



**Ganpat
University**

॥ विद्यया समाजोत्कर्षः ॥

**Institute of
Computer
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Sub: Virtualization

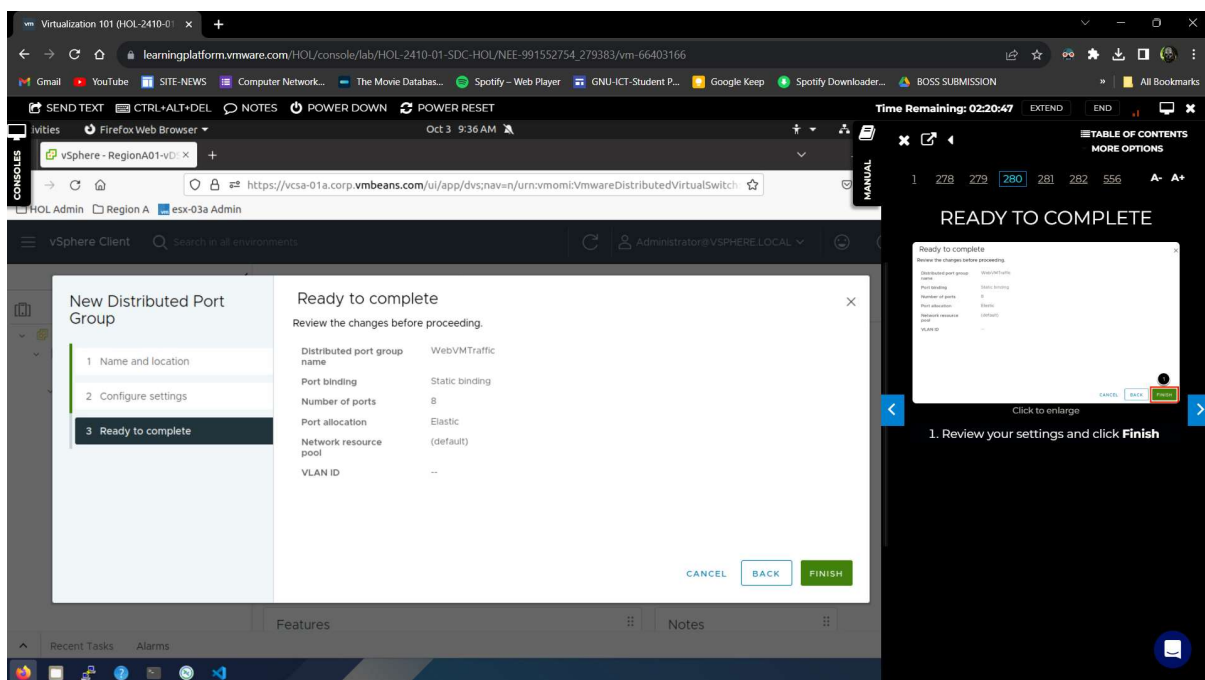
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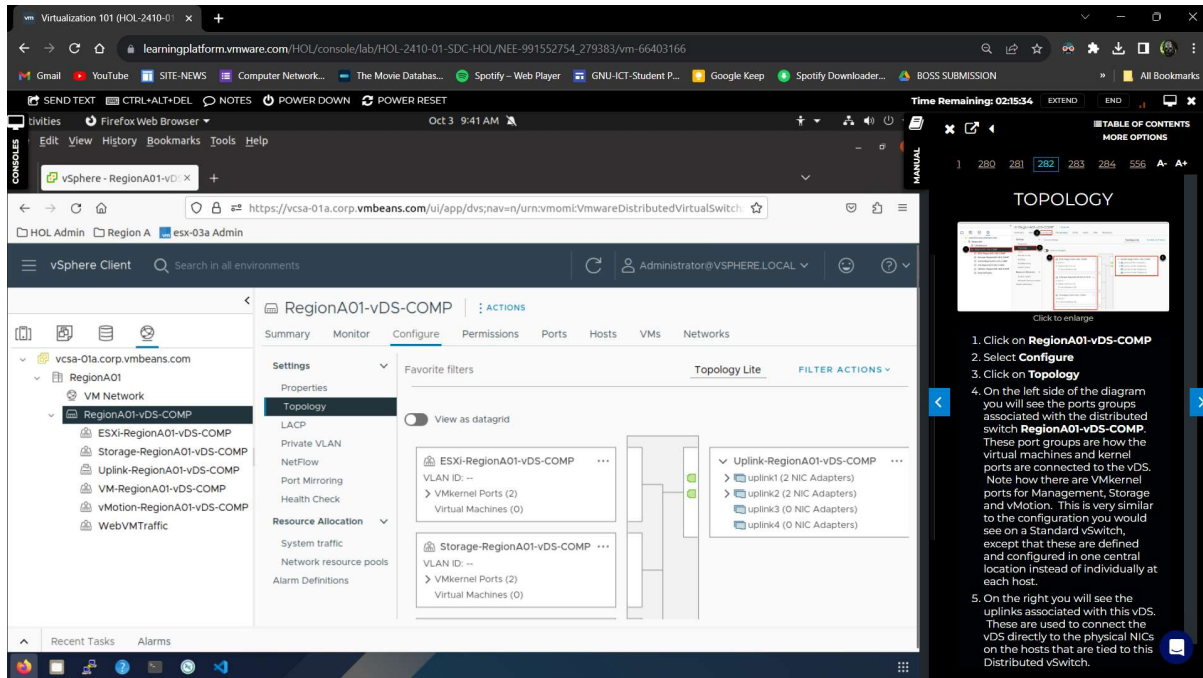
-----PRACTICAL 04-----

❖ Configuration of distributed port groups.

1. Create a new distributed port group with the following configurations :



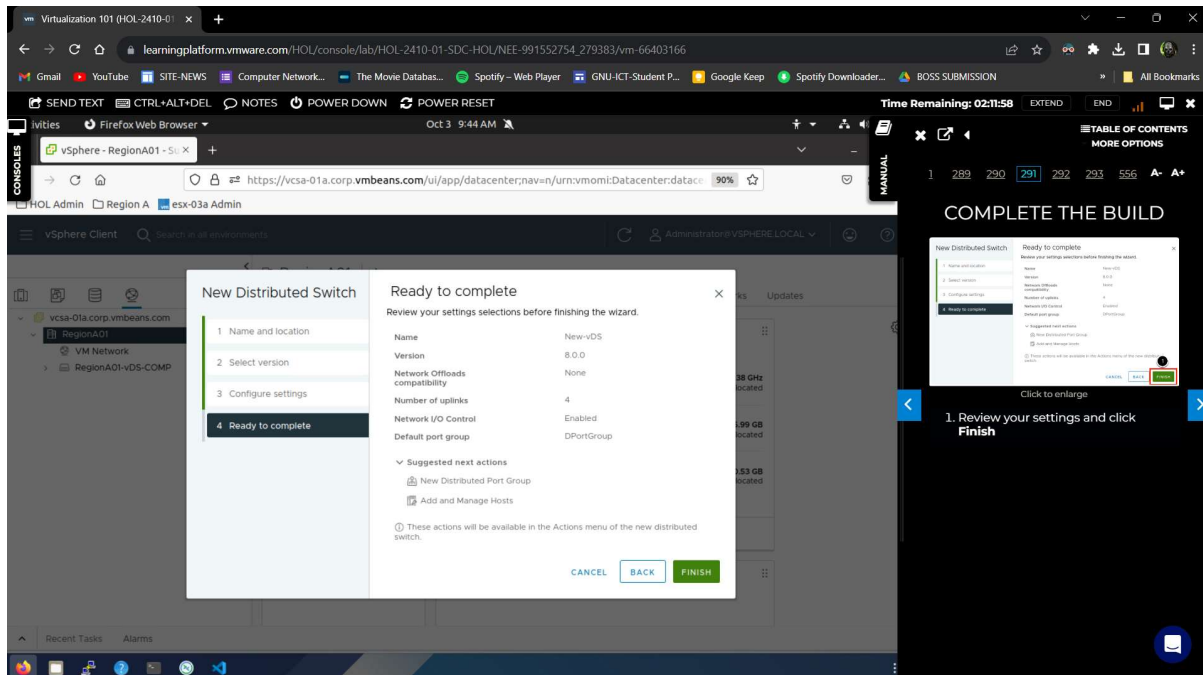
2. Topology configurations can be viewed and edited in the Topology tab :



The screenshot shows the vSphere Client interface with the 'RegionA01-vDS-COMP' selected. The 'Topology' tab is active, displaying a visual representation of the network topology. The sidebar on the right contains the following instructions:

1. Click on **RegionA01-vDS-COMP**
2. Select **Configure**
3. Click on **Topology**
4. On the left side of the diagram you will see the ports groups associated with the distributed switch **RegionA01-vDS-COMP**. These port groups are how the virtual machines and kernel ports are connected to the vDS. Note how there are VMkernel ports for Management, Storage and vMotion. This is very similar to the configuration you would see on a Standard vSwitch, except that these are defined and configured in one central location instead of individually at each host.
5. On the right you will see the uplinks associated with this vDS. These are used to connect the vDS directly to the physical NICs on the hosts that are tied to this Distributed vSwitch.

3. Create a new distributed switch with the following configurations :



The screenshot shows the 'New Distributed Switch' wizard in the vSphere Client. The 'Ready to complete' step is active, displaying the following settings:

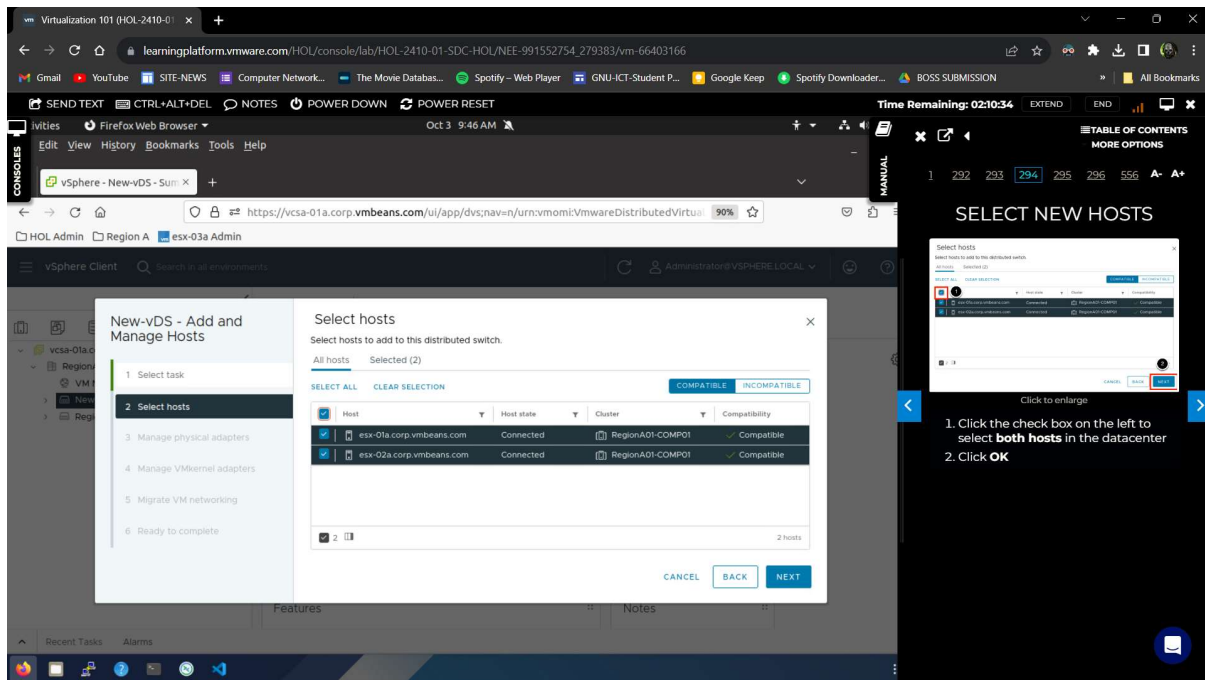
| Property | Value |
|--------------------------------|------------|
| Name | New-vDS |
| Version | 8.0.0 |
| Network Offloads compatibility | None |
| Number of uplinks | 4 |
| Network I/O Control | Enabled |
| Default port group | DPortGroup |

The 'Suggested next actions' section includes:

- New Distributed Port Group
- Add and Manage Hosts

The 'Ready to complete' dialog also includes a 'Review your settings selections before finishing the wizard.' section and buttons for 'CANCEL', 'BACK', and 'FINISH'.

4. Add hosts in the newly created distributed switch. Select all hosts:

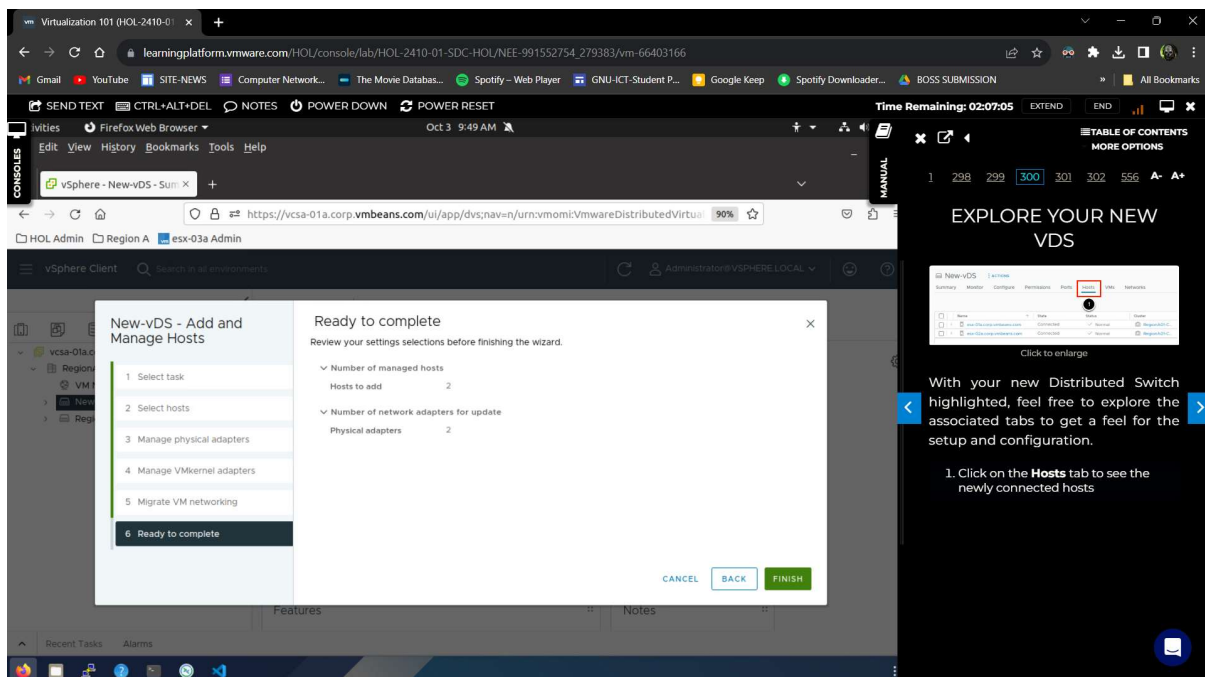


The screenshot shows the vSphere Client interface with the 'New-vDS - Add and Manage Hosts' wizard open. The 'Select hosts' step is active, showing a table of hosts to be added to the distributed switch. The table lists two hosts: 'esx-01a.corp.vmbeans.com' and 'esx-02a.corp.vmbeans.com', both connected to the 'RegionA01-COMP01' cluster and marked as 'Compatible'. The 'SELECT ALL' button is highlighted, indicating that all hosts are selected.

SELECT NEW HOSTS

1. Click the check box on the left to select **both** hosts in the datacenter
2. Click **OK**

5. Confirm adding hosts with following configurations:



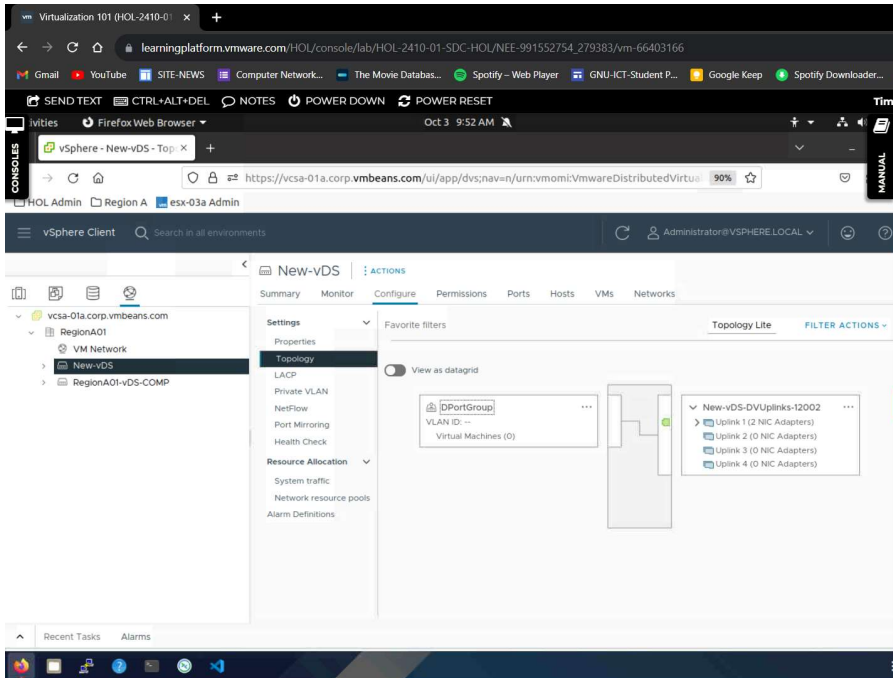
The screenshot shows the vSphere Client interface with the 'New-vDS - Add and Manage Hosts' wizard open. The 'Ready to complete' step is active, showing a summary of the configuration. The summary indicates that 2 hosts are being added and 2 physical adapters are being updated. The 'FINISH' button is highlighted, indicating that the configuration is ready to be completed.

EXPLORE YOUR NEW VDS

With your new Distributed Switch highlighted, feel free to explore the associated tabs to get a feel for the setup and configuration.

1. Click on the **Hosts** tab to see the newly connected hosts

6. As seen, there are no virtual machines :

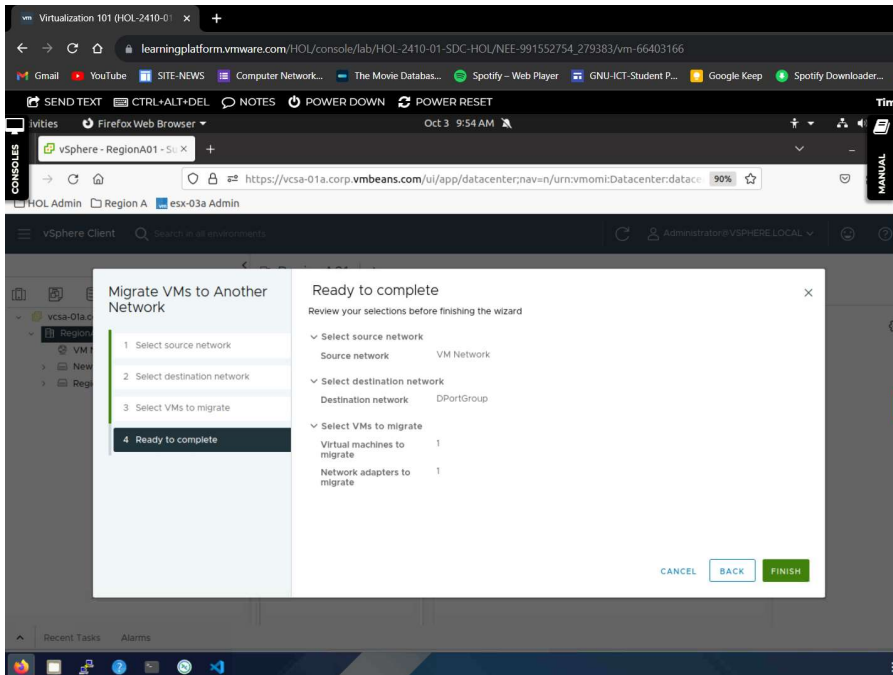


MIGRATING VMS FROM VSS TO VDS

Now that we have created a new vDS, we want to take advantage of its capabilities. In this lab we will migrate a running virtual machine from a virtual standard switch to the newly created distributed virtual switch.

In the vSphere Client, there are numerous ways to accomplish the task of VM network migration. However, we will be walking through the procedures specifically outlined in the vSphere product documentation.

7. Migrate virtual machine from VM Network to DPort group, in which our new distributed switch is there :



Ready to complete

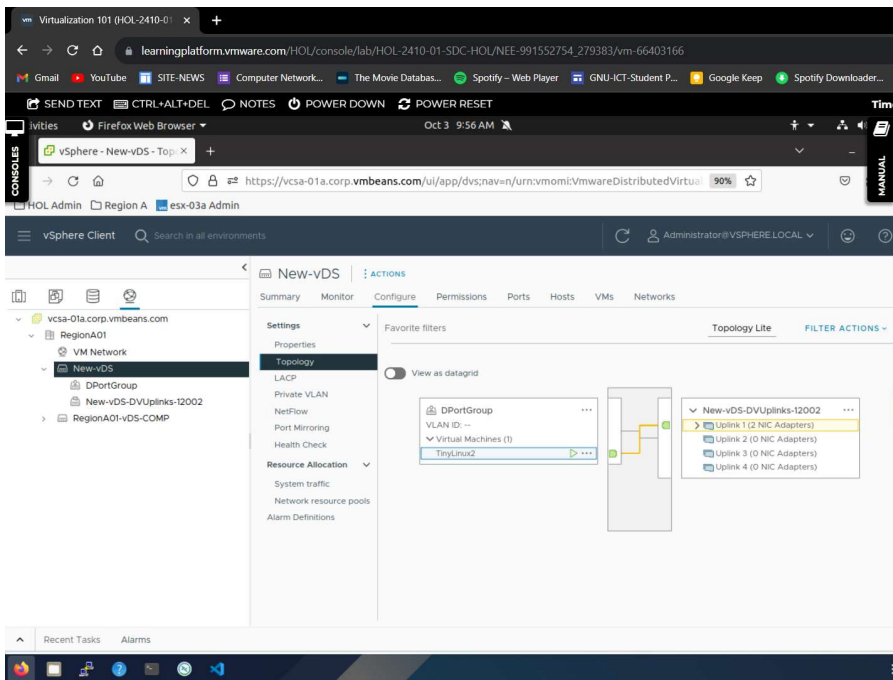
Review your selections before finishing the wizard

- Select source network
 - Source network: VM Network
- Select destination network
 - Destination network: DPortGroup
- Select VMs to migrate
 - Virtual machines to migrate: 1
 - Network adapters to migrate: 1

Click to enlarge

1. Click **Finish** to migrate the VM from a Standard Switch to the new Distributed Switch

8. Now, as seen, our VM is migrated:



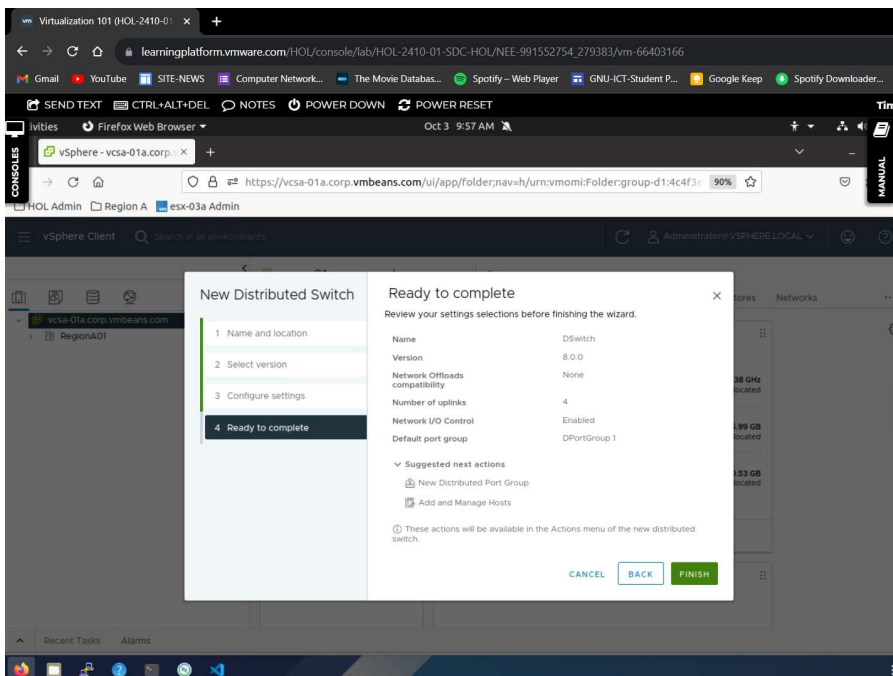
ADDING AND CONFIGURING A VSPHERE DISTRIBUTED SWITCH

This lesson will walk you through adding and configuring a Distributed Switch.

Create a vSphere Distributed Switch on a vSphere datacenter to handle networking traffic for all associated hosts in the datacenter. If your system has many hosts and complex port group requirements, creating distributed port groups rather than a standard port groups can go a long way towards easing the administrative burden.

1. Keep the default values and click **Next**

9. Now, create a new distributed switch with given configurations:



READY TO COMPLETE

Review your settings selections before finishing the wizard.

| Property | Value |
|--------------------------------|--------------|
| Name | DSwitch |
| Version | 8.0.0 |
| Network Offloads compatibility | None |
| Number of uplinks | 4 |
| Network I/O Control | Enabled |
| Default port group | DPortGroup 1 |

Suggested next actions

- New Distributed Port Group
- Add and Manage Hosts

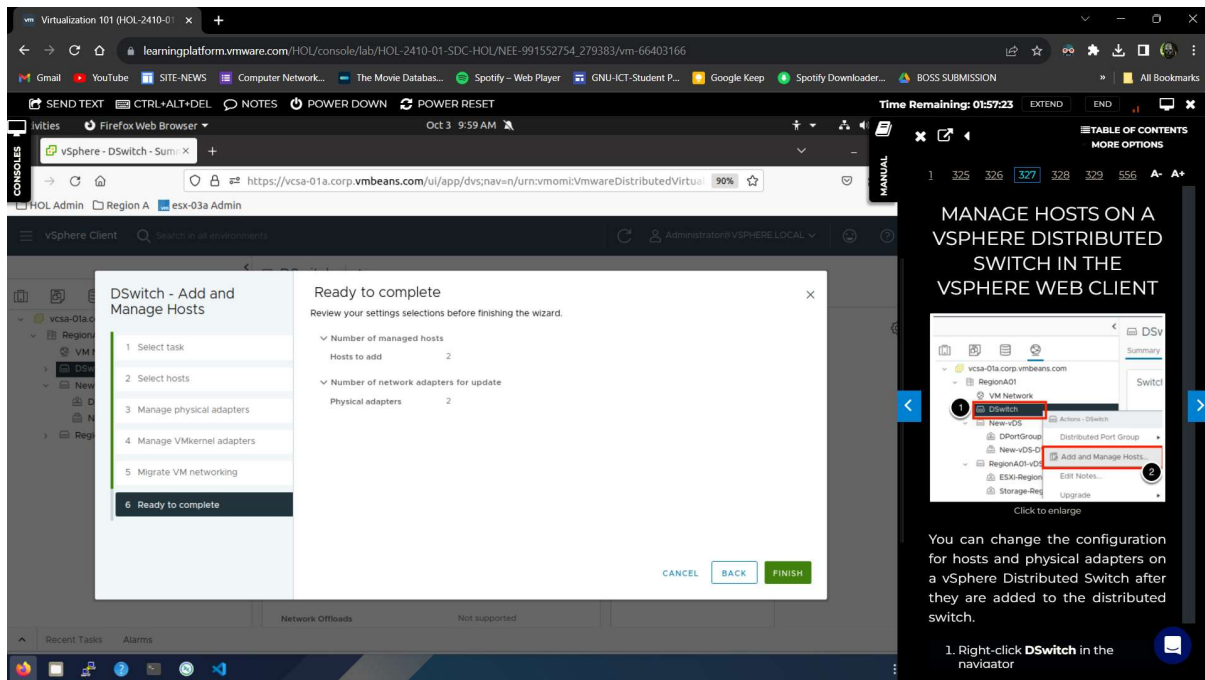
These actions will be available in the Actions menu of the new distributed switch.

Click to enlarge

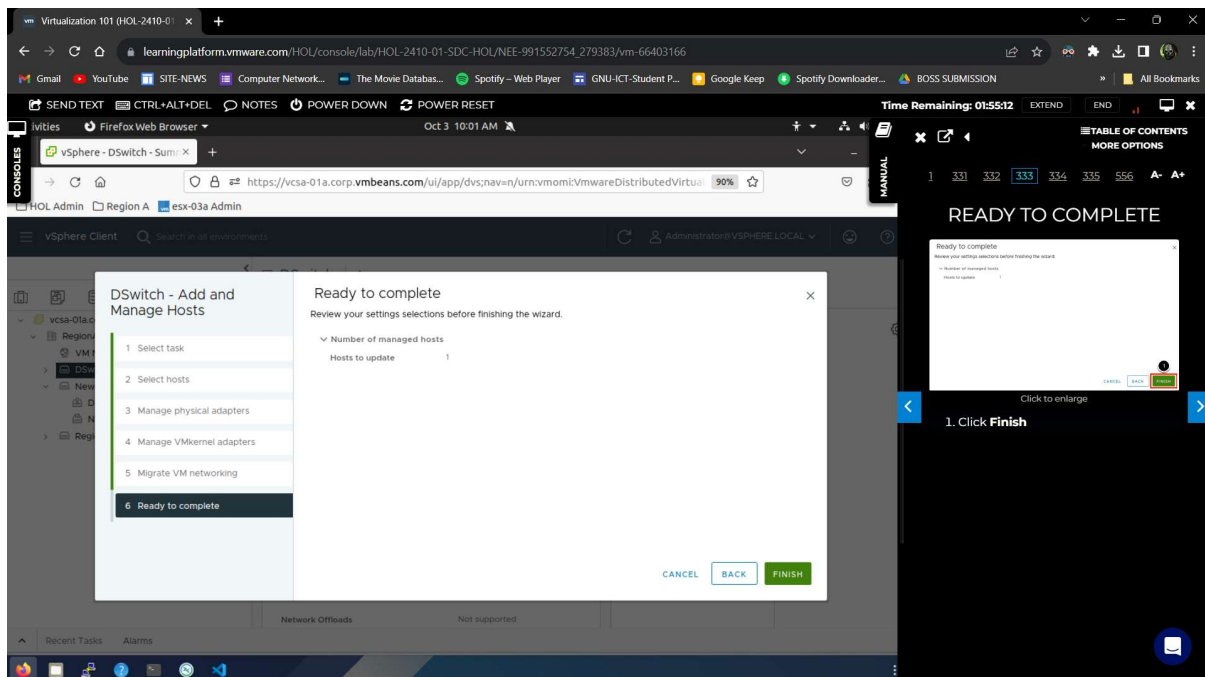
1. Review the settings and click **Finish**

Notice the next suggested steps are to create Distributed Port Groups and adding Hosts.

10. Now, create a new distributed switch with given configurations :



11. Manage host networking and select hosts of 01 numbered option :



12. The advanced settings of the distributed switches can be found in edit properties tab :

ENABLE OR DISABLE VSPHERE DISTRIBUTED SWITCH HEALTH CHECK IN THE VSPHERE WEB CLIENT

The Distributed Switch Health Check monitors for changes in vSphere Distributed Switch configurations. You must enable vSphere Distributed Switch Health Check to perform checks on Distributed Switch configurations.

Health Check is available on ESXi 5.1 Distributed Switches and higher. Also, you can only view Health Check information through

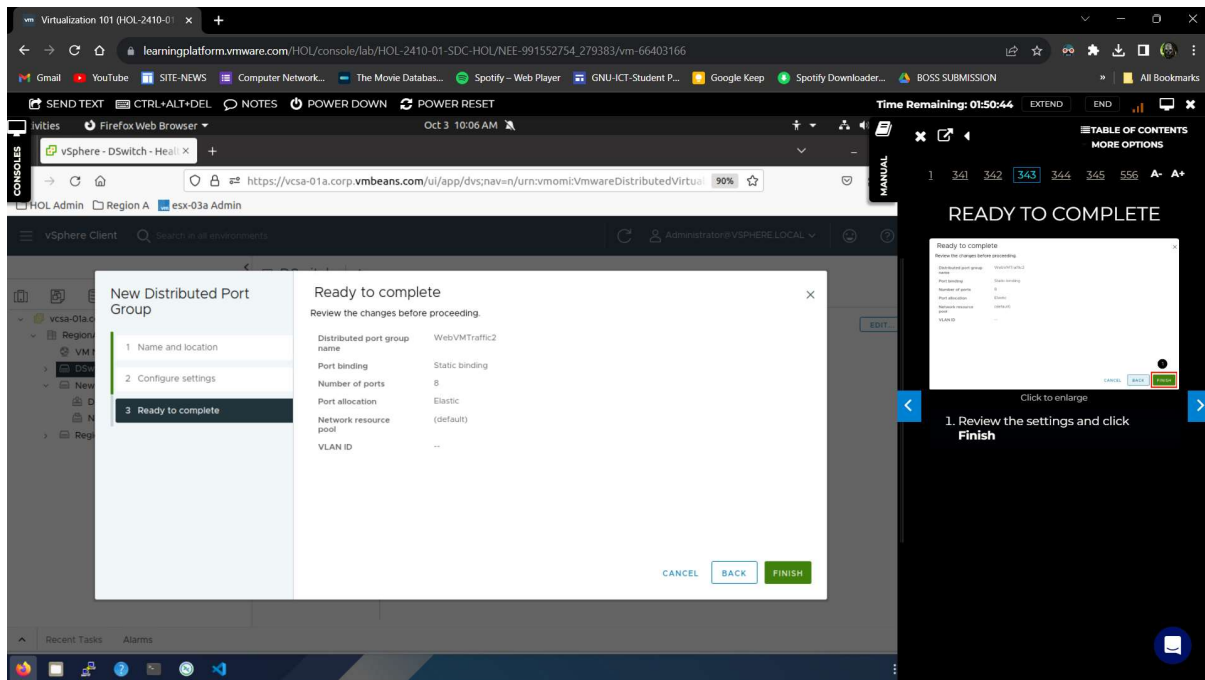
13. Similarly like previous steps, enable health check for the new switch also :

DISTRIBUTED PORT GROUPS

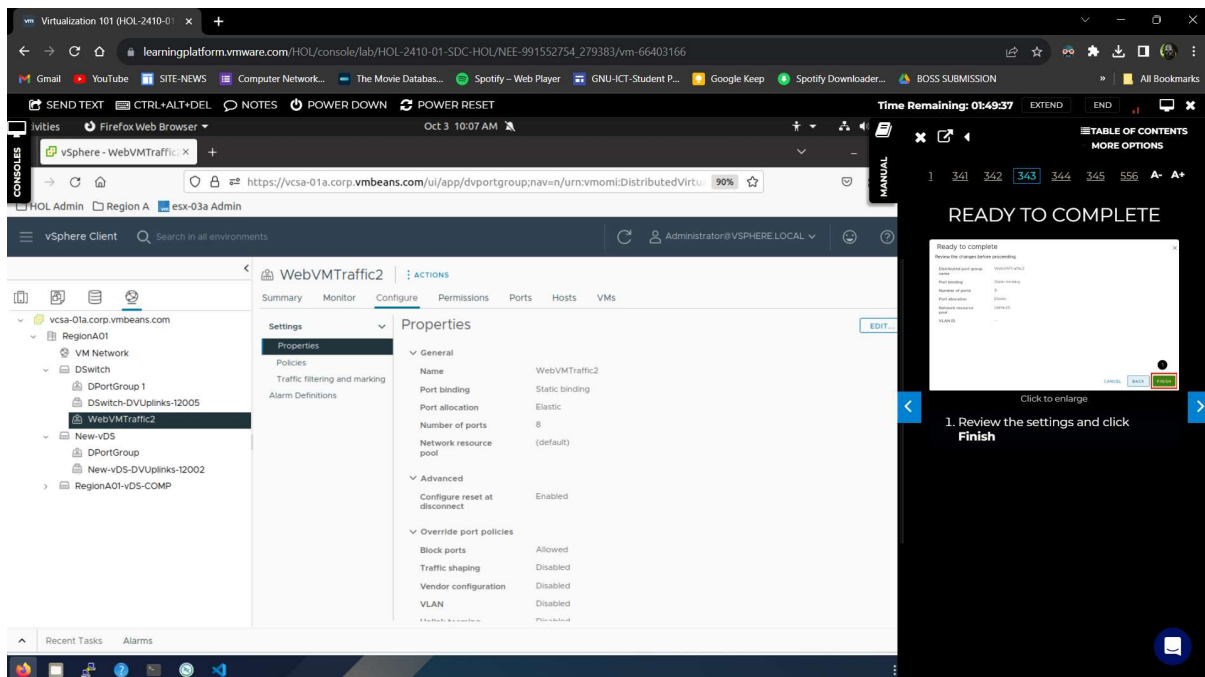
A distributed port group specifies port configuration options for each member port on a vSphere distributed switch. Distributed port groups define how a connection is made to a network.

1. Right-click the **DSwitch** in the navigator
2. Select **Distributed Port Group** and then click **New Distributed Port Group**

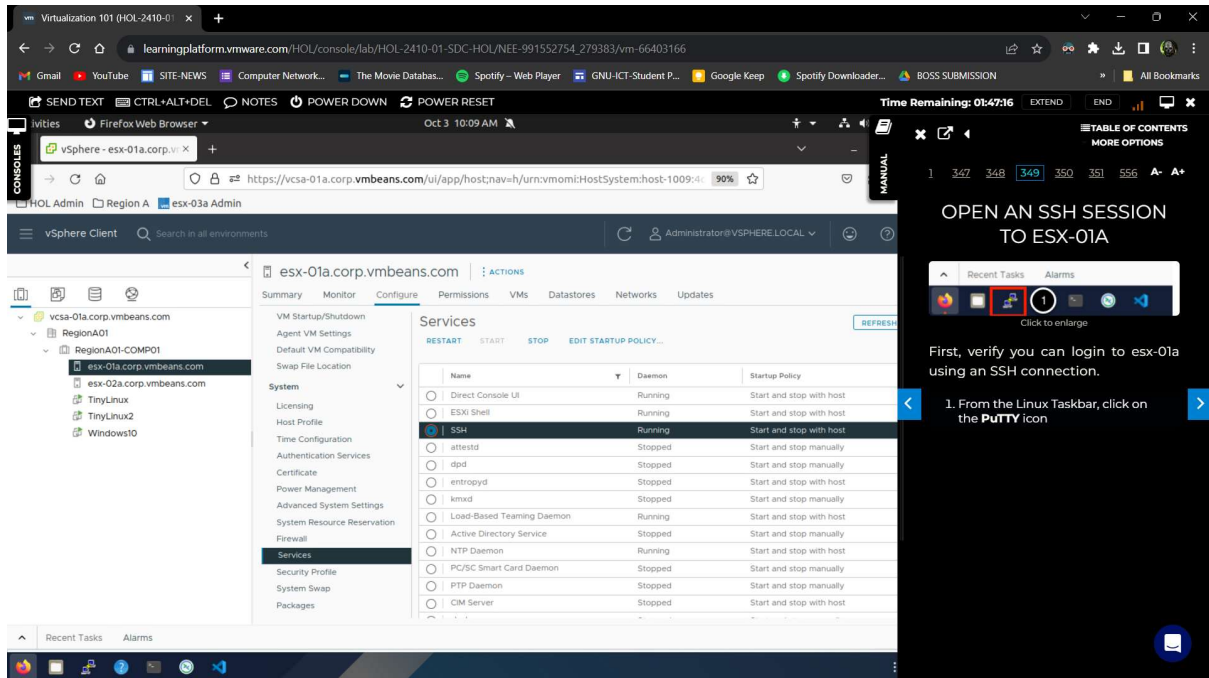
14. Create a new port group for the distributed switch with following configurations :



15. As seen in the screenshot below, distributed group's properties can be seen and edited :



16. Check from Services of esx-01 if SSH is enabled. Now, it will be accessed via our SSH client (PuTTY here):



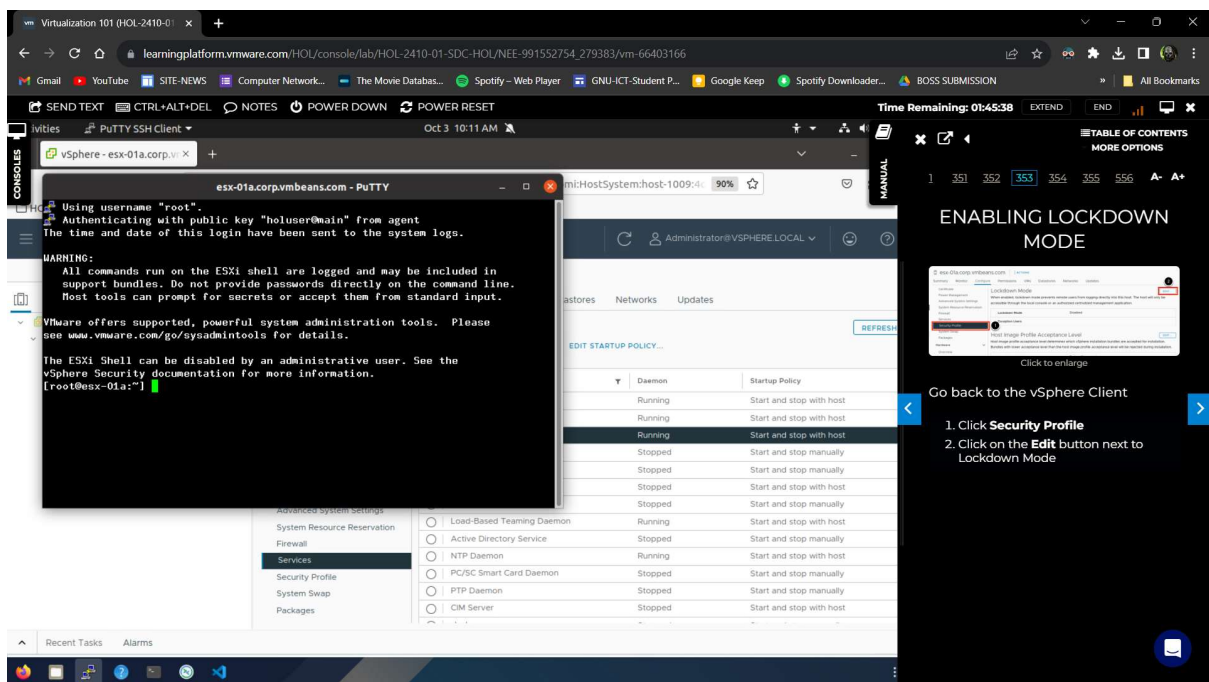
The screenshot shows the vSphere Client interface for the host `esx-01a.corp.vmbeans.com`. The **Services** tab is selected, displaying a list of services. The **SSH** service is highlighted, showing it is **Running** with a **Start and stop with host** policy. A sidebar on the right provides instructions on how to open an SSH session to ESX-01A.

OPEN AN SSH SESSION TO ESX-01A

First, verify you can login to esx-01a using an SSH connection.

1. From the Linux Taskbar, click on the **PuTTY** icon

17. Click on PuTTY icon and open the application in our Ubuntu OS and load saved esx-01 profile and connect via SSH to the virtual machine:



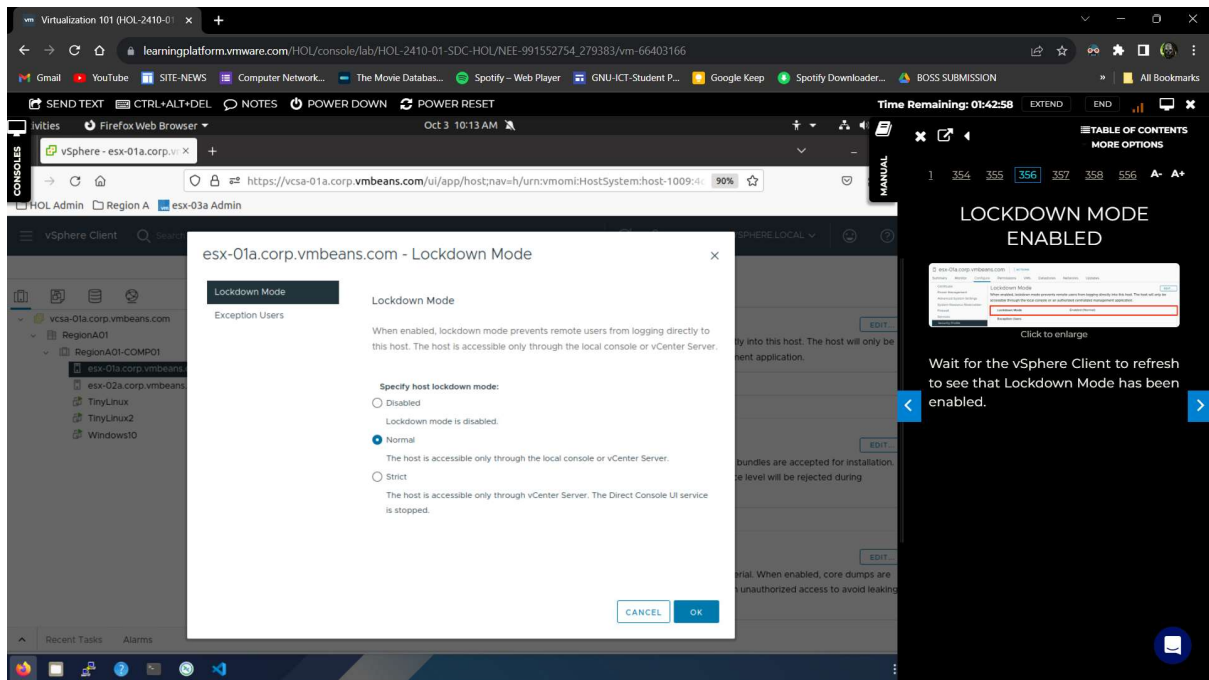
The screenshot shows the vSphere Client interface for the host `esx-01a.corp.vmbeans.com`. The **Services** tab is selected, displaying a list of services. The **SSH** service is highlighted, showing it is **Running** with a **Start and stop with host** policy. A sidebar on the right provides instructions on how to enable lockdown mode. A PuTTY SSH Client window is open, showing the login process for the `root` user.

ENABLING LOCKDOWN MODE

Go back to the vSphere Client

1. Click **Security Profile**
2. Click on the **Edit** button next to Lockdown Mode

18. The unauthorized access can be prevented by enabling host lockdown mode and also exception users can be added:



» Conclusion :

this practical exercise provided hands-on experience in configuring and managing distributed switches, port groups, and host networking in a VMware virtualization environment. Additionally, it demonstrated the importance of securing access and managing network configurations effectively.