

## STUDENT ACTIVITY 2.5: UNDERSTANDING SERVER VIRTUALIZATION

MTA Course: 98-365 Windows Server® Administration Fundamentals

Topic: Understand server virtualization

(One 50-minute class period)

File name: WinServerFund\_SA\_2.5

### Lesson Objective

**2.5:** Understand server virtualization. *This objective may include but is not limited to:* virtualization modes; VHDs; virtual memory; virtual networks; snapshots and saved states; physical to virtual; virtual to physical.

### Resources, software, and additional files needed for this lesson

- Access to the Internet
- Windows® Server 2008® R2

### Directions to the student

Read the Hyper-V® Host system requirements below and complete the following activities.

### Content

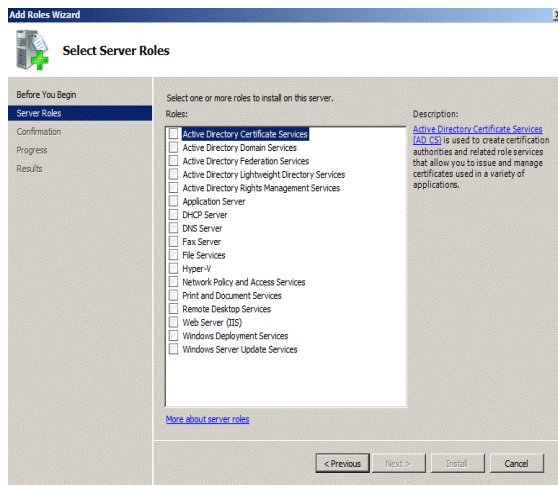
Hyper-V Host system requirements

- **Supported Operating Systems:** A list of supported guest operating systems can be found at <http://www.microsoft.com/windowsserver2008/en/us/hyperv-supported-guest-os.aspx>
- **Processor:** x64 compatible processor with Intel VT or AMD-V technology enabled. Hardware Data Execution Prevention (DEP), specifically Intel XD bit (execute disable bit) or AMD NX bit (no execute bit), must be available and enabled.
- **CPU speed:** Minimum: 1.4 GHz; Recommended: 2 GHz or faster

- **RAM:** Minimum: 1 GB RAM; Recommended: 2 GB RAM or greater (additional RAM is required for each running guest operating system); Maximum 1 TB
- **Available disk space:** Minimum: 8 GB; Recommended: 20 GB or greater (additional disk space needed for each guest operating system)
- **DVD ROM drive**
- **Display:** Super VGA (800 × 600) or higher resolution monitor
- **Other:** Keyboard and Microsoft® Mouse or compatible pointing device

### Adding the Hyper-V Role

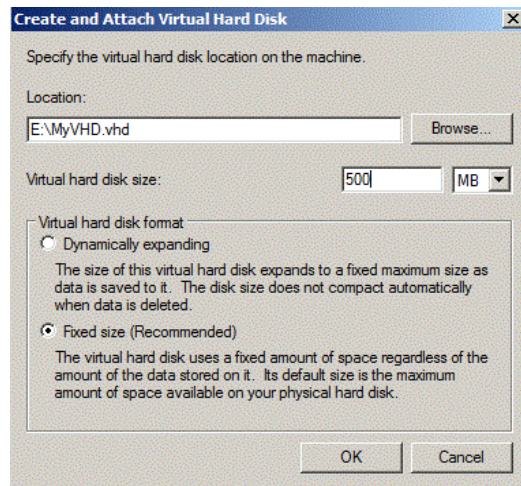
1. Log on to your server as Administrator.
2. Add the Hyper-V role:
  - a. Launch Server manager by selecting Start→Administrative Tools→Server Manager.
  - b. Select **Roles** and click the **Add Roles** link.
  - c. Review the first page and click **Next**.
  - d. Select the Hyper-V Role and click **Next** as shown below:



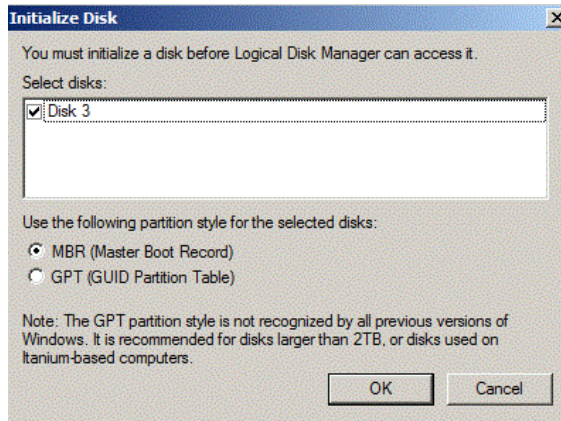
- e. Review the Introduction to Hyper-V screen and click **Next**.
- f. Click **Next** for the Network Interface Card (NIC) screen. This requires you to select a NIC for your virtual network.
- g. Click **Install** at the Confirm Installation Selections screen.
- h. When the installation completes successfully, click **Close** and reboot.

### Creating a Virtual Hard Disk (VHD)

1. Log on to your server as Administrator (this can also be done using Windows 7 at home).
2. Launch Server manager by selecting Start→Administrative Tools→Server Manager.
3. Expand the **Storage** icon and select the **Disk Management** icon.
4. Click on the **Action** menu and select **Create VHD**.
5. Browse to your secondary drive by clicking the **Location** button. Click **Save** when you have your location. (Select your system drive if you do not have a secondary drive created).
6. Name the file **MyVHD.vhd** and click **OK**.
7. The virtual hard disk size should be set to 500 MB.



8. Click **OK**. It will take some time for the system to create the virtual disk.
9. Once the disk is created, you should see an additional disk in your Disk Management screen. The virtual disk will have a blue colored icon and a type of **unknown**.
10. Right click on the disk and select **Initialize Disk**.
11. Leave the default selections as displayed below and click **OK**.



12. Right click on the unallocated space and select **New Simple Volume ...**
13. Complete the New Simple Volume Wizard by accepting the default options and clicking **Next** for each screen.
14. Click **Finish** to complete.
15. When complete, navigate to Windows explorer and verify that there is a new drive available.
16. When finished, have your instructor verify completion by locating the VHD file on your system.