**Question 2: You need to configure an internal switch in Hyper-V to allow VMs to communicate with each other but not with the external network. Explain the steps involved.**

**Answer:**

To configure an internal switch in Hyper-V to allow VMs to communicate with each other but not with the external network, follow these steps:

1. **Open Hyper-V Manager:**
   * Click on the "Start" menu, type "Hyper-V Manager," and open it.
2. **Access Virtual Switch Manager:**
   * In the Hyper-V Manager, select the host machine on which we want to configure the switch.
   * On the right-hand side, click on "Virtual Switch Manager."
3. **Create a New Virtual Switch:**
   * In the Virtual Switch Manager window, select "Internal" under the "Create virtual switch" section and click "Create Virtual Switch."
4. **Configure the Virtual Switch:**
   * Name the virtual switch (e.g., "InternalSwitch").
   * Ensure the type is set to "Internal" and make any necessary notes or descriptions in the description field.
5. **Apply the Configuration:**
   * Click "Apply" and then "OK" to create the internal virtual switch.
6. **Connect VMs to the Internal Switch:**
   * Go back to the Hyper-V Manager main window.
   * Select the VM you want to connect to the internal switch and right-click on it.
   * Choose "Settings."
   * In the settings window, select "Network Adapter" under the "Add Hardware" section.
   * On the right, under the "Virtual switch" dropdown, select the internal switch we have just created (e.g., "InternalSwitch").
   * Click "Apply" and "OK" to save the settings.
   * Repeat this step for each VM we want to connect to the internal switch.
7. **Verify VM Communication:**
   * Start the VMs connected to the internal switch.
   * Verify that they can communicate with each other by pinging each other’s IP addresses.
8. **Ensure Isolation from External Network:**
   * Ensure that the VMs are not connected to any external virtual switches.
   * This can be verified by checking the network adapter settings of each VM and ensuring only the internal switch is selected.