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Virtualization Practical 9

Practical 9 : Managing virtual machine disks

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

The screenshot shows a VMware vSphere Client interface running in a browser window titled "vSphere - esx-03a.corp.vmbeans.com". The left sidebar shows a tree view of hosts: "vcsa-01a.corp.vmbeans.com" under "RegionA01", which includes "RegionA01-COMP01" and two VMs: "TinyLinux" and "Windows10". The main pane displays the "Storage" section of the "Storage Devices" tab. It lists one item: "Local VMware Disk (mpx.vmhba0:C0:T0:L0)" with LUN 0 and Type disk. To the right of the client interface is a "MANUAL" window titled "VERIFY iSCSI DEVICES ARE VISIBLE". The manual contains two numbered steps:

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

The manual also includes a screenshot of a web-based storage management interface showing two iSCSI disks listed under "Storage Devices".

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

The screenshot shows a VMware Lab Platform interface with multiple tabs open. The main window displays the vSphere Client interface for the host `esx-03a.corp.vmbeans.com`. The 'Datastores' tab is selected, showing two datastores: `ds-iscsi01` (VMFS 6) and `ds-nfs01` (NFS 3). A sidebar on the left shows the environment tree under `vcsa-01a.corp.vmbeans.com`. To the right of the client interface is a pop-up window titled 'VERIFY ISCSI DATASTORE AVAILABILITY' from `esx-03a.corp.vmbeans.com`. The pop-up contains instructions and a screenshot of the same vSphere Client interface, highlighting the 'Datastores' tab and the two visible datastores.

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
<code>ds-iscsi01</code>	Normal	VMFS 6		84.75 GB	64.19 GB
<code>ds-nfs01</code>	Normal	NFS 3		5.78 GB	5.78 GB

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

The screenshot shows a Firefox browser window within the Vivaldi Virtualization 101 interface. The left sidebar has 'CONSOLES' selected. The main area displays the vSphere Client for the host 'esx-03a.corp.vmbeans.com'. The 'Datastores' tab is active, showing two datastores: 'ds-lcscI01' (VMFS 6) and 'ds-nfsI01' (NFS 3). The right side of the screen features a 'MANUAL' guide titled 'EXIT MAINTENANCE MODE' with three steps:

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

The guide also includes a note: 'The host has been added to the cluster. Now it can exit Maintenance Mode and participate in the cluster.'

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4. Check the details and IP of TinyLinux VM.

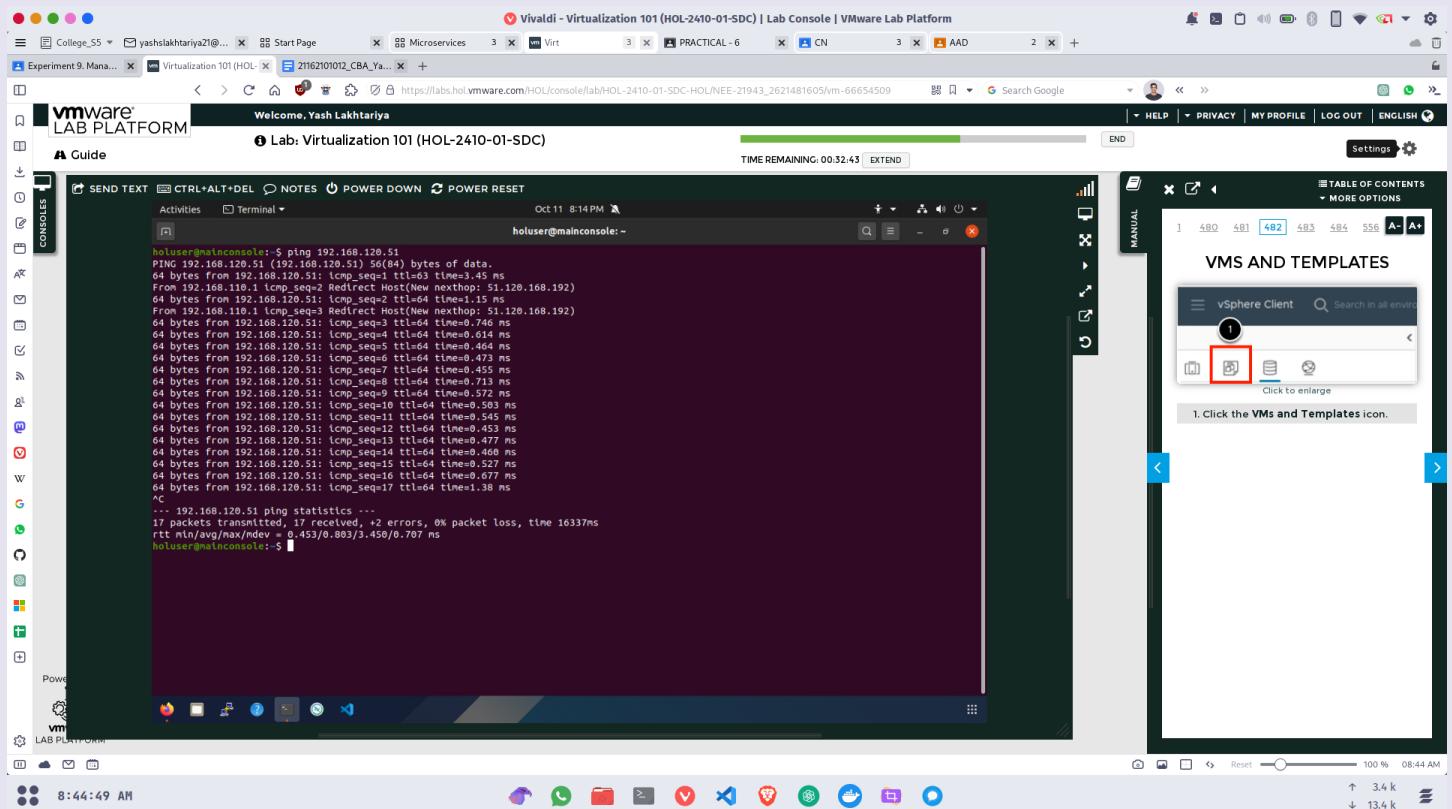
The screenshot shows the VMware Lab Platform interface. On the left, there's a sidebar with various icons for navigation. The main window displays a vSphere Client interface. In the center-left, under 'Guest OS', it shows 'TinyLinux'. To the right, the 'Virtual Machine Details' panel provides the following information:

Power Status	Powered On
Guest OS	Other 3.x or later Linux (32-bit)
VMware Tools	Running, version:2147483647 (Guest Managed)
DNS Name (1)	tinylinux
IP Addresses (1)	192.168.120.51
Encryption	Not encrypted

On the right side of the screen, there's a 'MANUAL' tab with a guide titled 'OPEN A COMMAND PROMPT'. It includes a screenshot of a browser showing a command prompt icon in the task bar, with a callout pointing to it and the text '1. Click on the icon to open a command prompt from the LinuxTask Bar.' Below this, there's a status bar at the bottom with network and system information.

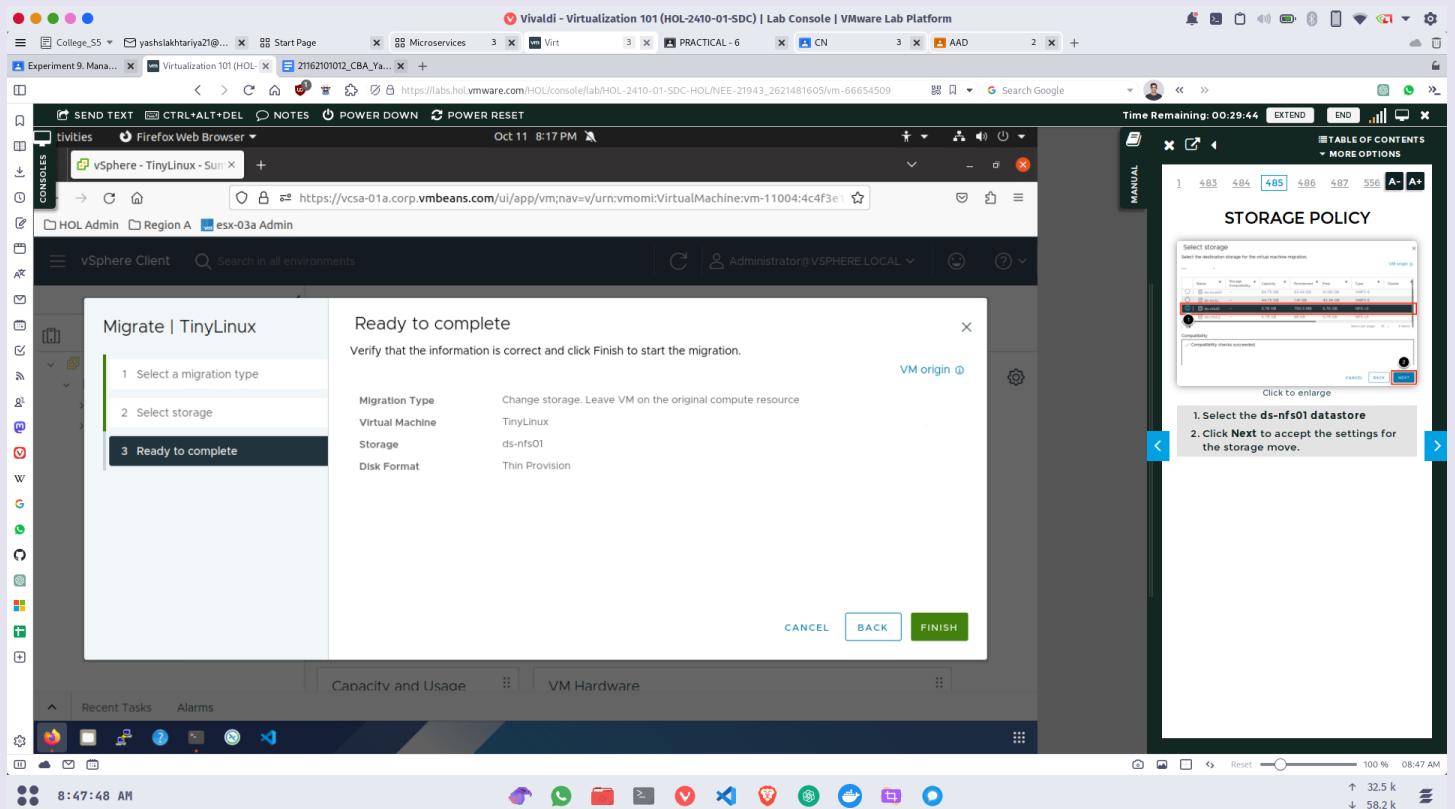
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5. Via ping linux command, check the connectivity with the VM in local terminal.



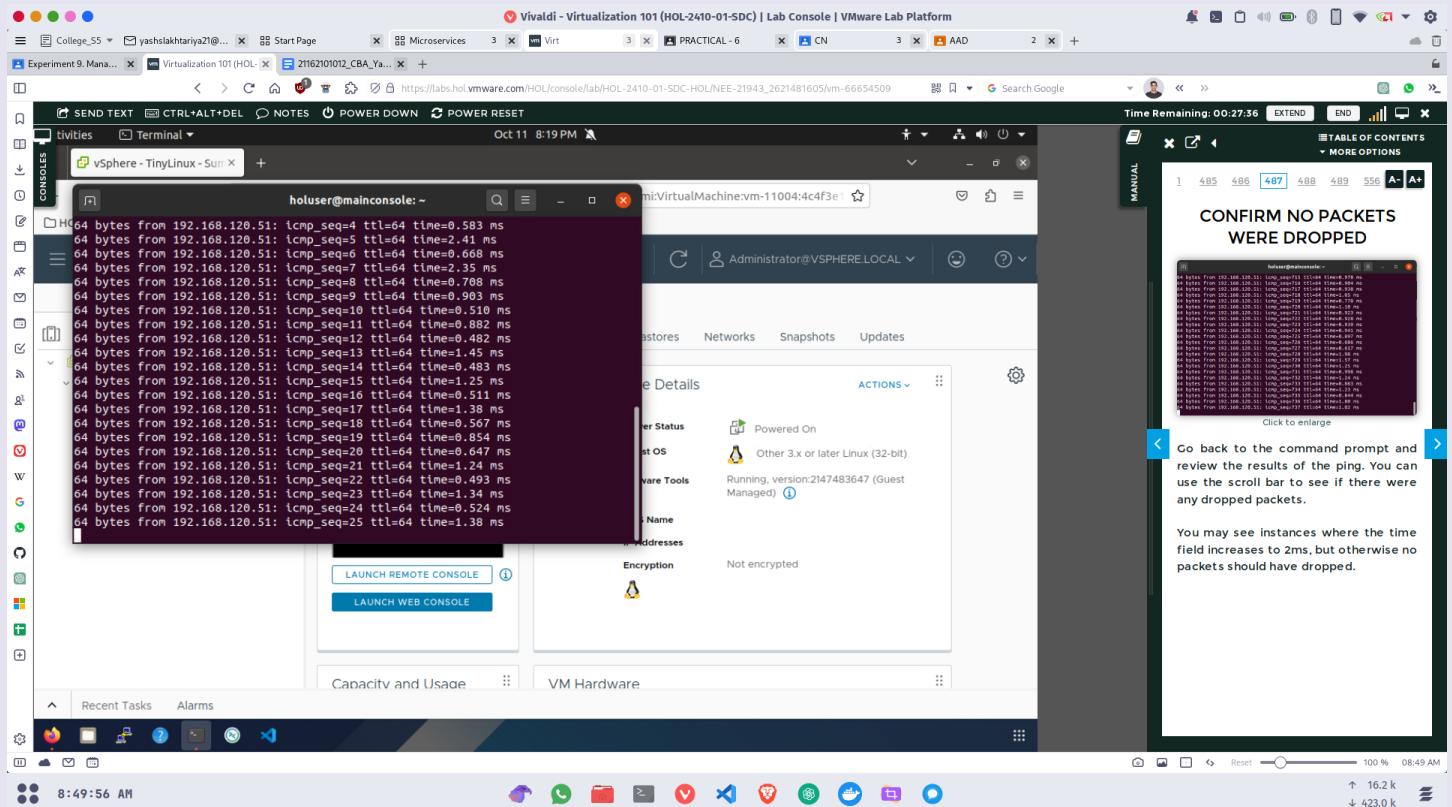
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6. Migrate TinyLinux storage to ds-nfs01 of esx-03a.



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



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

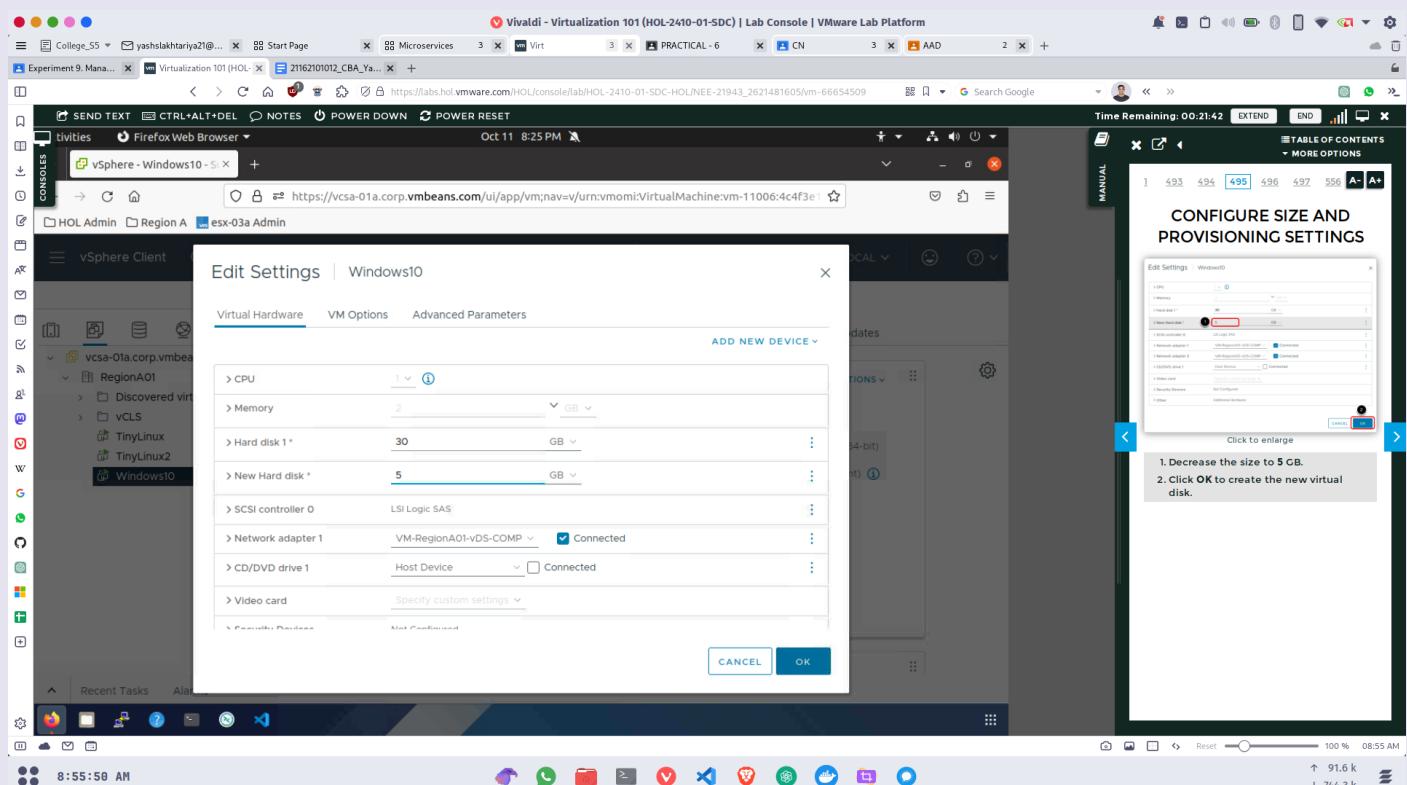
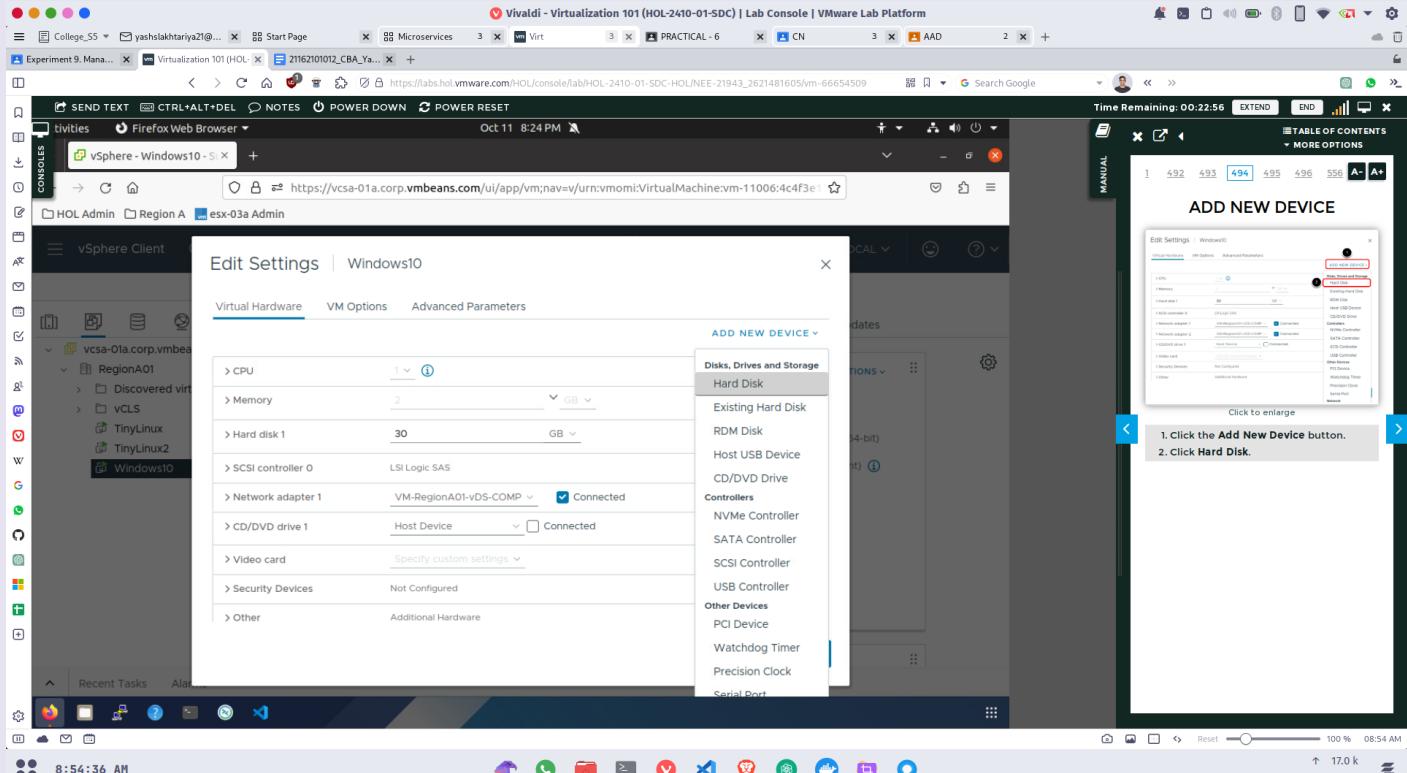
The screenshot shows the VMware vSphere Client interface running in a browser window. The URL is https://labs.hol.vmware.com/HOL/console/lab/HOL-2410-01-SDC-HOL/NEE-21943_2621481605/vm-66654509. The left sidebar shows the navigation tree with 'vSphere Client' selected. Under 'Datastores', 'ds-nfs01' is listed under 'RegionA01'. The main pane displays the 'ds-nfs01' datastore details with tabs for 'Virtual Machines' and 'VM Templates'. A single virtual machine, 'TinyLinux', is listed in the 'Virtual Machines' table. The table includes columns for Name, State, Status, Provisioned Space, Used Space, Host CPU, and Host Memory. The status of 'TinyLinux' is 'Powered On', 'Normal', with 100 MB provisioned space and 5 KB used space. The host CPU is 0 Hz and host memory is 183 M. A red box highlights the 'Virtual Machines' tab in the main pane. To the right, there is a 'NAVIGATE TO THE VMS AND TEMPLATES MANAGEMENT PANE' panel with a step-by-step guide:

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.

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



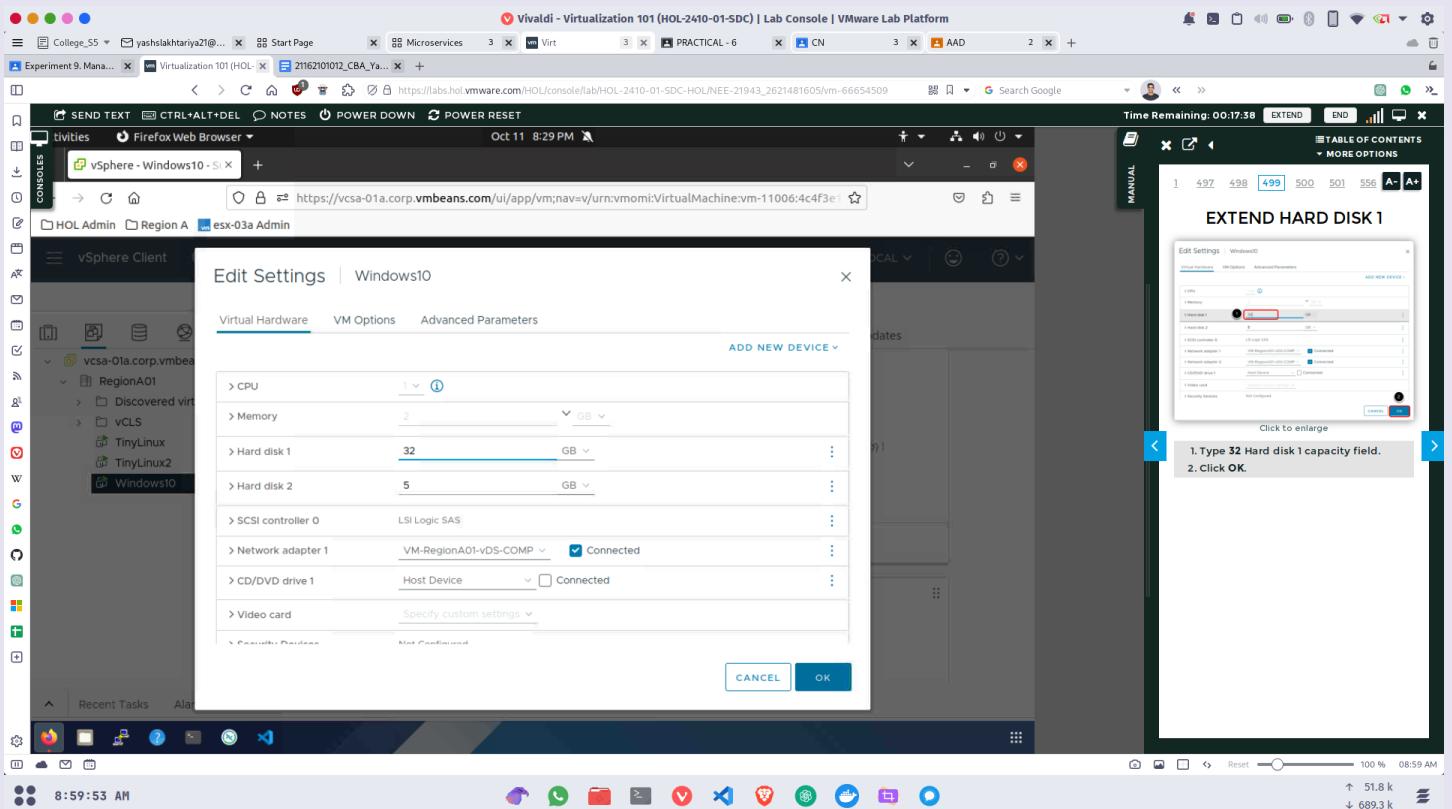
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10. Verify our previous step if the disk is added.

The screenshot shows a VMware Lab Platform interface with multiple windows open. In the foreground, a 'vSphere Client' window displays a 'Windows10' VM. A modal dialog titled 'All Hard Disks' lists two drives: '[ds-iscsi01] Windows1...' (Thin Provision, 30 GB) and '[ds-iscsi01] Windows1...' (Thick Provision Lazy Z..., 5 GB). An 'OK' button is at the bottom right of the dialog. In the background, another window titled 'NEW HARD DISK' shows 'VM Hardware' settings for a new disk. The 'Hard disk 1 (of 2)' section is highlighted with a red box, showing '30 GB' and 'Thin Provision'. A message below says '1. You should now see an message that says "Hard disk 1 (of 2)". Click on "See All Disks"'. A second message box further down says '1. Hard disk 2 with a capacity of 5 GB is now available to the Windows10 VM. 2. Click OK'. The status bar at the bottom shows '8:58:27 AM' and network activity.

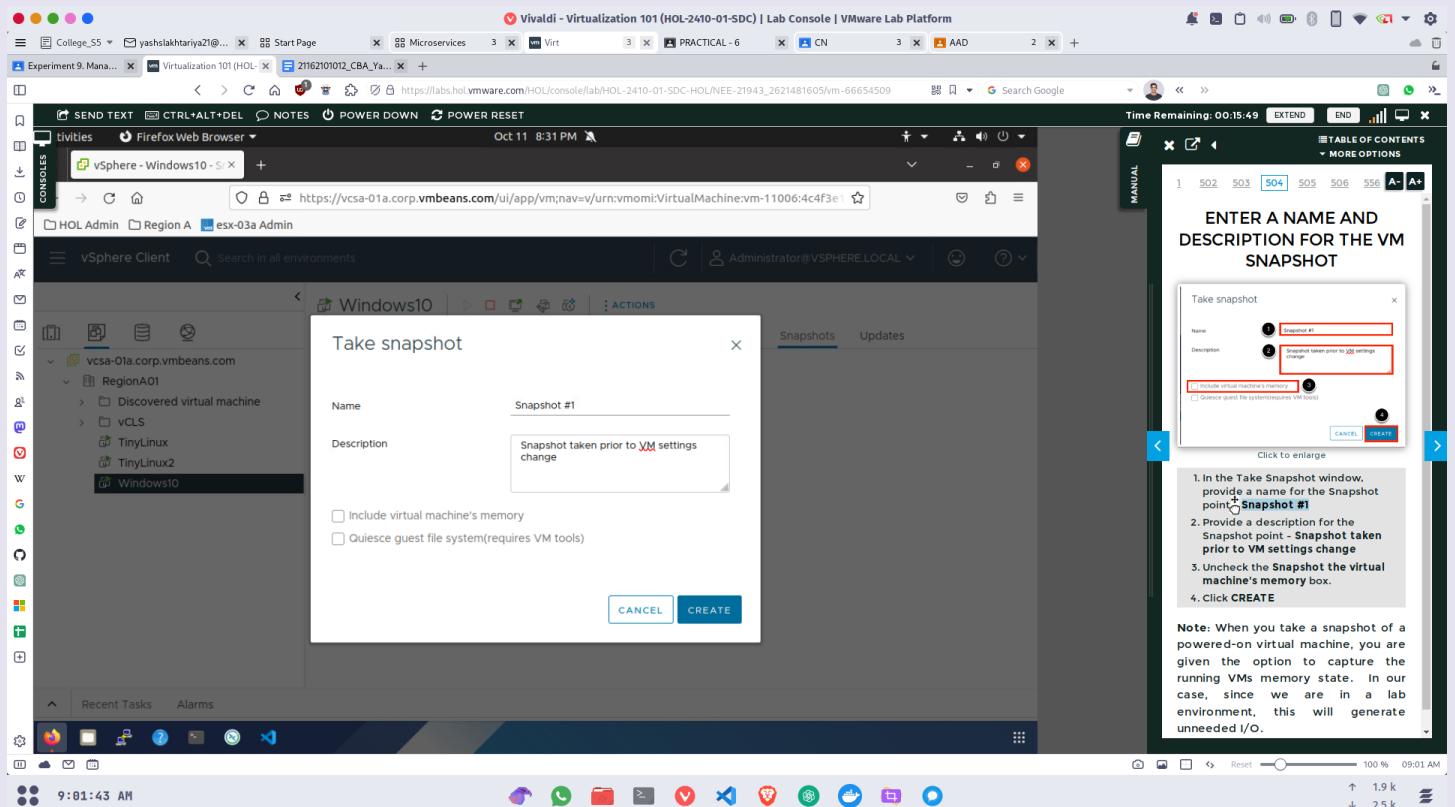
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11. Increase its disk 1 capacity from 30 to 32 GB.



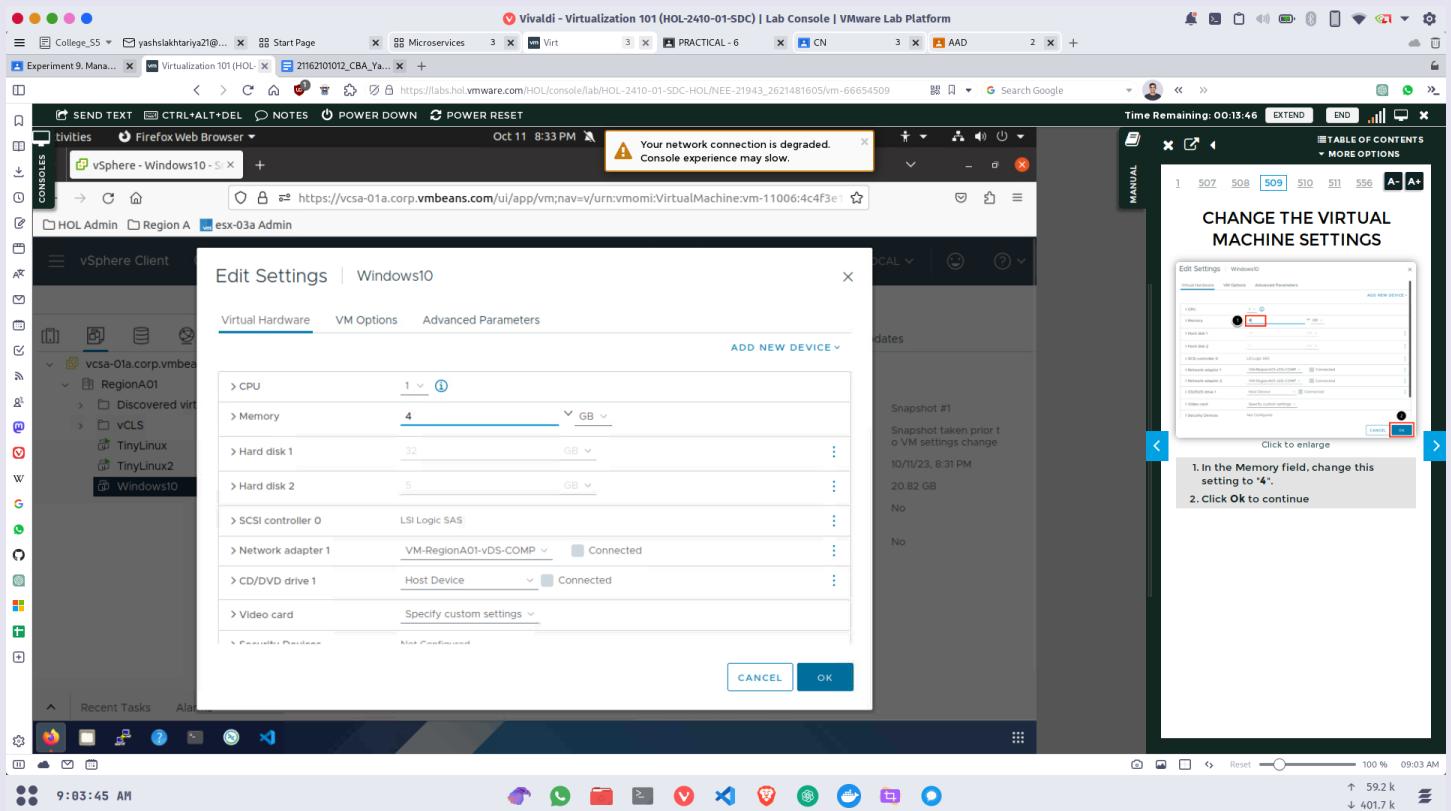
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12. Take its snapshot with the given configuration.



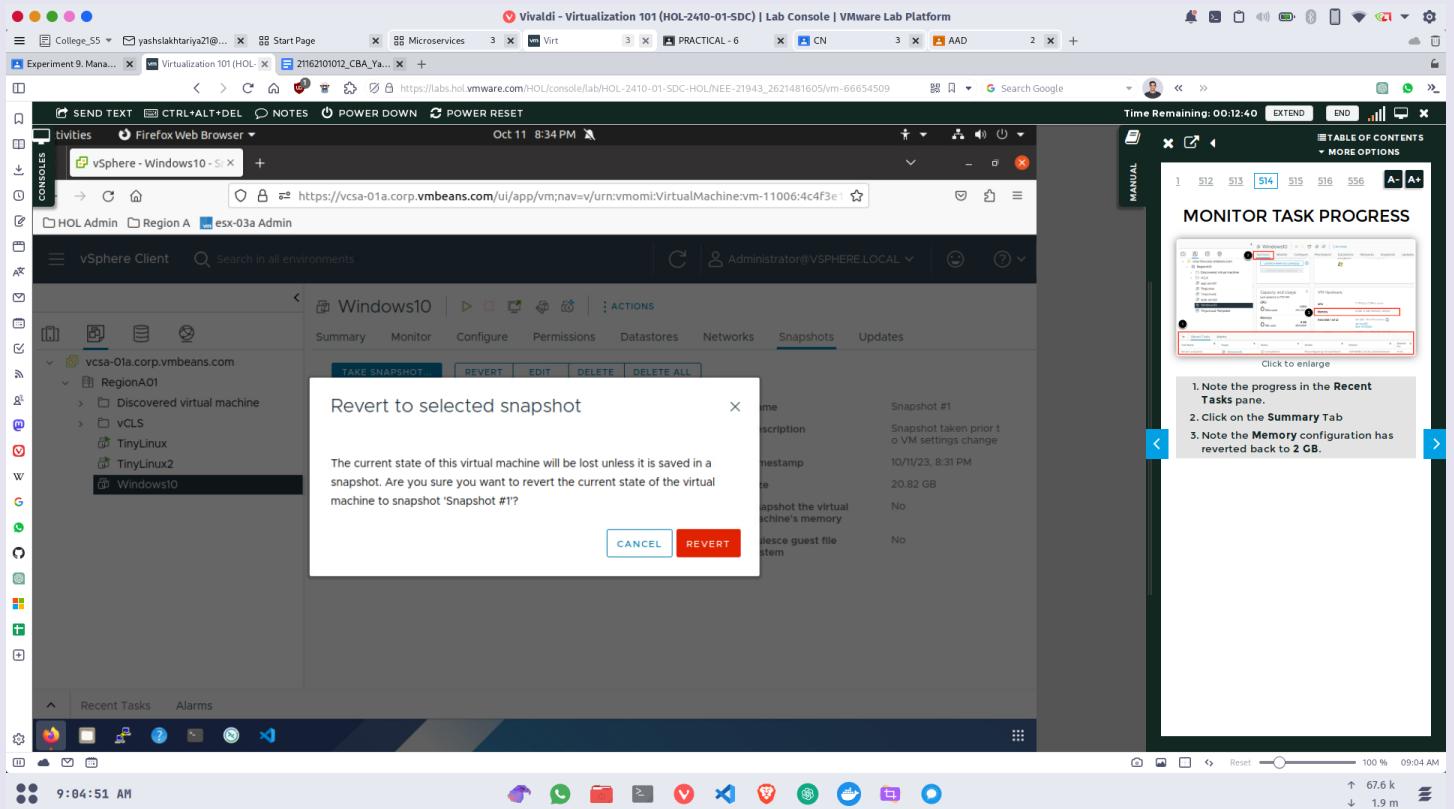
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13. Now, turn off the VM and increase its memory from 2 to 4 GB.



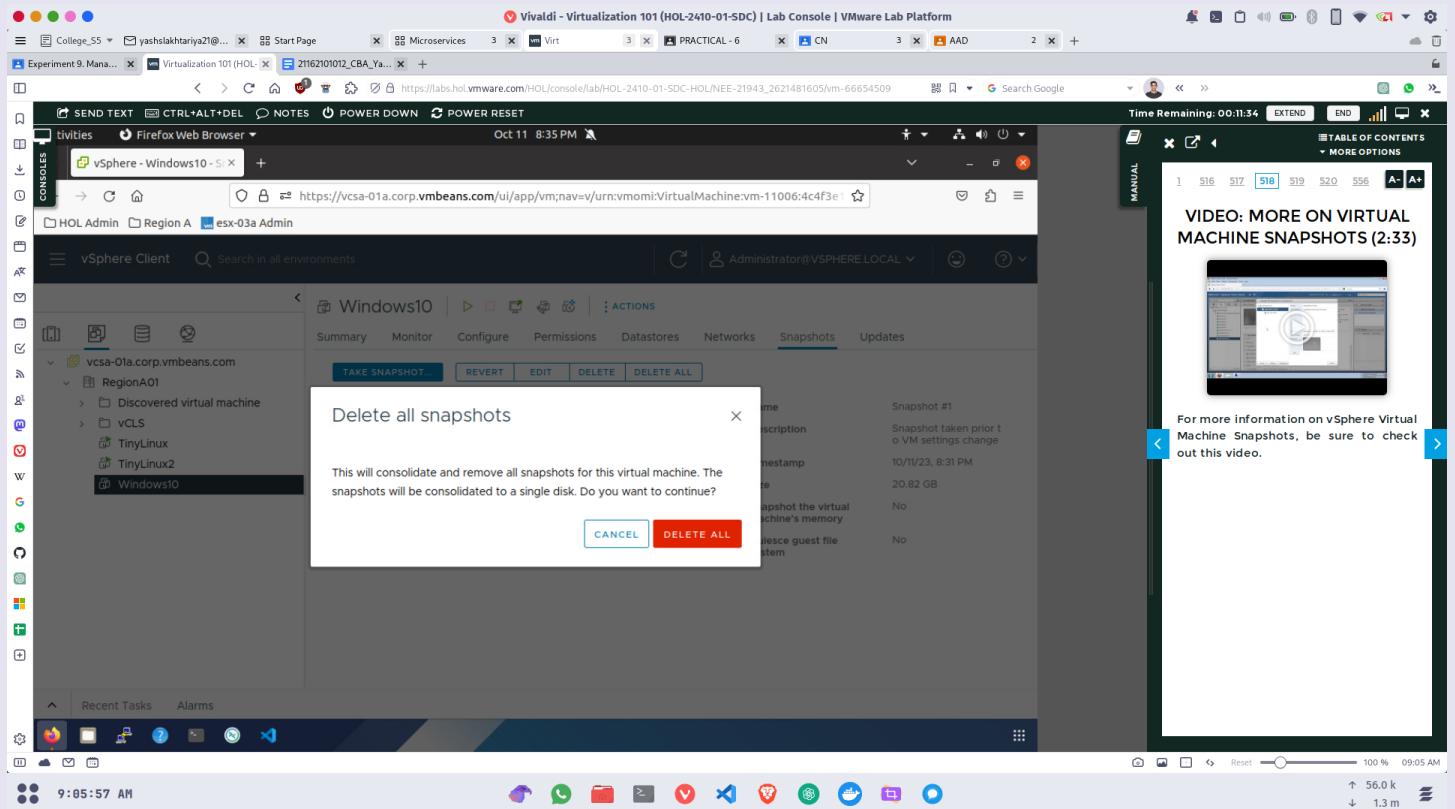
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14. Now, revert the change using Snapshot we created.



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15. Now, delete all the snapshots taken.



Conclusion : This lab ensures the understanding of concepts of Virtual Machine Storage Management in ESXi, managing data store, disks, memory, etc.