Practical 14:

Migration of Virtual Machines and Data

Objective: Use vSphere vMotion to migrate a virtual machine and vSphere Storage vMotion to migrate a virtual machine datastore

In this lab, you will perform the following tasks:

1. Verify that the Virtual Machines Meet the vSphere vMotion Migration Requirements
2. Migrate a Virtual Machine with vSphere vMotion
3. Migrate Virtual Machine Files with vSphere Storage vMotion
4. (Optional) Perform a Cross-Host vSphere Storage vMotion Migration

Task 1: Verify that the Virtual Machines Meet the vSphere vMotion Migration Requirements

Virtual machines must meet certain requirements before you use VMware vSphere® vMotion® to migrate them.

Use the following information from the class configuration handout:

- vCenter Server Appliance name
- vCenter Server Appliance administrator password
- Windows virtual machine

1. Open vSphere Web Client, point to the **Home** icon and select **VMs and Templates**.
2. If the Windows virtual machine, `CustSpec_StuA`, is not powered off, shut down the guest operating system on the virtual machine.
3. Right-click your Windows virtual machine and select **Edit Settings**.
4. Verify that **Client Device** is selected from the **CD/DVD Drive 1** drop-down menu and that the **Connect** check box is not selected.
5. Verify that **Client Device** is selected from the **Floppy Drive 1** drop-down menu and that the **Connect** check box is not selected.
6. Click **OK**.

Task 2: Migrate a Virtual Machine with vSphere vMotion

You can use vSphere vMotion to migrate a powered-on virtual machine to a different VMware ESXi™ host.

Use the following information from the class configuration handout:

- Windows virtual machine
- Destination ESXi host

1. Point to the **Home** icon and select **VMs and Templates**.
2. Power on the `CustSpec_StuA` virtual machine.
3. Right-click the Windows virtual machine and select **Migrate**.

   The Migrate Virtual Machine wizard starts.
4. On the Select Migration Type page, click **Change Compute Resource Only** and click **Next**.
5. On the Select a compute resource page, select your destination ESXi host and click **Next**.

   The destination should be different than the ESXi host selected in the Power On recommendation.

   Ignore the No guest OS heartbeats are being received warning. Causes include incorrectly configured VMware Tools or by a virtual machine that have been moved recently. This is a known vSphere behavior.
6. On the Select network page, click **Next**.
7. On the Select vMotion priority page, click **Next**.
8. On the Ready to complete page, click **Finish**.
9. In the Recent Tasks pane, monitor the progress of the virtual machine migration.

10. Verify that your virtual machine appears on the destination ESXi host.
    a. In the Navigator pane, click the **Hosts and Clusters** icon at the top of the column.
    b. Select your destination ESXi host.
    c. Click the **Related Objects** tab.
    d. Click the **Virtual Machines** tab.
    e. Verify that the Windows virtual machine is visible in the list of virtual machine names on the destination ESXi host.

Task 3: Migrate Virtual Machine Files with vSphere Storage vMotion

You can use VMware vSphere® Storage vMotion® to migrate a virtual machine's files from one datastore to another.

Use the following information from the class configuration handout:

- Linux virtual machine
- Destination datastore

1. Point to the **Home** icon and select **Home**.
2. In the contents pane, select **VMs and Templates**.
3. Select your Linux virtual machine.
4. In the contents pane, click the **Related Objects** tab.
5. Click the **Datastores** tab.

    Q1. Which datastore are your virtual machine's files located on?

6. If not already, power on the Linux virtual machine.
7. Right-click your Linux virtual machine and select **Migrate**.

    The Migrate Virtual Machine wizard starts.
8. On the Select Migration Type page, click **Change storage only** and click **Next**.
9. Select your destination datastore, and click **Next**.
10. From the Select virtual disk format menu on the Select Datastore page, select **Same format as source**.
11. On the Ready to complete page, click **Finish**.
12. Monitor the progress of the task in the Recent Tasks pane.

13. After the task is finished, click the **Related Objects** tab of the virtual machine.
14. Verify that the virtual machine is on the new datastore.
15. Close all virtual machine consoles if any are open.
16. Power off all virtual machines.
17. Close vSphere Web Client.

Task 4: (Optional) Perform a Cross-Host vSphere Storage vMotion Migration

You can use a cross-host migration in vSphere Storage vMotion to change both the ESXi host and the datastore location for a virtual machine in the same operation.

1. Identify a virtual machine that meets the requirements for performing a cross-host vSphere Storage vMotion migration.

   Your course lecture book can help you verify the requirements.
2. Identify a datastore that contains enough free space to receive the virtual machine.
3. Perform the cross-host vSphere Storage vMotion migration of the virtual machine to the other ESXi host in your lab environment.
4. Monitor the progress of the migration until it is completed.