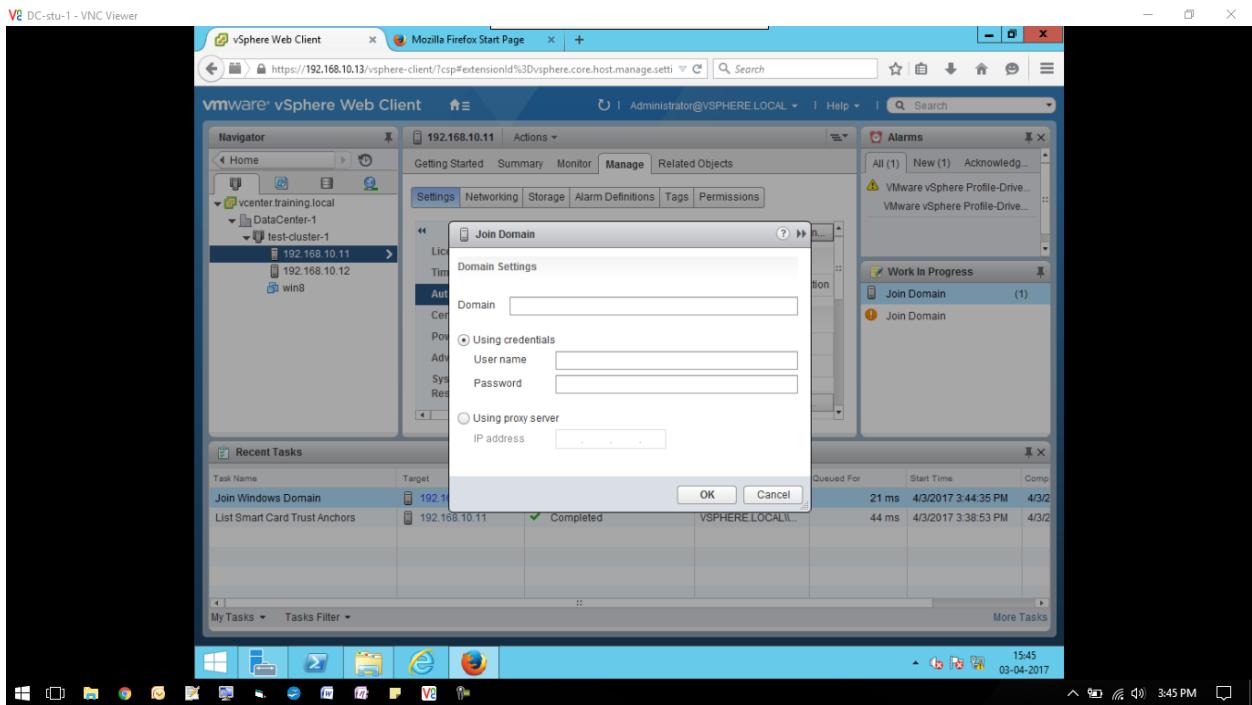
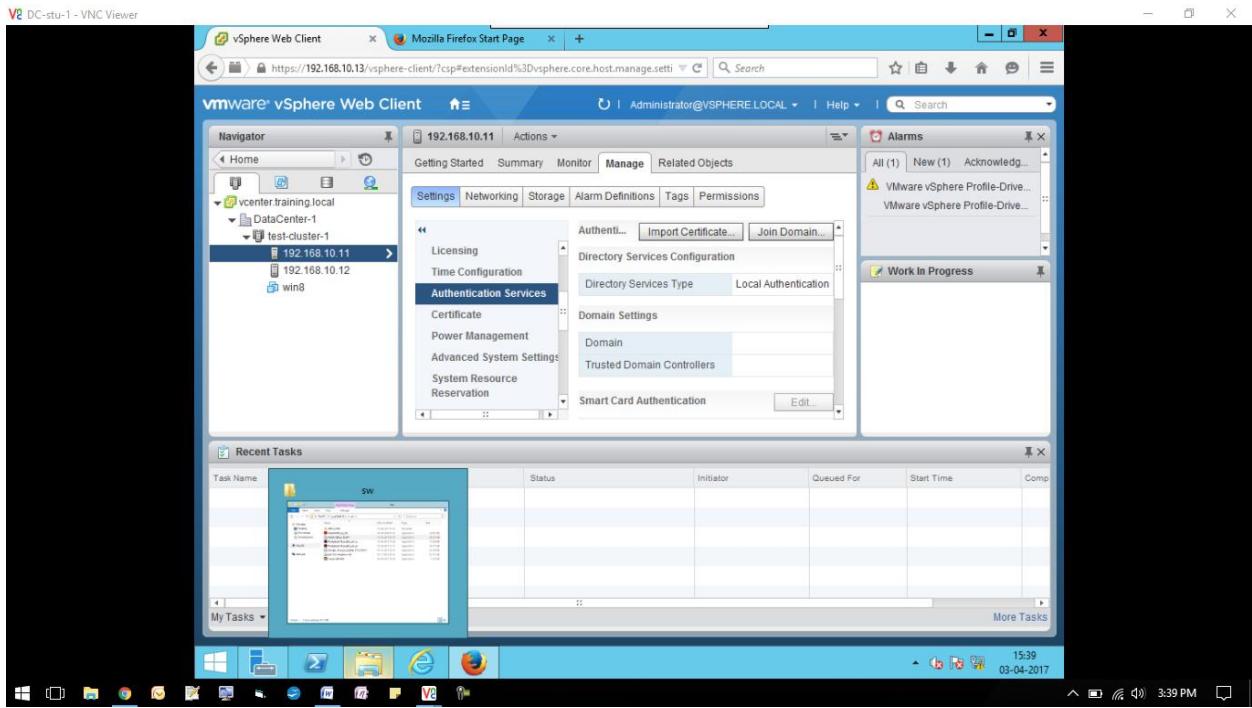
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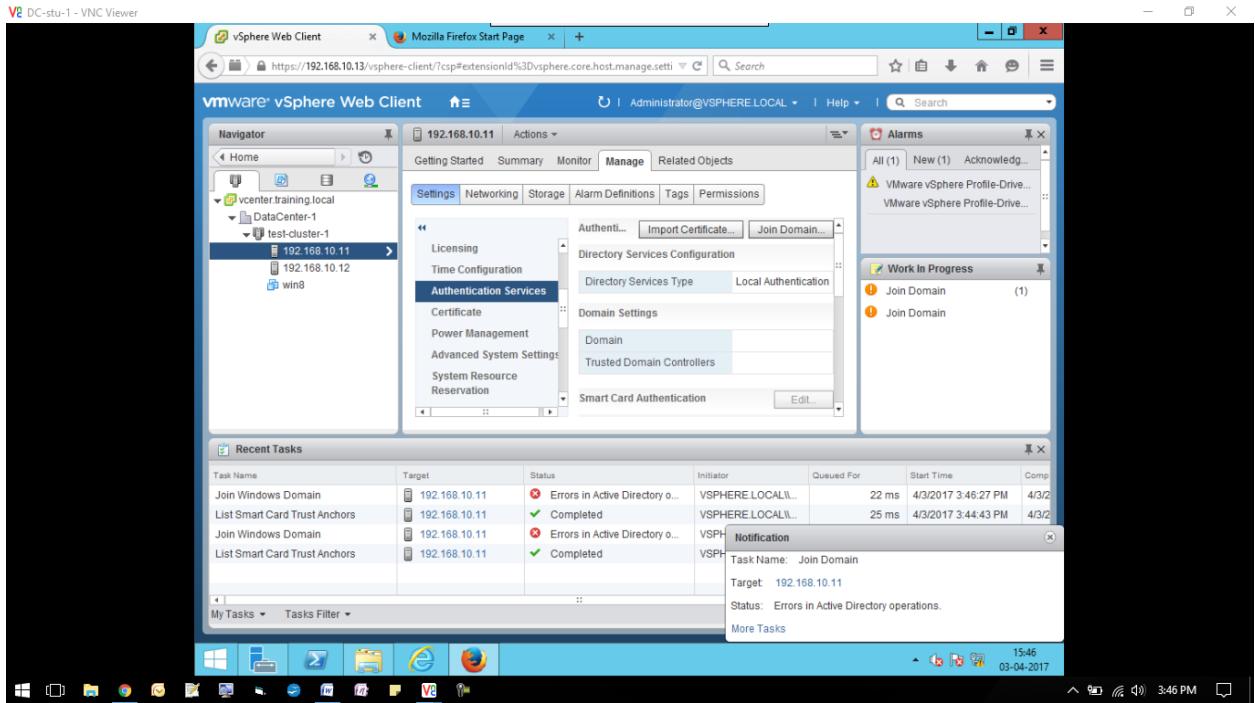
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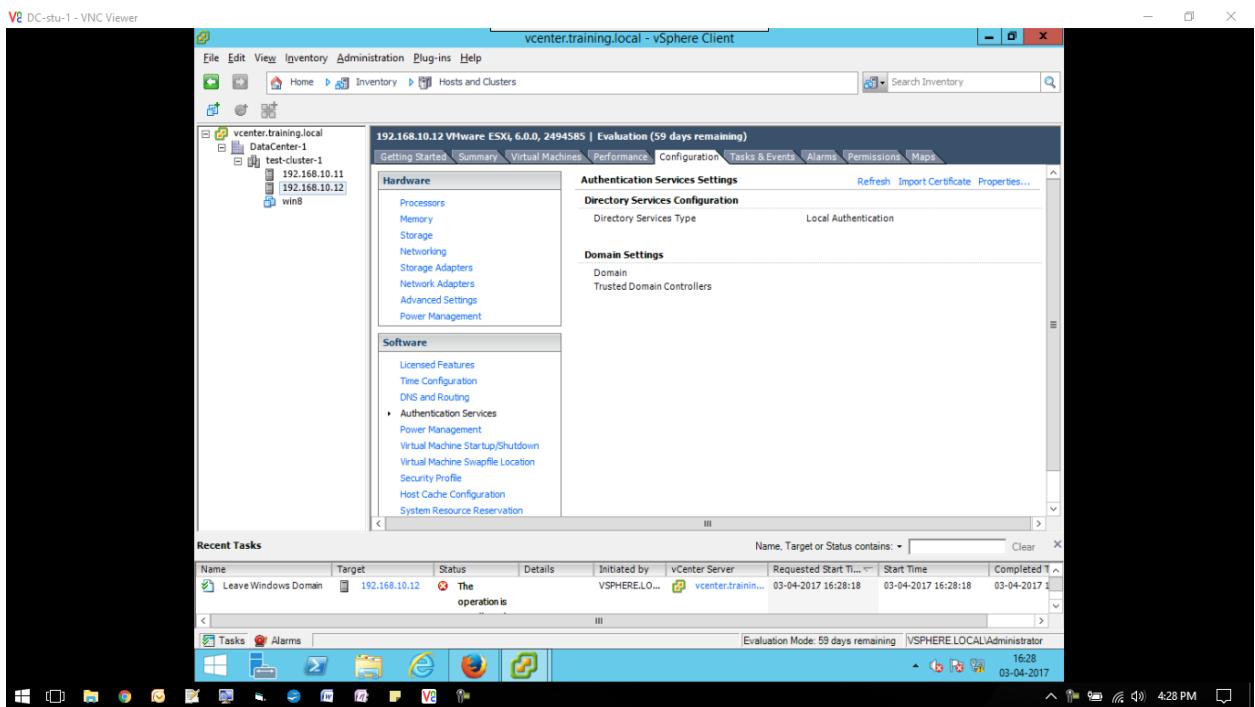
Adding ESXi hosts to domain controller



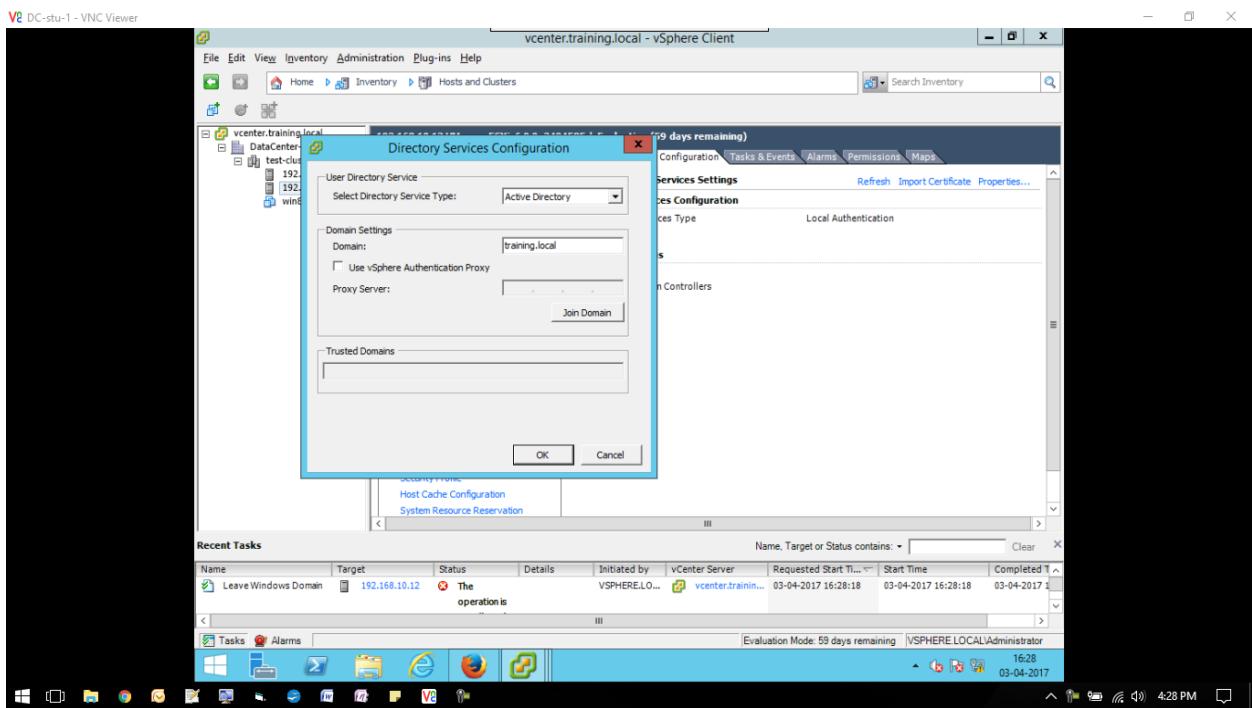
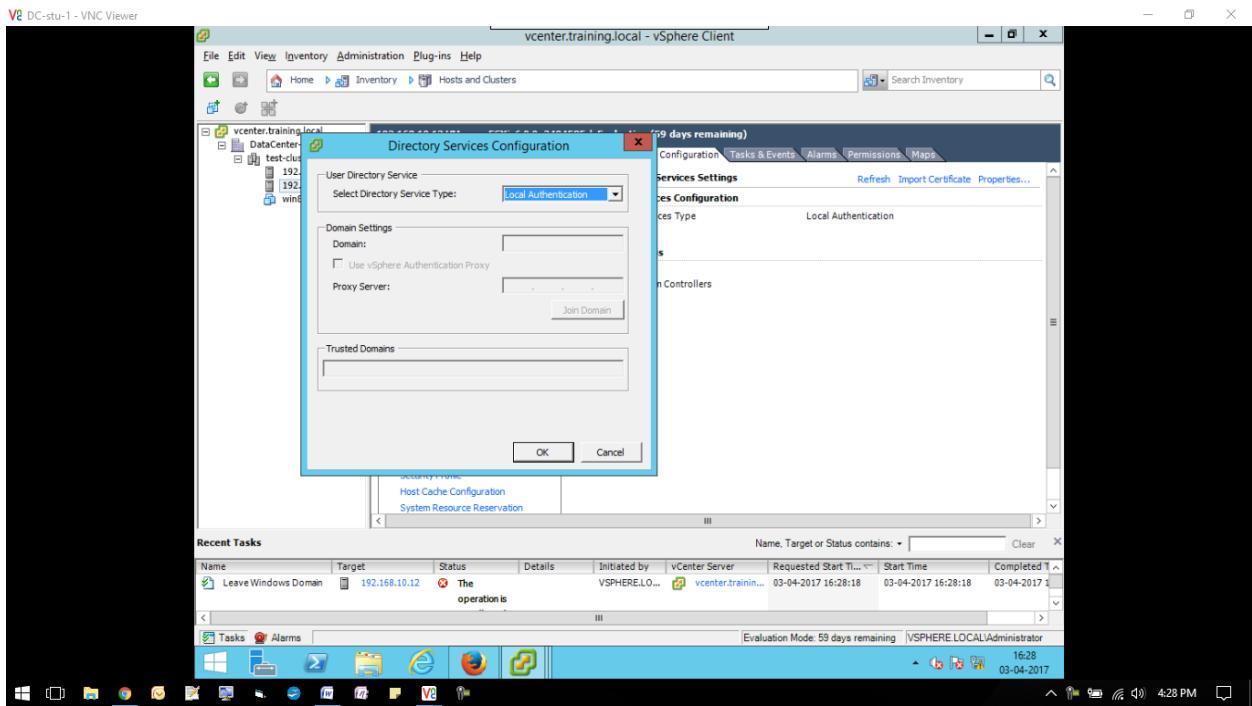
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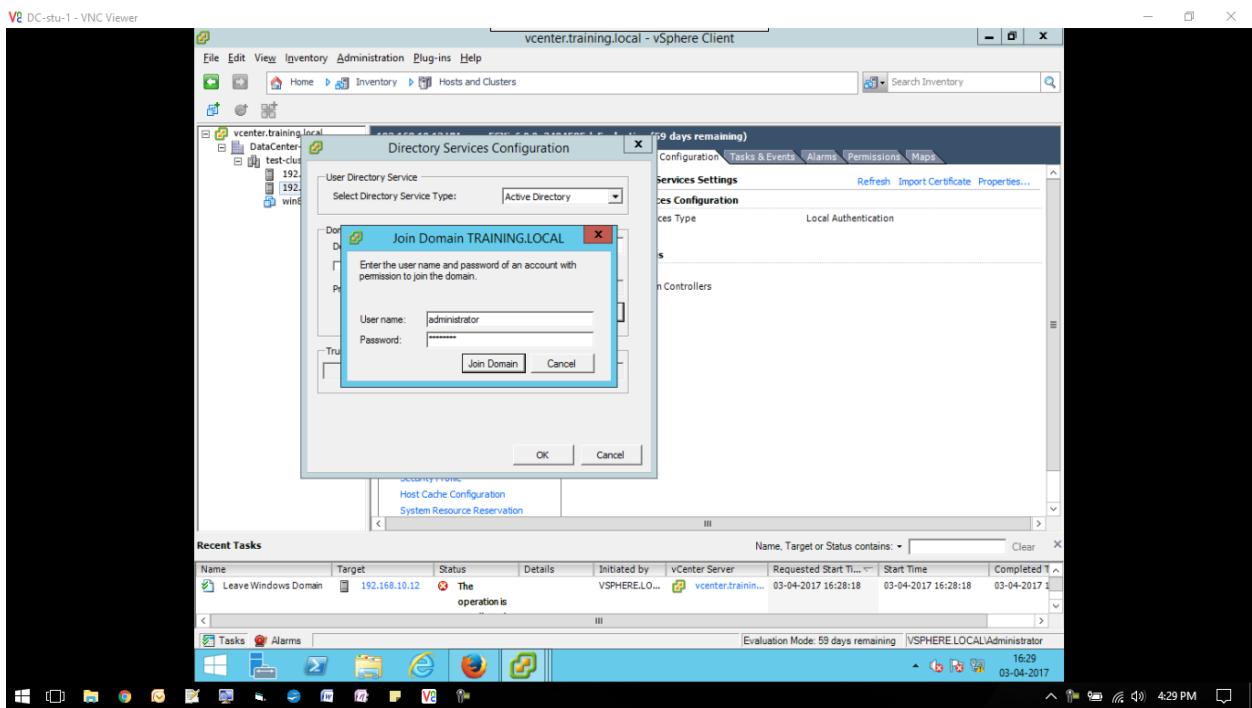
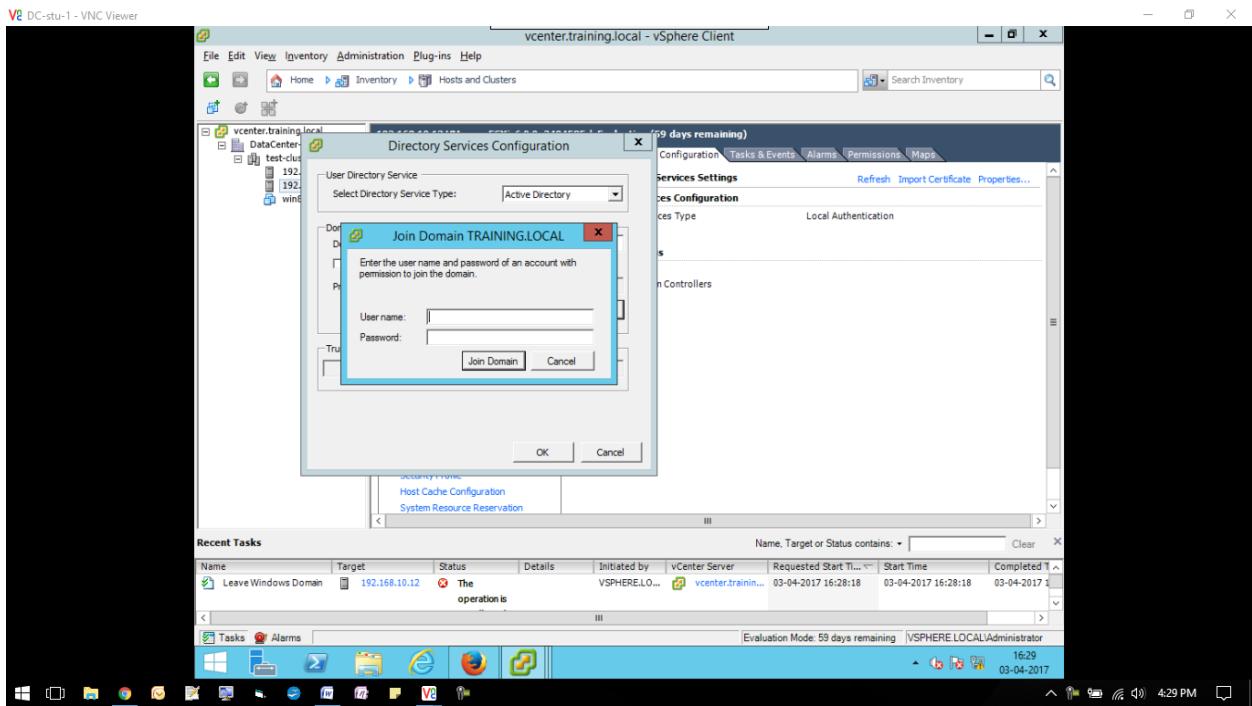
Domain joining the ESXi hosts



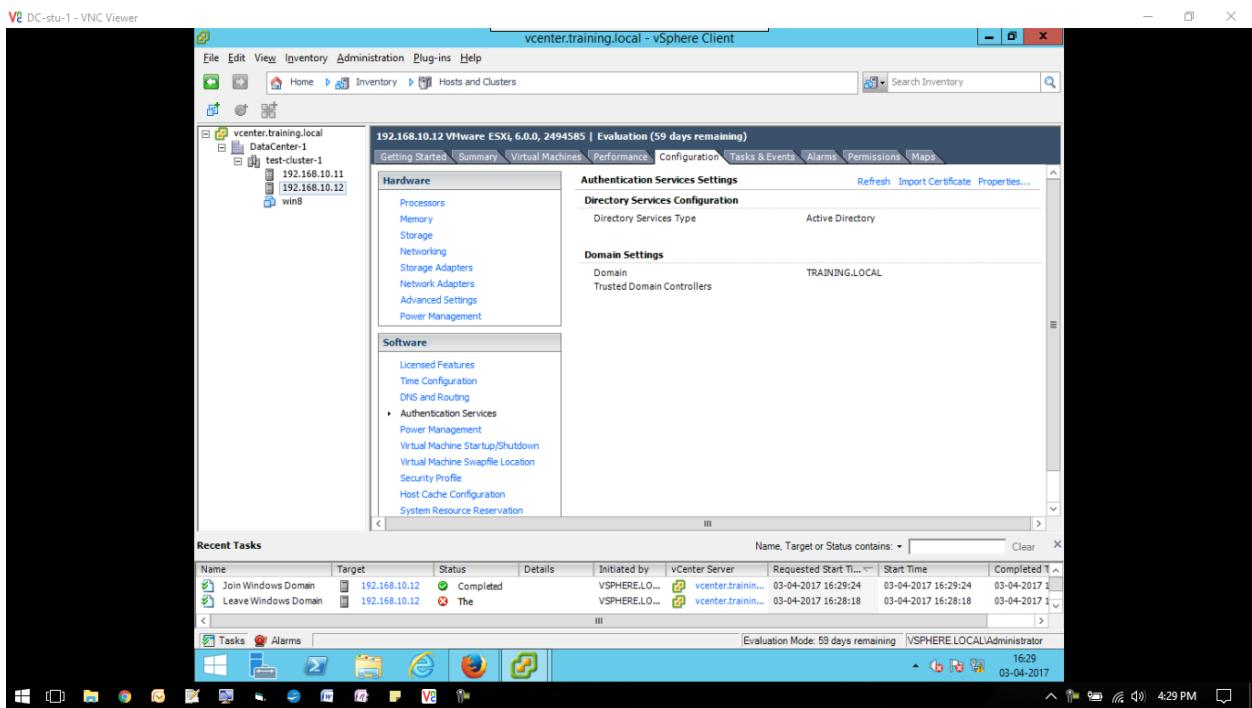
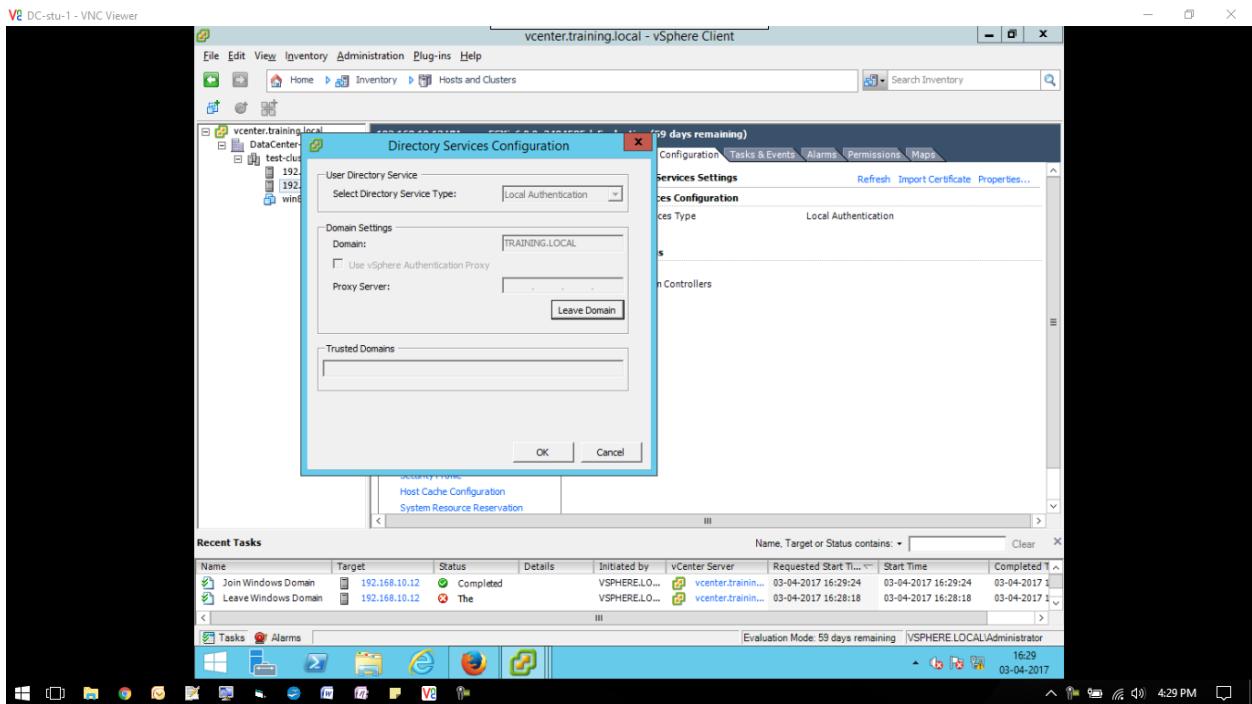
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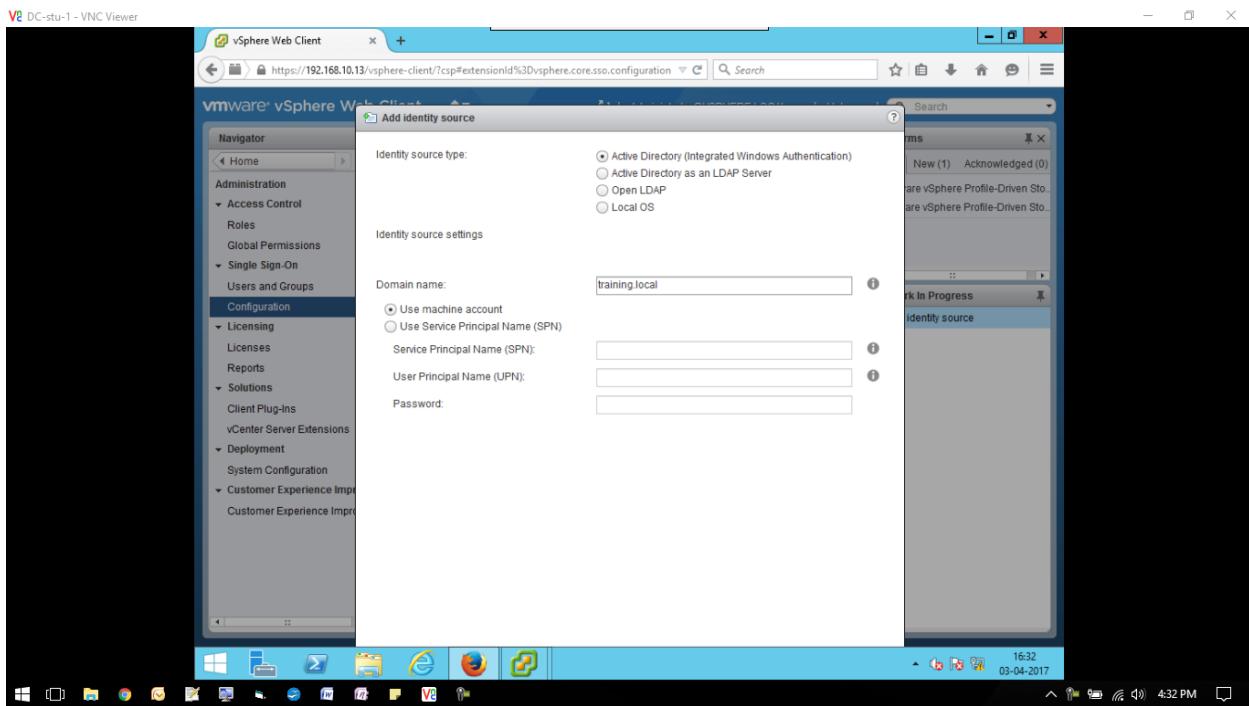
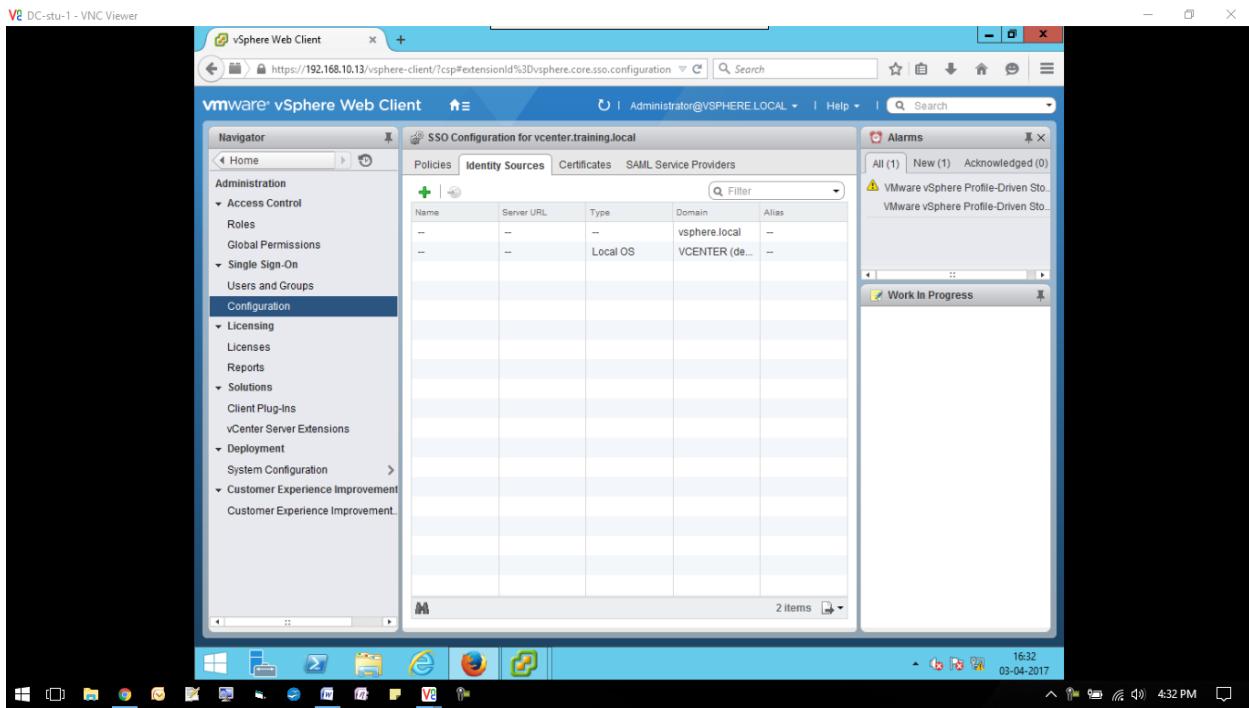
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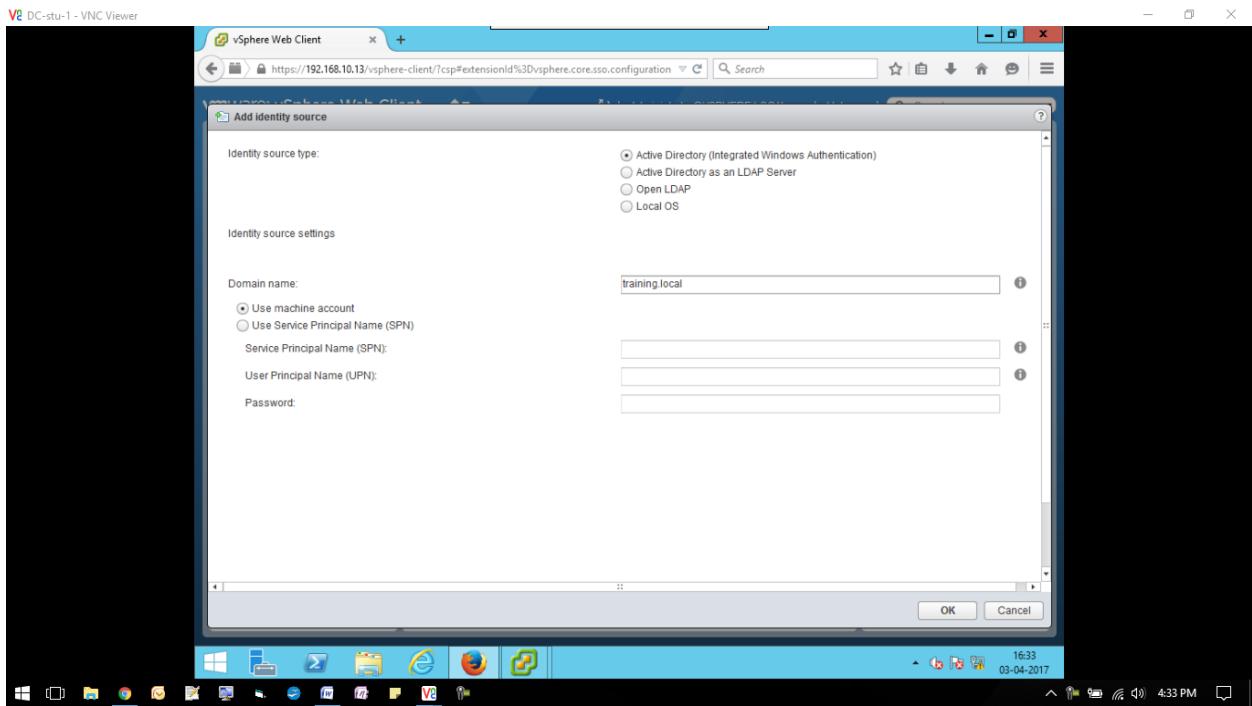


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Integrating AD into vCenter





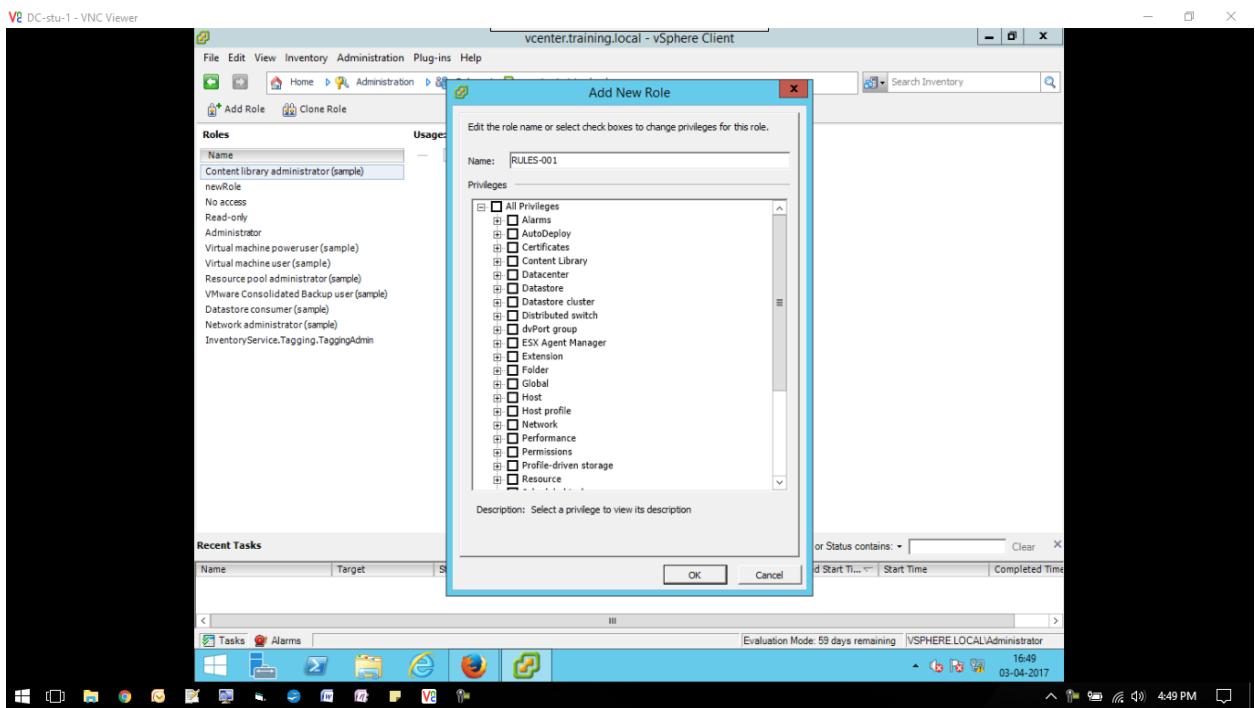
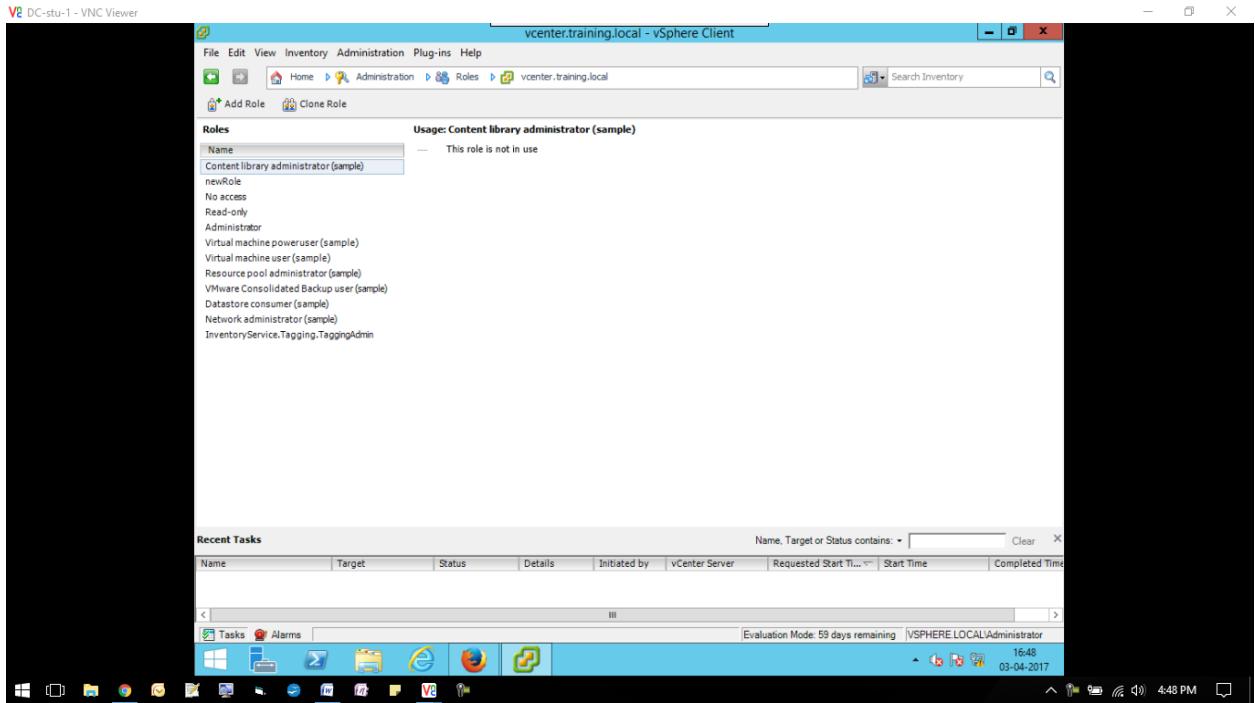
The screenshot shows the 'SSO Configuration for vcenter.training.local' page in the vSphere Web Client. The 'Identity Sources' tab is active. A table lists the configured identity sources:

Name	Server URL	Type	Domain	Alias
--	--	Local OS	vSphere.local	--
--	--	Active Director...	VCENTER (de...)	--
training local	--	Active Director...	training.local	TRAINING

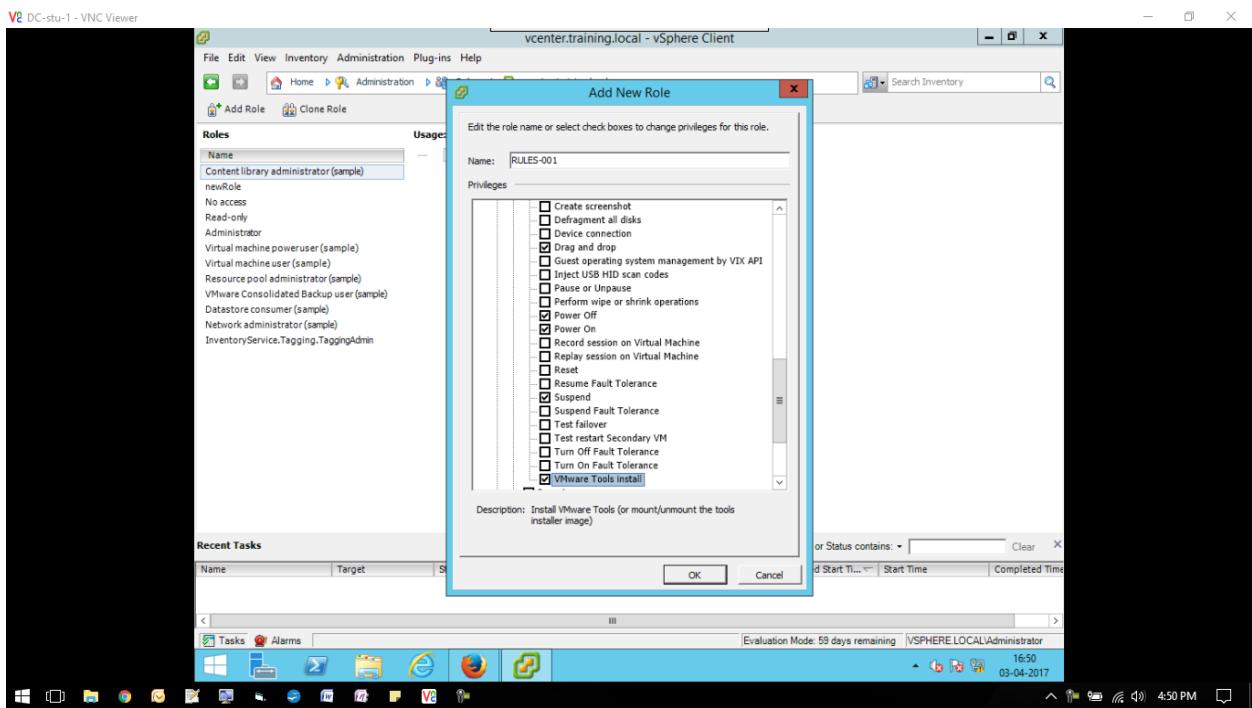
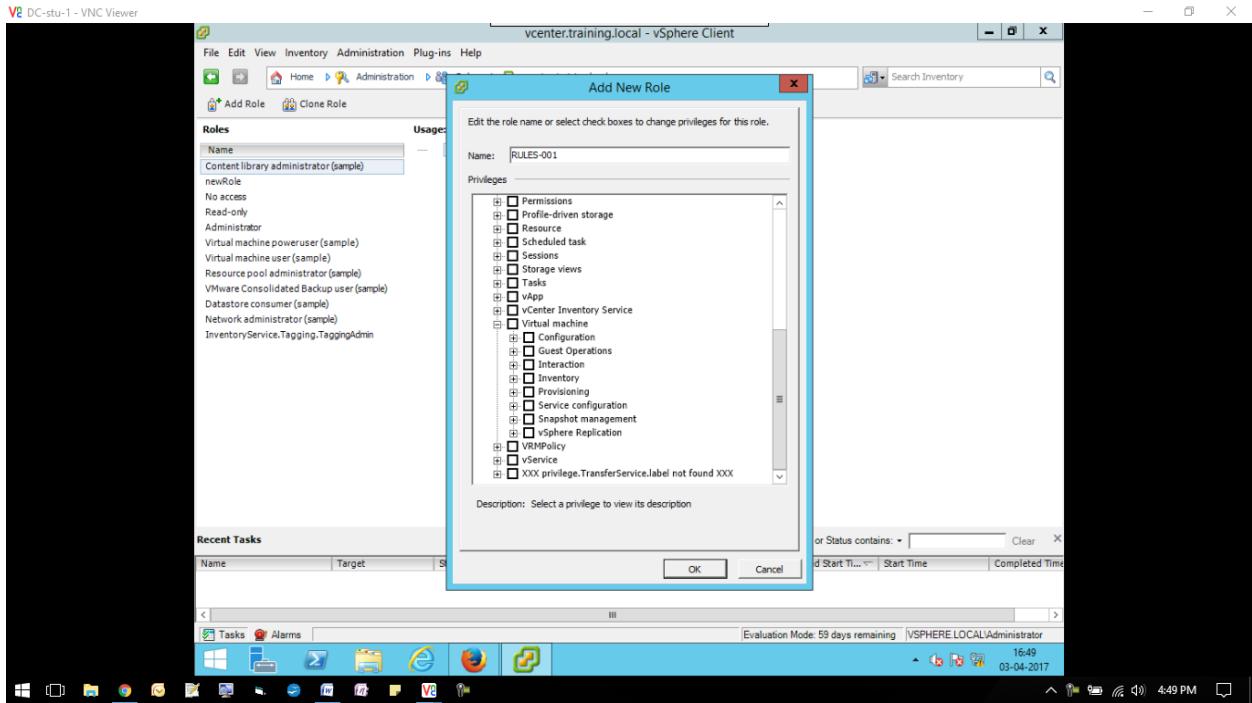
The left sidebar shows the navigation menu with 'Configuration' selected. The right side of the interface includes an 'Alarms' panel and a 'Work In Progress' panel.

AD Integration & user access

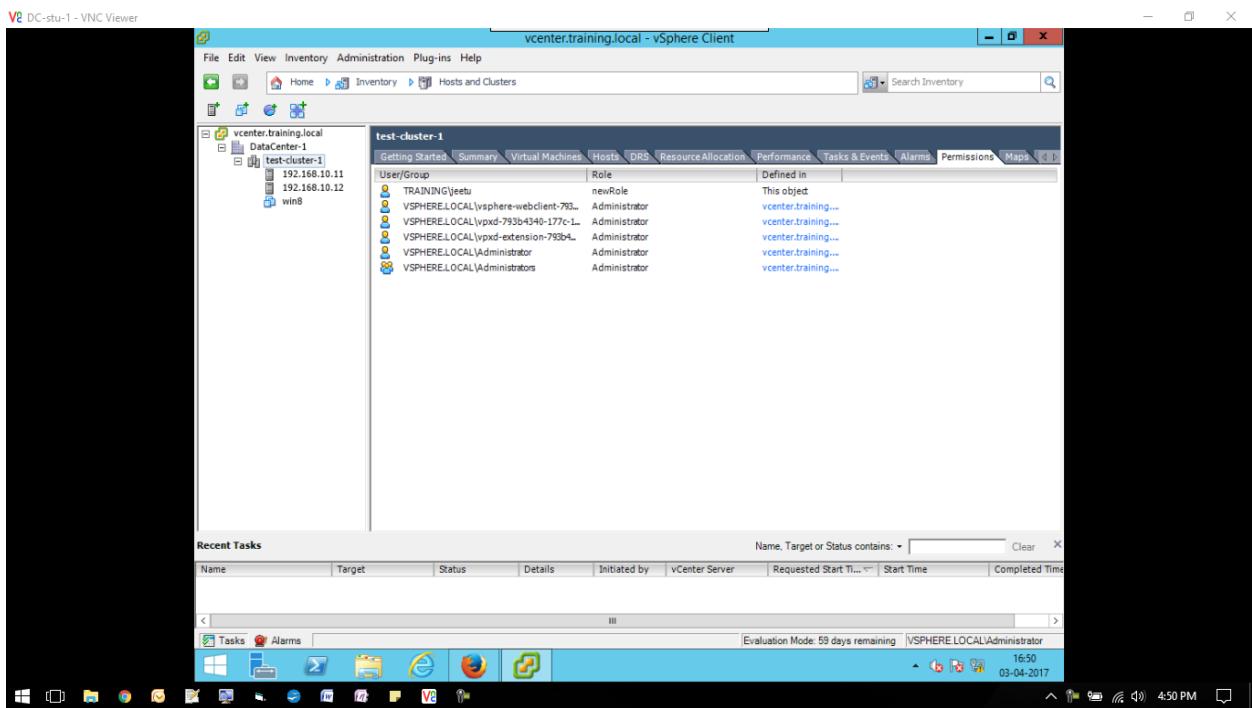
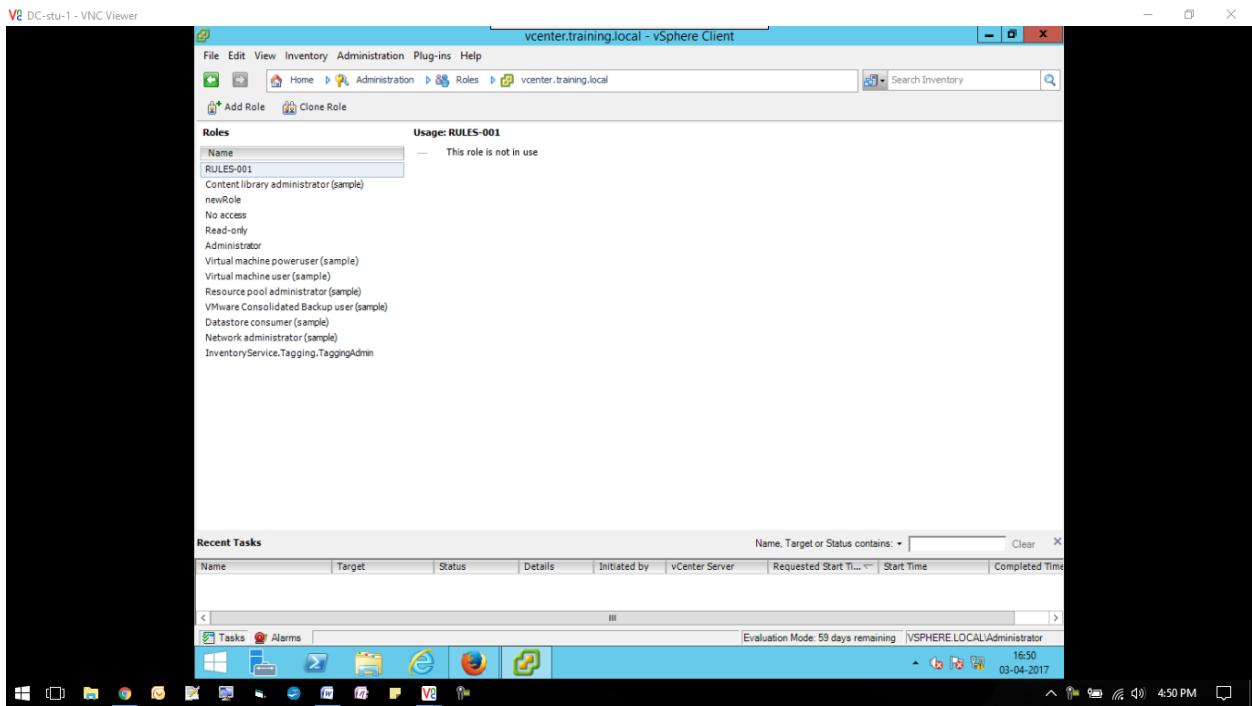
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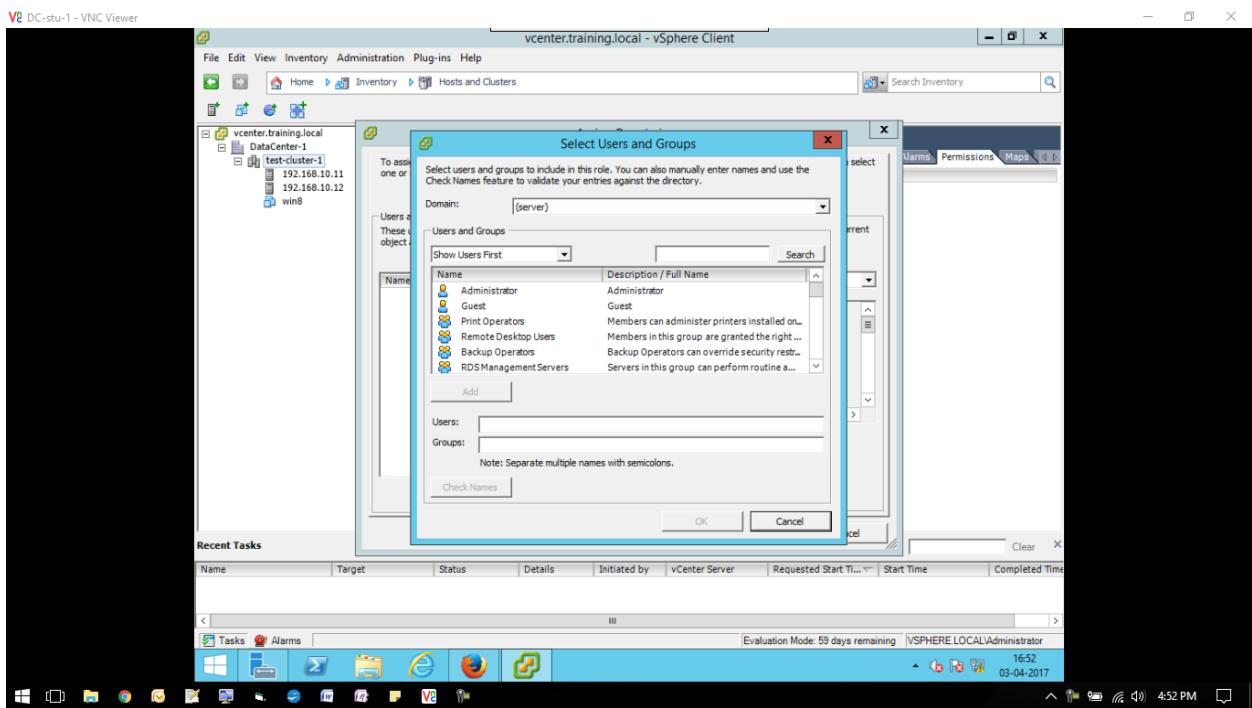
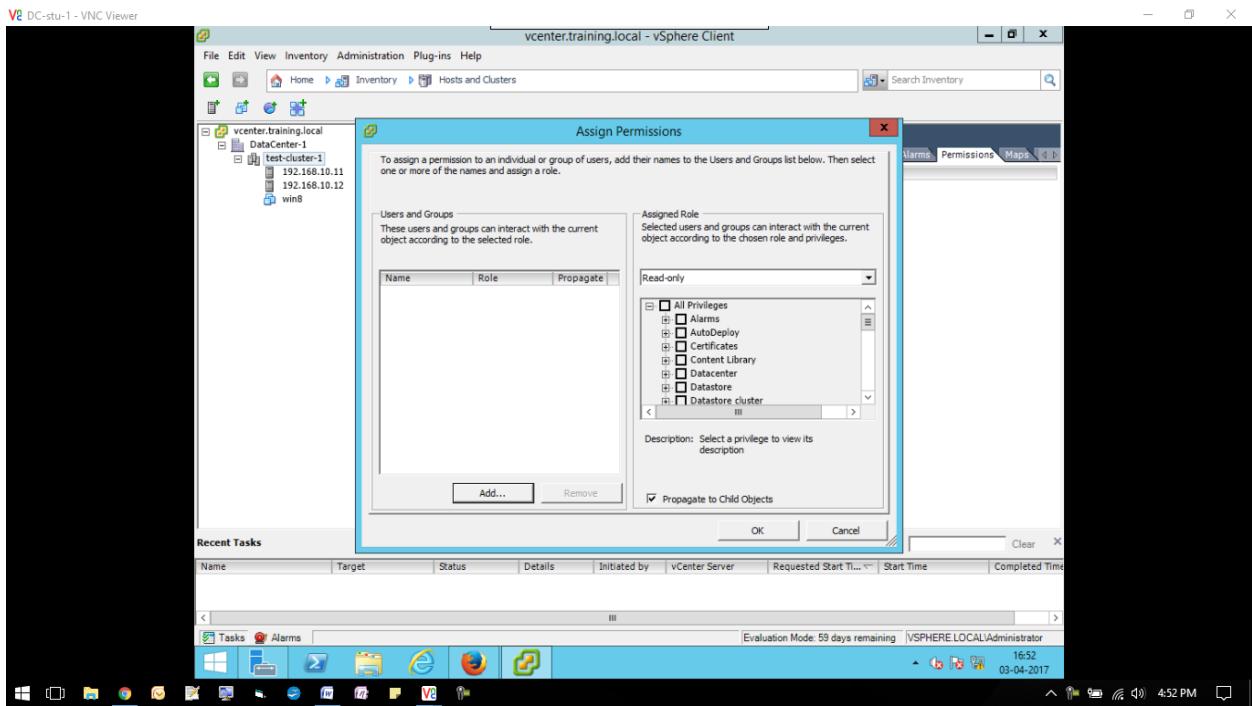
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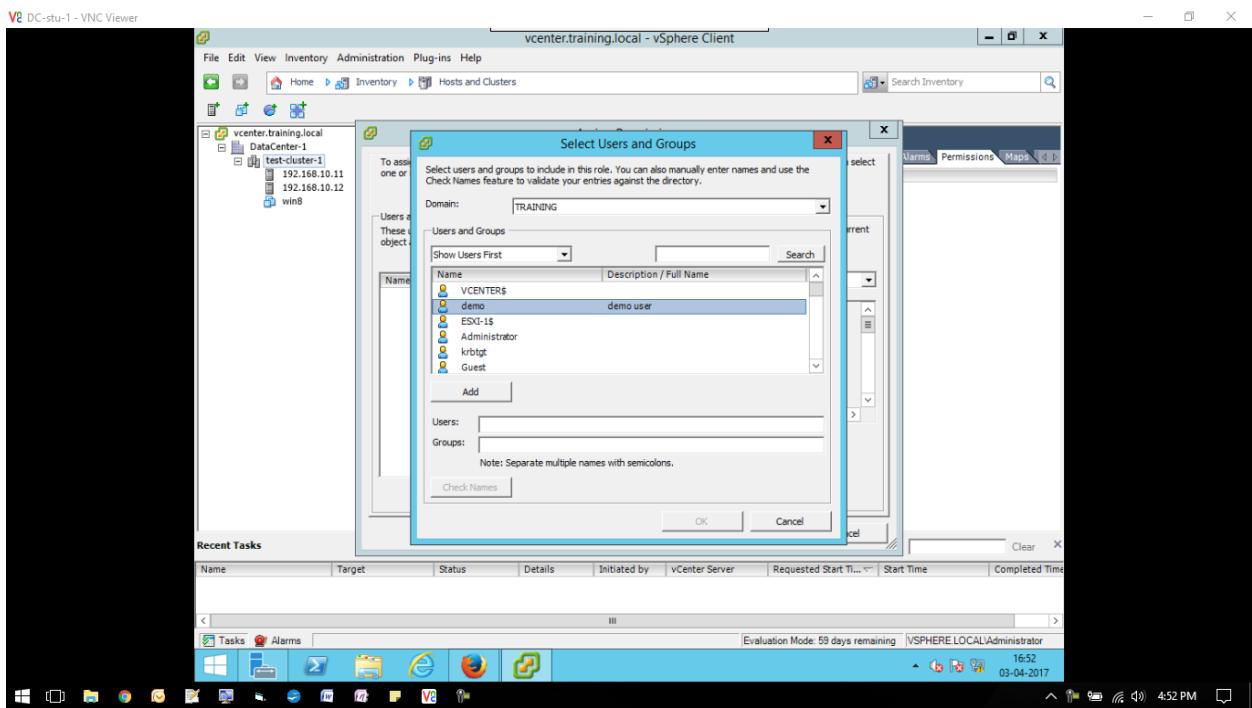
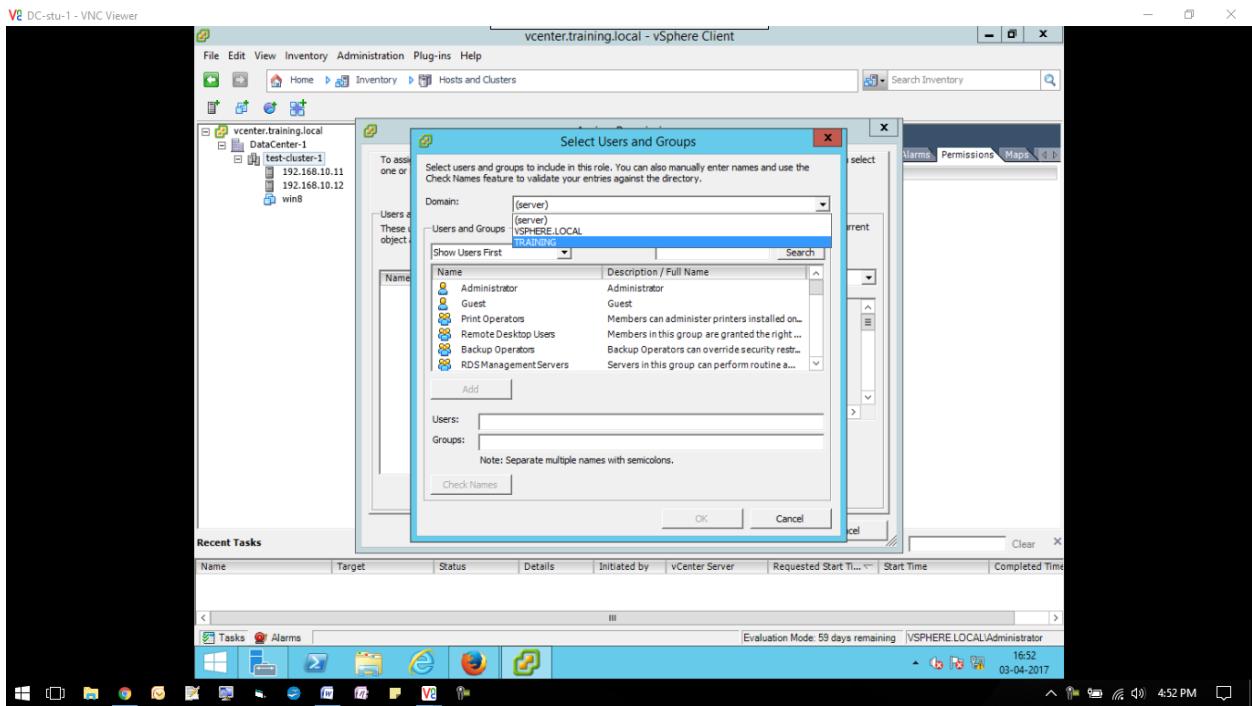
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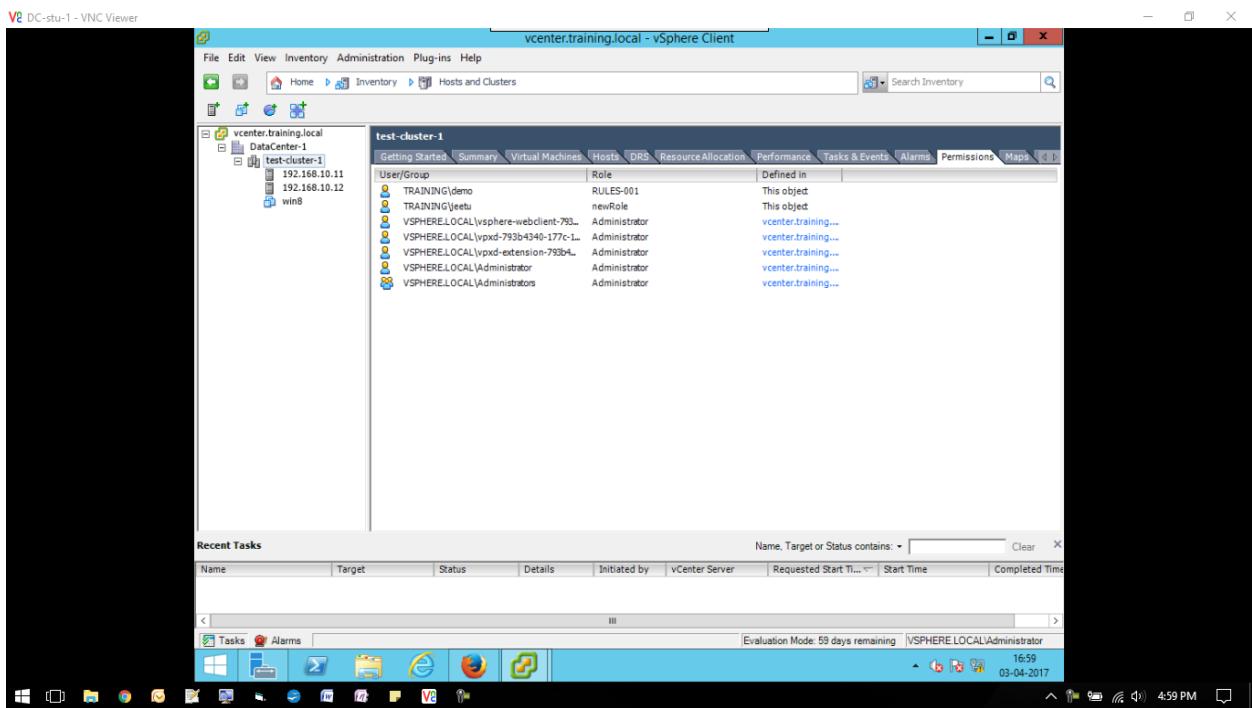
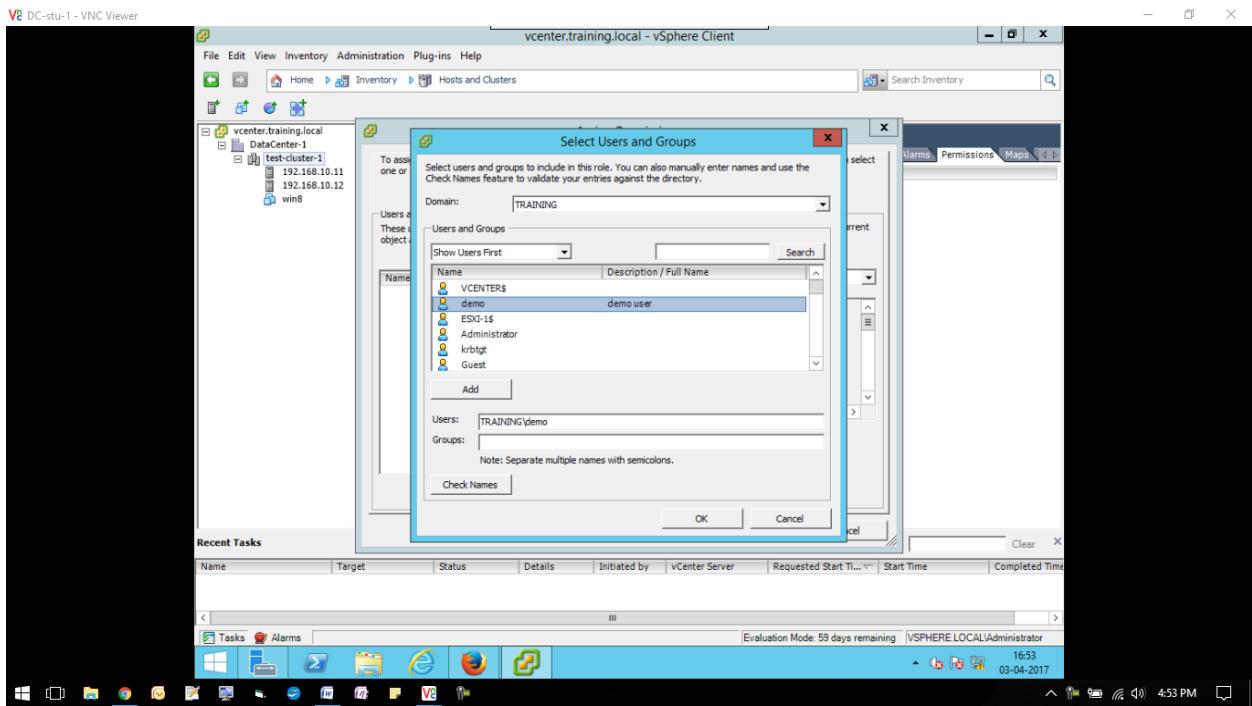
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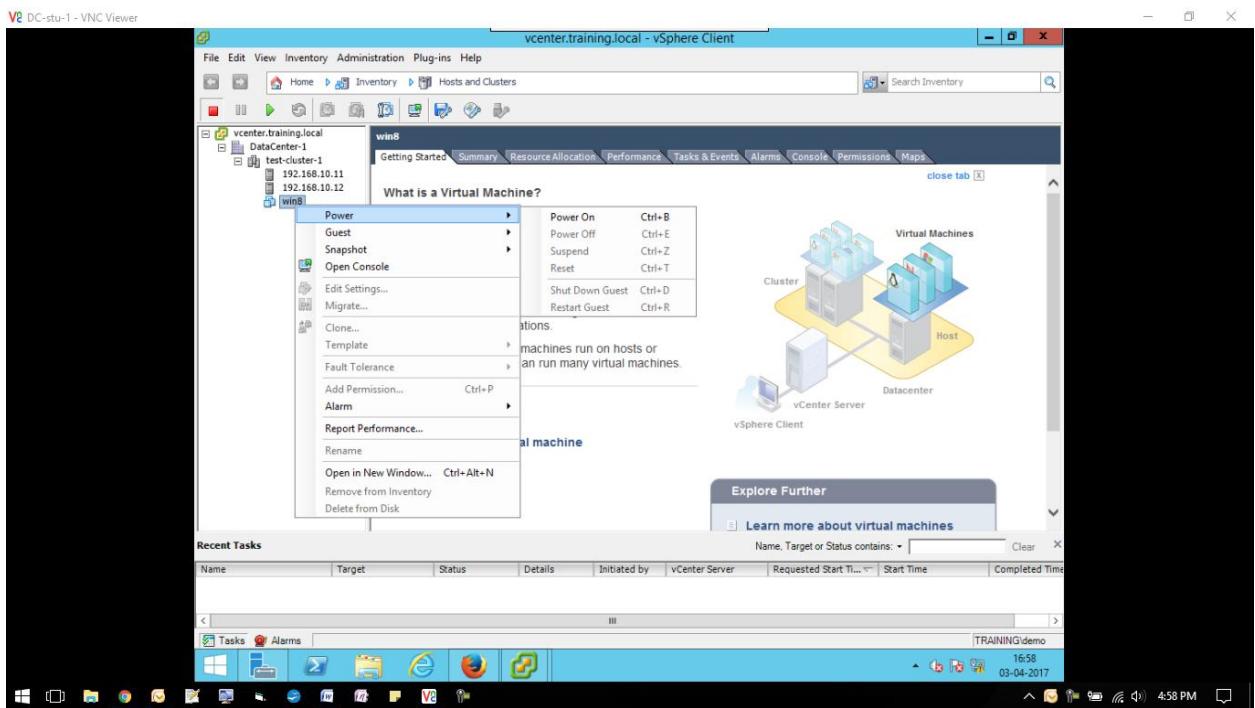
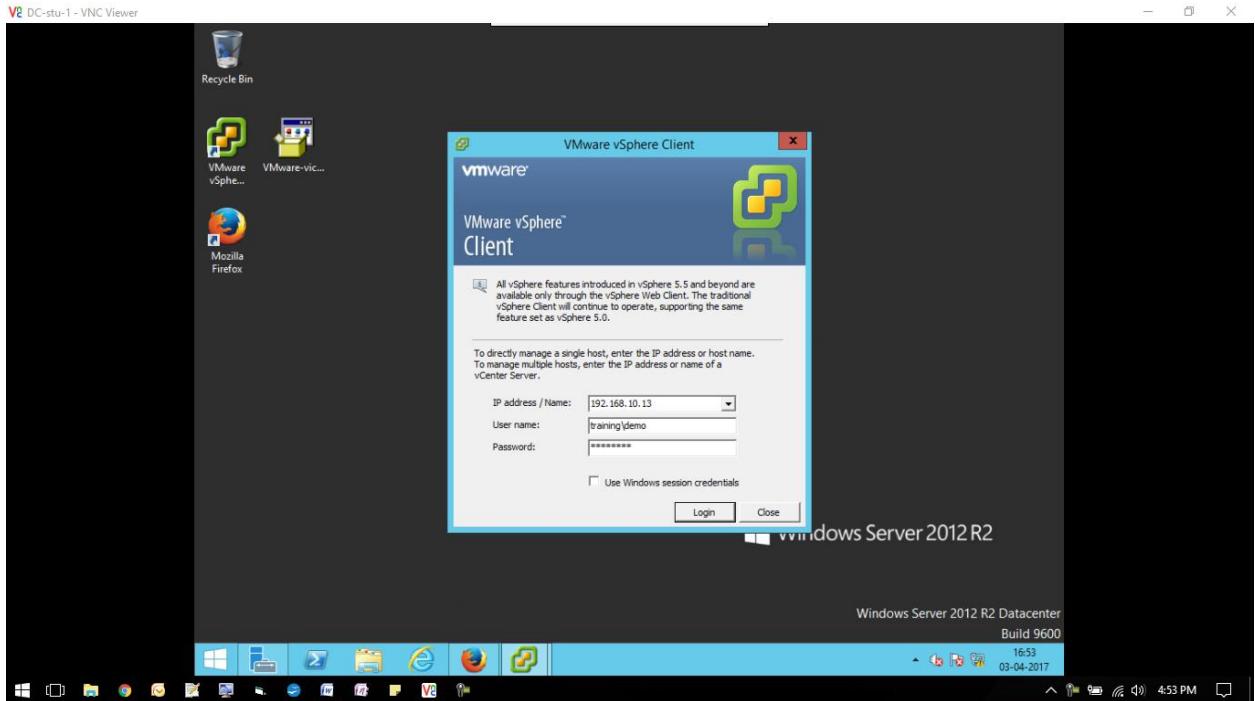
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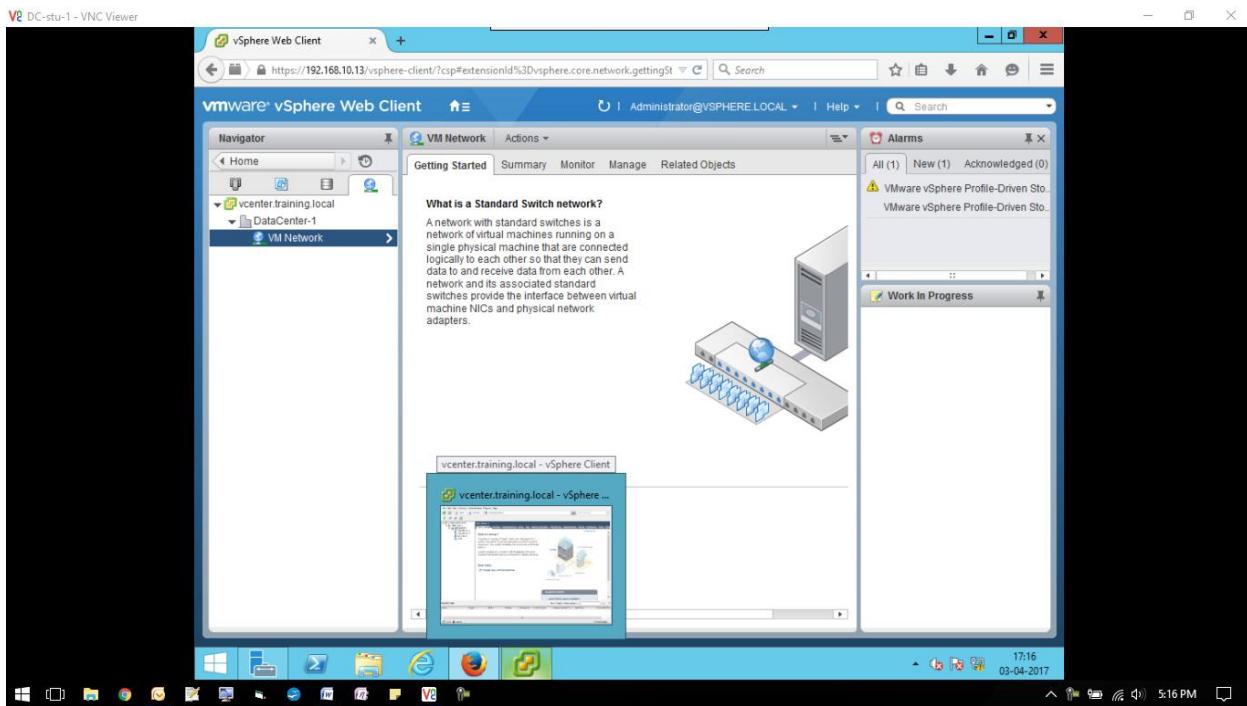
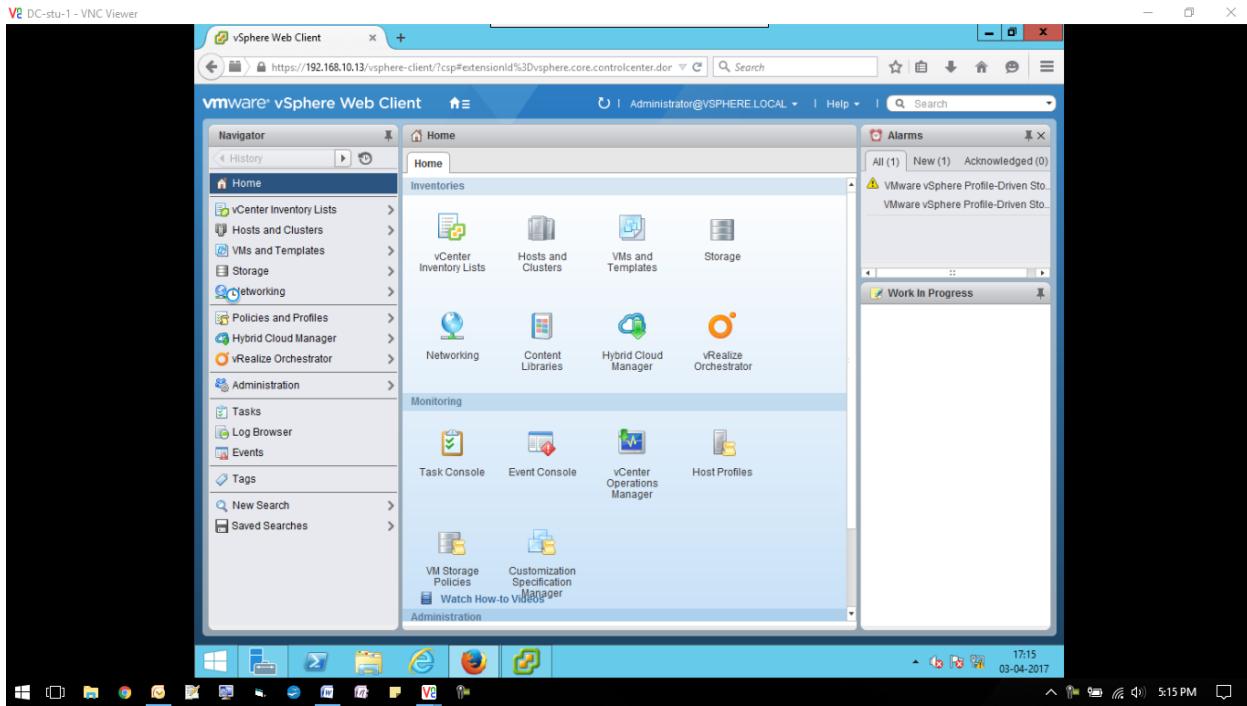
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Networking



vSphere Standard Switch Architecture

```

graph LR
    subgraph vSphereStandardSwitch [vSphere Standard Switch]
        direction TB
        vSphereStandardSwitch --- PortGroups[Port groups]
        vSphereStandardSwitch --- vSphereSwitch[vSphere Standard Switch]
        vSphereStandardSwitch --- PhysicalAdapters[Physical Adapters]
    end
    vSphereStandardSwitch -.-> VMNetwork[VM Network]
    vSphereStandardSwitch -.-> ServiceConsole[Service Console]
    VMNetwork -.-> VM1[VM 1]
    VMNetwork -.-> VM2[VM 2]
    ServiceConsole -.-> vswif1[vswif1]
    VM1 -.-> vmnic0[vmnic0 1000 Full]
    VM2 -.-> vmnic0[vmnic0 1000 Full]
    vswif1 -.-> vmnic0[vmnic0 1000 Full]

```

What's Next:
Setting up vSphere Standard Switch architecture

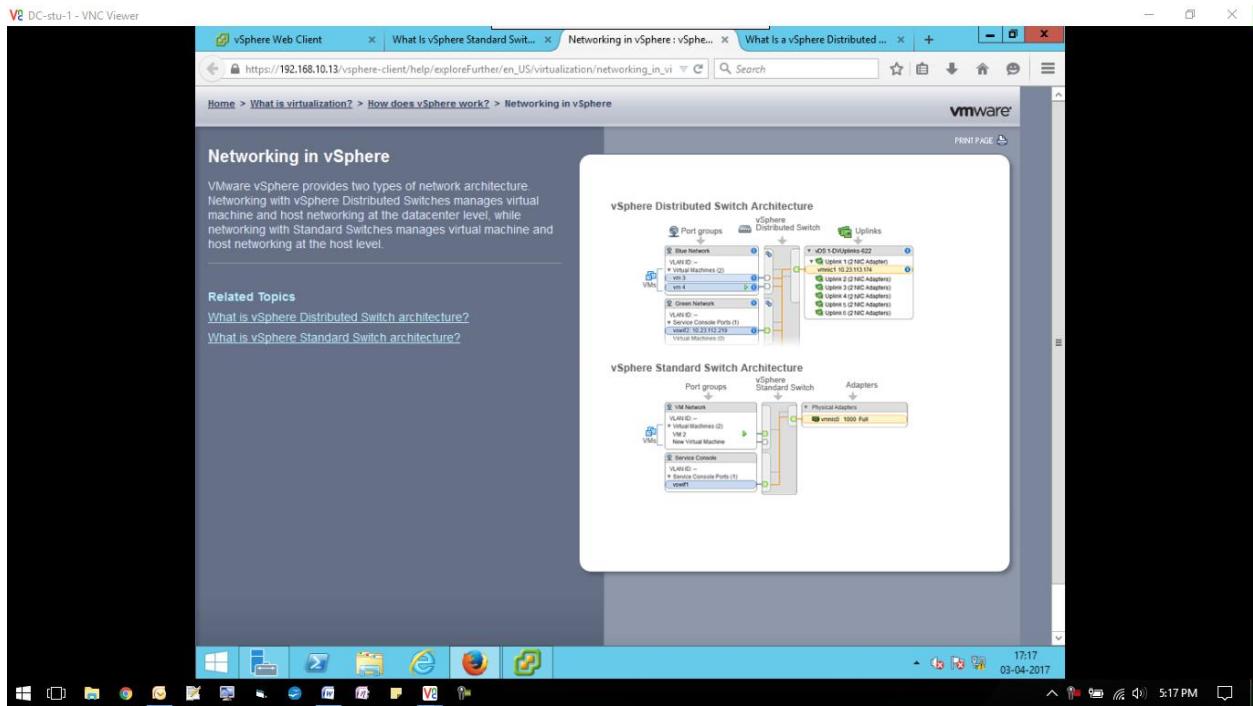
vSphere Distributed Switch Architecture

```

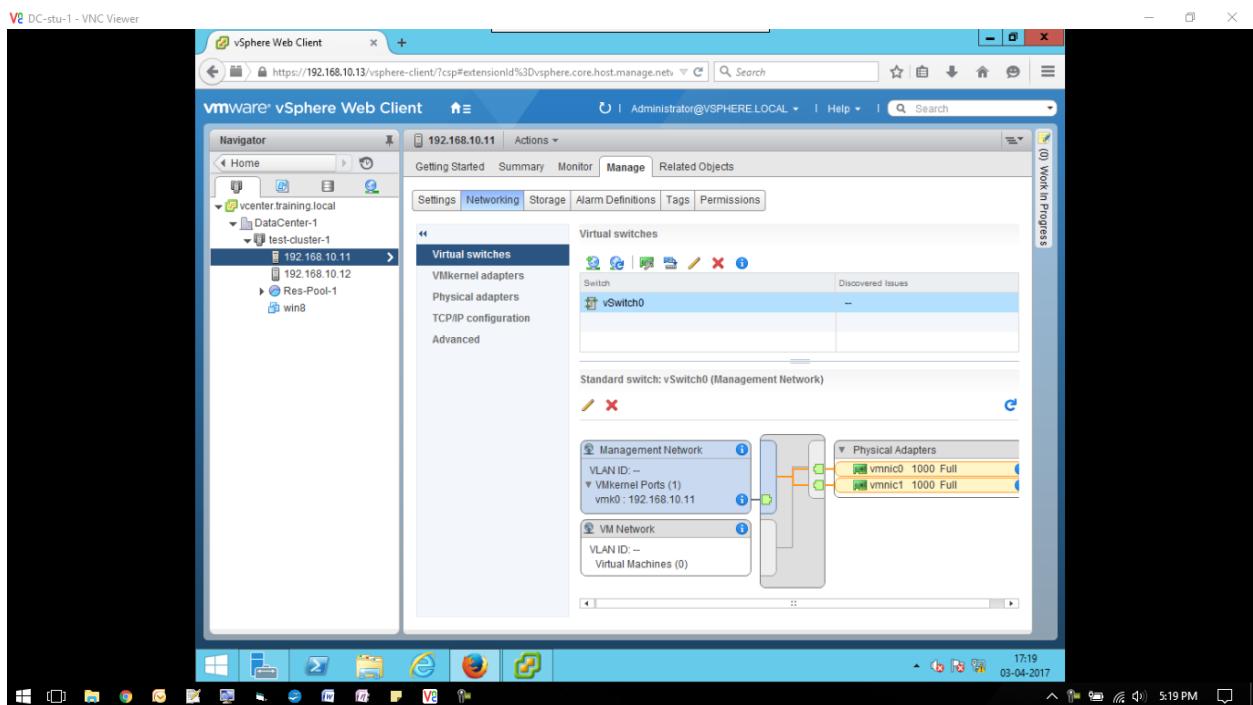
graph LR
    subgraph vSphereDistributedSwitch [vSphere Distributed Switch]
        direction TB
        vSphereDistributedSwitch --- vSphereDistributedSwitch
        vSphereDistributedSwitch --- Host1[Host 1]
        vSphereDistributedSwitch --- Host2[Host 2]
        vSphereDistributedSwitch --- Host3[Host 3]
    end
    vSphereDistributedSwitch -.-> vSphereDistributedSwitch
    vSphereDistributedSwitch -.-> Host1
    vSphereDistributedSwitch -.-> Host2
    vSphereDistributedSwitch -.-> Host3

```

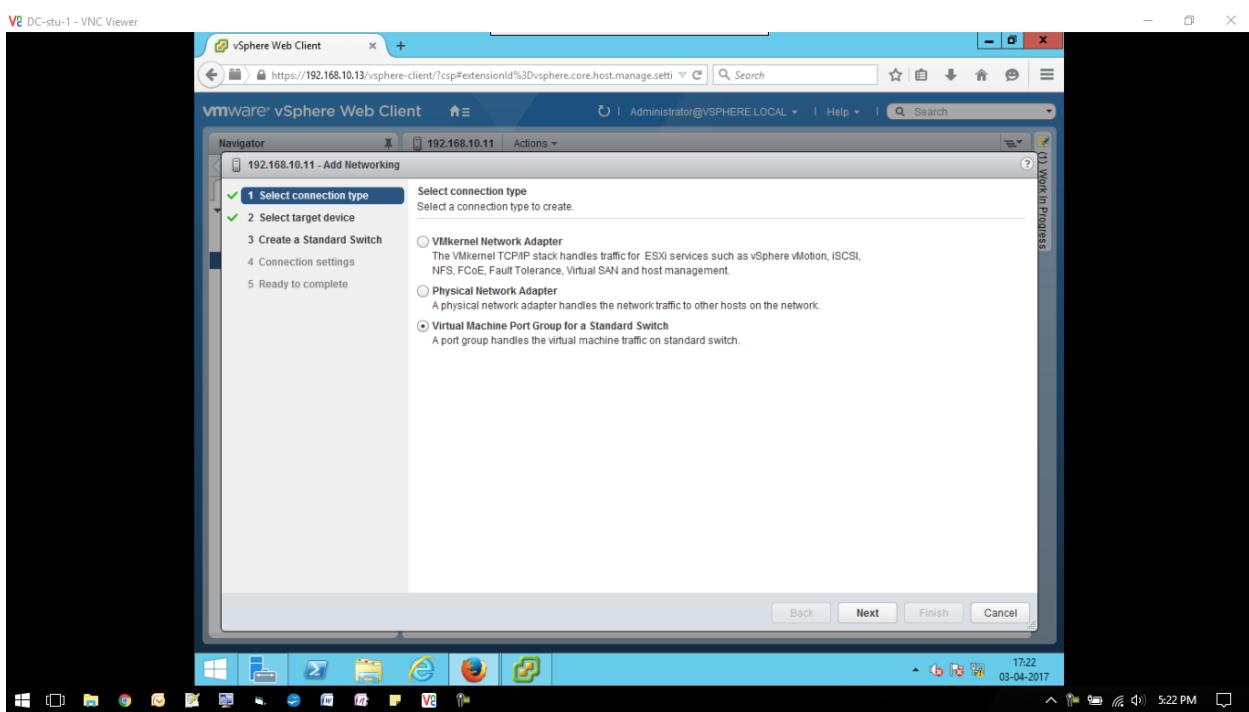
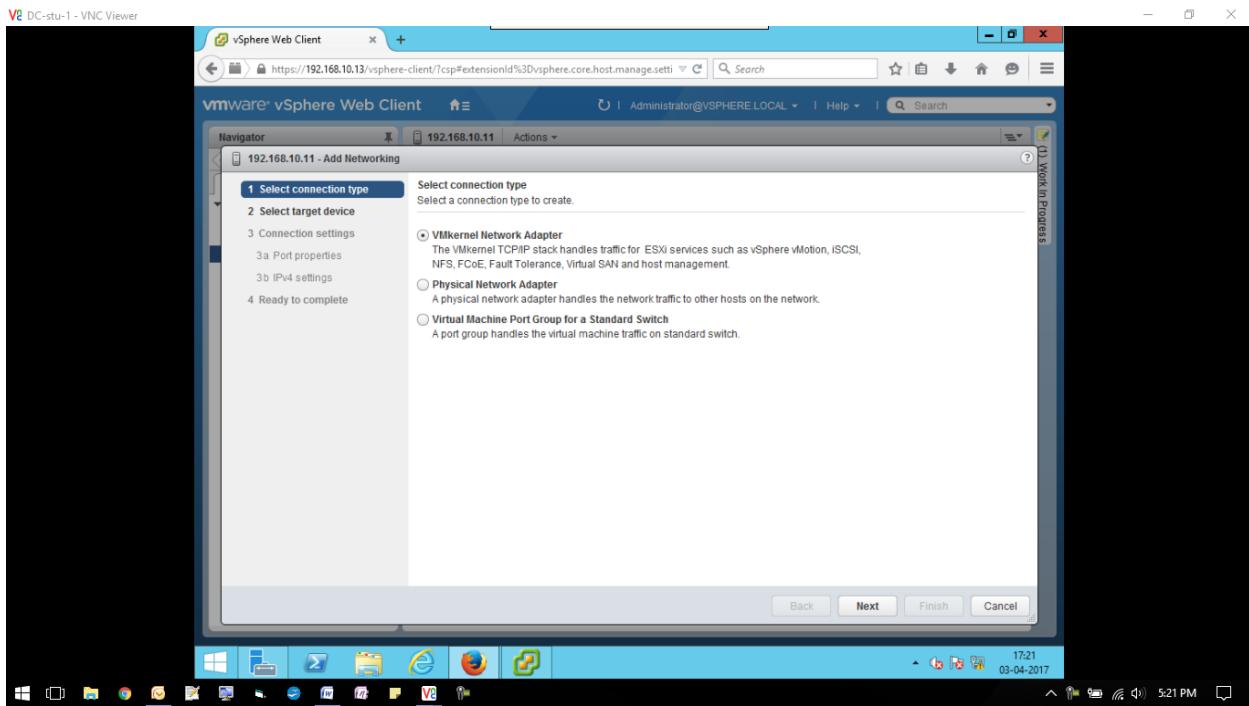
What's Next:
Setting up vSphere Distributed Switch architecture



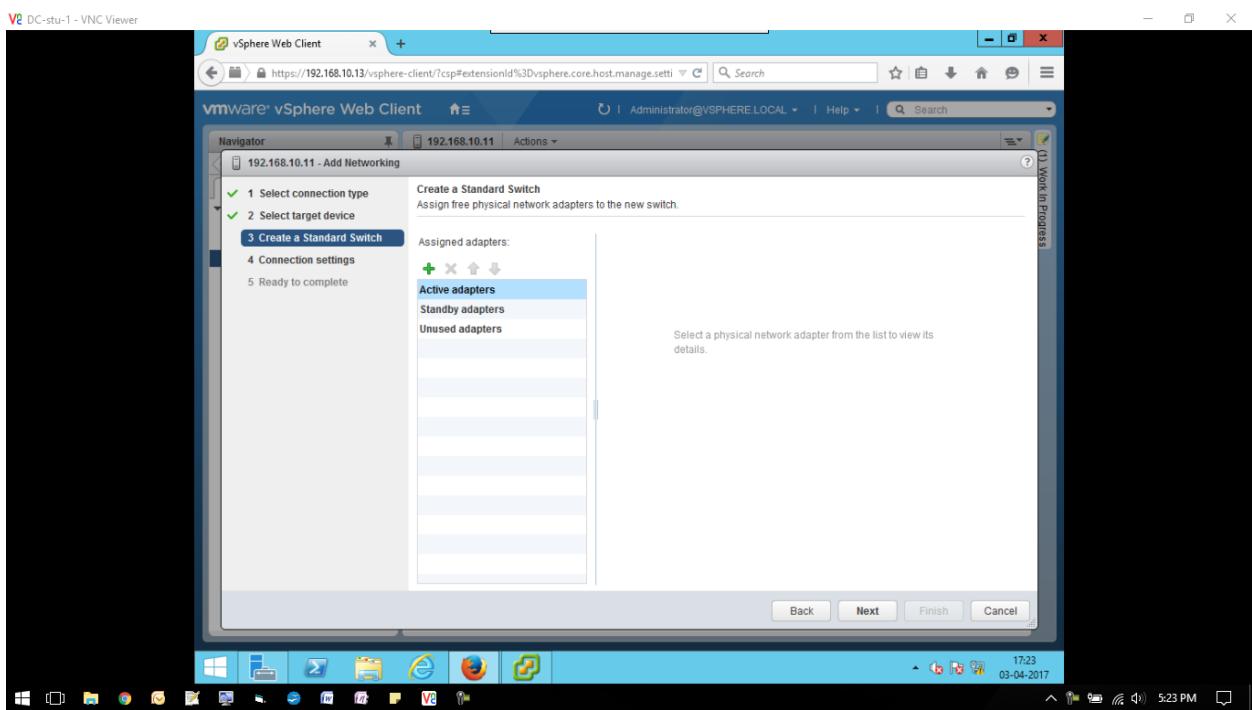
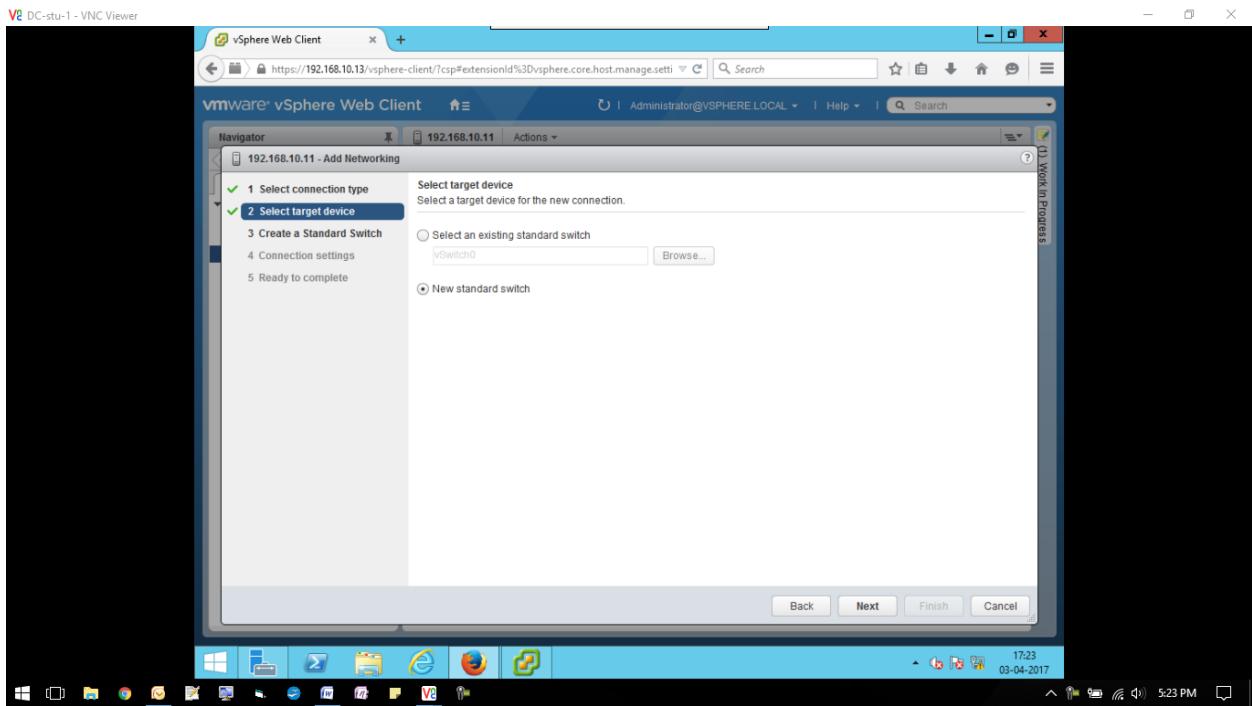
Creating standard switch



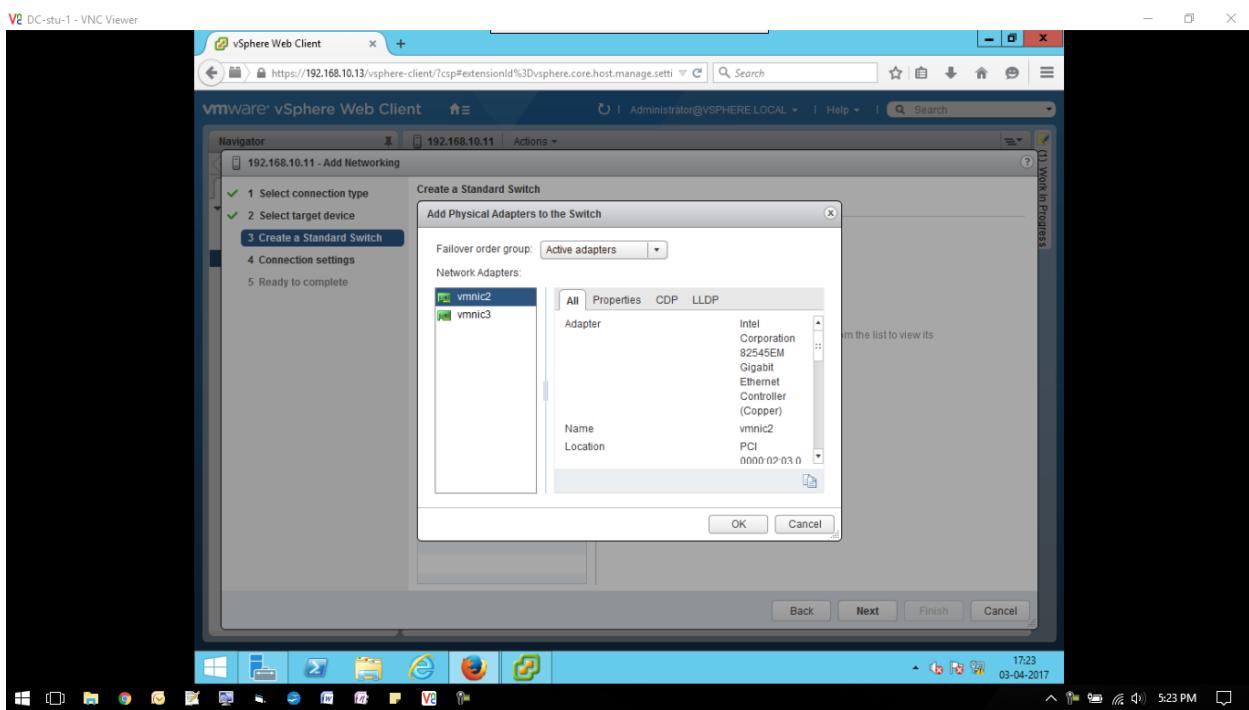
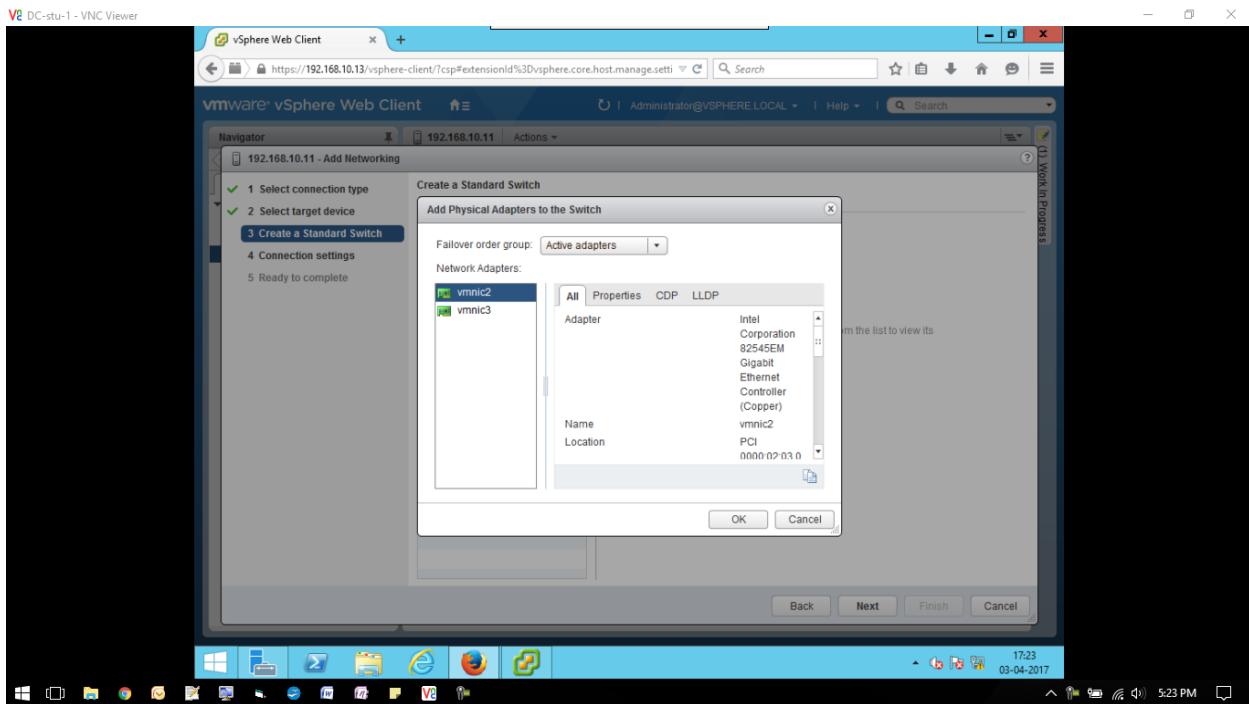
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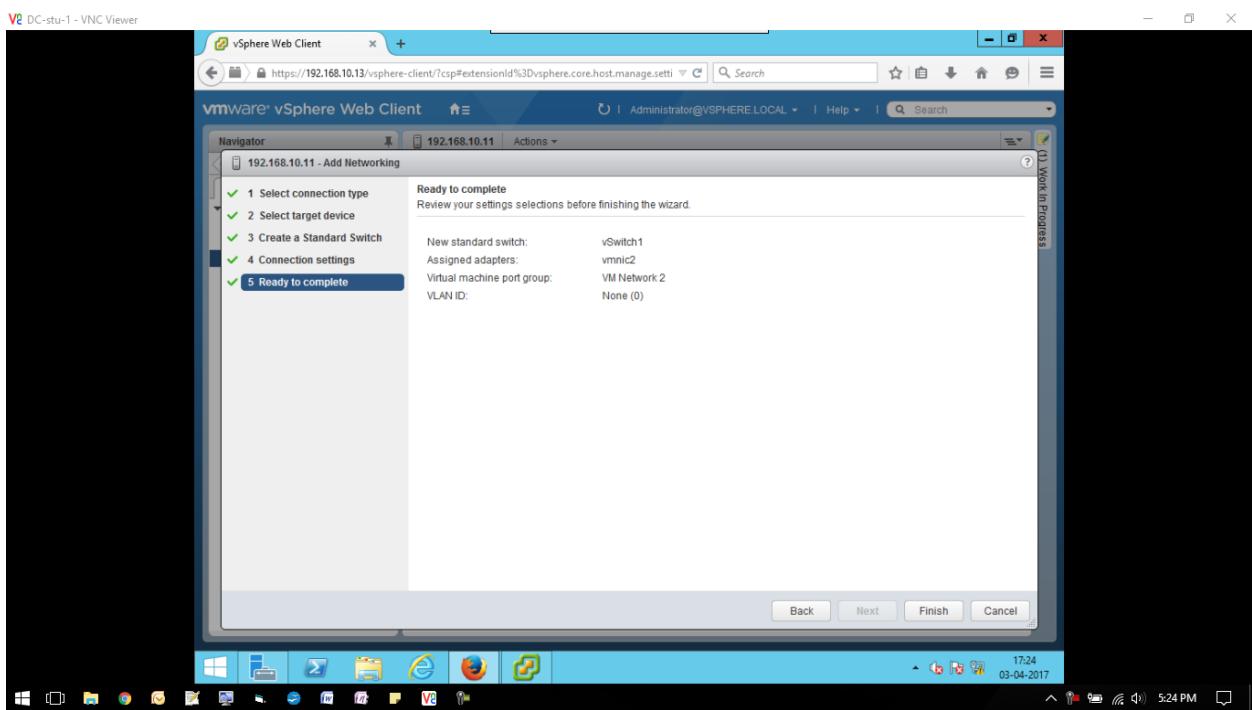
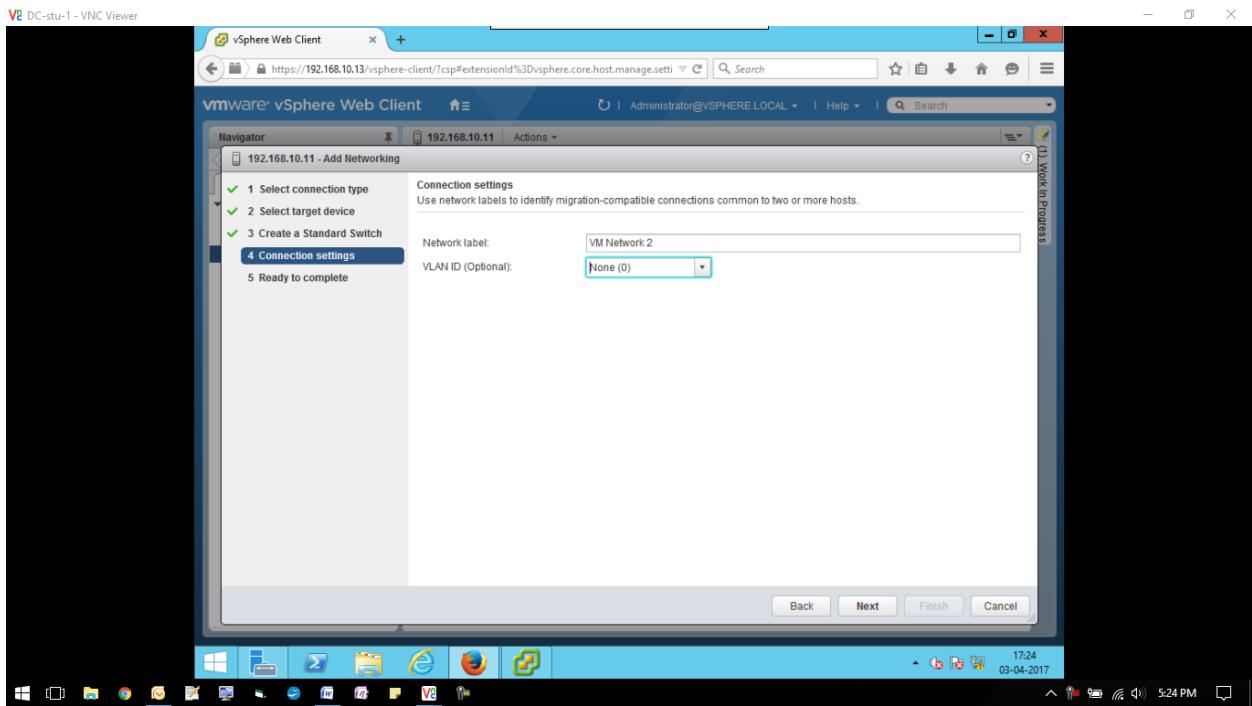
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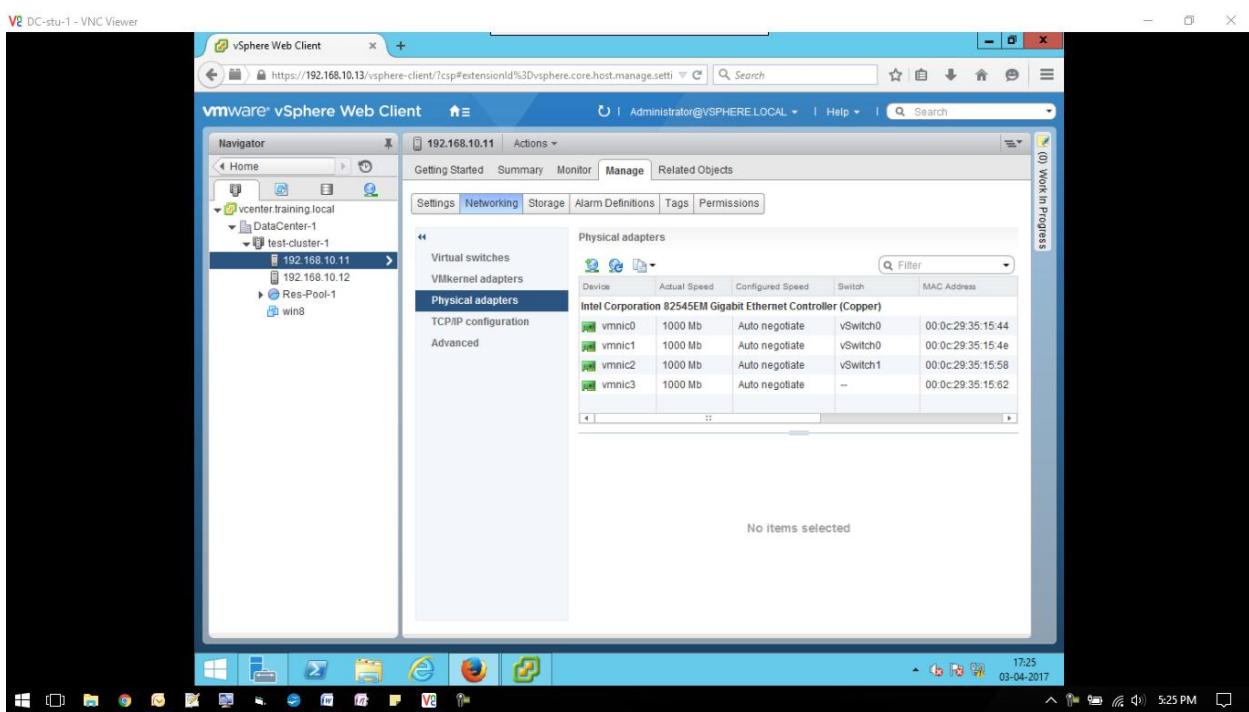
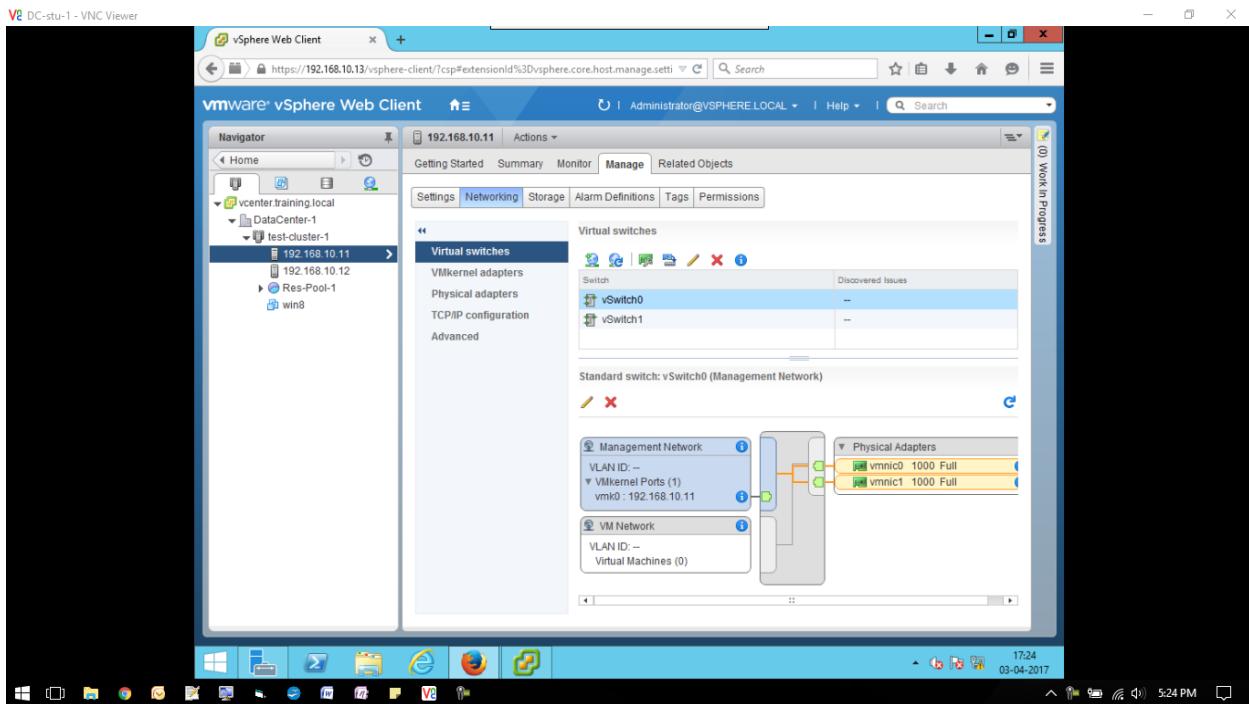
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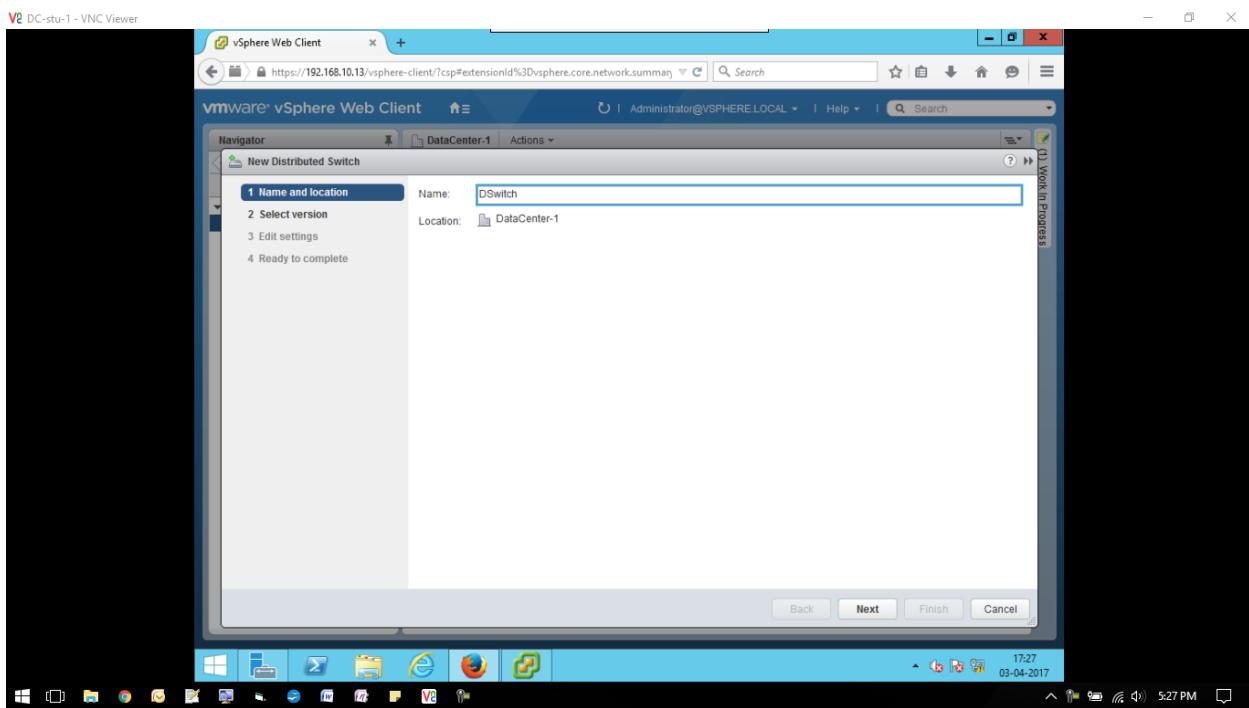
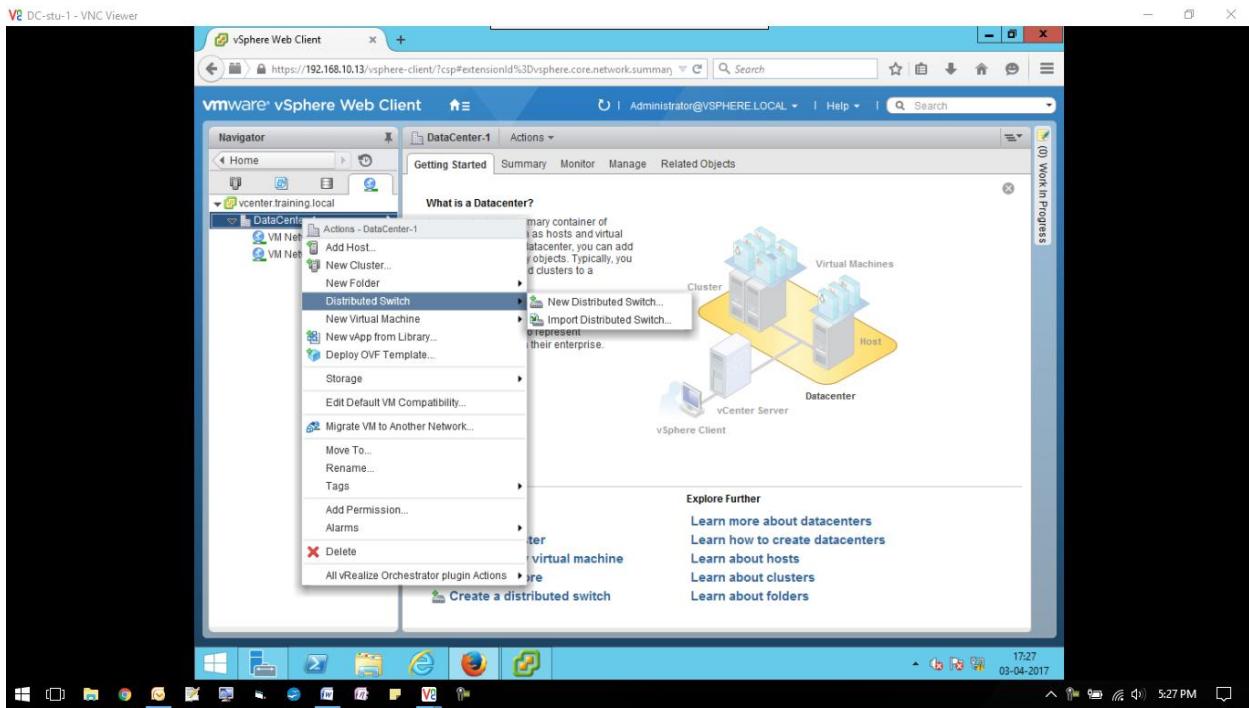
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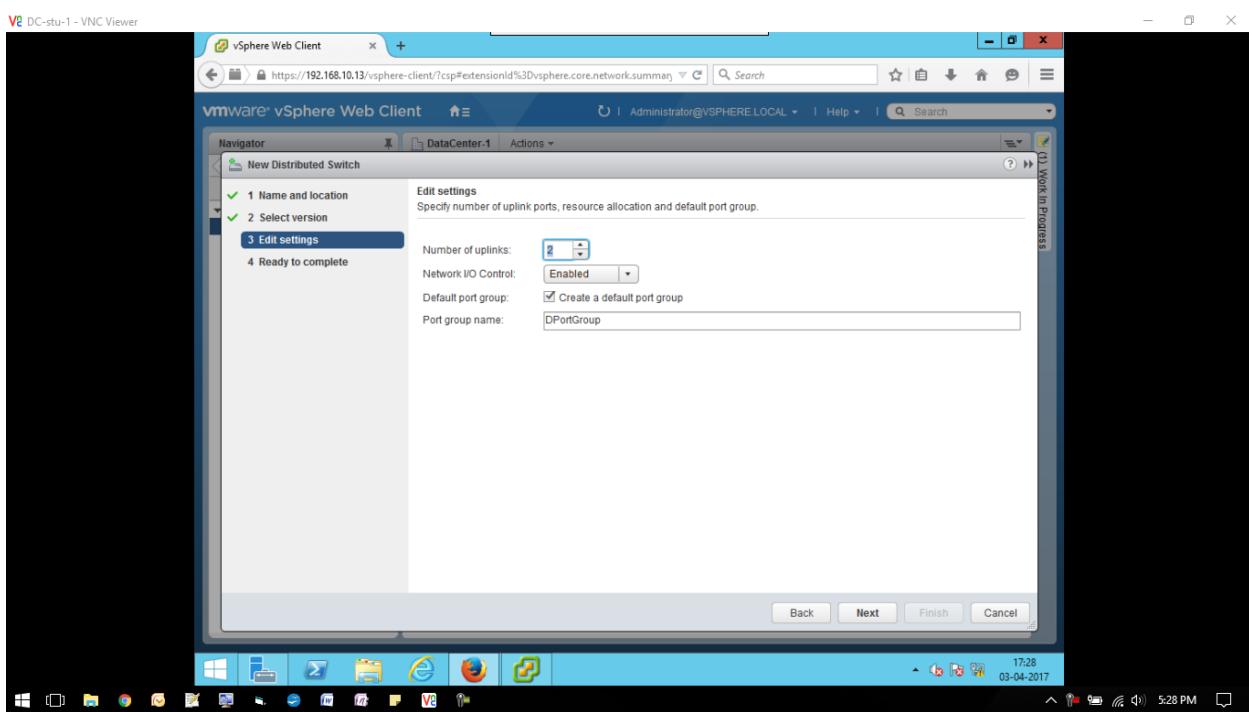
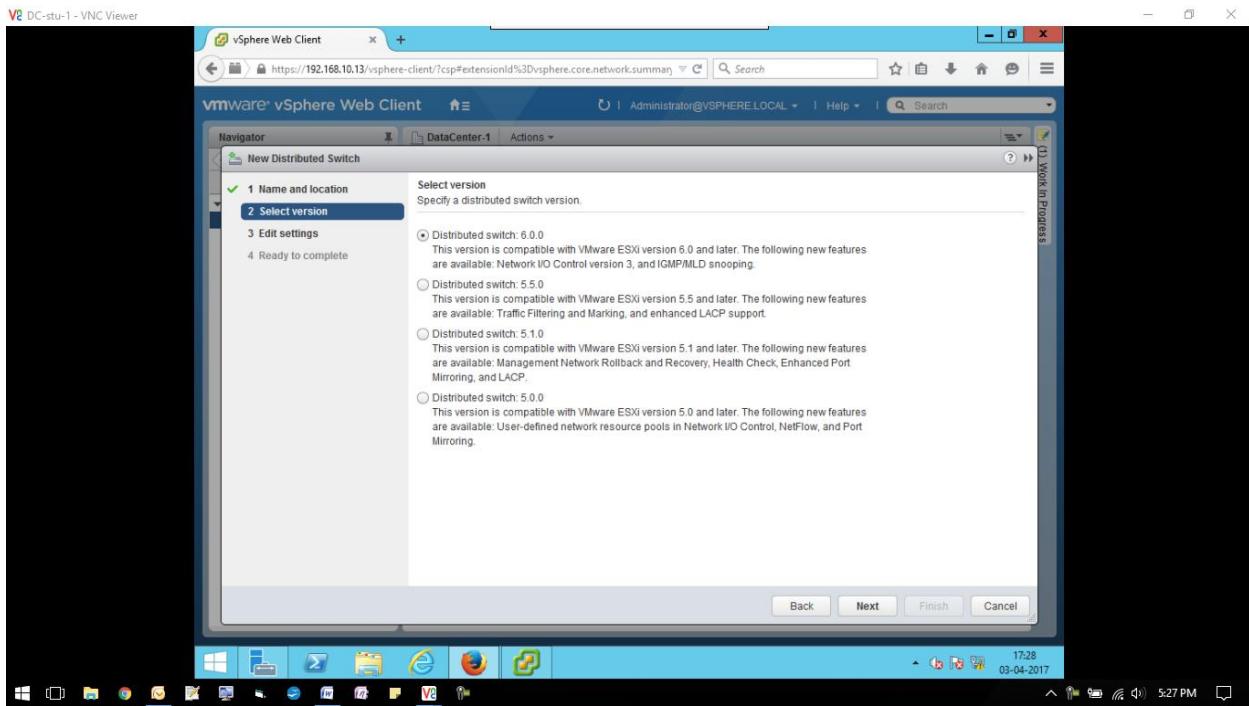
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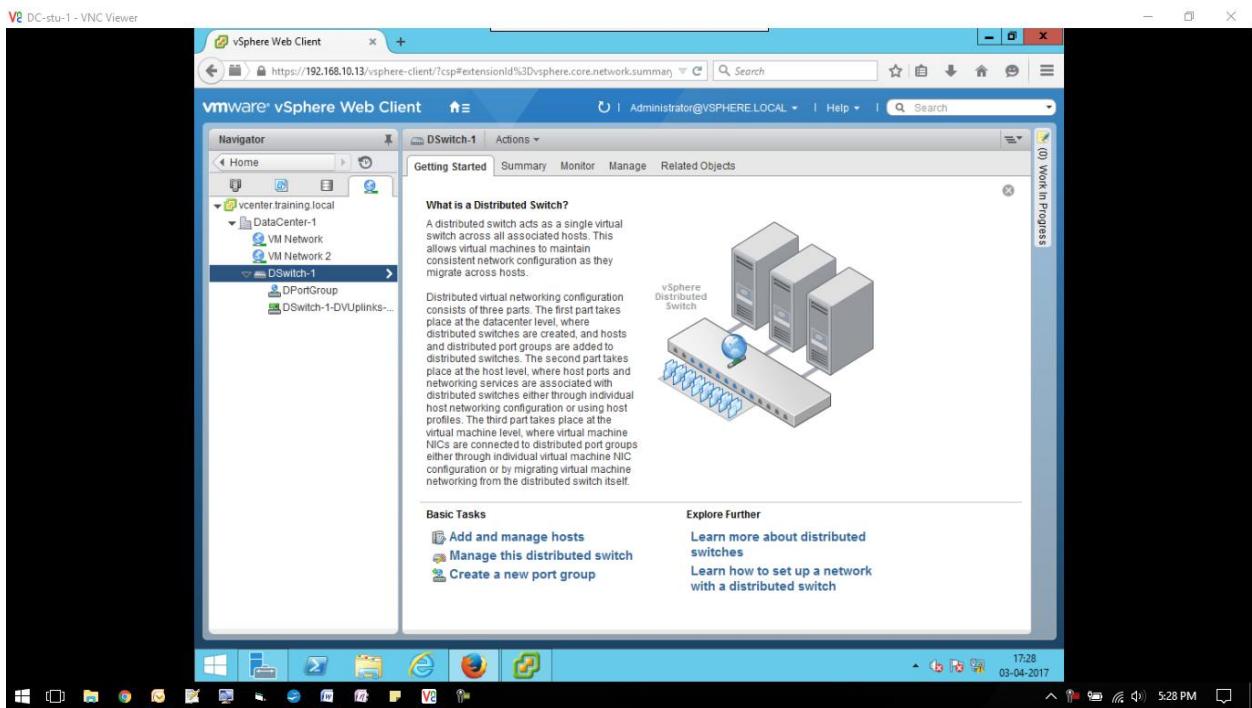
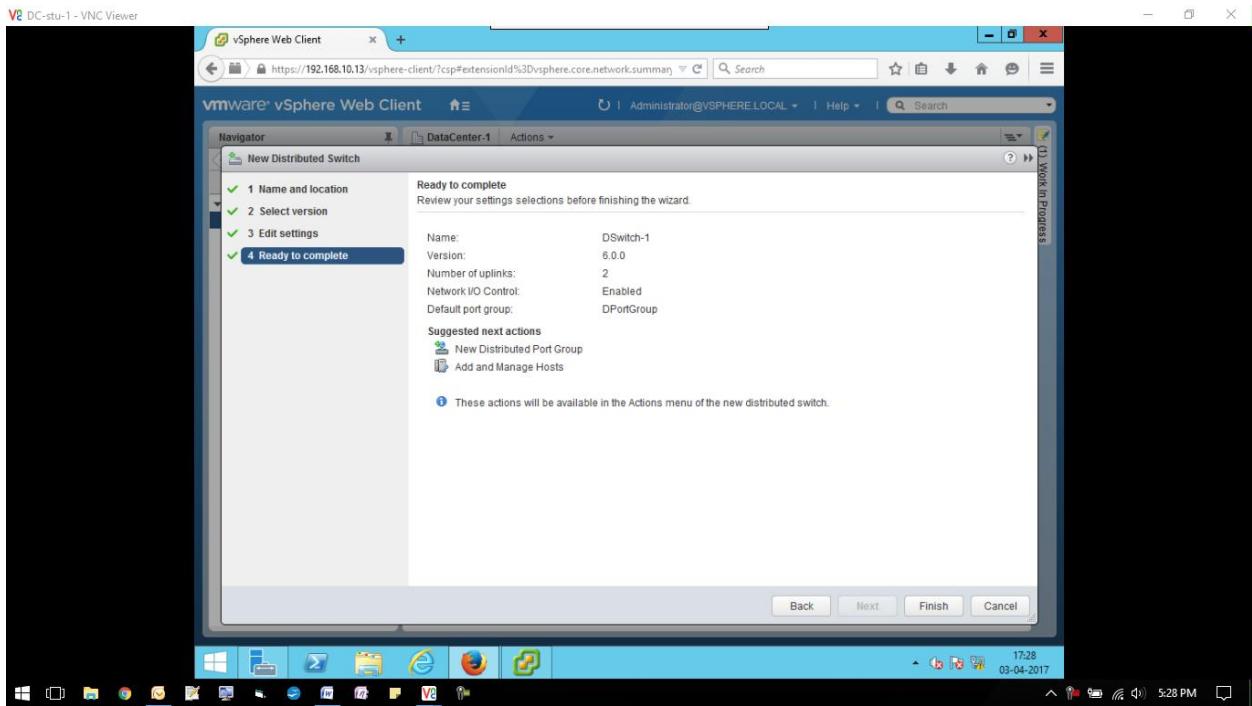
Creating distributed switch



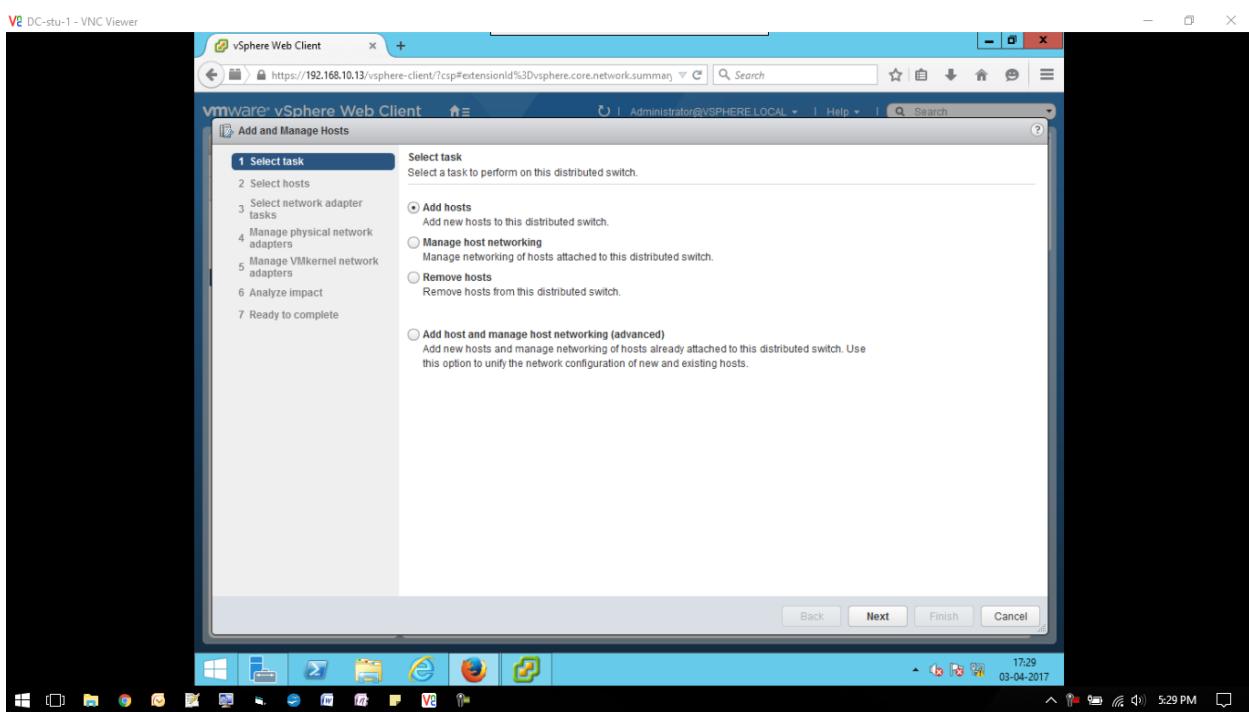
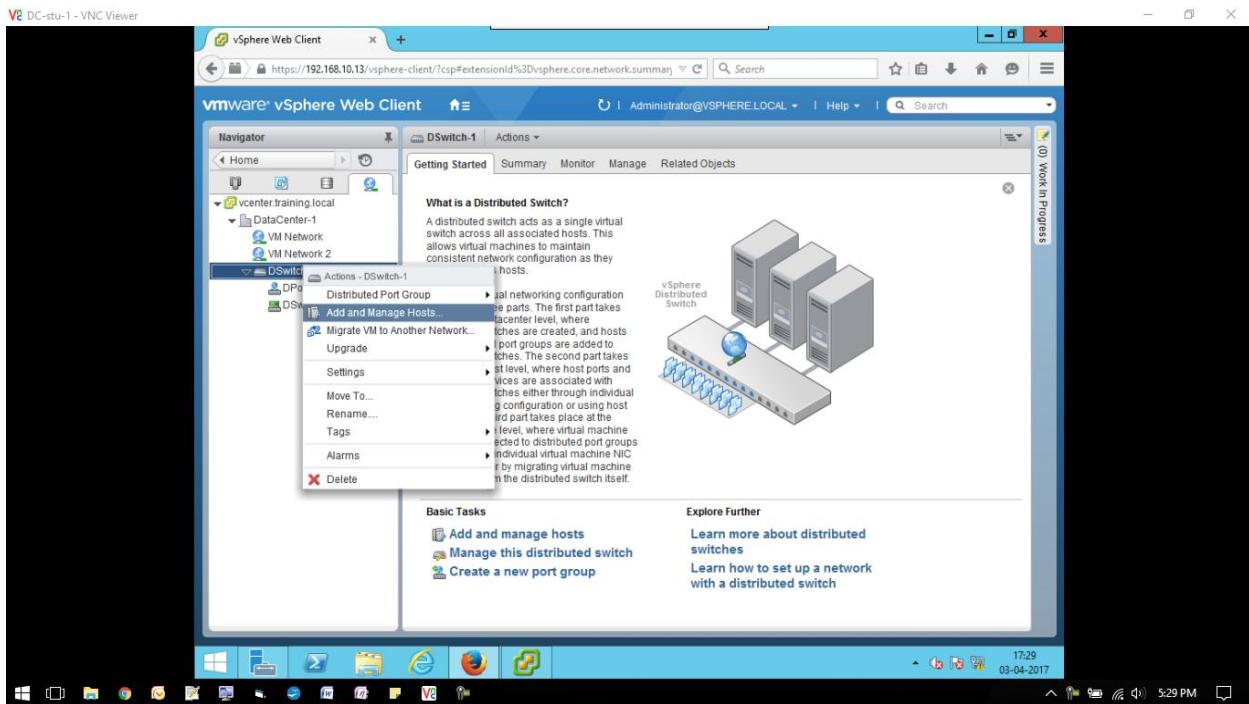
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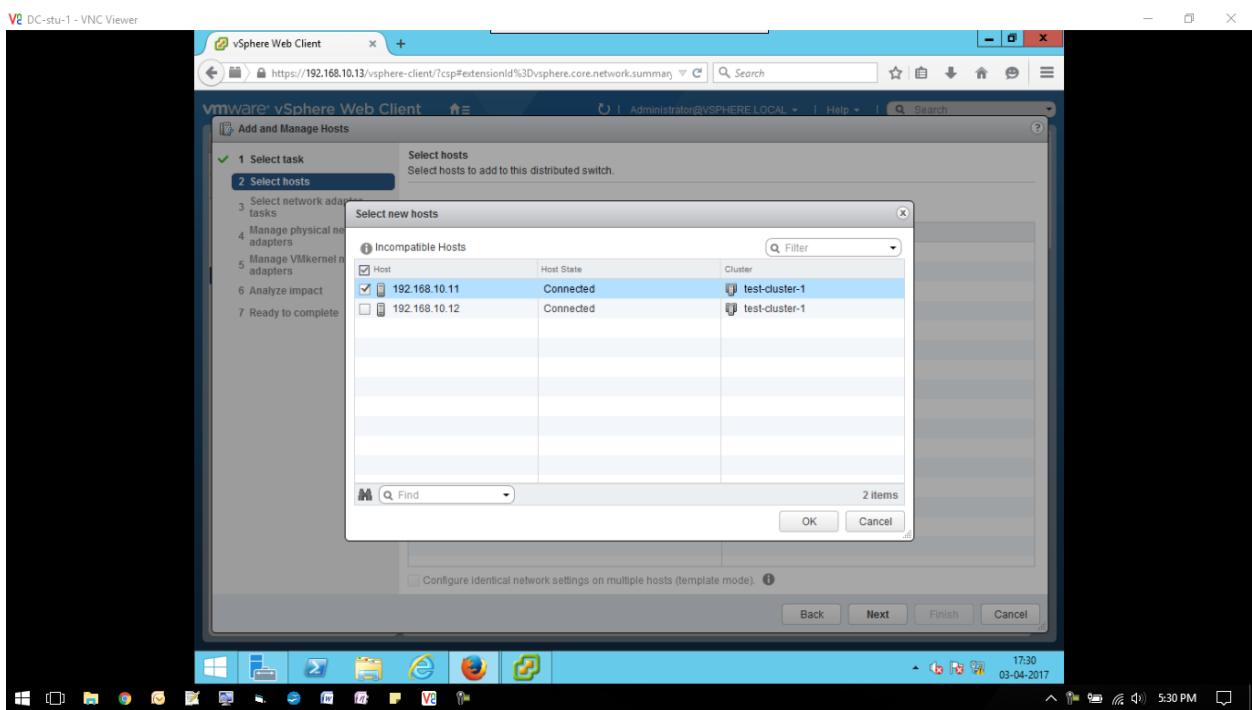
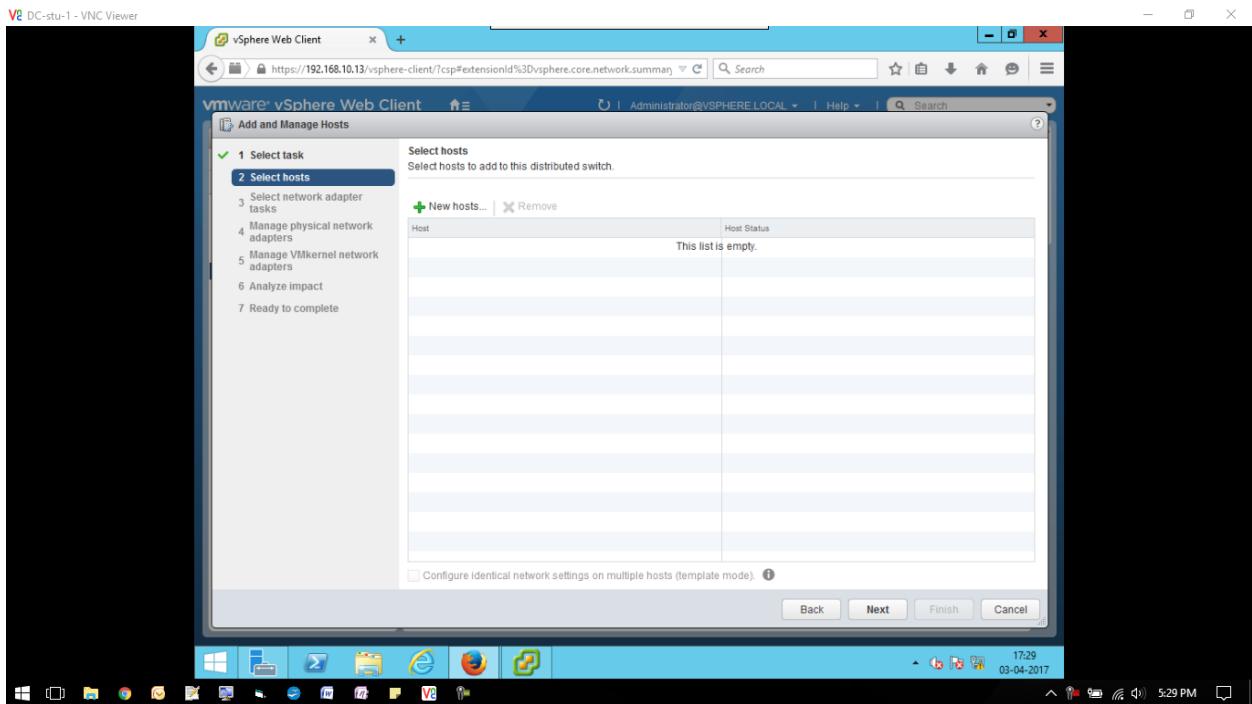
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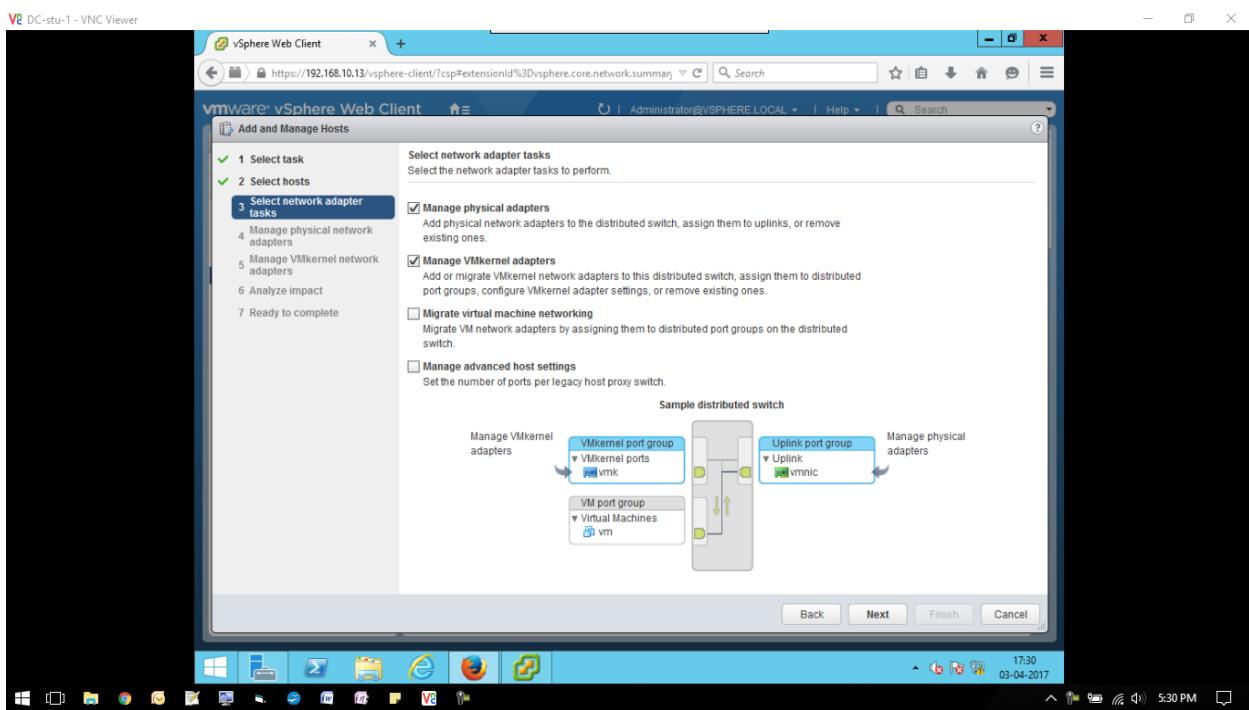
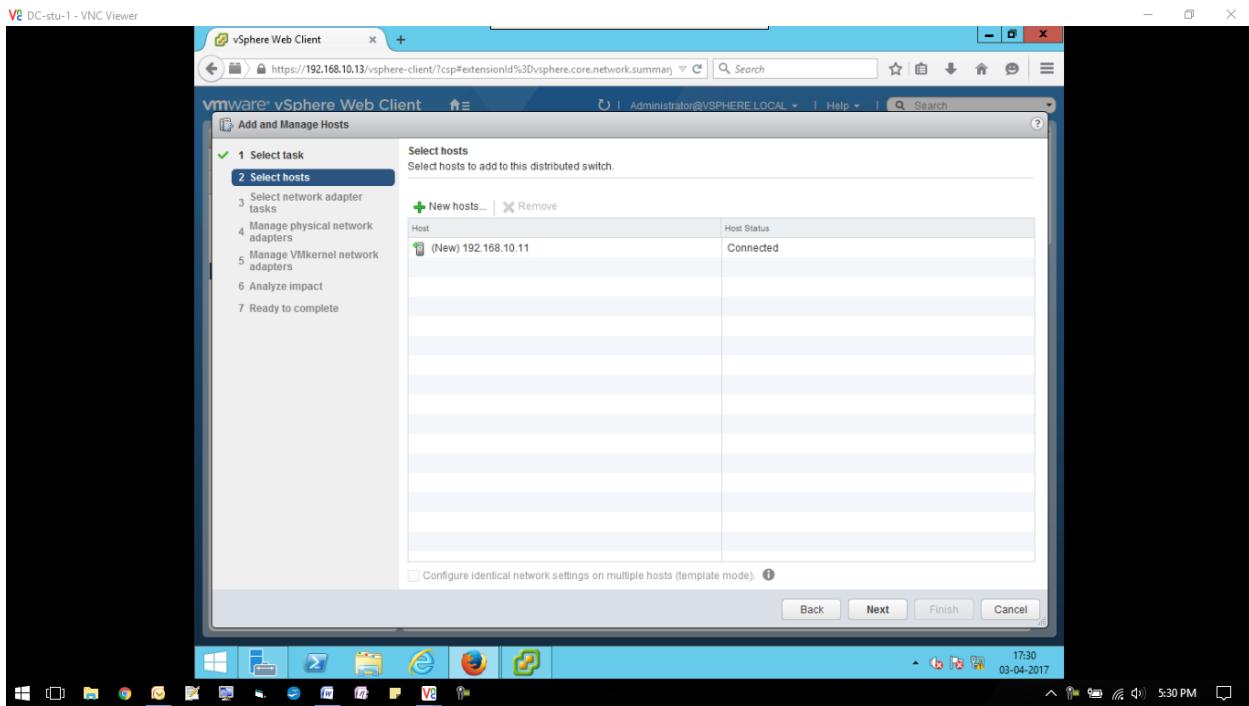
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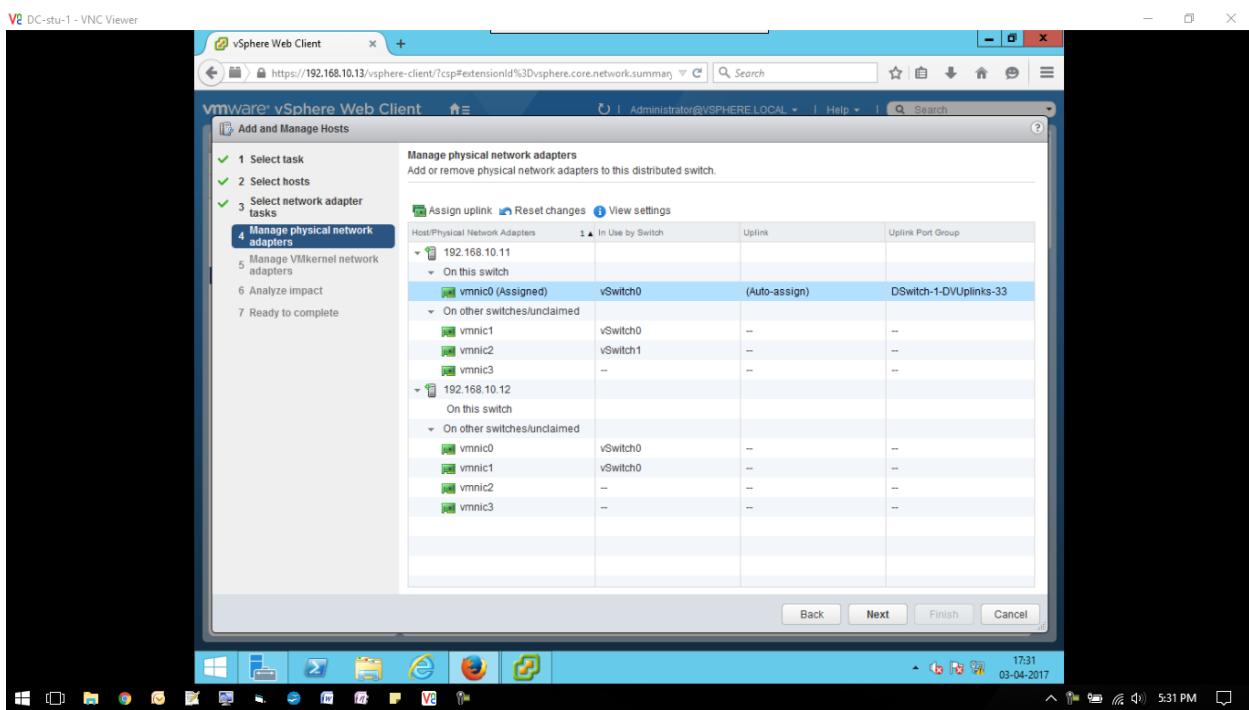
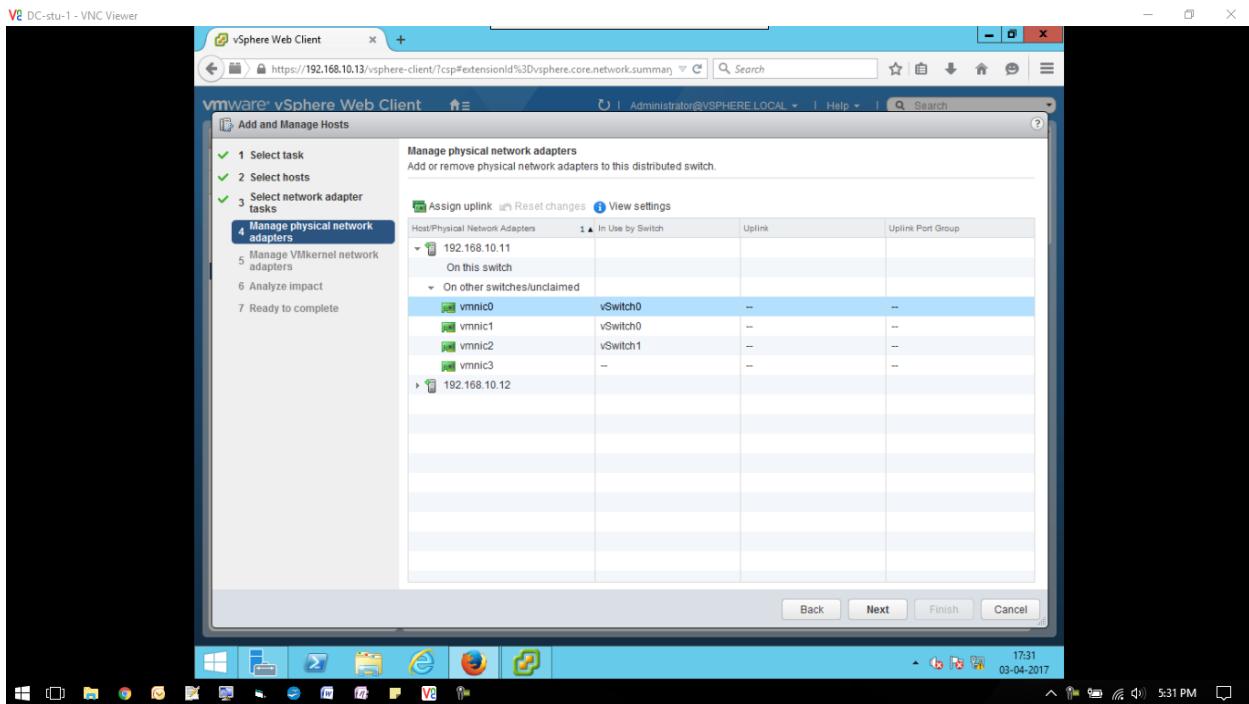
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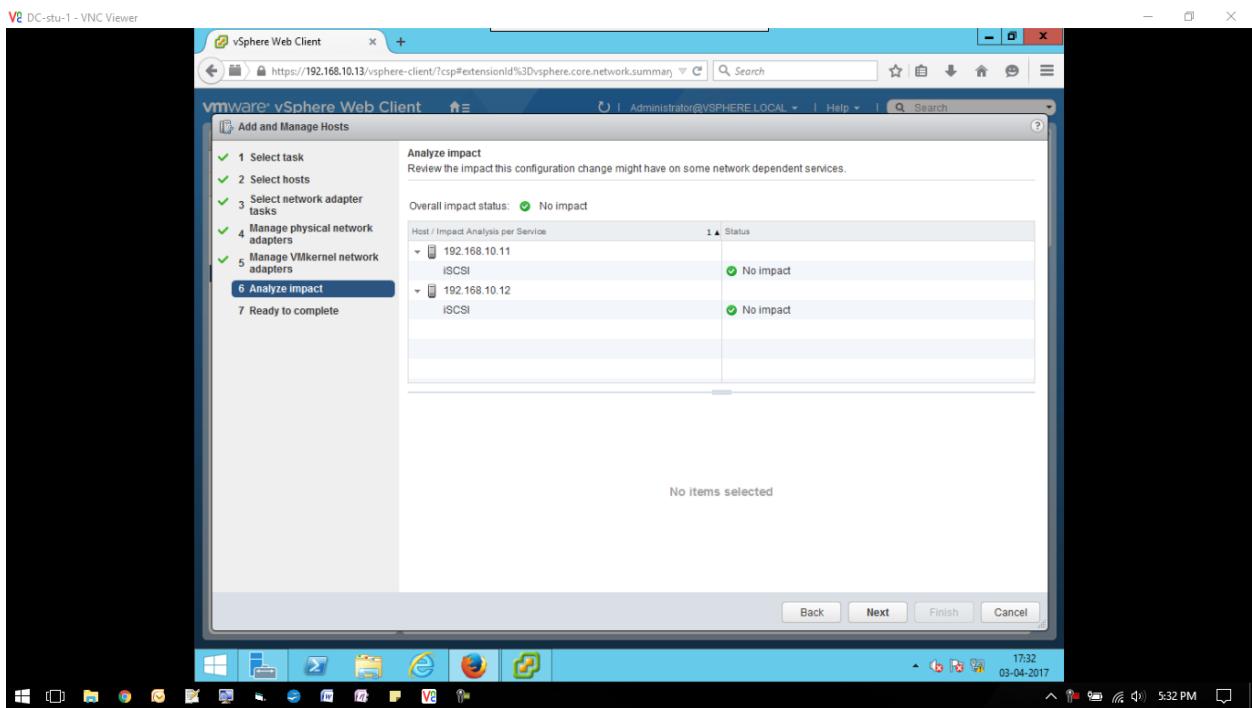
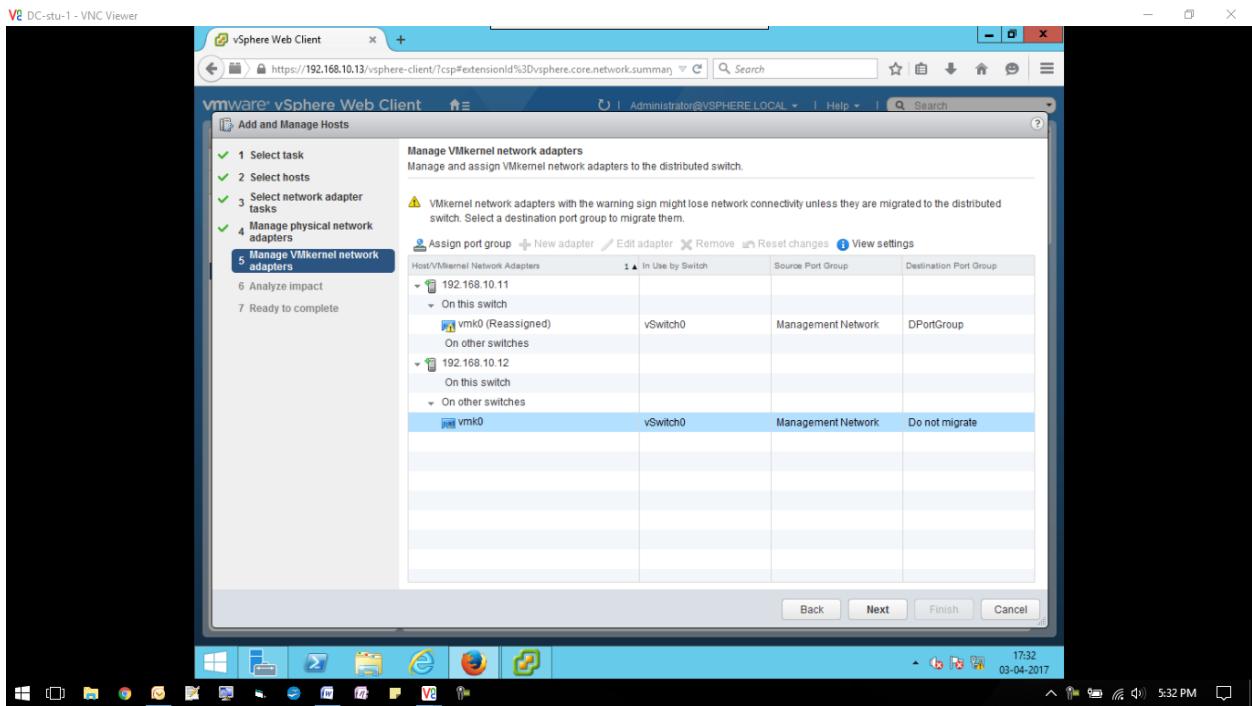
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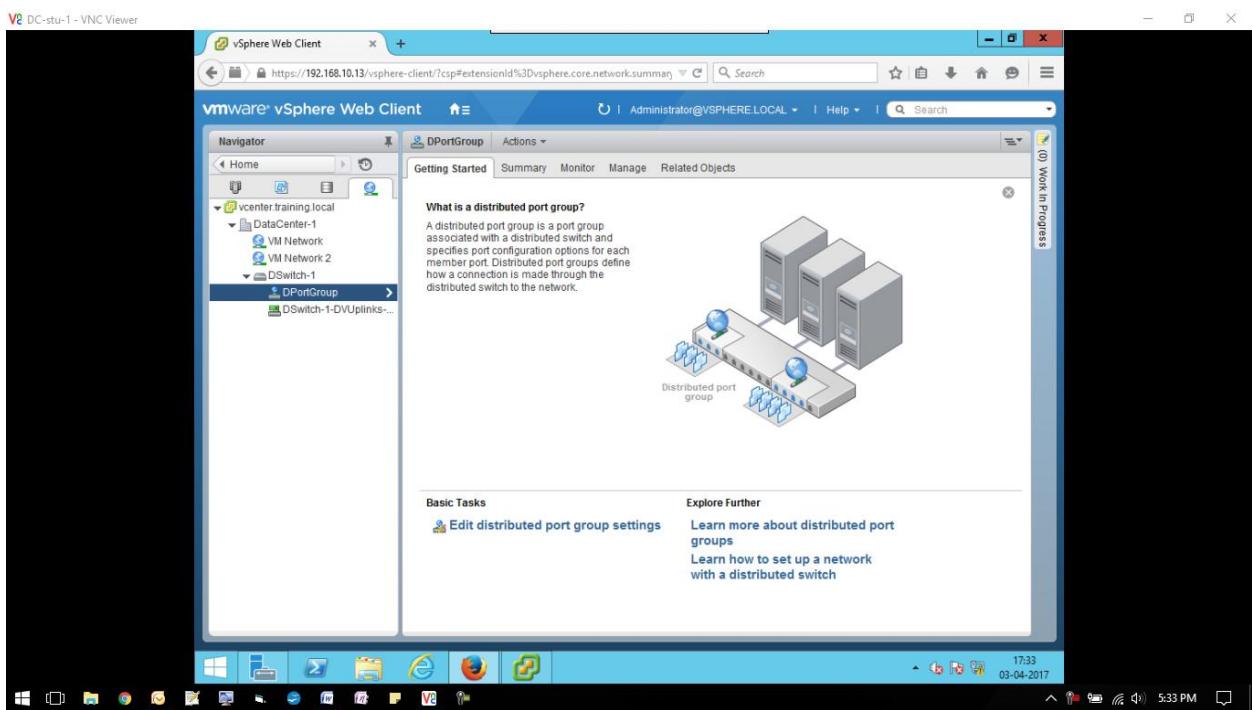
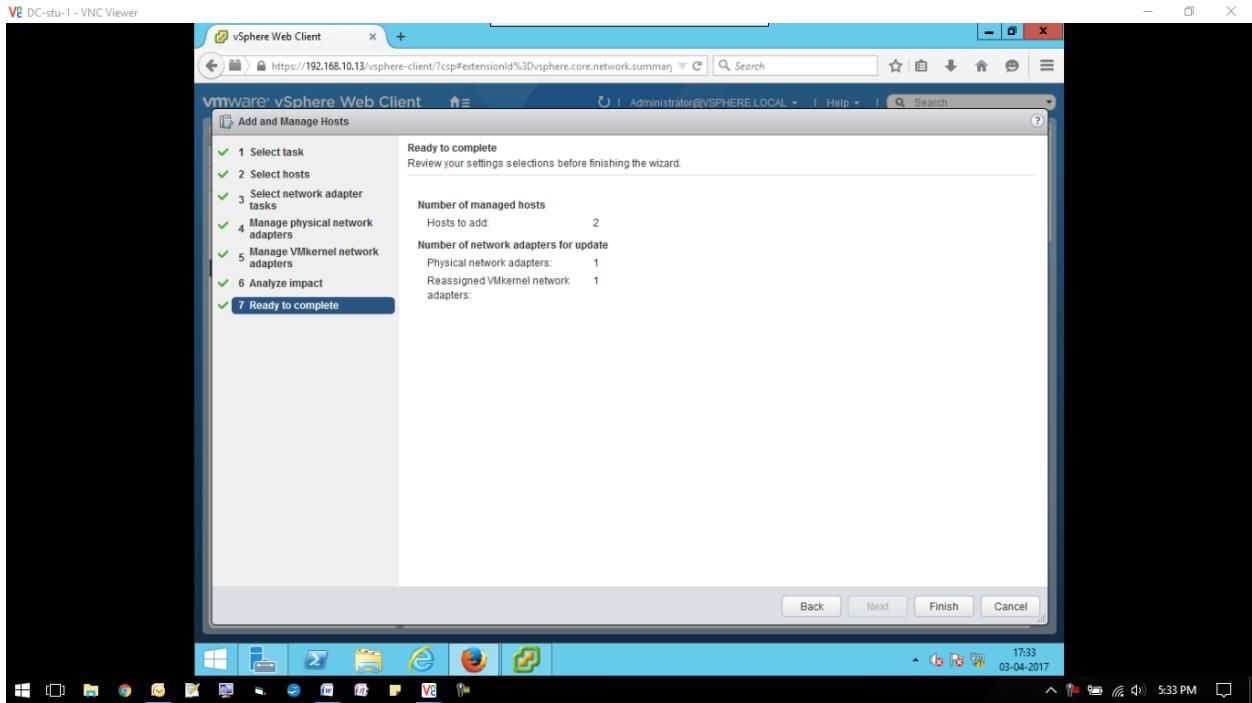
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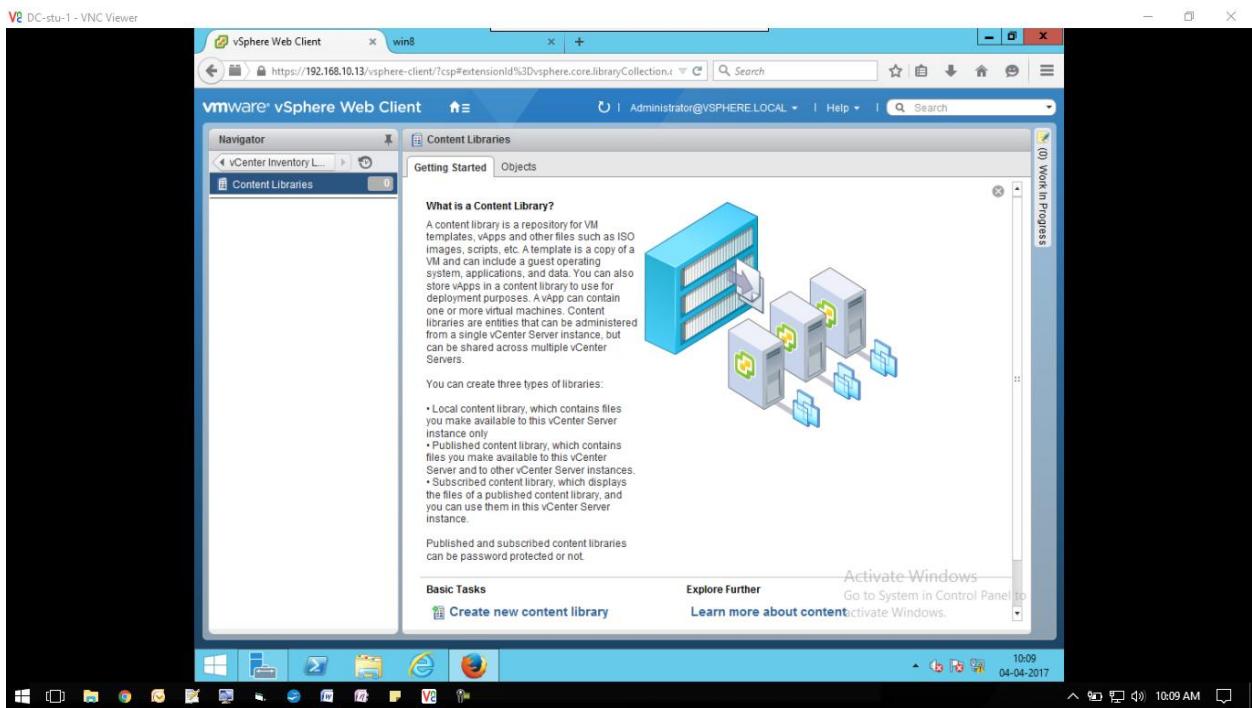
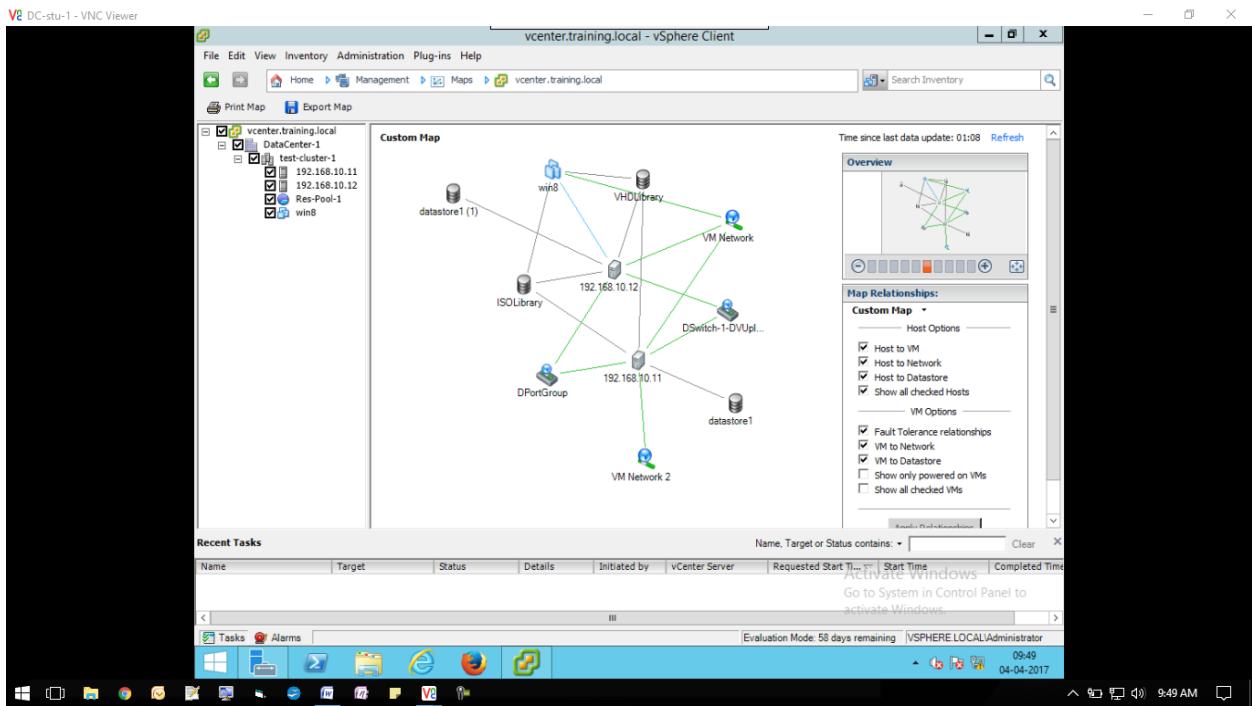
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