

Practical No : 05

Practical Title: Setup your own cloud for Software as a Service (SaaS) over the existing LAN in your laboratory. In this assignment you have to write your own code for cloud controller using open-source technologies to implement with HDFS. Implement the basic operations may be like to divide the file in segments/blocks and upload/ download file on/from cloud in encrypted form.

Objectives:

- To set your own cloud for SaaS over existing LAN
- To implement the basic operations may be like to divide the file in segments/blocks

Hardware Requirements :

- Pentium IV with latest configuration

Software Requirements :

- Ubuntu 20.04, VMware ESXi cloud

Theory:

Here we are installing VMware ESXi cloud

- Host/Node ESXi installation:-
- **ESXi Hardware Requirements:-**
 - ESXi 6.7 requires a host machine with at least two CPU cores.
 - ESXi 6.7 supports 64-bit x86 processors
 - ESXi 6.7 requires the NX/XD bit to be enabled for the CPU in the BIOS.
 - ESXi 6.7 requires a minimum of 4 GB of physical RAM. It is recommended to provide at least 8 GB of RAM to run virtual machines in typical production environments.
 - To support 64-bit virtual machines, support for hardware virtualization (Intel VT-x or AMD RVI) must be enabled on x64 CPUs.
 - One or more Gigabit or faster Ethernet controllers. For a list of supported network adapter models.
 - SCSI disk or local, non-network, RAID LUN with unpartitioned space for the virtual machines.

For Serial ATA (SATA), a disk connected through supported SAS controller or supported on board SATA controllers. SATA disks are considered remote not local. These disks are not used as a scratch partition by default because they are seen as remote.

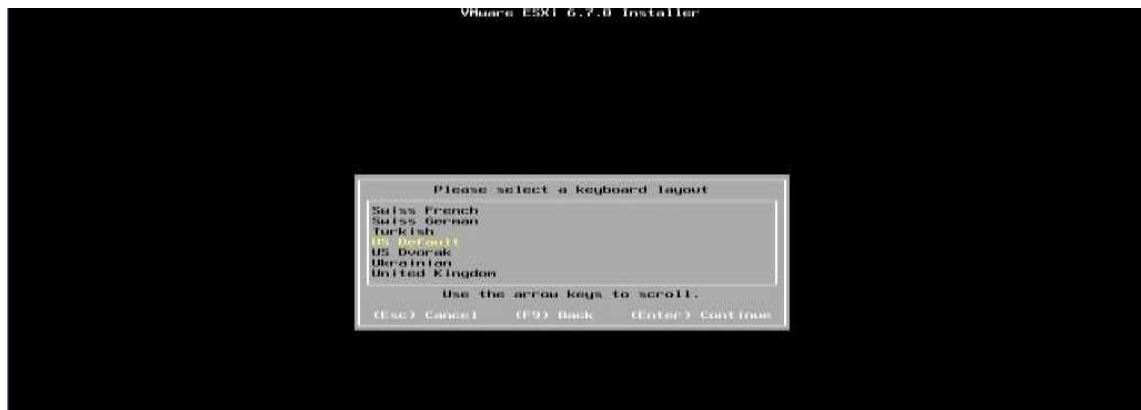


ESXiInstaller:

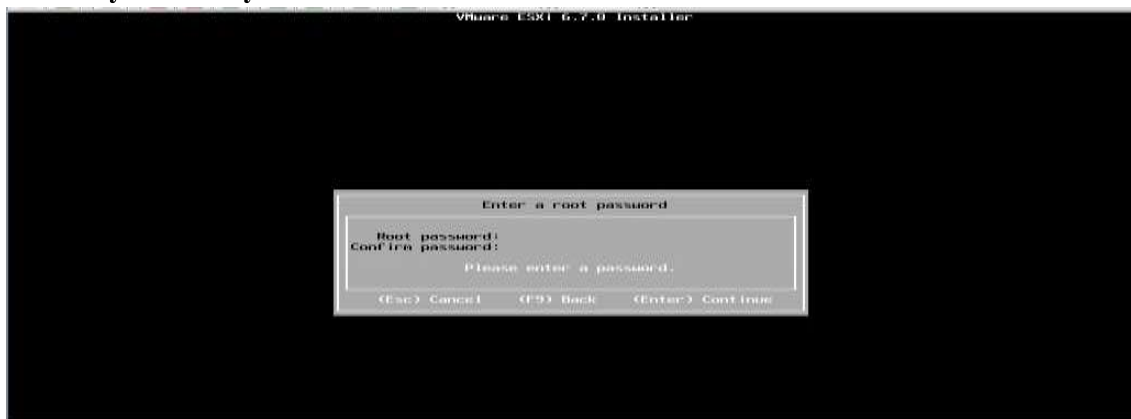
Accept Agreement:



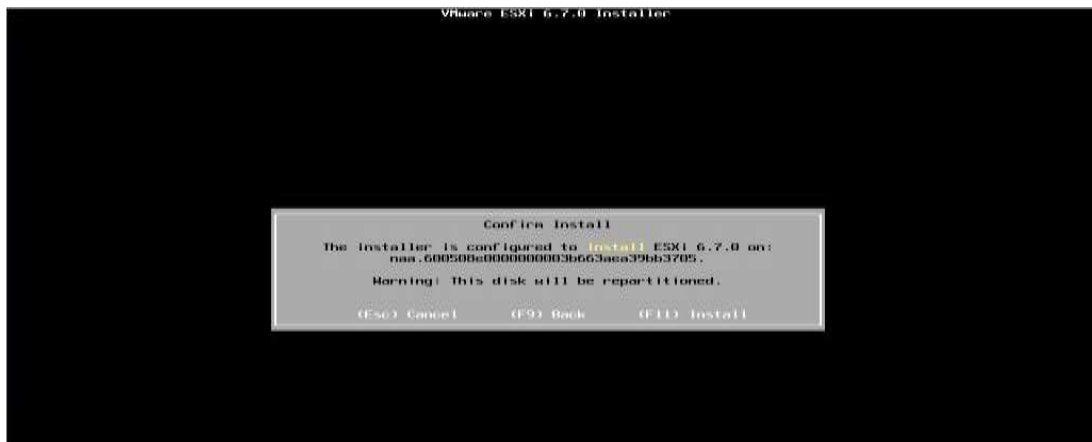
Select storage :



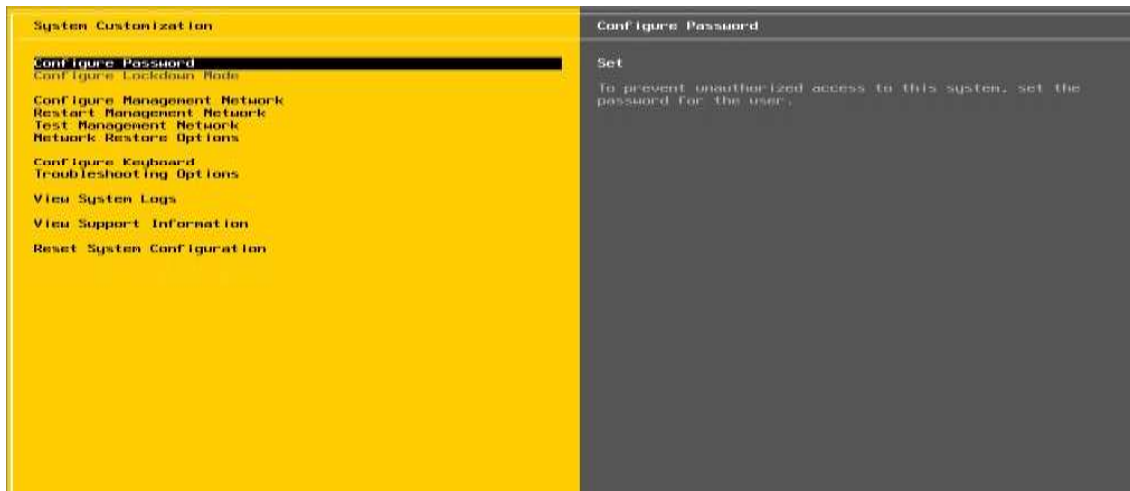
Select Keyboard Layout :



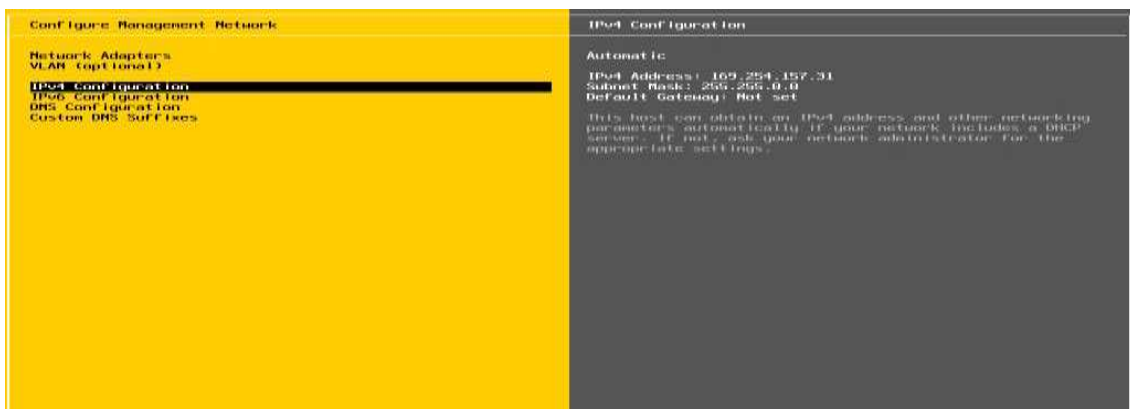
Set NodeESXi Root Password :



Installation complete (Reboot) CLI interface to configuration



CLI Interface to Configuration:



Configure Management Network

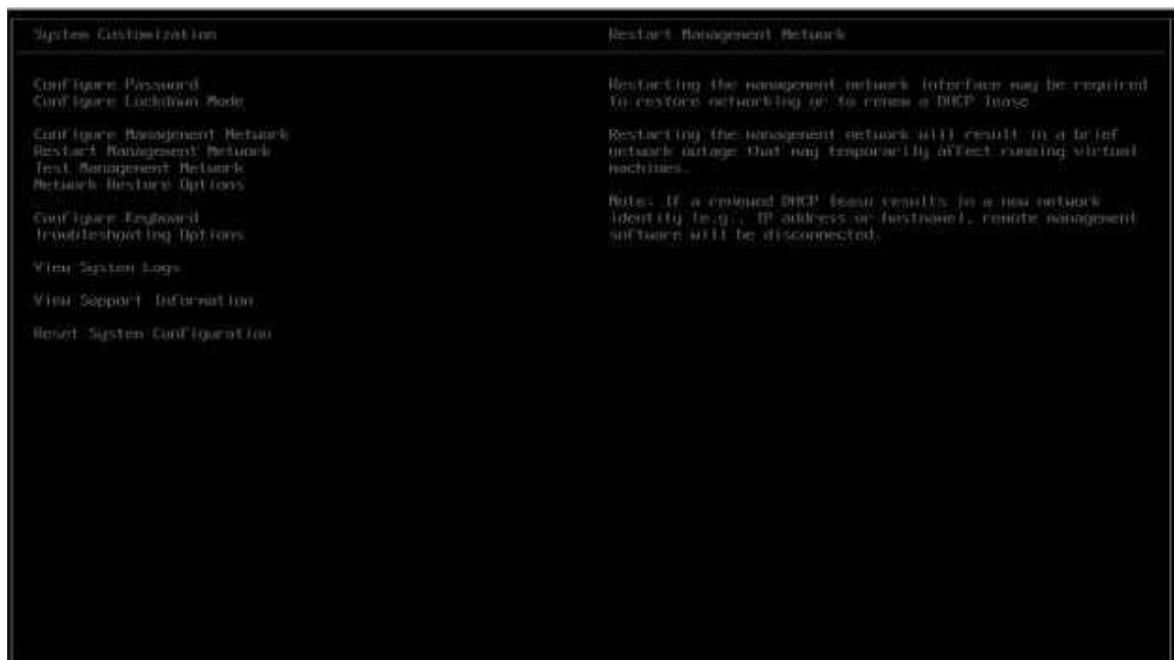


Set IPV4

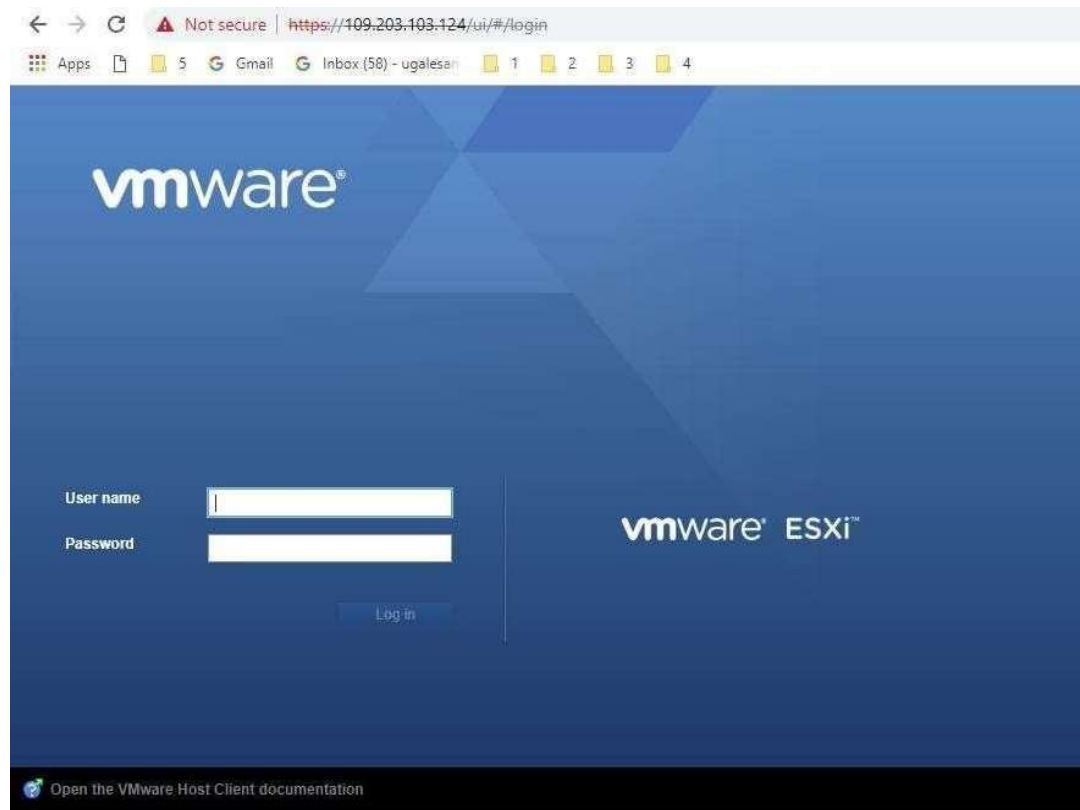


Set DNServer :

Restart Management Network



GUIAccess :



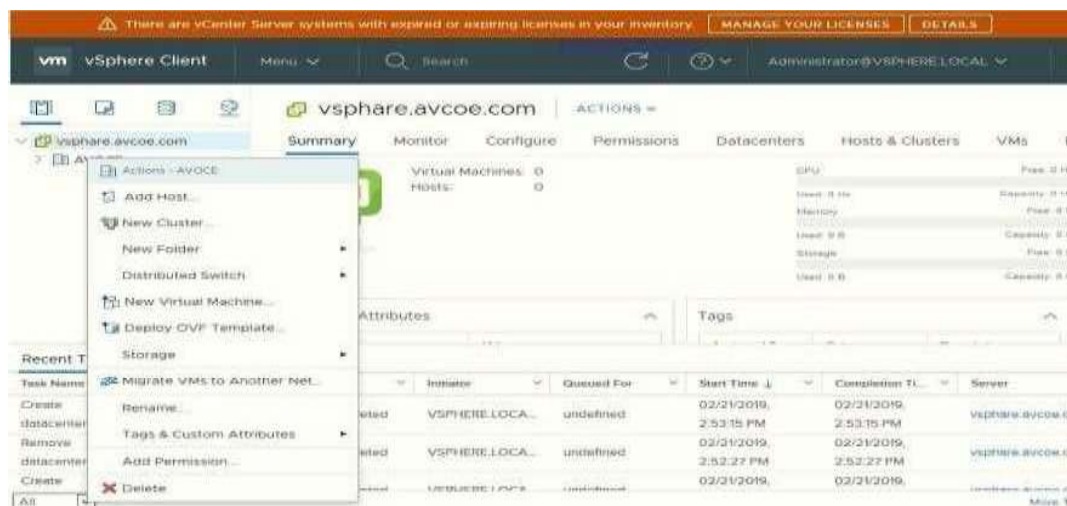
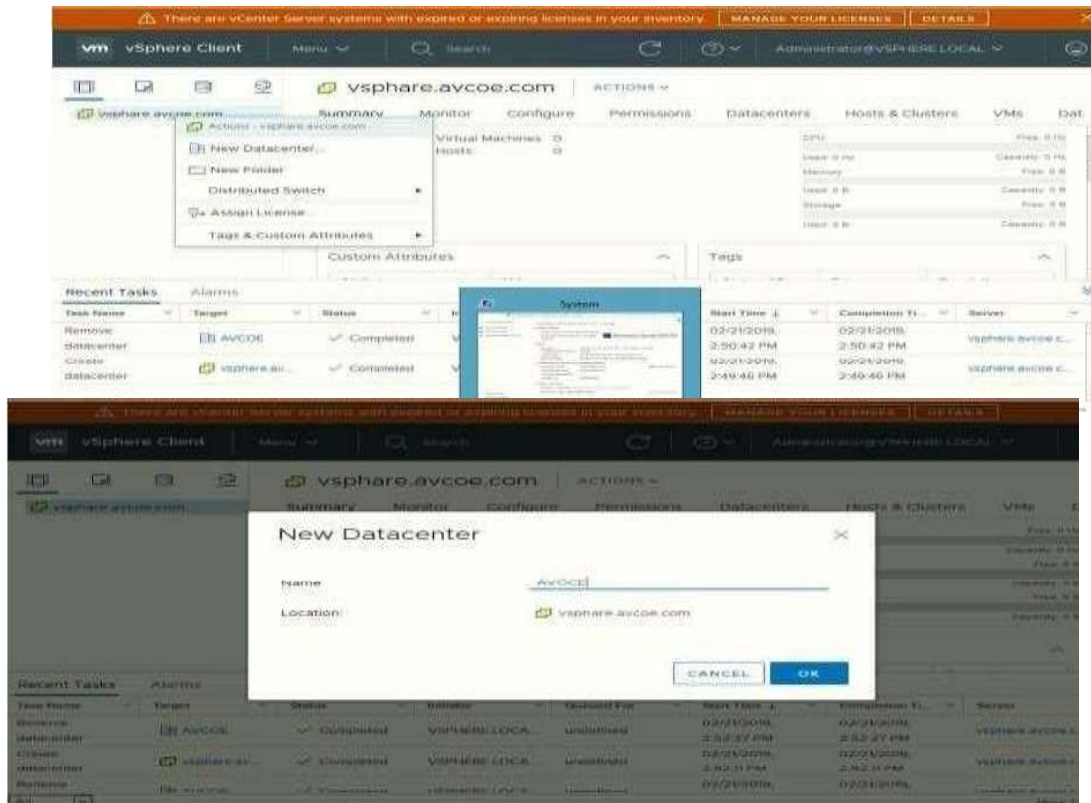
ClusterSetup

- CreatingDatacenter
- CreatingCluster
- Adding Hosts incluster.
- Resourcesafteraddingcluster.
- DRS
- Failover

VCenter Access:



Create Datacenter:

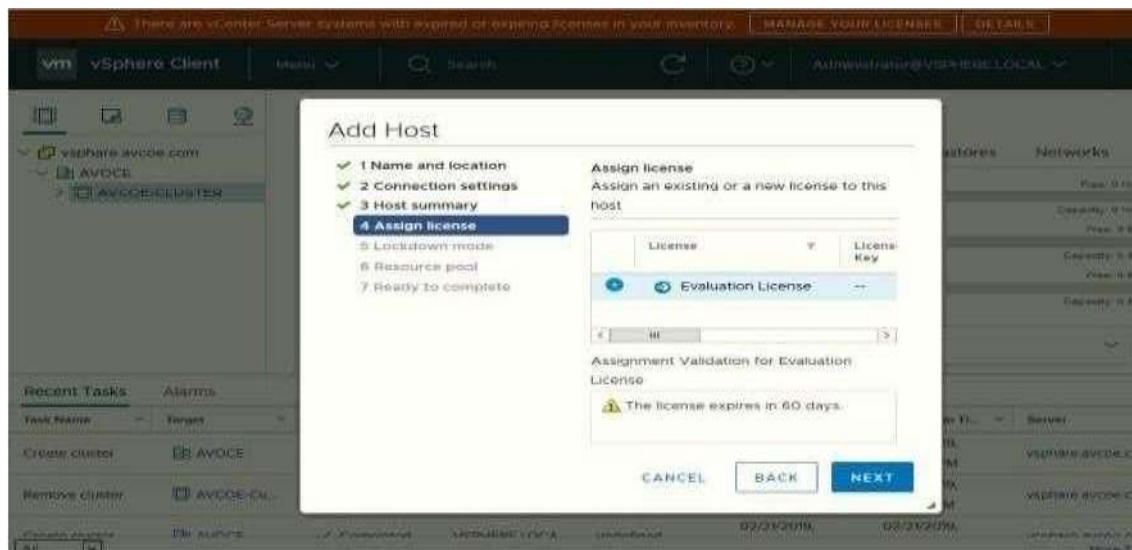


Create cluster :

Assign cluster name :



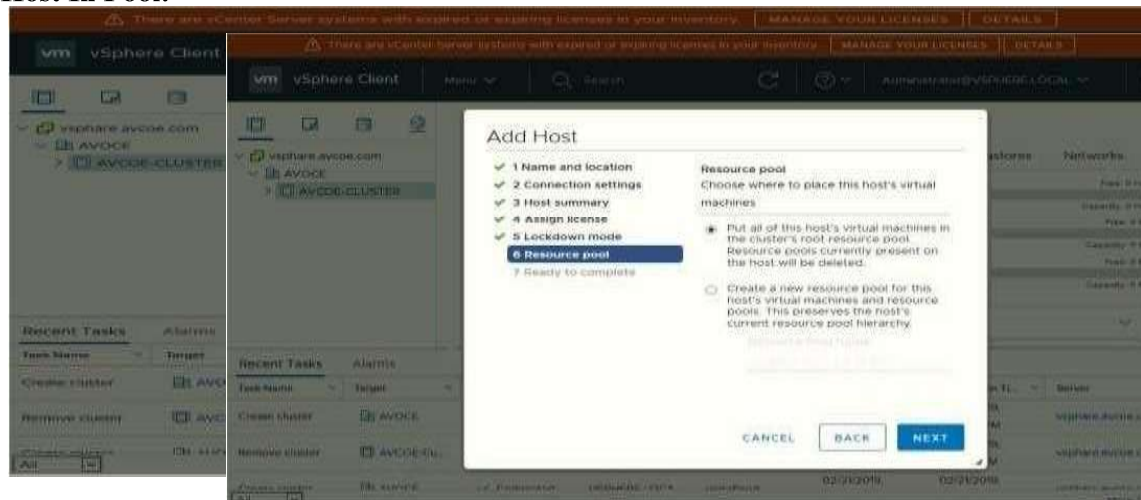




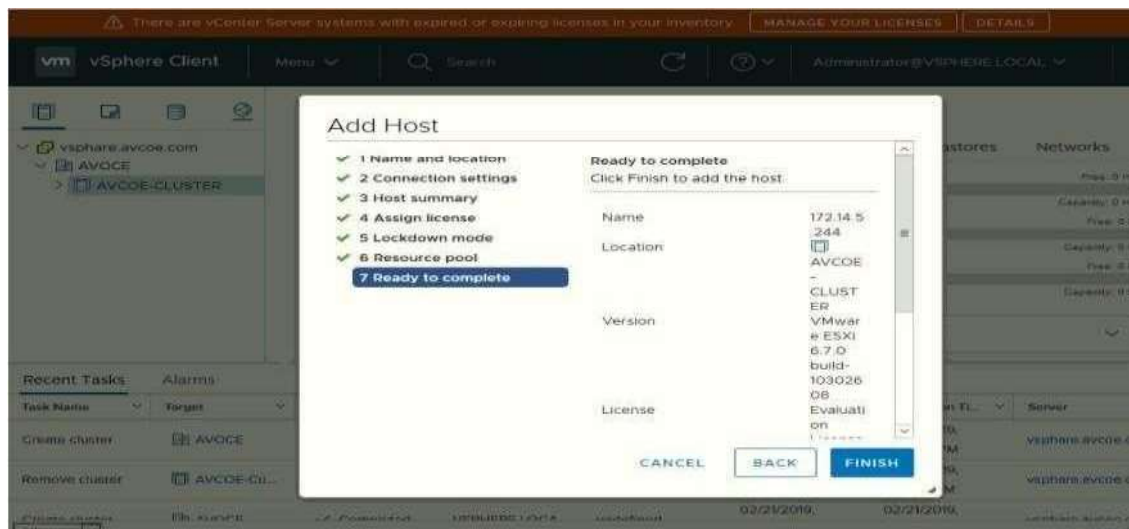
Hot summary :

Lock Down mode:

Add Host In Pool:



Finish:



Host View and View Config:

Cluster View and Configuration:

There are vCenter Server systems with expired or expiring licenses in your inventory. [MANAGE YOUR LICENSES](#) [DETAILS](#)

vm vSphere Client Menu Search Administrator@VSPHERE.LOCAL

vsphere.avcoe.com
AVCOE
172.14.5.244
172.14.5.245

172.14.5.245 ACTIONS

Summary Monitor Configure Permissions VMs Datastores Networks

Hypervisor: VMware ESXi, 6.7.0, 10302608
Model: HP Z420 Workstation
Processor Type: Intel(R) Xeon(R) CPU E5-1607 v2 @ 3.00GHz
Logical Processors: 4
NICs: 1
Virtual Machines: 0
State: Connected
Uptime: 0 second

CPU: Free: 11.87 GHz
Used: 0 Hz
Capacity: 11.87 GHz
Memory: Free: 10.90 GB
Used: 0 B
Capacity: 15.93 GB
Storage: Free: 823.68 GB
Used: 1.42 GB
Capacity: 934 GB

Recent Tasks Alarms

Task Name	Target	Status	Initiator	Queued For	Start Time	Completion TL	Server
Configuring vSphere HA	172.14.5.245	6%	System	156 ms	02/21/2019, 3:04:54 PM		vsphere.avcoe.c...
Add host: AVCOE-CL...	AVCOE-CL...	✓ Completed	VSPHERE.LOCA...	undefined	02/21/2019, 3:04:48 PM	02/21/2019, 3:04:54 PM	vsphere.avcoe.c...
Configuring 172.14.5.244	172.14.5.244	✓ Completed	Custom	6.8 sec	02/21/2019,	02/21/2019,	vsphere.avcoe.c...

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AVCOE-CLUSTER ACTIONS

Summary Monitor Configure Permissions Hosts VMs Datastores Networks

Total Processors: 8
Total vMotion Migrations: 0

CPU: Free: 21.35 GHz
Used: 2.58 GHz
Capacity: 23.94 GHz
Memory: Free: 23.0 GB
Used: 2.96 GB
Capacity: 21.65 GB
Storage: Free: 1.3 TB
Used: 2.34 GB
Capacity: 1.8 TB

Related Objects vSphere DRS

Recent Tasks Alarms

Task Name	Target	Status	Initiator	Queued For	Start Time	Completion TL	Server
Configuring vSphere HA	172.14.5.245	✓ Completed	System	156 ms	02/21/2019, 3:04:54 PM	02/21/2019, 3:05:34 PM	vsphere.avcoe.c...
Add host: AVCOE-CL...	AVCOE-CL...	✓ Completed	VSPHERE.LOCA...	undefined	02/21/2019, 3:04:48 PM	02/21/2019, 3:04:54 PM	vsphere.avcoe.c...
Configuring 172.14.5.244	172.14.5.244	✓ Completed	Custom	6.8 sec	02/21/2019,	02/21/2019,	vsphere.avcoe.c...

All More Tasks

Conclusion: Like this we have configure VSphere Private Cloud