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Applied Computing

Wales Institute of Science and Art (WISA)

Network Operating Systems and Services (NOSS)

(ACCA5023)

Activity 2

Installing the Hyper-V role on Windows Server 2019

Reference from Essential Reading:

Dauti, Bekim. Windows Server 2019 Administration Fundamentals: A beginner's guide to managing and administering Windows Server environments, 2nd Edition.

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NB: This is an Independent Activity *(not associated with Coursework Worksheets)* referred to your lecture session. These activities could be practiced during your Tutorial sessions or outside class hours. These activities relate to your understanding of the concepts discussed during the lecture sessions. These activities does not associate to any assessment criteria of this module. However, the work of this activity shall be used by the individual user as evidence in documenting any aspect of Practical/Observational Tasks required in the Coursework Worksheets.

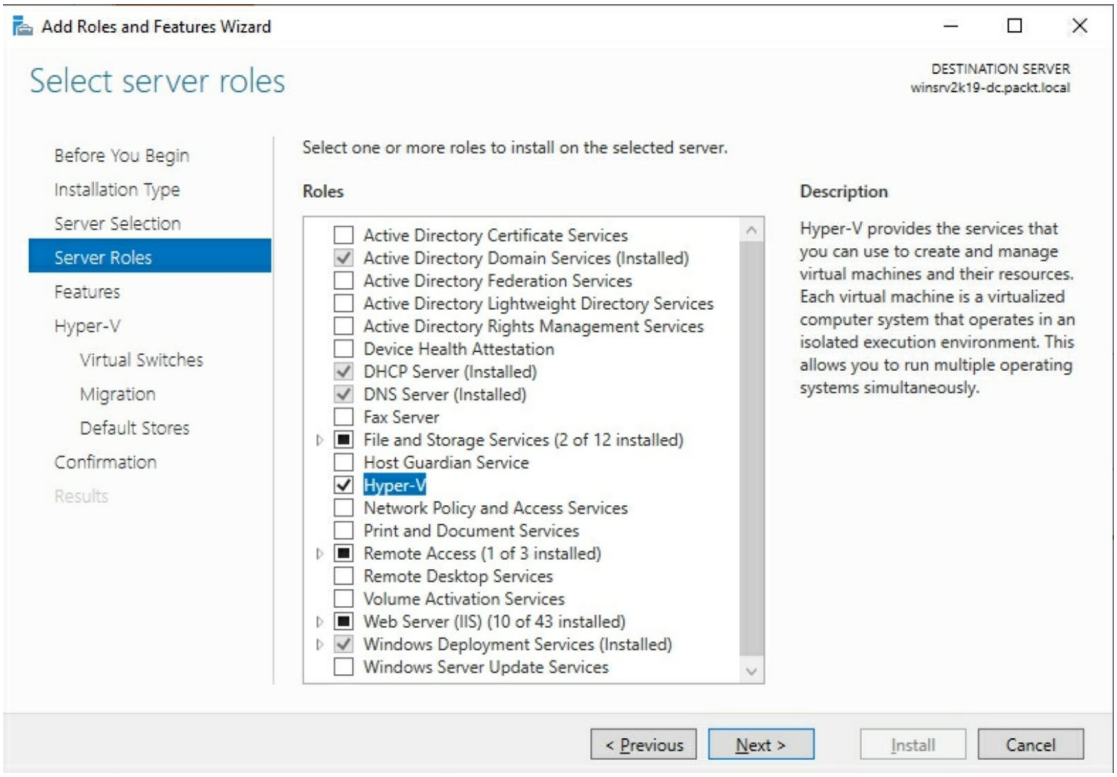
Objectives

- Prior to this Activity 2, have you tried to install Hyper-V on Windows 10 and create a Virtual Machine?
- In this Activity,
    - Install the Hyper-V role on Windows Server 2019 using the Server Manager
    - Configure Hyper-V Settings on Windows Server 2019
        - Creating and configure Virtual Hard Disks
        - Manage Virtual Memory of Virtual Machine
        - Virtual Networks and Checkpoints

Task 1: To install the Hyper-V role on Windows Server 2019 using the Server Manager

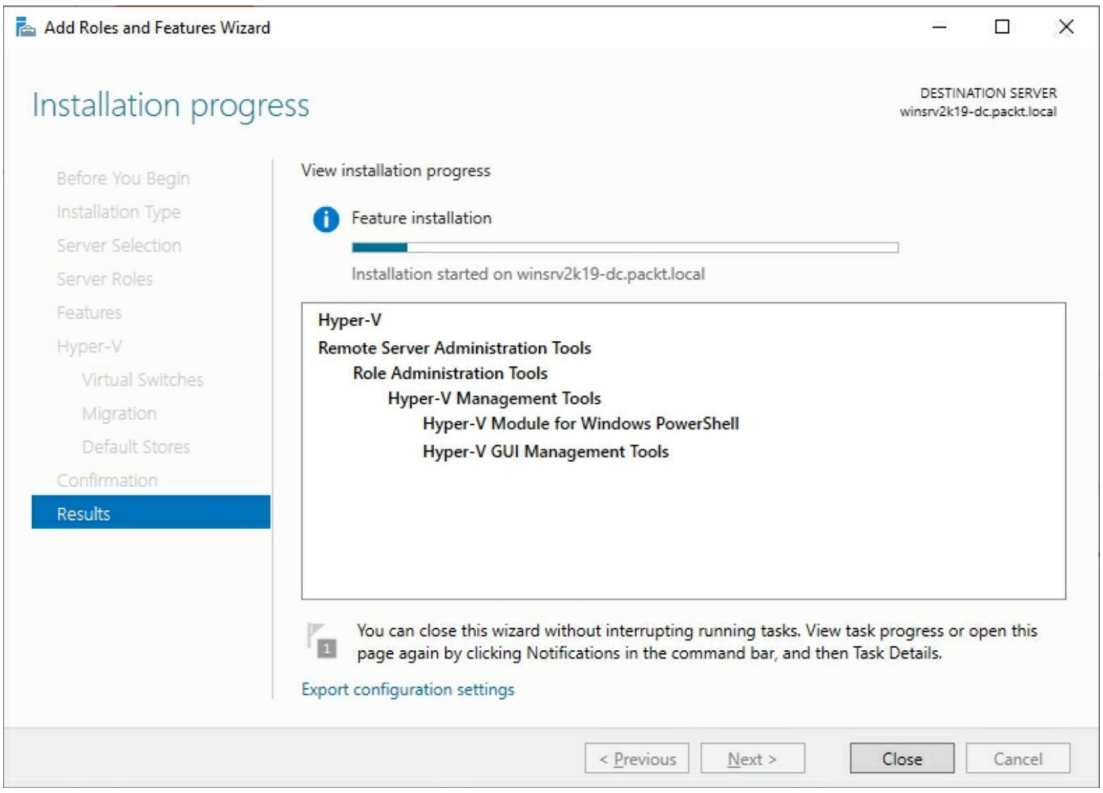
Installing the Hyper-V role on Windows Server 2019

- Click the Start button,
- In the Start menu, click Server Manager.
- In the Server Manager window, click the Add roles and features hyperlink.
- In the Before You Begin option, click Next.
- In the Installation Type option, click Next.
- In the Server Selection option, click Next.
- Select the Hyper-V role,



- Click the Add Features button to add features that are required for Hyper-V.
- There is no feature to add, so click Next.
- In the Hyper-V definition option, click Next.
- Select the available network adapter, and then click Next.
- Select Allow this server to send and receive live migrations of virtual machines and click Next.

- Set up the path where you will store the VMs and click Next.
- Confirm the installation selections for the Hyper-V role by clicking Install.
- When the installation process completes, click Close



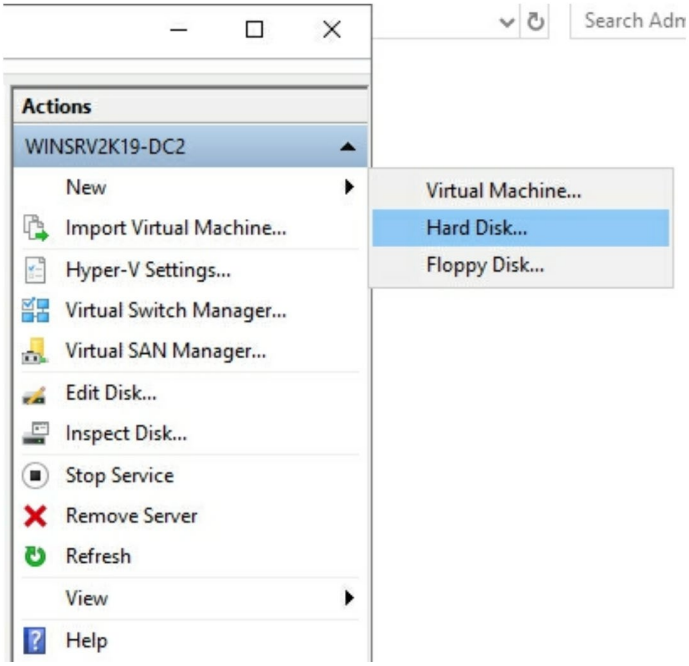
- The Hyper-V role will now be installed and is ready to use.

Task 2: To CONFIGURE the Hyper-V Settings

As we discussed in our lecture session, on the various available configuration settings available, in this task we do the configurations step by step.

2. 1: Creating and configure Virtual Hard Disks

- To create a VHD in Windows Server 2019 use Hyper-V Manager
- Click the Start button
- Click Windows Administrative Tools
- In the Windows Administrative Tools window, click the Hyper-V Manager hyperlink.
- In the Hyper-V Manager window, click New, and then click Hard Disk... from the Actions pane

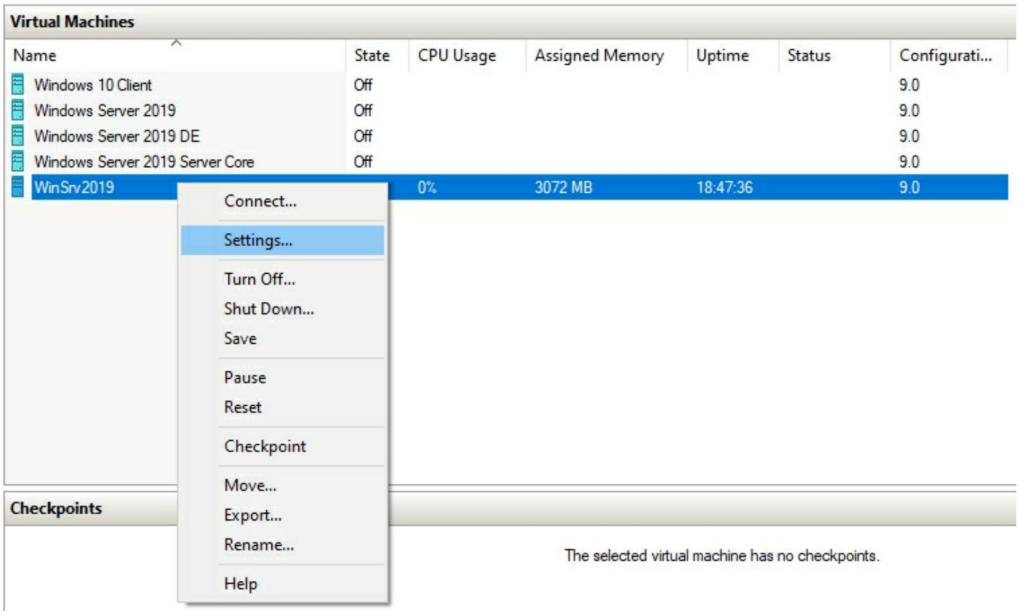


- Click Next in the Before You Begin option of the New Virtual Hard Disk Wizard.
- Select the format that you want to use for the virtual hard disk, and then click Next.
- Select the type of virtual hard disk that you want to create, and then click Next.
- Specify the name and location of the virtual hard disk file, and then click Next.
- Create a blank virtual hard disk or copy the contents of an existing physical disk, and then click Next.
- Click Finish to create the virtual hard disk and close the New Virtual Hard Disk Wizard.

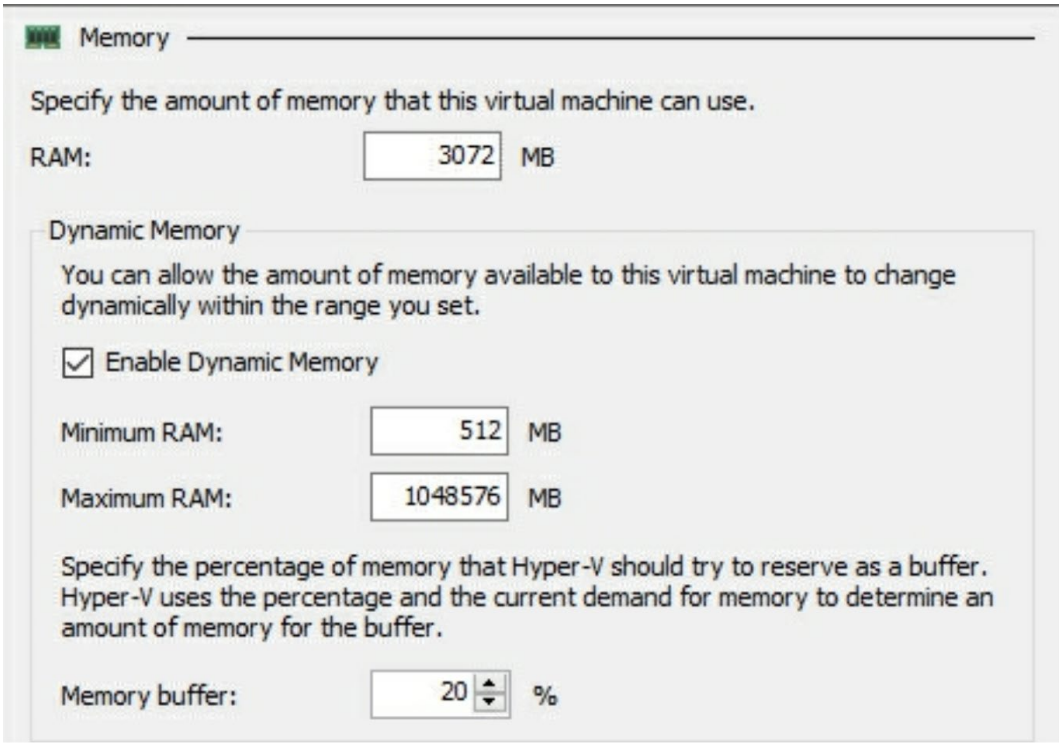
2. 2: Manage Virtual Memory of Virtual Machine

- Pre-task: As we use Hyper-V Manager to manage the virtual memory of VMs they need to be turned off prior to establishing the memory settings.
- Click the Start button
- Click Windows Administrative Tools.
- In the Windows Administrative Tools window, click the Hyper-V Manager hyperlink.
- In the Hyper-V Manager window, right-click any of the VMs with an off state, and then select Settings.

- In the left-hand pane, under Hardware, click Memory.
- You have the option to set a fixed or dynamic amount of memory
  - To set a fixed amount of memory, enter the amount in MB within the RAM: text box.



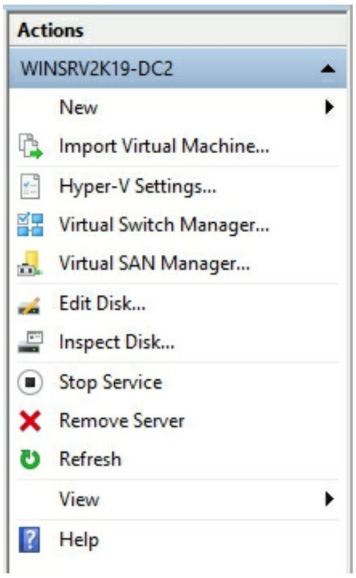
  - To set a dynamic amount of memory, tick the Enable Dynamic Memory checkbox,
  - set the amount of memory for Minimum RAM and Maximum RAM



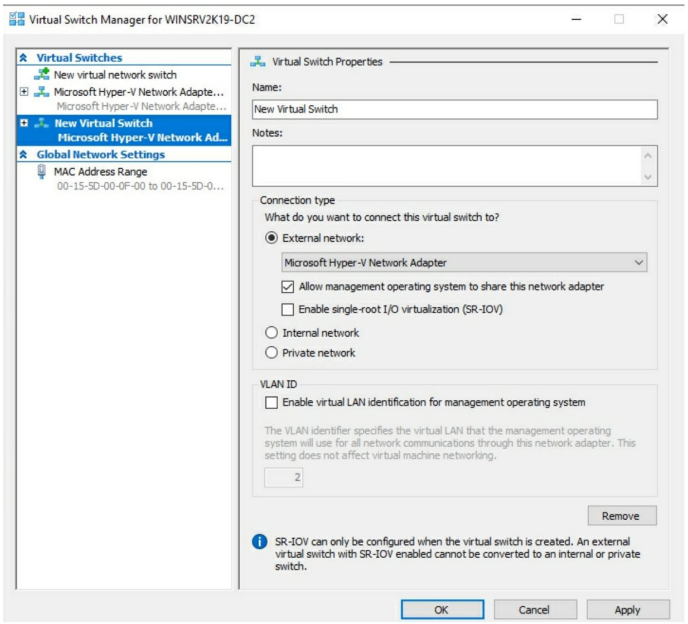
- Click OK to close the VM Settings window.

2. 3: Virtual Networks

- Click the Start button
- Click Windows Administrative Tools
- Click the Hyper-V Manager hyperlink
- Click Virtual Switch Manager in the Actions pane

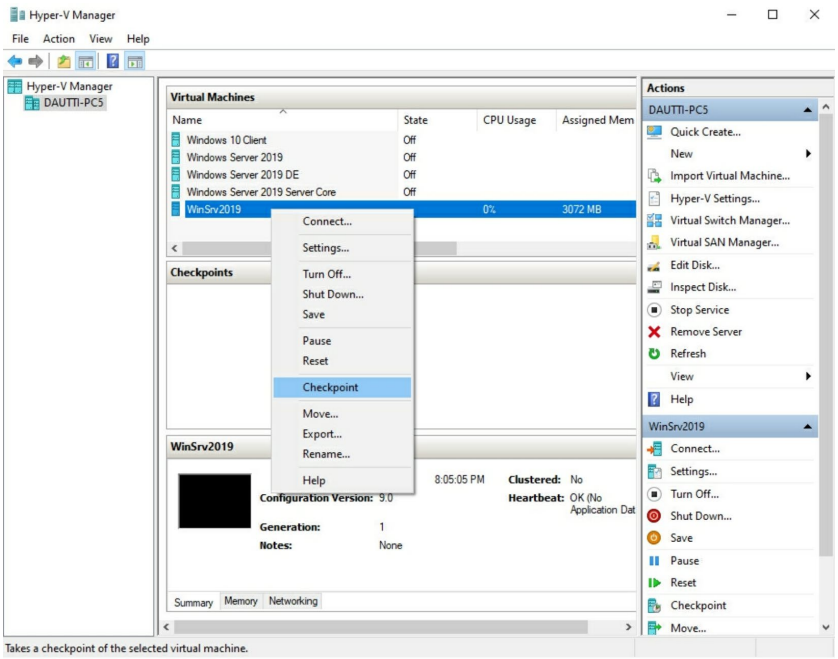


- Select the type of virtual switch that you want to create
- Click Create Virtual Switch:
- Enter the name for the new virtual switch
- Enter notes for the new virtual switch.
- Select the connection type that you want the virtual switch to connect to.
- Enable virtual LAN identification:



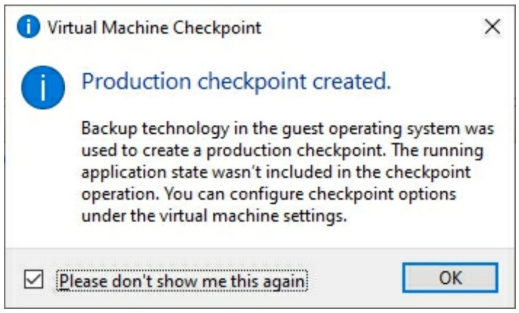
2. 4: Checkpoints

- Click the Start button
- Click Windows Administrative Tools
- Click the Hyper-V Manager hyperlink
- Right-click the VM and select the Checkpoint option from the context menu,



- Checkpoint has been created within the Checkpoints section. *if VM is turned off, the checkpoint will take less time compared to VM is up and running*

- If a checkpoint is created for a running VM, you will receive confirmation that the checkpoint has been created



- Checkpoint creation confirmation Unlike previous versions, in Windows Server 2019, two types of checkpoints are available