



# Ganpat University

॥ विद्यया समाजोत्कर्षः ॥

## Institute of Computer Technology

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**Batch:51**

## -----PRACTICAL 09-----

### ❖ Managing virtual machine disks.

#### 1. Verify the datastores are available with the given file systems (NFS or VMFS):

The screenshot shows the vSphere Client interface for a virtual machine named 'esx-03a.corp.vmbeans.com'. The 'Storage' tab is selected, and the 'Storage Devices' section is expanded. A table lists the storage devices:

Name	LUN	Type
Local VMware Disk (mpx.vmhba0:C0:T0:L0)	0	disk
FreeNAS iSCSI Disk (naa.6589cfc000000e32180682698ecb776...)	1	disk

A pop-up window titled 'VERIFY ISCSI DEVICES ARE VISIBLE' is displayed on the right. It contains a list of storage devices and instructions:

1. Once the rescan is complete, Click on **Storage Devices**.
2. You should now see two iSCSI disks connected, both with 45GB of capacity.

## 2. Also check the datastore availability for esx-03a host :

Time Remaining: 01:17:14

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### VERIFY ISCSI DATASTORE AVAILABILITY

1. Click on the Datastores tab.

Notice that the two iSCSI datastores are now visible to the esx-03a.corp.vmbeans.com host.

Name	Status	Type	Datastore Cluster	Capacity	Free
ds-iscsi01	✓ Normal	VMFS 6		84.75 GB	64.17 GB
ds-nfs01	✓ Normal	NFS 3		5.78 GB	5.78 GB

EXPORT

Items per page: 35 2 item

## 3. Move esx-03a host to RegionA01 and exit the maintenance mode via right clicking it :

Time Remaining: 01:14:15

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### EXIT MAINTENANCE MODE

The host has been added to the cluster. Now it can exit Maintenance Mode and participate in the cluster.

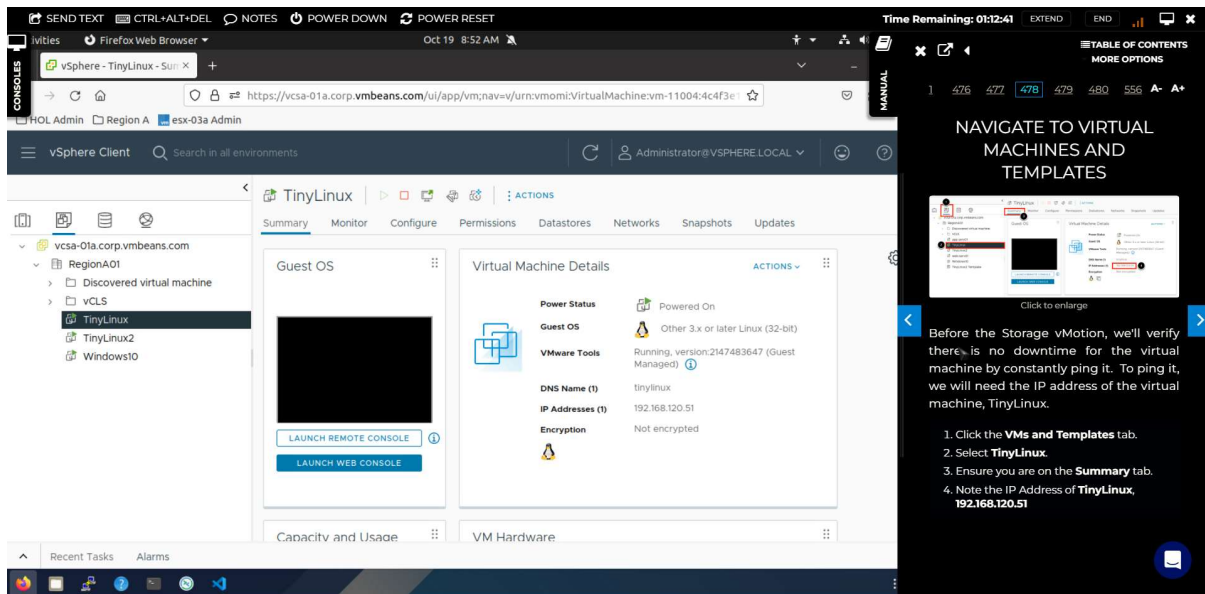
- Right-click on esx-03a.corp.vmbeans.com
- Select Maintenance Mode.
- Click Exit Maintenance Mode.

Name	Status	Type	Datastore Cluster	Capacity	Free
ds-iscsi01	✓ Normal	VMFS 6		84.75 GB	64.17 GB
ds-nfs01	✓ Normal	NFS 3		5.78 GB	5.78 GB

EXPORT

Items per page: 35 2 item

## 4. Check the details and IP of TinyLinux VM :

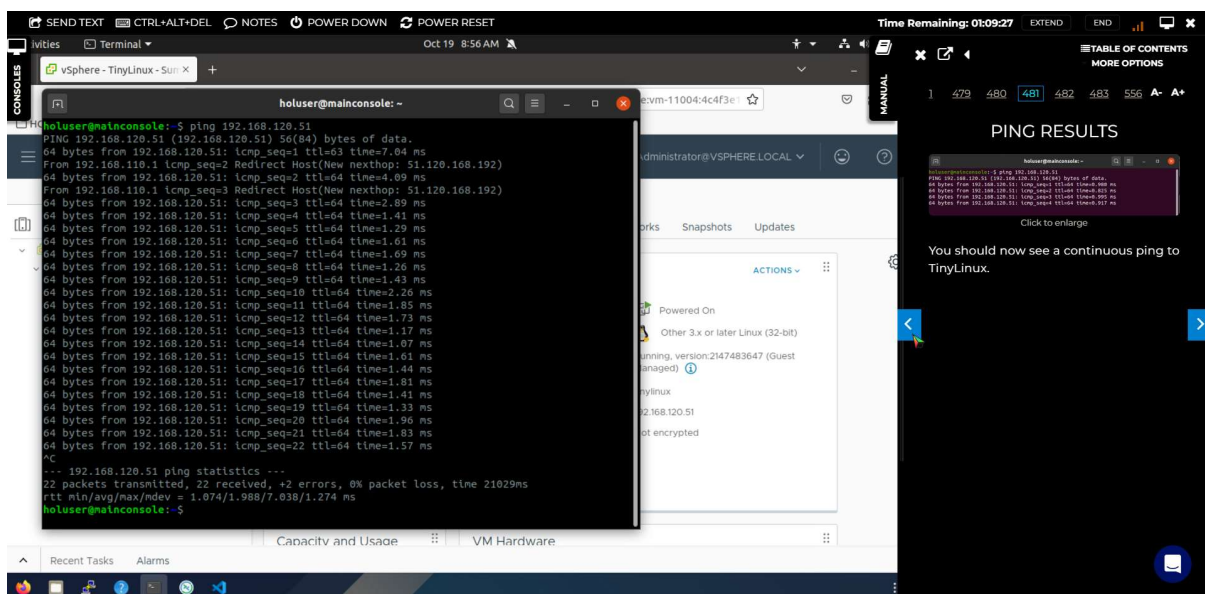


**NAVIGATE TO VIRTUAL MACHINES AND TEMPLATES**

Before the Storage vMotion, we'll verify there is no downtime for the virtual machine by constantly ping it. To ping it, we will need the IP address of the virtual machine, TinyLinux.

1. Click the **VMs and Templates** tab.
2. Select **TinyLinux**.
3. Ensure you are on the **Summary** tab.
4. Note the IP Address of **TinyLinux**, **192.168.120.51**.

## 5. Via ping linux command, check the connectivity with the VM in local terminal :



**PING RESULTS**

You should now see a continuous ping to TinyLinux.

```

holuser@mainconsole: ~
PING 192.168.120.51 (192.168.120.51) 56(84) bytes of data:
64 bytes from 192.168.120.51: icmp_seq=1 ttl=64 time=2.04 ms
From 192.168.110.1: icmp_seq=2 Redirect: Host(New nexthop: 51.120.168.192)
64 bytes from 192.168.120.51: icmp_seq=2 ttl=64 time=4.09 ms
From 192.168.110.1: icmp_seq=3 Redirect: Host(New nexthop: 51.120.168.192)
64 bytes from 192.168.120.51: icmp_seq=3 ttl=64 time=2.89 ms
64 bytes from 192.168.120.51: icmp_seq=4 ttl=64 time=1.41 ms
64 bytes from 192.168.120.51: icmp_seq=5 ttl=64 time=1.20 ms
64 bytes from 192.168.120.51: icmp_seq=6 ttl=64 time=1.61 ms
64 bytes from 192.168.120.51: icmp_seq=7 ttl=64 time=1.69 ms
64 bytes from 192.168.120.51: icmp_seq=8 ttl=64 time=1.26 ms
64 bytes from 192.168.120.51: icmp_seq=9 ttl=64 time=1.43 ms
64 bytes from 192.168.120.51: icmp_seq=10 ttl=64 time=2.26 ms
64 bytes from 192.168.120.51: icmp_seq=11 ttl=64 time=1.85 ms
64 bytes from 192.168.120.51: icmp_seq=12 ttl=64 time=1.73 ms
64 bytes from 192.168.120.51: icmp_seq=13 ttl=64 time=1.17 ms
64 bytes from 192.168.120.51: icmp_seq=14 ttl=64 time=1.07 ms
64 bytes from 192.168.120.51: icmp_seq=15 ttl=64 time=1.61 ms
64 bytes from 192.168.120.51: icmp_seq=16 ttl=64 time=1.44 ms
64 bytes from 192.168.120.51: icmp_seq=17 ttl=64 time=1.81 ms
64 bytes from 192.168.120.51: icmp_seq=18 ttl=64 time=1.41 ms
64 bytes from 192.168.120.51: icmp_seq=19 ttl=64 time=1.33 ms
64 bytes from 192.168.120.51: icmp_seq=20 ttl=64 time=1.96 ms
64 bytes from 192.168.120.51: icmp_seq=21 ttl=64 time=1.83 ms
64 bytes from 192.168.120.51: icmp_seq=22 ttl=64 time=1.57 ms
^C
-- 192.168.120.51 ping statistics --
22 packets transmitted, 22 received, +2 errors, 0% packet loss, time 21029ms
rtt min/avg/max/mdev = 1.074/1.988/7.038/1.274 ms
holuser@mainconsole: ~$
  
```

## 6. Migrate TinyLinux storage to ds-nfs01 of esx-03a :

**Migrate | TinyLinux**

- Select a migration type
- Select storage
- Ready to complete

**Ready to complete**  
Verify that the information is correct and click Finish to start the migration.

Migration Type	Change storage. Leave VM on the original compute resource
Virtual Machine	TinyLinux
Storage	ds-nfs01
Disk Format	Thin Provision

**READY TO COMPLETE**

Verify that the information is correct and click Finish to start the migration.

Click to enlarge

1. Verify your selections on the Ready to complete screen and click **Finish** to start the migration.

Feel free to monitor the operation within the Recent Tasks pane or move on to the next step.

## 7. Ensure that ping was continued without any packet drops and stop the ping :

**Migrate | TinyLinux**

- Select a migration type
- Select storage
- Ready to complete

**Ready to complete**  
Verify that the information is correct and click Finish to start the migration.

Migration Type	Change storage. Leave VM on the original compute resource
Virtual Machine	TinyLinux
Storage	ds-nfs01
Disk Format	Thin Provision

**READY TO COMPLETE**

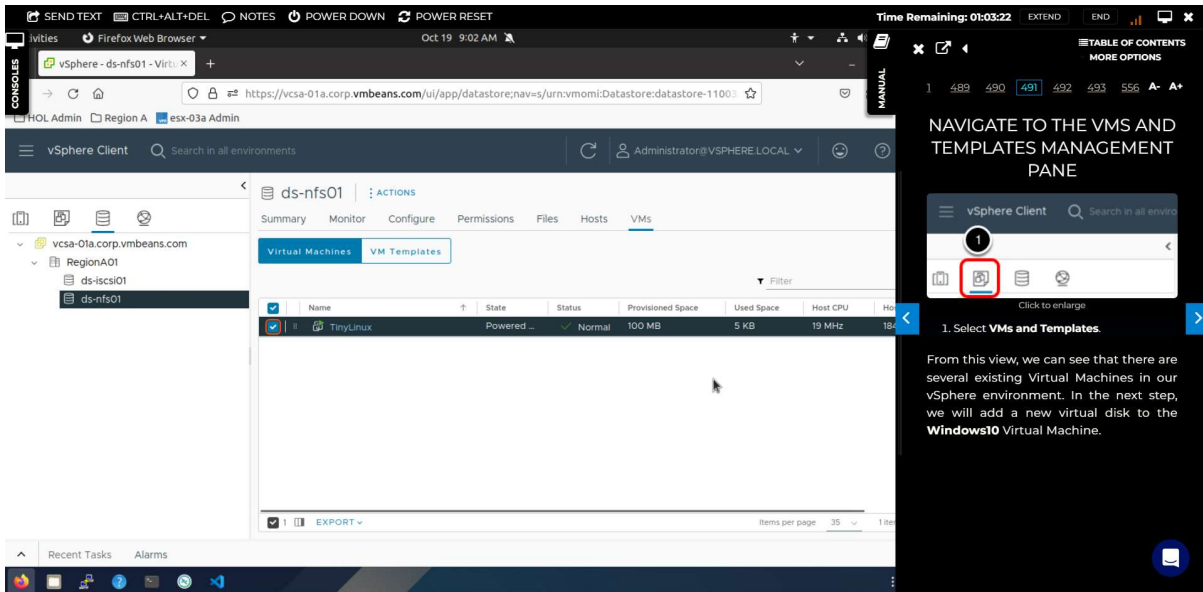
Verify that the information is correct and click Finish to start the migration.

Click to enlarge

1. Verify your selections on the Ready to complete screen and click **Finish** to start the migration.

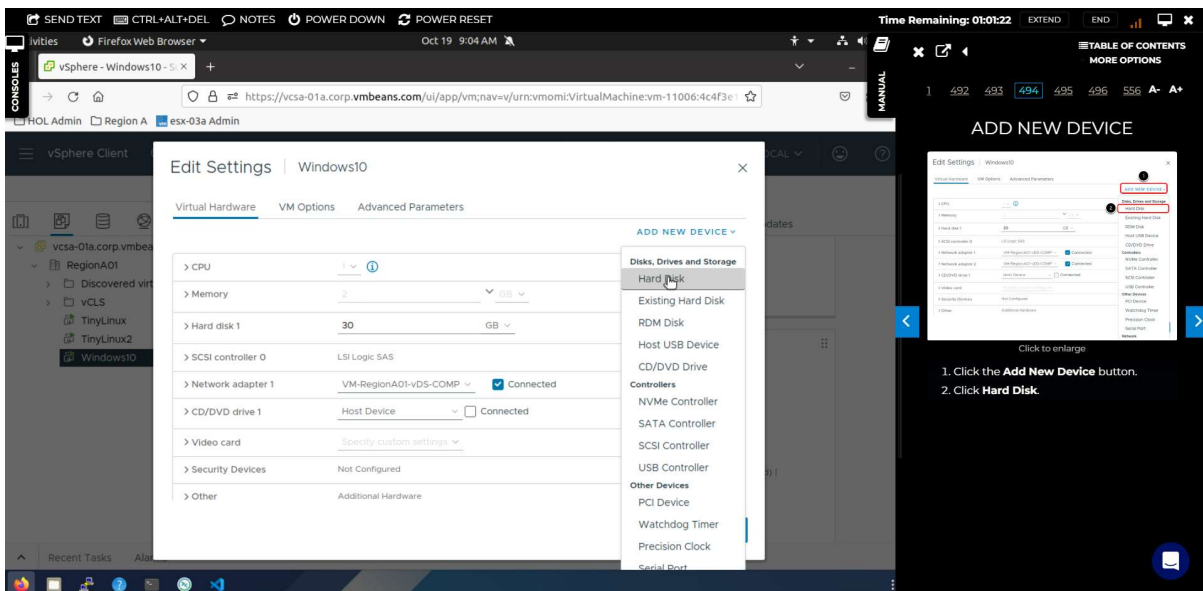
Feel free to monitor the operation within the Recent Tasks pane or move on to the next step.

## 8. Now, check if our VM is migrated to ds-nfs01 datastore :



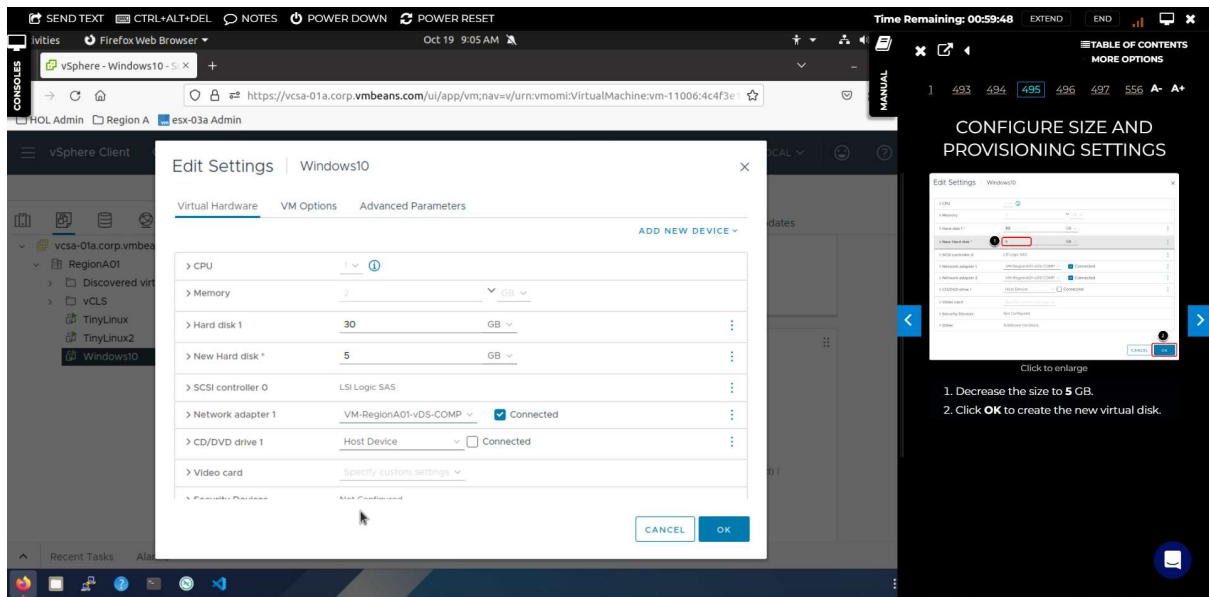
The screenshot shows the vSphere Client interface. On the left, the inventory tree shows the hierarchy: vcsa-01a.corp.vmbeans.com > RegionA01 > ds-iscsi01 > ds-nfs01. The main pane displays the 'ds-nfs01' datastore with a table of Virtual Machines. The table has columns: Name, State, Status, Provisioned Space, Used Space, and Host CPU. One VM, 'TinyLinux', is listed with a status of 'Normal' and a provisioned space of 100 MB. On the right, a sidebar titled 'NAVIGATE TO THE VMS AND TEMPLATES MANAGEMENT PANE' shows a 'vSphere Client' window with a red box around the 'Virtual Machines' icon. Below this, a numbered list states: '1. Select VMs and Templates. From this view, we can see that there are several existing Virtual Machines in our vSphere environment. In the next step, we will add a new virtual disk to the Windows10 Virtual Machine.'

## 9. Now edit settings of our powered ON Windows 10 VM and add new hard disk :

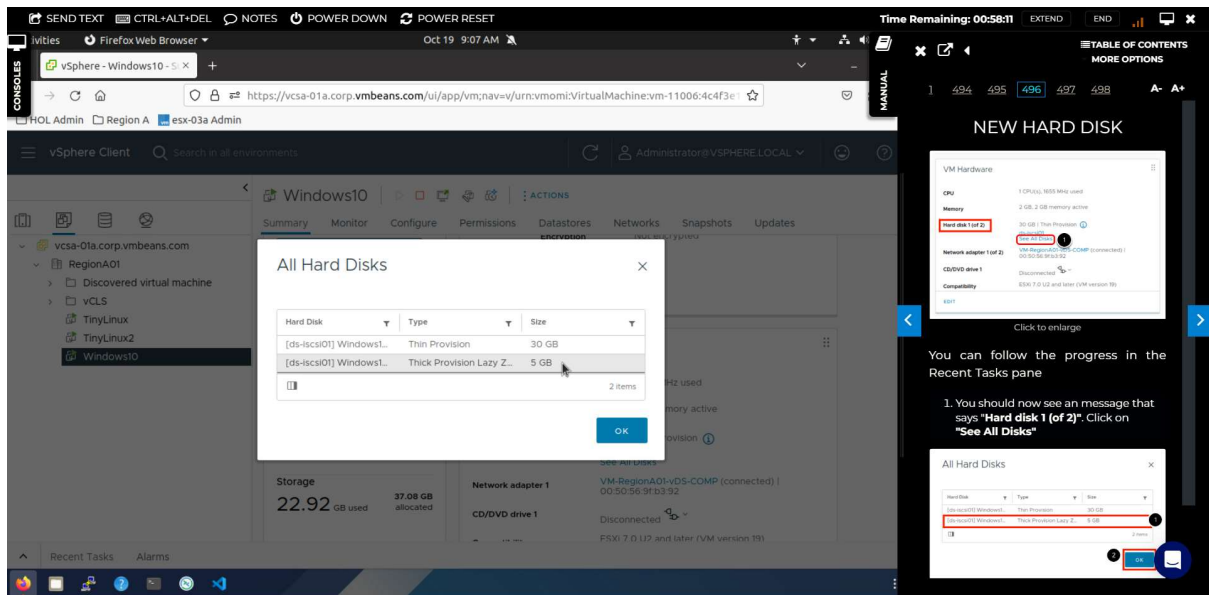


The screenshot shows the vSphere Client interface with the 'Edit Settings' dialog box open for the 'Windows10' VM. The 'Virtual Hardware' tab is selected. The 'ADD NEW DEVICE' button is highlighted. A dropdown menu is open, showing options under 'Disks, Drives and Storage': 'Hard Disk', 'Existing Hard Disk', 'RDM Disk', 'Host USB Device', and 'CD/DVD Drive'. On the right, a sidebar titled 'ADD NEW DEVICE' shows a 'vSphere Client' window with a red box around the 'Add New Device' button. Below this, a numbered list states: '1. Click the Add New Device button. 2. Click Hard Disk.'

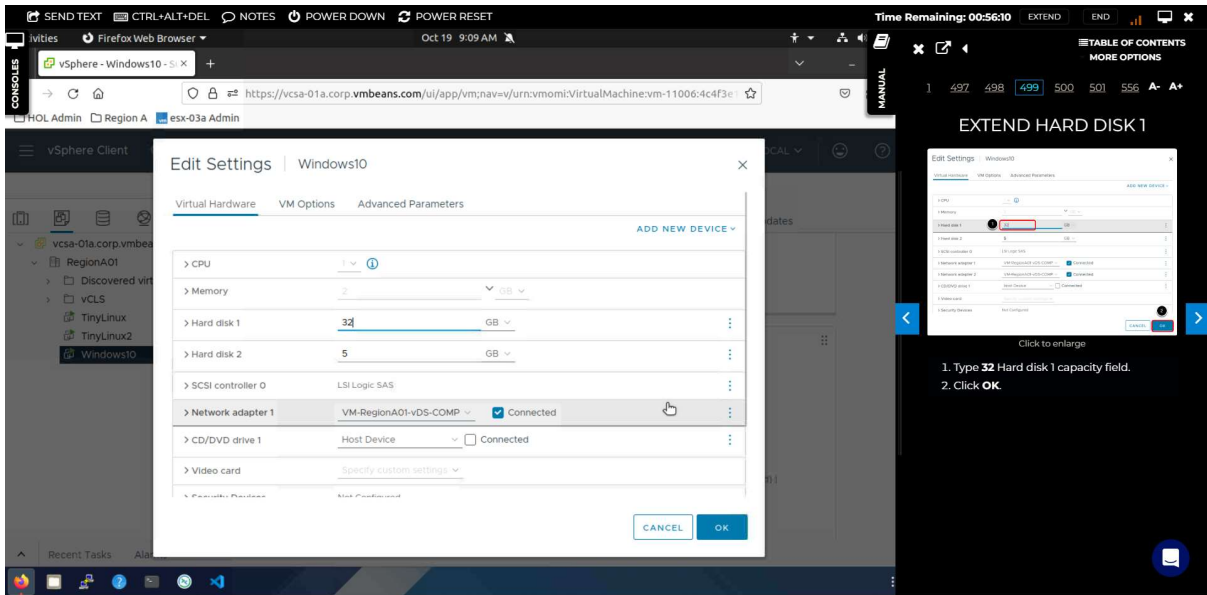




## 10. Verify our previous step if the disk is added :



## 11. Increase its disk 1 capacity from 30 to 32 GB :

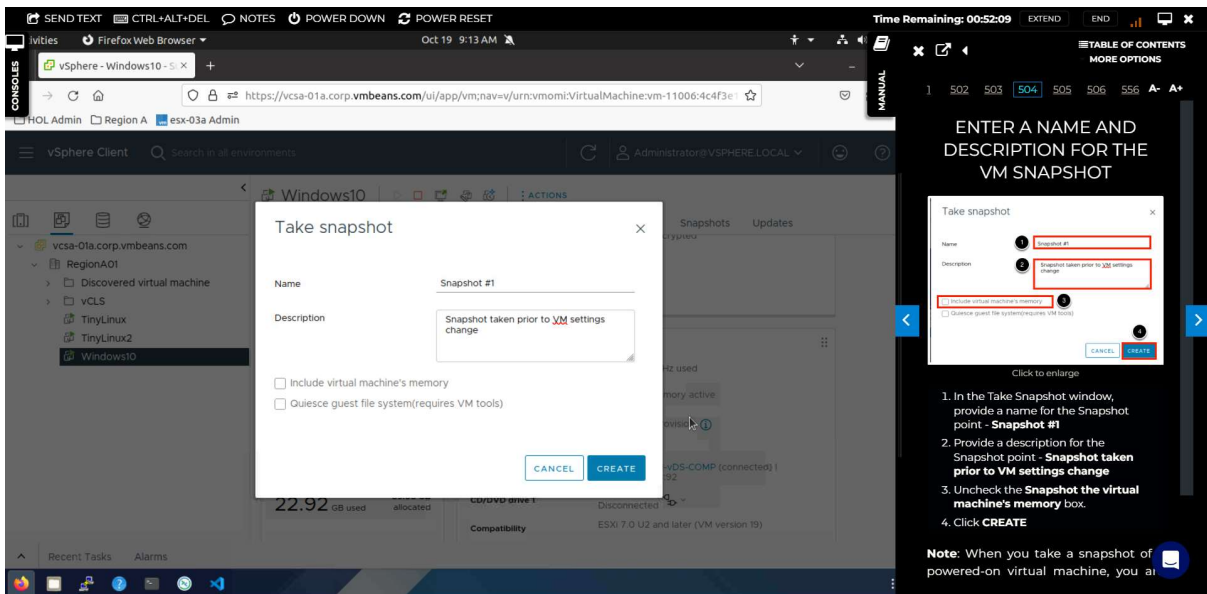


The screenshot shows the vSphere Client interface. The 'Edit Settings' dialog for a Windows10 VM is open. The 'Virtual Hardware' tab is selected, and 'Hard disk 1' is highlighted with a capacity of 30 GB. The 'Advanced Parameters' tab is also visible, showing the 'Extend Hard Disk 1' option. The 'Extend Hard Disk 1' dialog is open, showing the 'Extend Hard Disk 1' option and the 'Extend Hard Disk 1' button.

**EXTEND HARD DISK 1**

1. Type 32 Hard disk 1 capacity field.  
2. Click OK.

## 12. Take its snapshot with the given configuration :



The screenshot shows the vSphere Client interface. The 'Take snapshot' dialog for a Windows10 VM is open. The 'Name' field is set to 'Snapshot #1' and the 'Description' field is set to 'Snapshot taken prior to VM settings change'. The 'Include virtual machine's memory' checkbox is unchecked. The 'Create' button is highlighted.

**ENTER A NAME AND DESCRIPTION FOR THE VM SNAPSHOT**

Take snapshot

1. In the Take Snapshot window, provide a name for the Snapshot point - **Snapshot #1**  
2. Provide a description for the Snapshot point - **Snapshot taken prior to VM settings change**  
3. Uncheck the **Snapshot the virtual machine's memory** box.  
4. Click **CREATE**

**Note:** When you take a snapshot of powered-on virtual machine, you are

### 13. Now, turn off the VM and increase its memory from 2 to 4 GB:

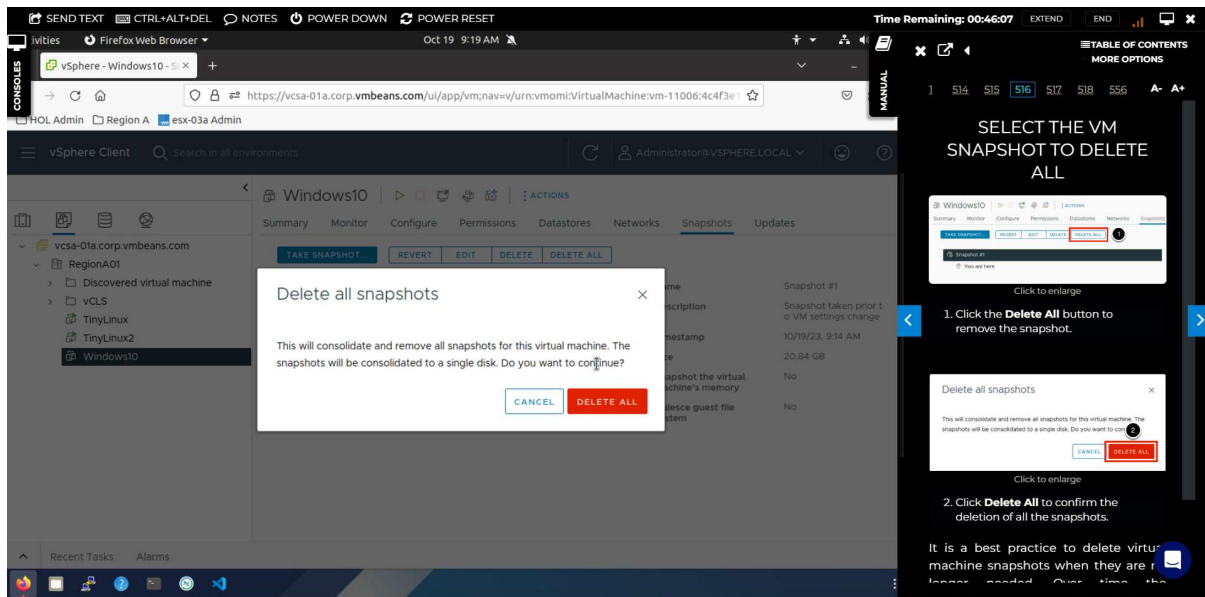
The screenshot shows the vSphere Client interface. The 'Edit Settings' dialog for 'Windows10' is open, with the 'Virtual Hardware' tab selected. The 'Memory' is set to 4 GB. The 'Advanced Parameters' tab is also visible. On the right, a sidebar titled 'CHANGE THE VIRTUAL MACHINE SETTINGS' provides instructions: 1. In the Memory field, change this setting to '4'. 2. Click Ok to continue.

### 14. Now, revert the change using Snapshot we created:

The screenshot shows the vSphere Client interface. The 'Snapshots' tab for 'Windows10' is selected. A 'Revert to selected snapshot' dialog is open, asking if the user wants to revert the current state of the virtual machine to snapshot 'Snapshot #1'. On the right, a sidebar titled 'SELECT THE VM SNAPSHOT TO REVERT TO' provides instructions: 1. Make sure Snapshot #1 is selected. 2. Click the Revert button.



## 15. Now, delete all the snapshots taken :



## » Conclusion :

In this virtualization practical exercise, we performed various tasks related to managing virtual machine disks and configurations. We started by verifying datastores' availability, ensuring the connectivity of a TinyLinux VM, and migrating its storage. We also added a new hard disk to a Windows 10 VM, increased its disk capacity, took a snapshot, and then modified the VM's memory. We concluded by reverting the changes using the snapshot and finally deleting all snapshots. This practical provided hands-on experience in essential virtualization tasks, including storage management and VM configuration, which are crucial in virtualized environments.