Cloud Computing

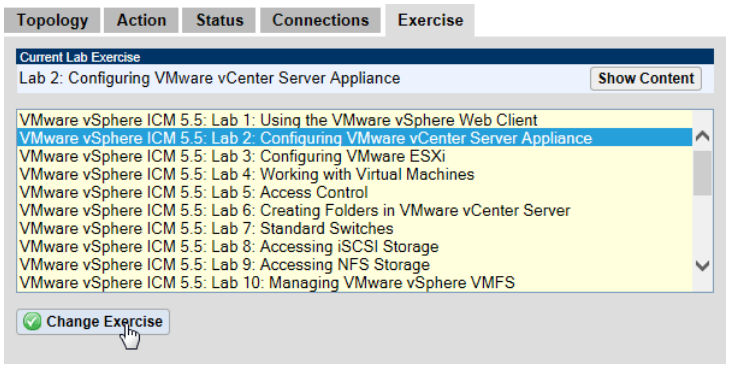
Practical 4:
Managing Complexity and Virtual Networking

Aims and Objectives

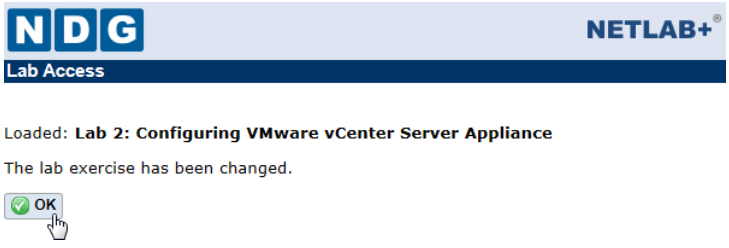
In this week's practical we continue examining how to construct cloud infrastructure, working with the VMware virtualization systems and completing practical tasks aligned with the VMware vSphere Install, Configure, and Manage certification curriculum. This week we examine the use of folders in managing vSphere infrastructure and standard switches. Folders, although a relatively straightforward concept, represent a key mechanism for managing the complexity of a vSphere infrastructure installation as it progressively grows. The creation of standard switches, and connecting virtual machines to those virtual switches, forms part of the definition of the logical network perimeter in cloud computing and is a critical concept in managing and isolating the network traffic of cloud consumers.

Changing Exercises in NetLab

If you complete the work for a lab task, you can change exercise using the Exercise tab indicated above. Changing on the Exercise tab will show you a list of available exercises for that particular POD:



Select the lab task that you wish to switch to, then click on the **Change Exercise** button. The system will then perform any necessary reconfiguration before displaying a confirmation message:



Clicking the **OK** button will return you to the topology to begin the new lab task.

Lab Tasks

In this week's practical, you are required to complete the first two lab tasks:

- Lab 6: Creating Folders in VMware vCenter Server; and
  Note: as part of this lab task, you will be moving some of the items in the vSphere Web Client into sub-folders. If you proceed with the next labs in a single booking and can't find something, make sure you look in the sub-folders you create as part of this lab!
- Lab 7: Standard Switches.

Following the instructions above, start by booking in a POD to complete Lab 6. The instructions for the lab tasks can be found by clicking on the **Show Lab Content** button as explained in Practical 2.

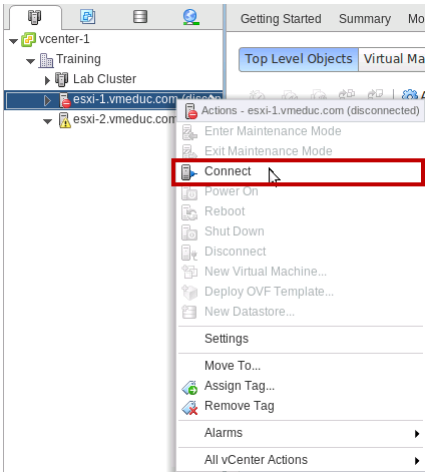
If you wish to complete multiple labs in one session, you can switch between labs using the steps shown above. Instructions for how to proceed with the next lab task can be found in the "problems" section below.

Make sure you follow the lab steps very carefully, otherwise you will encounter problems and be unable to complete the lab tasks.

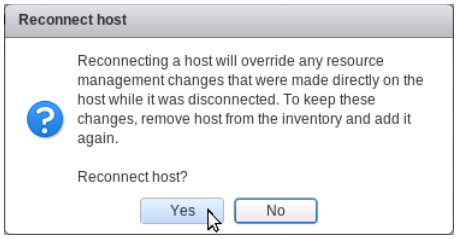
In the following pages, you will find instructions addressing possible problems you may encounter in completing each of the labs. Make sure you refer to these instructions as you complete the relevant lab tasks.

Possible Problems (General)

When the system first starts, it's possible that the infrastructure may not connect correctly. This can be identified by a red symbol appearing on the relevant infrastructure. If you encounter any problems, right click on the problem entry and click **Connect** on the pop-up menu:



The system will then show a dialog, click **Yes** to confirm the (re-)connection:

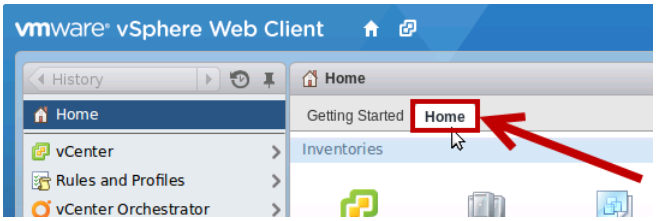


Possible Problems with Lab 6. Creating a Host Folder Object

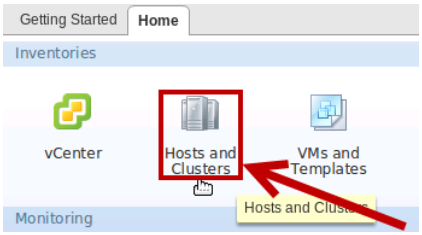
Part 1. Create a Host Folder Object

*4. Click on the **Hosts and Clusters** in the Inventories section of the Home tab.*

Start by clicking on the Home tab, as indicated.



You can now click on the Hosts and Clusters icon in the Inventories section, as indicated.

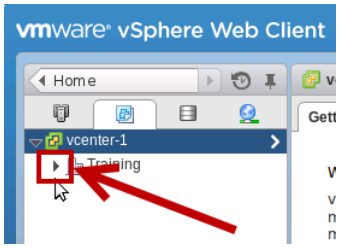


Part 2. Create a Virtual Machine Folder

*4. Click on the **Home** icon in the title bar to return to the Home tab.*

7. Click and drag StudentVM-01 and TestVM-01 into the Lab VMs folder.

If you can't see the Lab VMs folder, you may first need to expand the Training datacentre by clicking on the triangle next to it, as indicated.



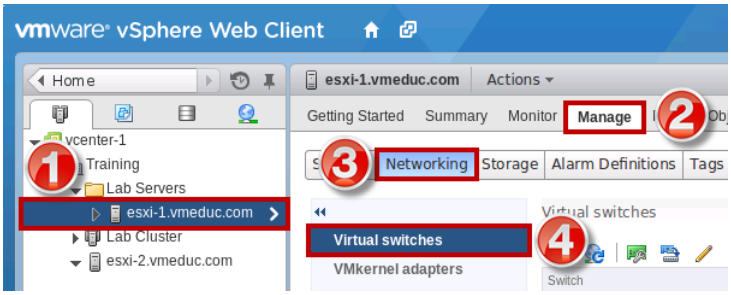
Possible Problems with Lab 7. Standard Virtual Switches

The start of this lab task assumes that you have just started an equipment POD. In this case, we already have a running POD, so begin the new lab by clicking on the Home button, then continuing the instructions from Step 5.

Part 1. Create a Virtual Machine

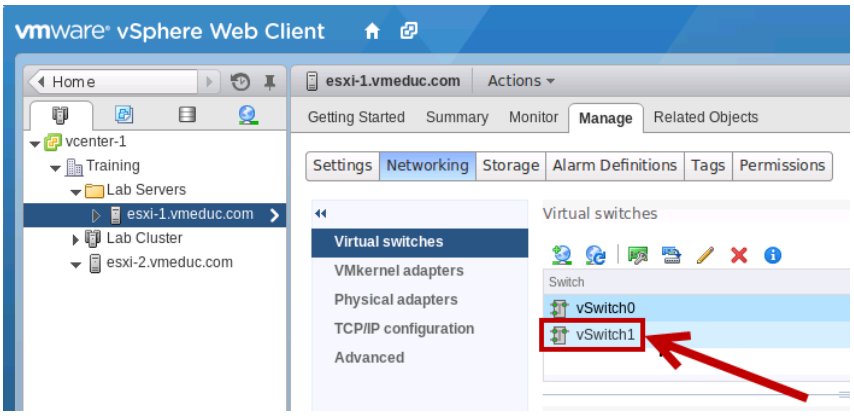
Steps 6-8.

The following figure illustrates the sequence of items to click for these steps, if you've completed Lab 6 immediately prior to starting Lab 7.



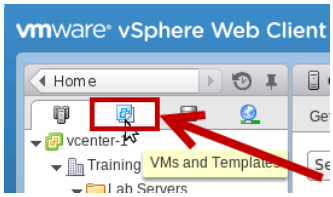
Part 2. Create a Standard Virtual Switch

9. Click on vSwitch1 under Virtual Switches in the main workspace area.



Part 3. Attach a Virtual Machine to a Virtual Switch Port Group

*1. Click the **VMs and Templates** tab in the inventory pane from the Object Navigator area.*



8. On the Summary page for TestVM-01, under VM Hardware, you should now see the entry for Network Adapter 1 reads Production (Connected).