

VMware Certified Professional vSphere 5 Real Practice-Lab

The VCP510 Practice-Lab will provide you with the necessary platform to gain hands on skills in VSphere 5. By completing the lab tasks you will improve your practical skills in securing vCenter server and ESXi, vSphere networking, configure shared storage, VMFS / NFS datastores, deploy / administer virtual machines and vApps, establish and maintain service levels, perform basic troubleshooting and monitor a vSphere implementation and manage vCenter server alarms. Becoming proficient in these tasks will help you understand the objectives and competencies required by the VCP510 certification exam.

PRACTICE-LABS GUIDE

Exercise 1 – Configure vNetwork Distributed Switch

Before beginning this exercise, take some time to review the <http://www.practice-labs.com/practice-lab-help.aspx> [Using your Practice-Lab] section of the website.

In this exercise, you will perform the tasks required to perform upgrades of vCenter Server and VMWare ESXi. To gain better understanding of these upgrades, please refer to your course material or visit http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1003063 [VMware KB].

In this exercise, you will be required to Power On and connect to the following servers from your Practice-Lab application:

- **Domain Controller**
- **VMware Host 1 (PLABESX01)**
- **VMware Management Server**

If you are having difficulty connecting to your Practice-Lab device, please refer to the <http://www.practice-labs.com/help.aspx> [help] pages of the website.

Upgrade a vNetwork Distributed Switch

When configuring a vNetwork Distributed Switch, you can configure one of the three versions:

- 4.0
- 4.1
- 5.0

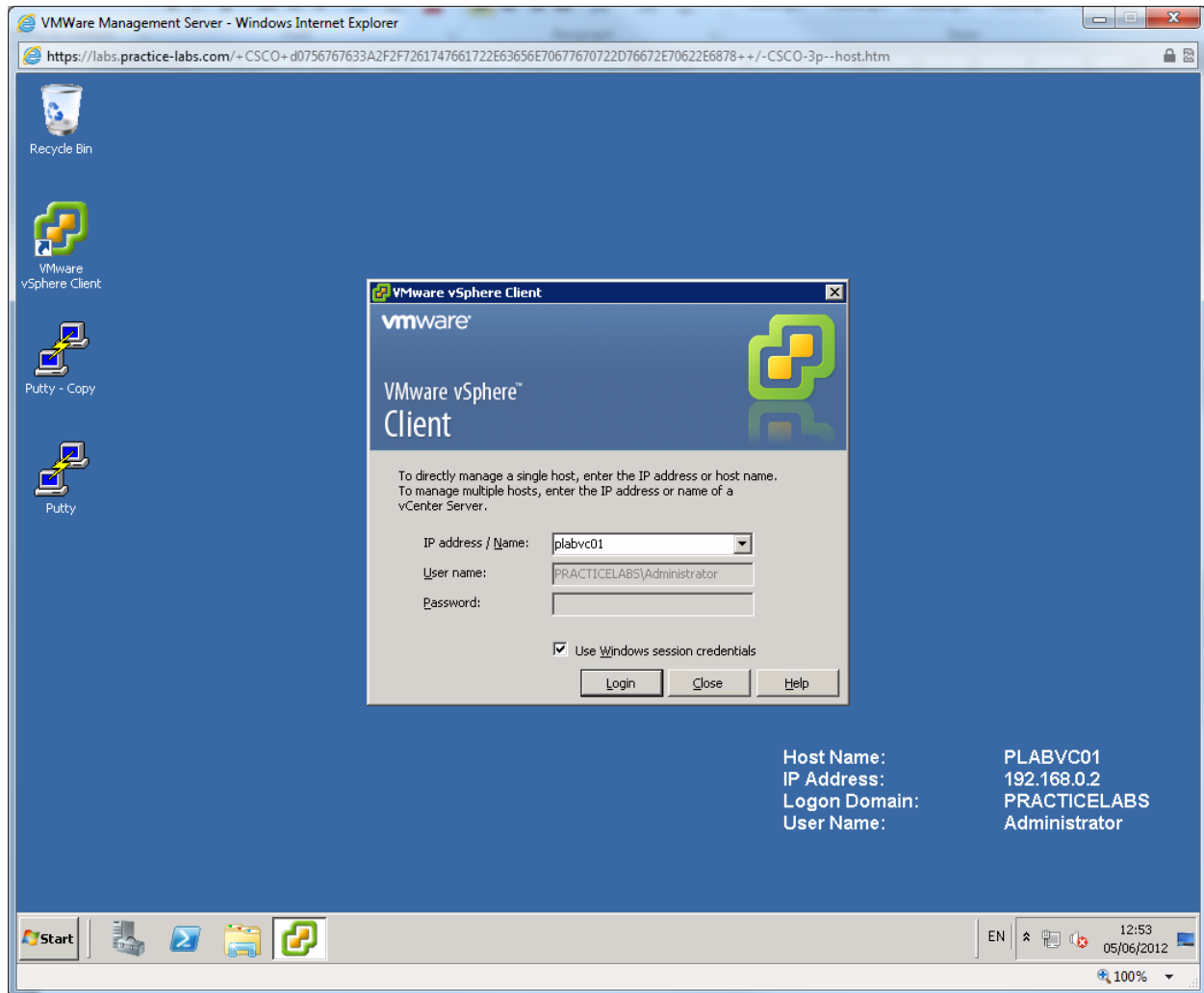
To upgrade a vNetwork Distributed Switch, perform the following steps:

Step 1

From the Practice-Labs application, ensure that the **Domain Controller**, **VMWare Host Server** (plabesx01) and **VMware Management Server** devices are powered and ready to "Connect".

Launch access to the **VMware Management Server** and open **VMware vSphere Client** located on the desktop.

Insert **Plabvc01** in the **IP address /Name** field and select the select **Use Windows session credentials**, if not selected already, and click **Login**.

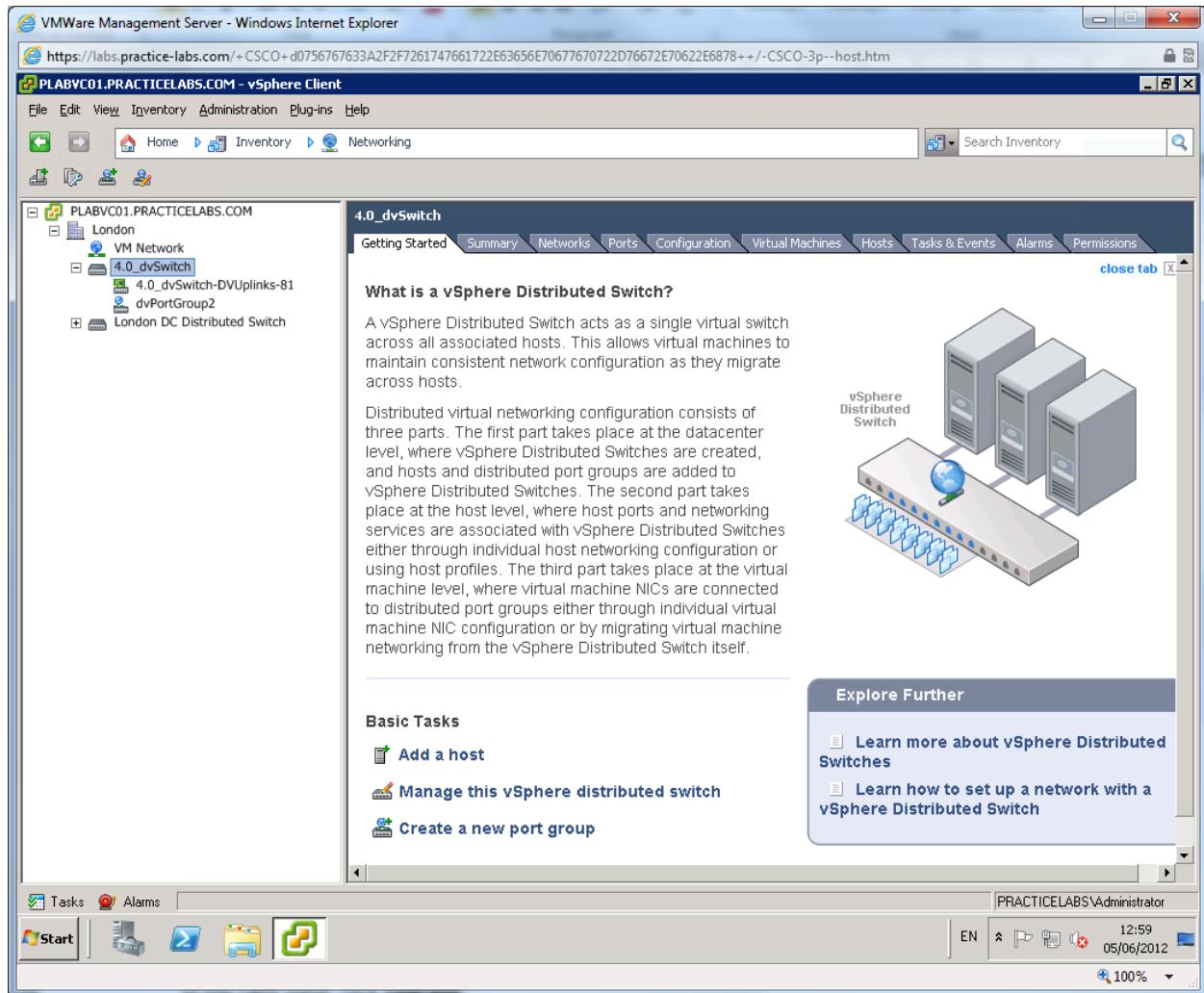


Step 2

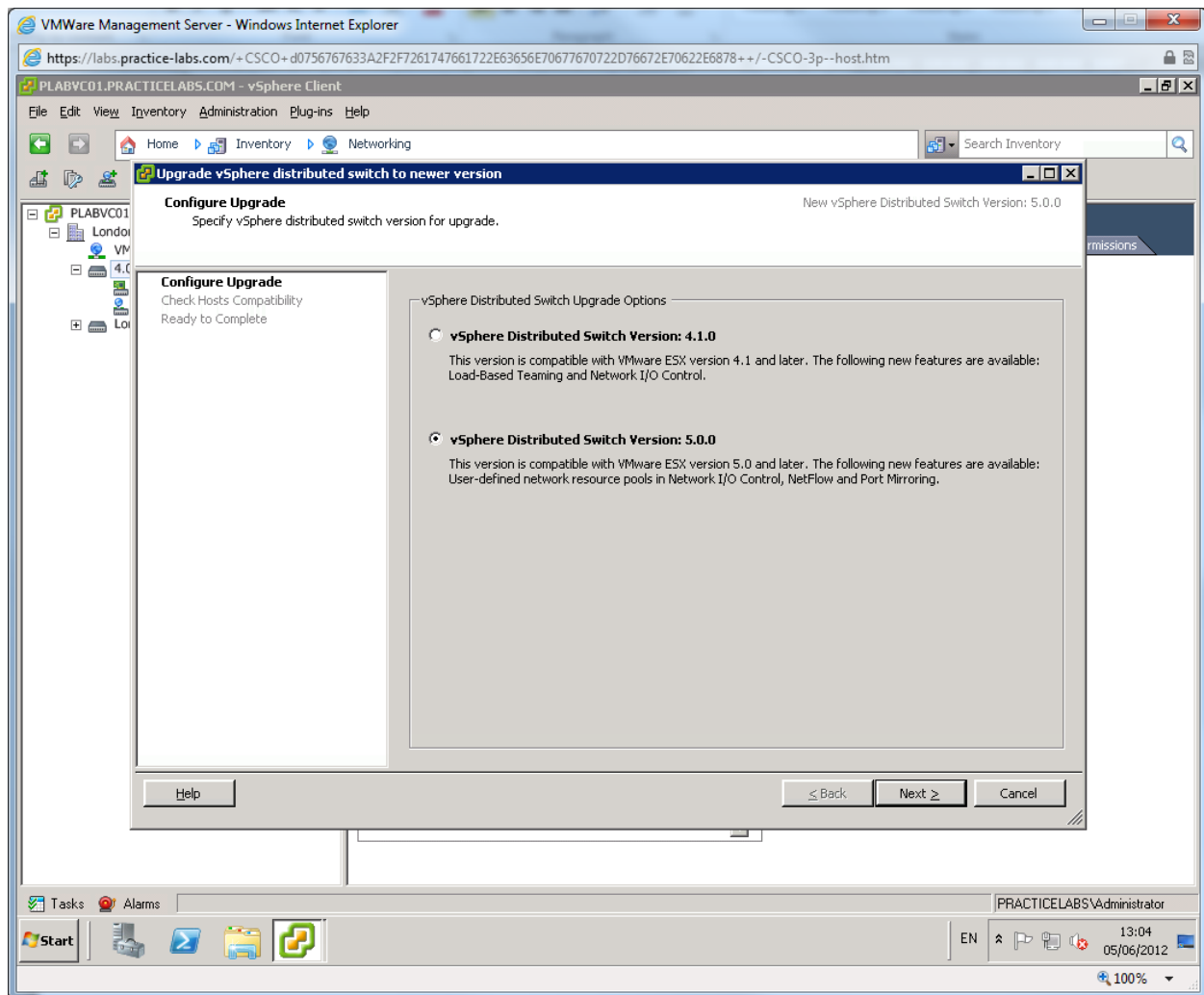
On the **Home** screen, select **Networking** in the **Inventory** section.

Select the **4.0_dvSwitch** in the left pane and click the **Summary** tab.

Note: The lab demonstrates an environment where vNetwork Distributed Switch version **4.0** is already configured.



Select the **Summary** tab and click the **Upgrade** option in the General information box. This will launch the Upgrade DS Switch wizard. Upgrade the vSphere Distributed Switch to Version 5.



Select the defaults of the wizard including the Review the **Check Hosts Compatibility** screen and click **Next**.

Click **Finish**. You will notice in the General box that the Version has been updated to reflect the changes you have just completed.

The vNetwork Distributed Switch is now upgraded from version 4.0 to version 5.0.

Exercise 2 - Upgrading VMFS Volumes

In this exercise, you will be required to Power On and connect to the following servers from your Practice-Lab application:

- **Domain Controller**
- **VMware Host 1 (PLABESX01)**
- **VMware Management Server**

If you are having difficulty connecting to your Practice-Lab device, please refer to the <http://www.practice-labs.com/help.aspx> [help] pages of the website.

There are three ways to upgrade a VMFS volume, these are:

- Use vSphere Client
- Run the vmkfstools ESXi Shell command
- Run the esxcli storage vmfs upgrade command

Upgrading VMFS3 volume to VMFS5

Even though upgrading from VMFS3 to VMFS5 is a simple process, you must meet a few prerequisites. These are:

- Any existing VMFS2 datastore cannot be upgraded to VMFS5. You must first upgrade it to VMFS3, and then upgrade to VMFS5.
- All hosts which need to access the VMFS5 datastore must support the VMFS5 datastore.

The volume to be upgraded with VMFS5 must have:

- Minimum 2MB of free blocks
- Minimum 1 free file descriptor

Note: The upgrade from VMFS3 to VMFS5 is one-way process. After you upgrade, you cannot revert back to VMFS3.

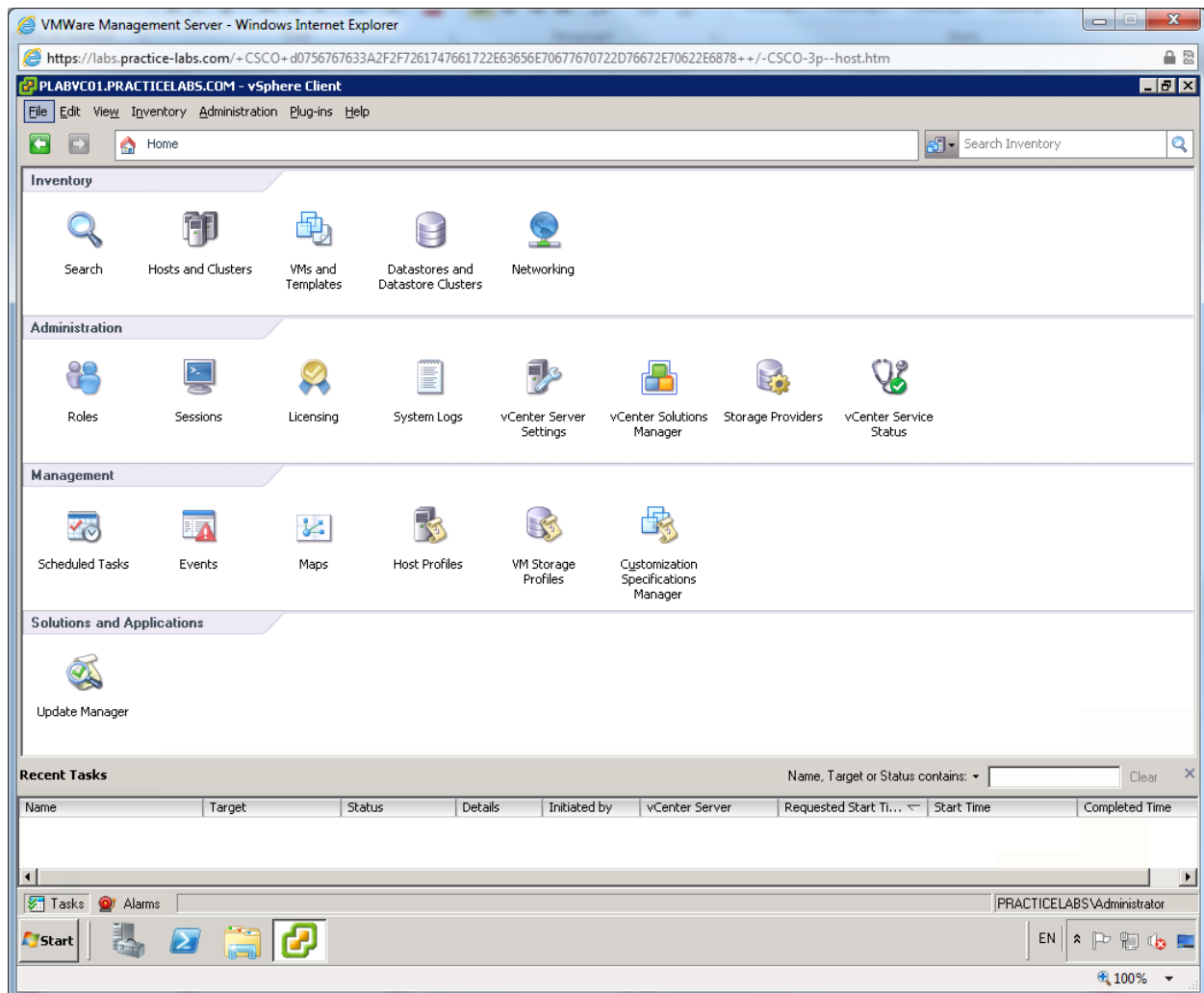
Step 1

From the Practice-Labs application, ensure that the **Domain Controller**, **VMWare Host Server** (plabesx01) and **VMware Management Server** devices are powered and ready to "Connect".

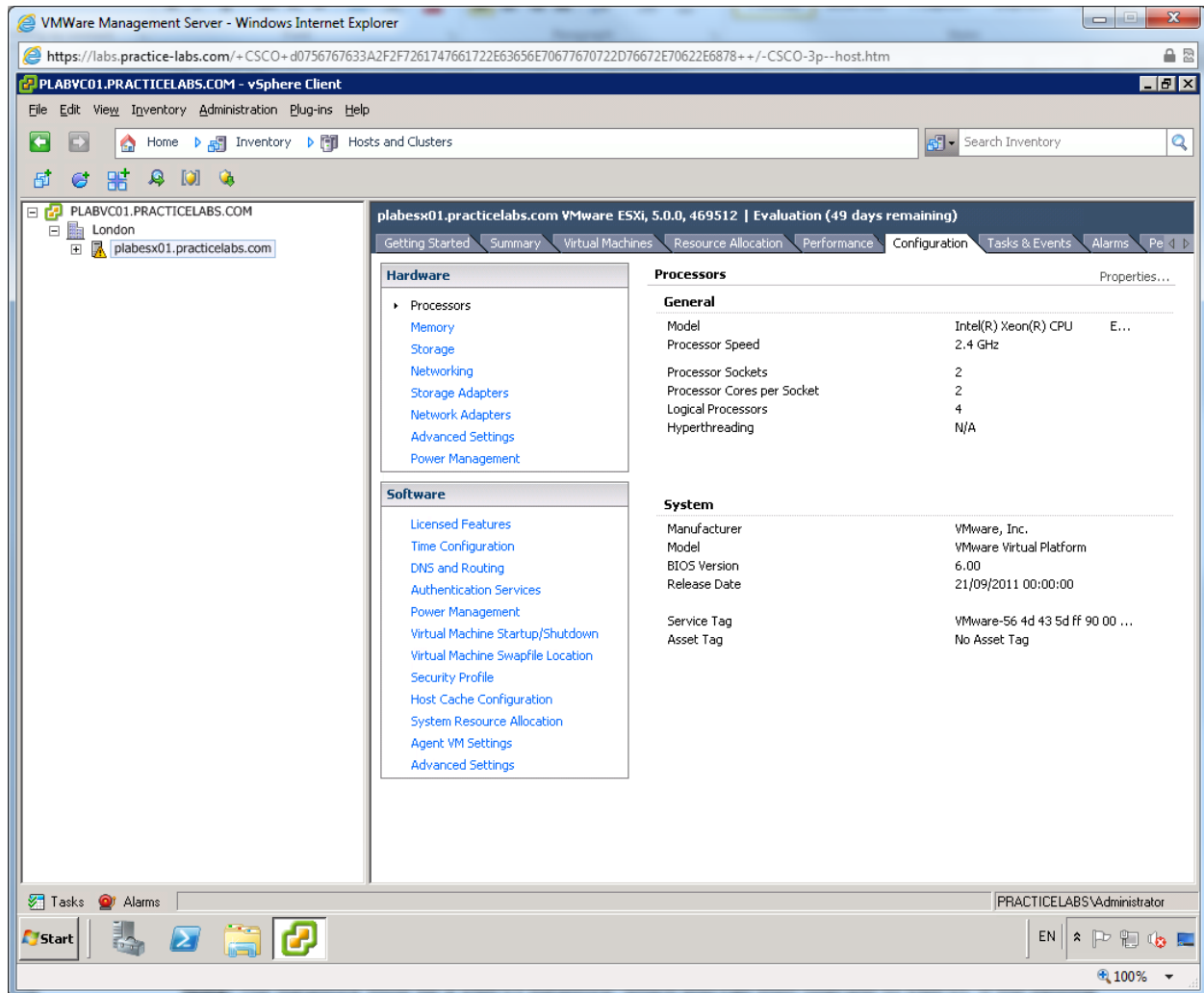
Launch access to the **VMware Management Server** and open **VMware vSphere Client** located on the desktop.

Insert **Plabvc01** in the **IP address /Name** field and select the **Use Windows session credentials**, if not selected already, and click **Login**.

On the **Home** screen, select **Hosts and Clusters** in the **Inventory** section.



Select **plabesx01.practice-labs.com** in the inventory tree and click the **Configuration** tab.

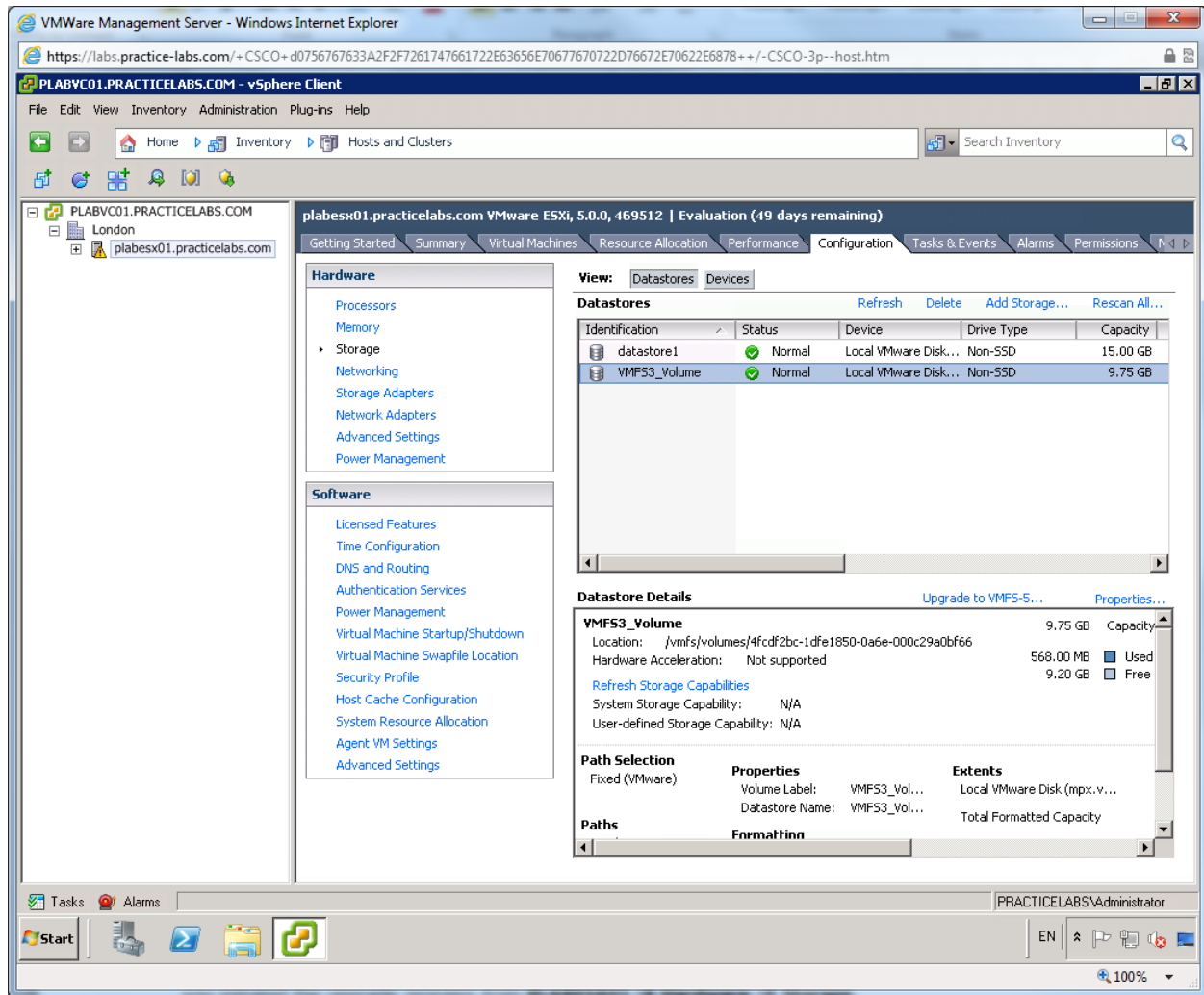


Step 2

In the **Hardware** section, click **Storage**.

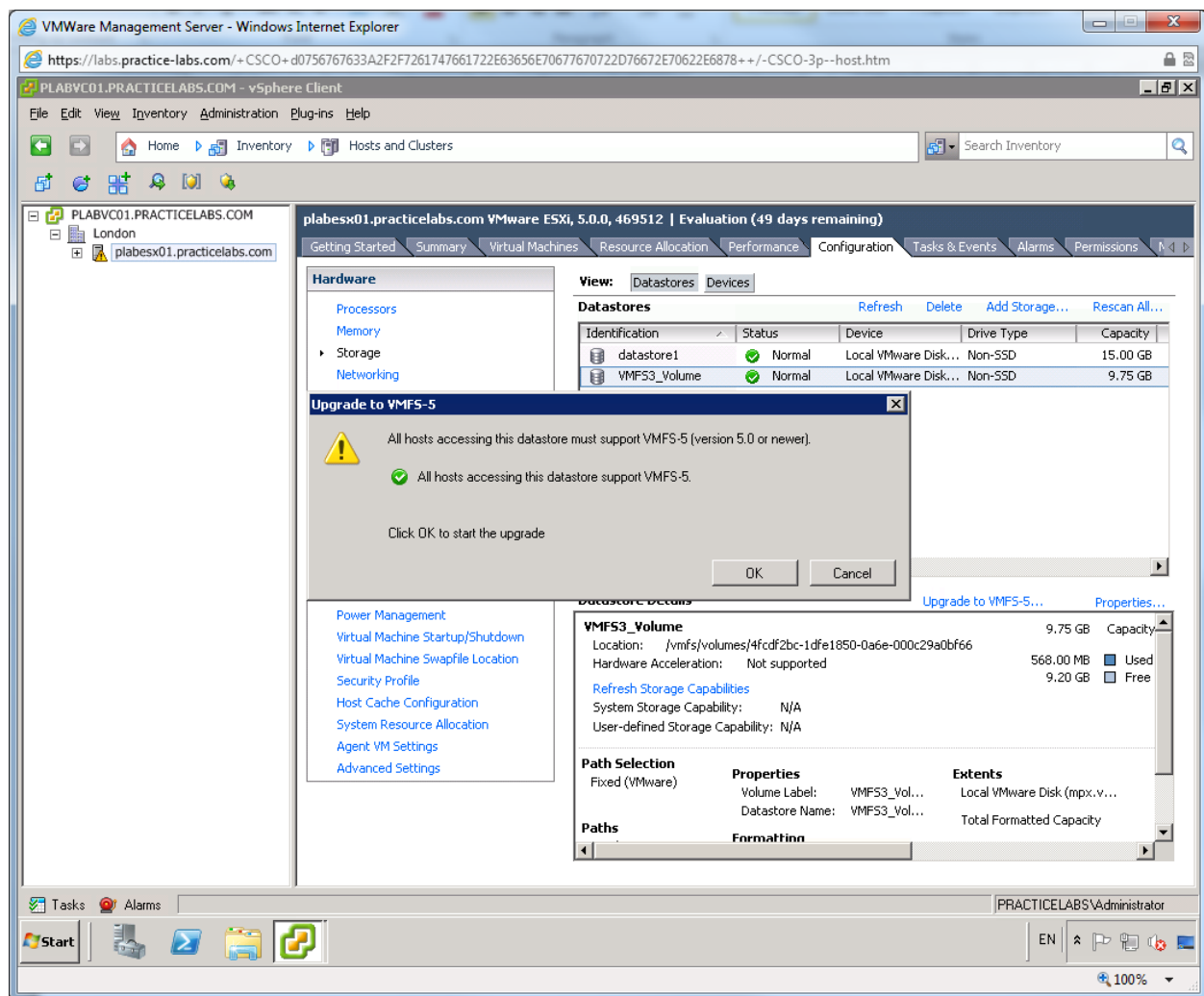
Select **VMFS3_Volume** in the **Datstores** section, this is the volume that you want to upgrade.

Click the **Upgrade to VMFS5** option.



A warning message displays the host version support. Click OK to initiate the VMFS3 to VMFS5 upgrade process.

The Recent Tasks pane displays the progress of the upgrade.



Step 3

After the upgrade is complete, you can verify that the host version has changed to VMFS5.

Select VMFS3_Volume from the Datastores list and scroll to the right to view the datastore version and confirm that the datastore has successfully upgraded to VMFS5.

Exercise 3 - Upgrade VMware guest options

In this exercise, you will be required to Power On and connect to the following servers from your Practice-Lab application:

- **Domain Controller**
- **VMware Host 1 (PLABESX01)**
- **VMware Management Server**

If you are having difficulty connecting to your Practice-Lab device, please refer to the <http://www.practice-labs.com/help.aspx> [help] pages of the website.

Most operating systems in the vSphere environment support VMware Tools. There are two methods to upgrade VMware Tools. You can:

- Perform a manual upgrade
- Configure virtual machines to check for update of VMware Tools

For a guest virtual machine to check for the update of VMware Tools, it needs to have VMware Tools installed. When you boot up the guest virtual machine, it checks for an update. If a new version of VMware Tools is available, it flags the message in the Windows taskbar. A yellow caution icon in the Windows taskbar indicates that an update is available.

Note that there is a single procedure for upgrading and installing VMware Tools. In both, upgrading and installing, you have to install the complete package of VMware Tools.

Note: The automatic procedure is initiated when a guest virtual machine is being powered off or being restarted.

In this lab, you will manually perform the VMware Tools installation.

You need to meet two prerequisites to manually install VMware Tools:

- The guest virtual machine must be powered on.
- There must be a supported operating system in the guest virtual machine.

Install VMware Tools

Step 1
From the Practice-Labs application, ensure that the **Domain Controller, VMWare Host Server (plabesx01)** and **VMware Management Server** devices are powered and ready to “Connect”.

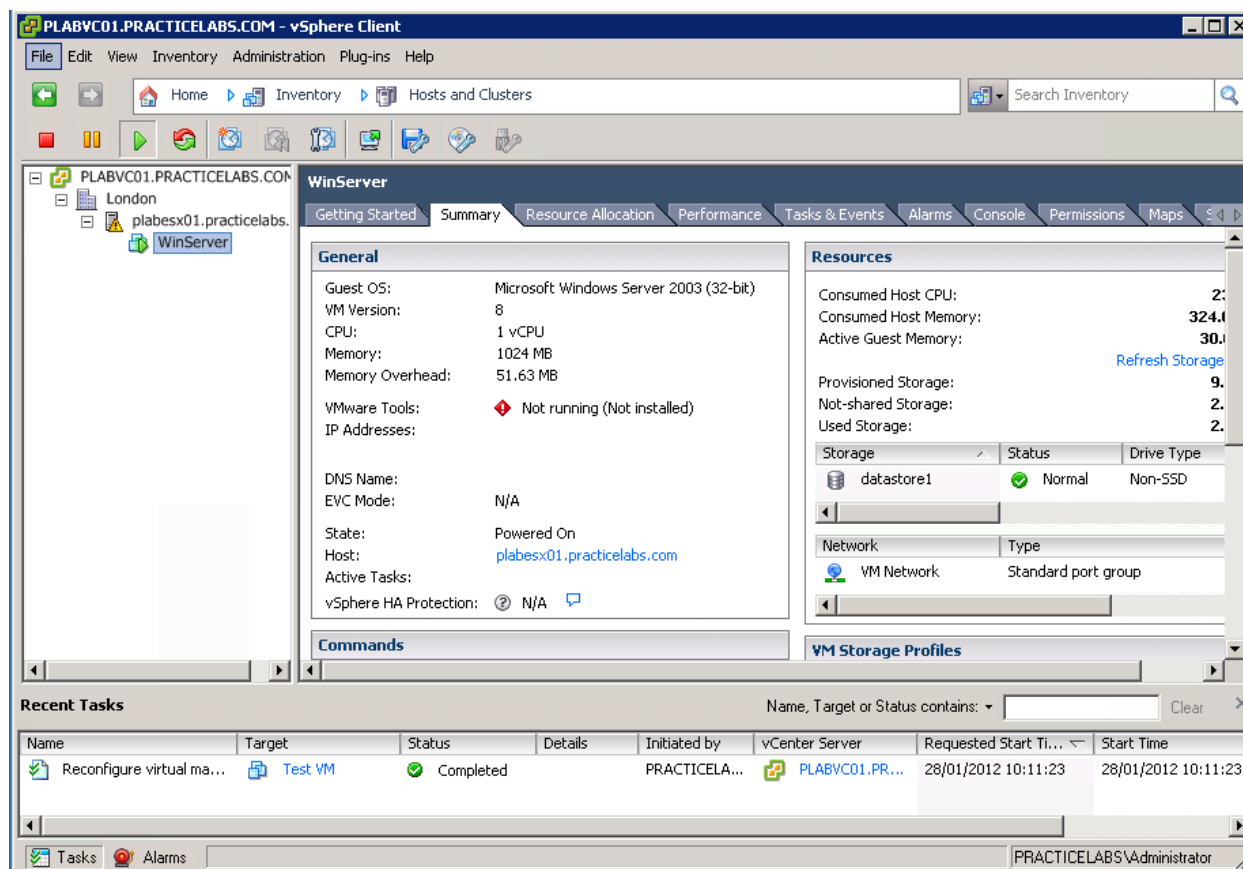
Launch access to the **VMware Management Server** and open **VMware vSphere Client** located on the desktop.

Insert **Plabvc01** in the **IP address /Name** field and select the select **Use Windows session credentials**, if not selected already, and click **Login**.

On the **Home** screen, select **Hosts and Clusters** in the **Inventory** section.

Select **plabesx01.practice-labs.com** in the inventory tree and expand the tree to view the **WinServer** guest and select the **Summary** tab.

Select the green start icon to power up the guest. In the **General** section, note that the guest virtual machine does not have VMware Tools installed.

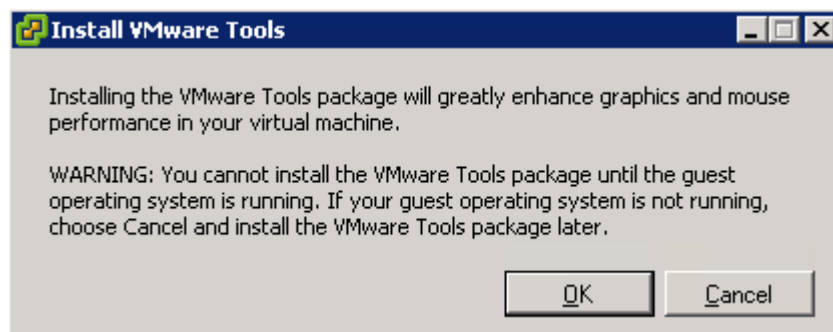


Step 2

Once the **WinServer** has started right-click it and select **Guest** → **Install/Upgrade VMware Tools**.

The **Install VMware Tools** dialog box is displayed. Click **OK**.

Note: The **Install VMware Tools** dialog box displays a warning.



The VMware Tools are now installed in the **WinServer** virtual machine.

Upgrade Virtual Machine Hardware

You can create a virtual machine with virtual machine hardware version 7 or 8. In ESXi 5.x, version 8 is the latest virtual machine hardware. So, if you created the virtual machine with version 7, you can upgrade the hardware to version 8.

But before you upgrade the virtual machine hardware, you should consider the following:

- You can directly upgrade from version 4 to version 8. However, you can revert to version 4 only if you have taken a snapshot or created a virtual machine backup with version 4.
- You will need to reboot the virtual machine after the virtual machine hardware upgrade. If you do not reboot, the changes will not take effect.
- The virtual machines and their **.vmdk** files must be stored on one of the following:
 - Network File System (NFS)
 - VMFS3
 - VMFS4

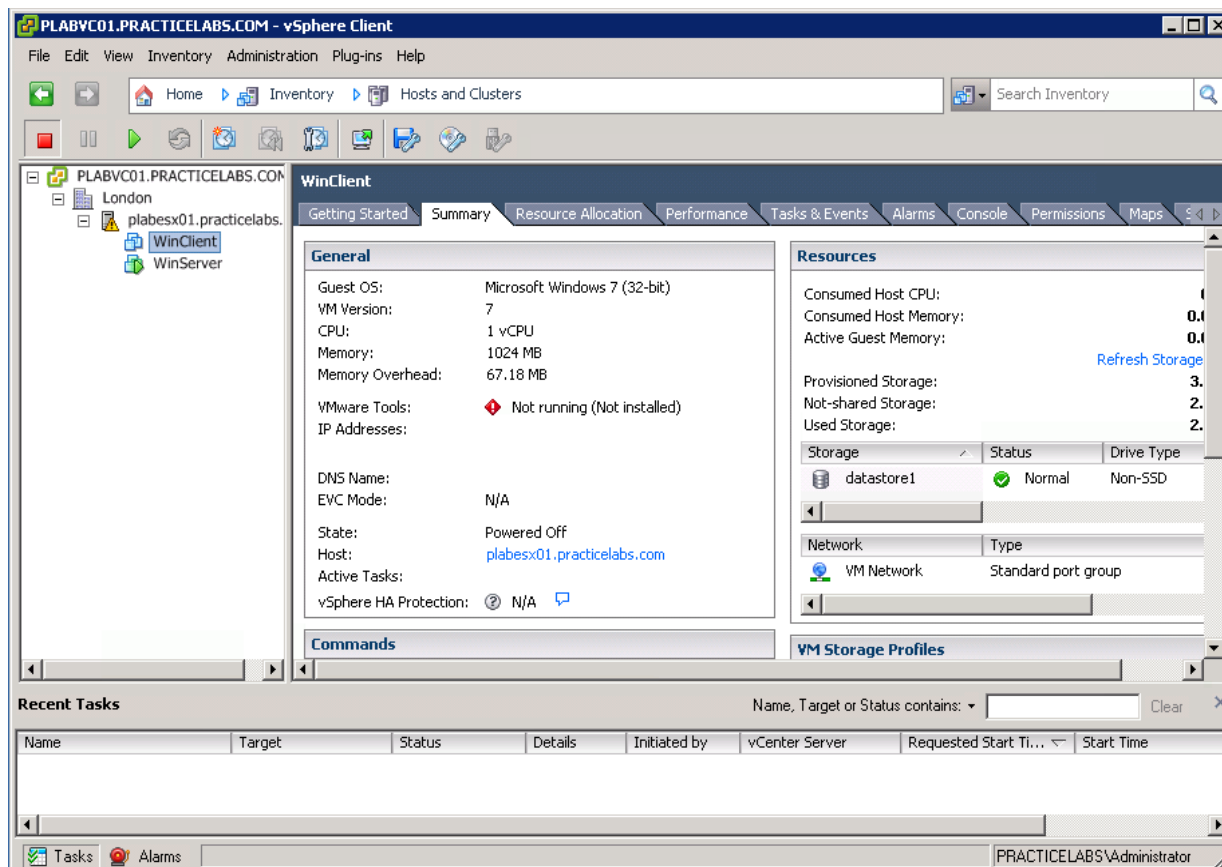
To upgrade the virtual machine hardware, perform the following steps:

Step 1

Select **PLABESX01** in the inventory tree and then select **WinClient**.

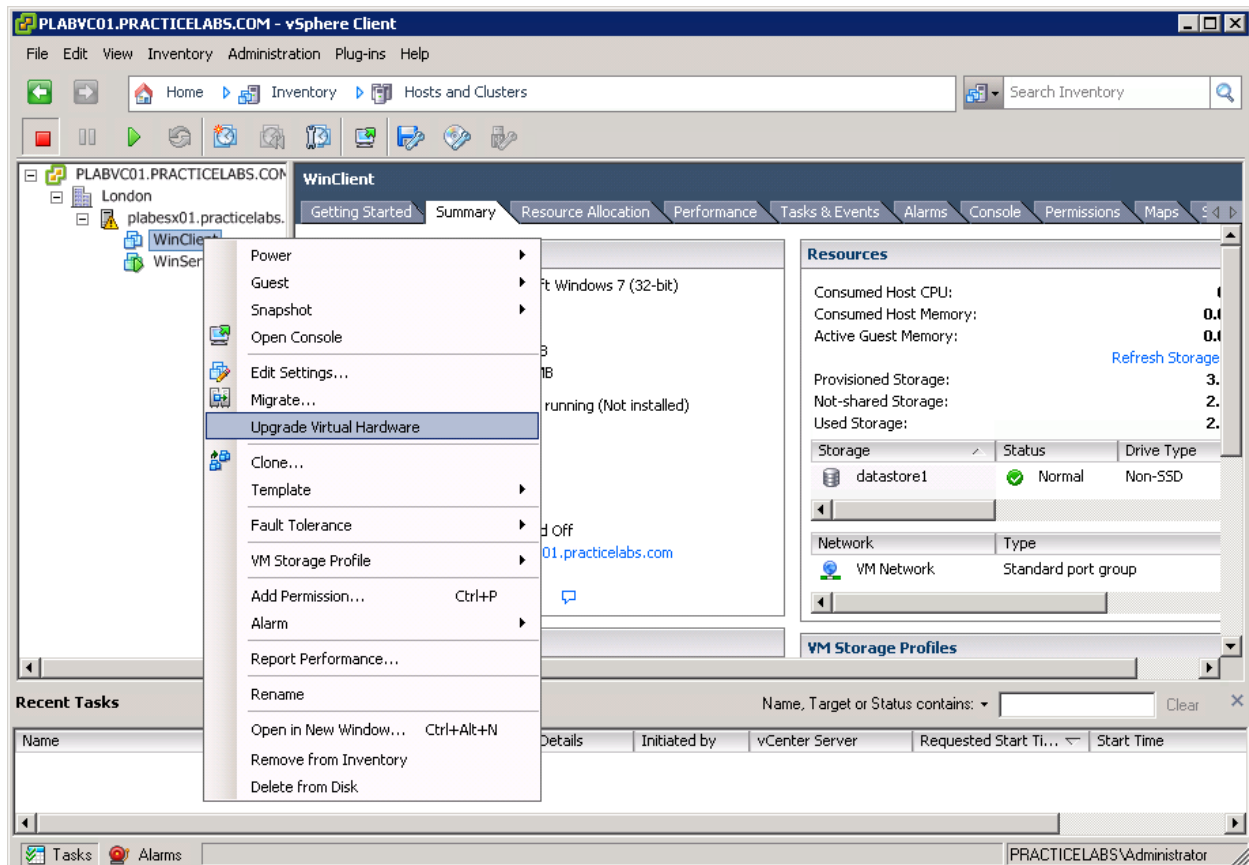
Note: Make sure the **WinClient** is in power off state. If not, then first power off the virtual machine.

To verify the existing version of virtual machine hardware for **WinClient**, click the **Summary** tab.

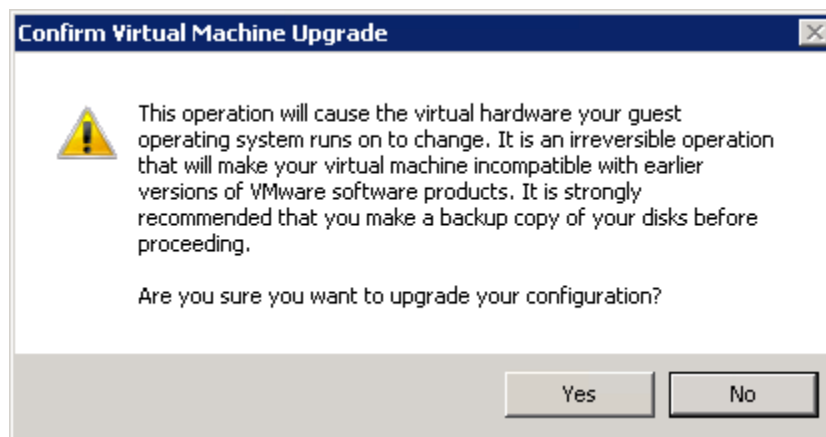


The **VM Version** field in the **General** section shows version **7** as the virtual machine hardware.

Right-click **WinClient** and then select **Upgrade Virtual Hardware**.

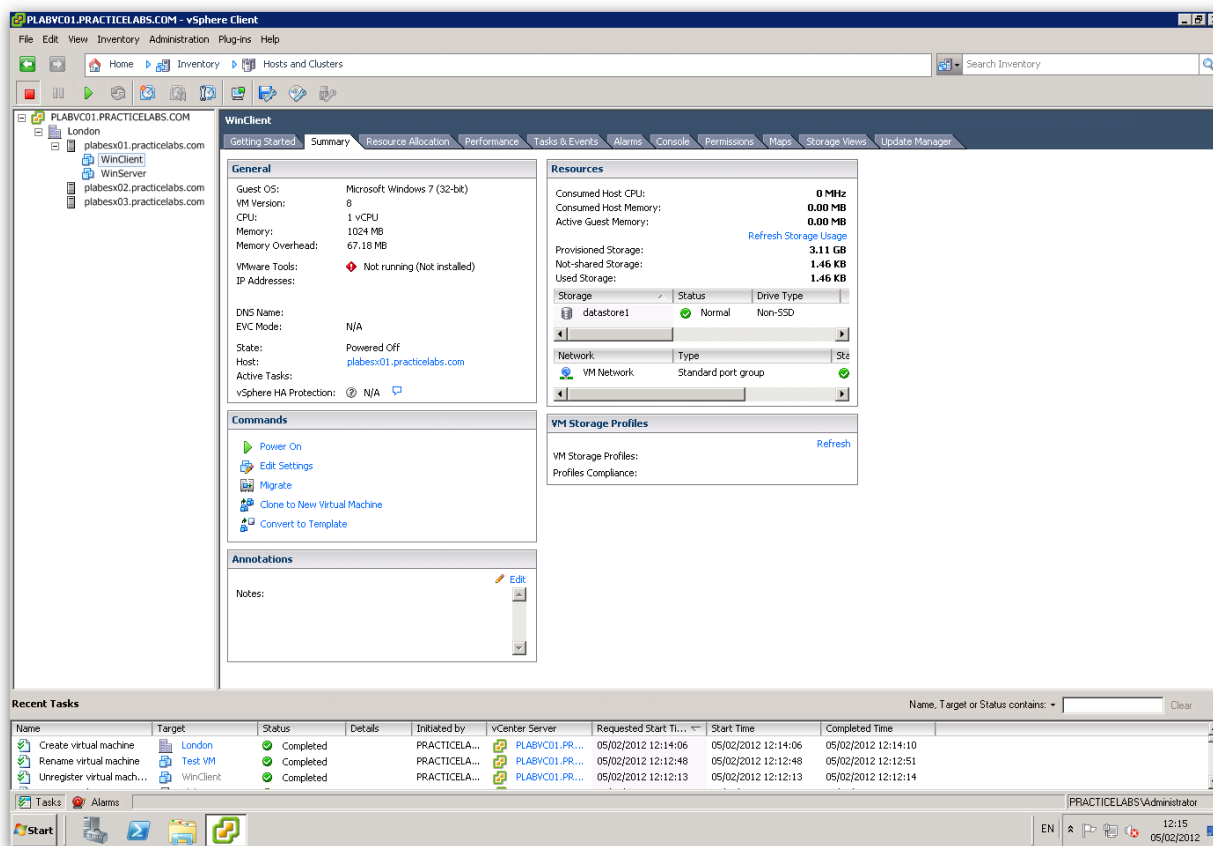


The **Confirm Virtual Machine Upgrade** dialog box is displayed.



Click **Yes**.

The **Recent Tasks** pane shows successful completion of the virtual machine hardware upgrade.



The **Summary** tab shows the **VM Version** field with version **8**. This means that the virtual machine hardware for the **WinClient** virtual machine has been upgraded.

Summary

In this exercise you configured:

- vNetwork Distributed Switch
- VMFS5
- VMware Tools
- Virtual Machine Hardware

Also try

- Creating a virtual machine with the previous version of virtual hardware and then upgrading the hardware to version 8.
- Installing VMware Tools from inside the virtual machine by running Setup.exe.