**CSIS2270 - Lab #7**

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***Installing Hyper-V and Creating a Windows 10 Virtual Machine***

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Due: 11:59 PM on FRIDAY, March 12th, 2021.**

**Introduction:**In this lab, you will add the Hyper-V feature on Windows 10 Education version. We will then use the Hyper-V virtualization platform to create a virtual machine and install Windows 10 on it.

Fill in your answers in this document and rename the file using your first name, For Example. ***RupaManabala\_Lab 7.docx***, and submit it through Blackboard to receive marks for this lab.

**Objectives:**

1. To get familiar with Hyper-V Virtualization software.
2. To create a Virtual Machine using Hyper-V Virtualization software.
3. To install a guest OS on the Virtual Machine.

**Equipment Required:**

1. Your own home PC with at least the following minimum specification **(very important):**  
   **a. RAM memory 8GB (or preferably more, 16 GB if possible)  
   b. Fast Quad-core CPU with virtualization capabilities enabled   
   c. 512 GB HDD (or SSD preferably)**
2. Windows 10 EDU installation image file (.iso)
3. **Windows 10 Education version**
4. **Windows 10 Education version** can be downloaded from your **azure account**. You can go to ***https://portal.azure.com and log in using your Douglas account. Under Education > Software,*** look for Windows 10 Education (NOT the Education N version) with the latest update for download.

* Download the Windows 10 Education version
* Note down the **product key**.

If you cannot get the software list, try to verify your school email address using this link [***https://signup.azure.com/studentverification?offerType=3***](https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsignup.azure.com%2Fstudentverification%3FofferType%3D3&data=01%7C01%7Cchuae%40student.douglascollege.ca%7C4b222bc635884ad0cee308d7dfb57c6b%7C3af48838cd5345079e7ffc6dac355e33%7C1&sdata=geEsnhtP9H0T6EOlKDPQpbMHZLOT9I%2BU55OwhKVNwgA%3D&reserved=0)

If you still cannot get the software list, you are required to contact azure helpdesk to let them know that you are a student with Douglas and the Windows 10 is not available for you to download. Azure team speaks or responds to the students directly. I cannot interfere.

1. If you are using Windows 10 Home edition on your laptop/PC, you are required to upgrade it to Windows 10 Education version.
   1. **Note: Please make sure you do have a backup of your files and content on the PC before you proceed with this update, just in case you may incorrectly re-format your PC. Update should not lead to a data loss on it own. But, incorrect actions by the user may certainly do.**

* Right click on ***This PC*** and click ***Properties***.
* Check if Windows 10 Education is shown under ***Windows edition*** at the top. If not, go down to ***Windows activation*** at the bottom, and click ***Change product key*** on the right.
* Enter the Windows 10 Education version product key you got in step 1, click *Next* to upgrade your system.
* The system will reboot to upgrade to Windows 10 Education.

.**Adding Hyper-V feature to Windows 10** **[\_\_\_\_\_/5]**

1. On the desktop of your Windows 10, click on ***Start*** button, scroll down and click on ***windows system*** folder then click on the ***Control Panel***.
2. In the Control Panel window click on ***Programs and Features***.
3. In the Programs and Features window click on ***Turn Windows Features on or off***
4. From the popped window, check the box next to ***Hyper-V***. Extend the Hyper-V folder and make sure that ever sub option is selected as well. Click OK and wait for the Applying changes process to finish completely.
5. Restart the PC to have the Hyper-V feature activated and be ready to be used.
6. On the desktop, click on ***Start*** button, scroll down and click on ***Windows Administrative Tools*** folder and you should see ***Hyper-V Manager*** and ***Hyper-V Quick Create*** icons. Click on the icon of ***Hyper-V Manager*** to start it.
7. **Creating Virtual Machine on the Hyper-V [\_\_\_\_/10]**
8. In the Hyper-V Manager window, you should see ***the name of your computer*** (server) appears in the Hyper-V Manager pane on the left-most side. Right-click on the name of your computer. On the right of the window, click on ***New*** then select ***Virtual Machine*** to start the ***New Virtual Machine Wizard.***
9. The New Virtual Machine Wizard will help you to create a virtual machine. Read the note ***Before You Begin*** and click ***Next***.
10. Give the name **VM1 Win 10** as the name of your VM.  
    What is the default location of your VM? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, click ***Next***.
11. In the ***Specify Generation*** window, you choose whether to create a Generation 1 or Generation 2 virtual machine.
12. What is a Generation 1 virtual machine?
13. What is a Generation 2 virtual machine?

Use the default **Generation 1,** click **Next.**

1. In the Assign Memory window, set the value in the Startup memory text box to **2048 MB** (the minimum requirement for 64-bit Windows 10), and check the box to allow for ***Dynamic Memory for this VM*** and then click **Next.**
2. In the Configuration Networking window, leave the default option **Not Connected.** Click **Next**.
3. In the Connect Virtual Hard Drive window, you can enter the virtual hard disk’s name, size, and location. Change the size to **80 GB**, and Hyper-V names the hard disk the same as the VM with the extension.

What is the virtual hard disk’s name (include extension)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is the location where this virtual hard disk file is stored? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Click **Next.**

1. ***Installation Options.*** Select ***Install an operating system from a bootable CD/DVD-ROM,*** click ***Image file (.iso)*** and specify the location where you stored the Windows 10 .iso image file. Click ***Next***.
2. Review the VM ***Summary***, click ***Finish*** and wait until the wizard completes the creation of the new VM.
3. Return to the Hyper-V Manager window, you should see the new VM in the Virtual Machines pane on the right, click on ***Settings***.
4. In the ***Settings for VM*** window you can revise and modify the settings for your VM.
5. Go to ***Memory*** settings and review the information shown.
6. Go to ***Processor*** settings and review the information shown.
7. If there are no more settings to be changed then your VM is ready to run and install the OS on it. Click ***Cancel*** to close the ***Settings*** window.
8. **Installing Windows 10 as the guest OS hosted by the Hyper-V [\_\_\_\_\_/5]**
9. Return to the Hyper-V Manager window. On the right, under the virtual machine that has just been created, VM1 Win 10, click ***Start*** to run the VM and click **Connect** to open up the VM’s window.
10. Follow the steps on screen to install the Windows 10. Enter your product key if prompted.   
    Use Custom: Install Windows only (advanced) to install a new copy of Windows.
11. Agree on the region and keyboard language, skip the addition of second keyboard, skip connecting to a network. Do not connect to internet (select *I don’t have internet*), and *continue with limited setup*.
12. Set your first name to who’s going to use this PC (as administrator). Do NOT set any password for the Windows 10 system.
13. Set **No** for any other option offered during the rest of the installation process, and do not make Cortana as your personal assistant.
14. Wait until the installation process completes all the steps and allow the VM to restart as needed. Click on connect when requested.

Note, when you connect to a VM, if a prompt appears asking if *you want to revert to the previous automatic checkpoint or continue from the last state*, always click ***continue***.

1. After Windows 10 has been installed successfully and restarted, open Control Panel of the VM (start 🡪 Windows System 🡪 control panel 🡪 View by 🡪large icons) and click on ***System.*** Write down the following information:
   1. Processor: ­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. How much RAM installed on your VM Windows10? \_\_\_\_\_\_\_\_\_\_\_\_

How much RAM is usable? \_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. What is your system type? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Click ***Advanced system settings*** which is located further down in the window. From the pop-up window, select the ***Advanced tag***, and click ***Settings*** under ***Performance***. Select ***Advanced*** on the new pop-up window. Look under ***Virtual memory***   
   What is the Total paging file size on our system? \_\_\_\_\_\_\_\_\_\_\_\_\_
2. Close all the pop-up windows and shut down the VM1 Win 10 VM.

**Lab Submission instructions:**

1. Rename this document with your ***firstnamelastname\_Lab7.docx*** with your *first name*, and last name. For example: *RupaManabala\_Lab 7.docx*
2. Submit the file through Blackboard to receive marks for this lab. You are **NOT ALLOWED** to compress/zip the file for submission. The solution for this lab is just the word document only!

**Failure to name the file correctly as specified above and/or submitted the file as a compressed/zip file and/or submitted the file in other types will result in Zero mark given to the lab.**