Active Directory and Entra ID Connect

KCoder

**Prepared by:**
Michael Lambinicio
January 31, 2025
CMIT 382

Objective

One of the key aspects of deploying Microsoft 365 is the ability to provide users a single identity and ensuring it is properly configured. When this is accomplished, users can access seamlessly resources that are on-premises and in Microsoft 365 environment. Otherwise, users will have to use multiple accounts depending on where the resources are hosted. In this deliverable, you will use Microsoft Entra ID Connect tool to sync on-premises Active Directory to Entra ID. First, you will install Windows Server 2019 in a virtual environment and create an Active Directory Forest. Second, you will install and configure the Entra AD Sync tool. Finally, you will show the accounts that are synced to the Microsoft 365 Tenant.

Part 1: Install Windows Server 2019

Plan: Windows Server 2019 Active Directory

1. Step 1 – To simulate, we will utilize VMware to create a Windows 2019 virtualization server. It will give you a general idea of how Microsoft tenant will be useful to your organization. You will download the Windows Server 2019 iso image from the Microsoft website and install it through the VMware app. Below are images of what the process will look like.
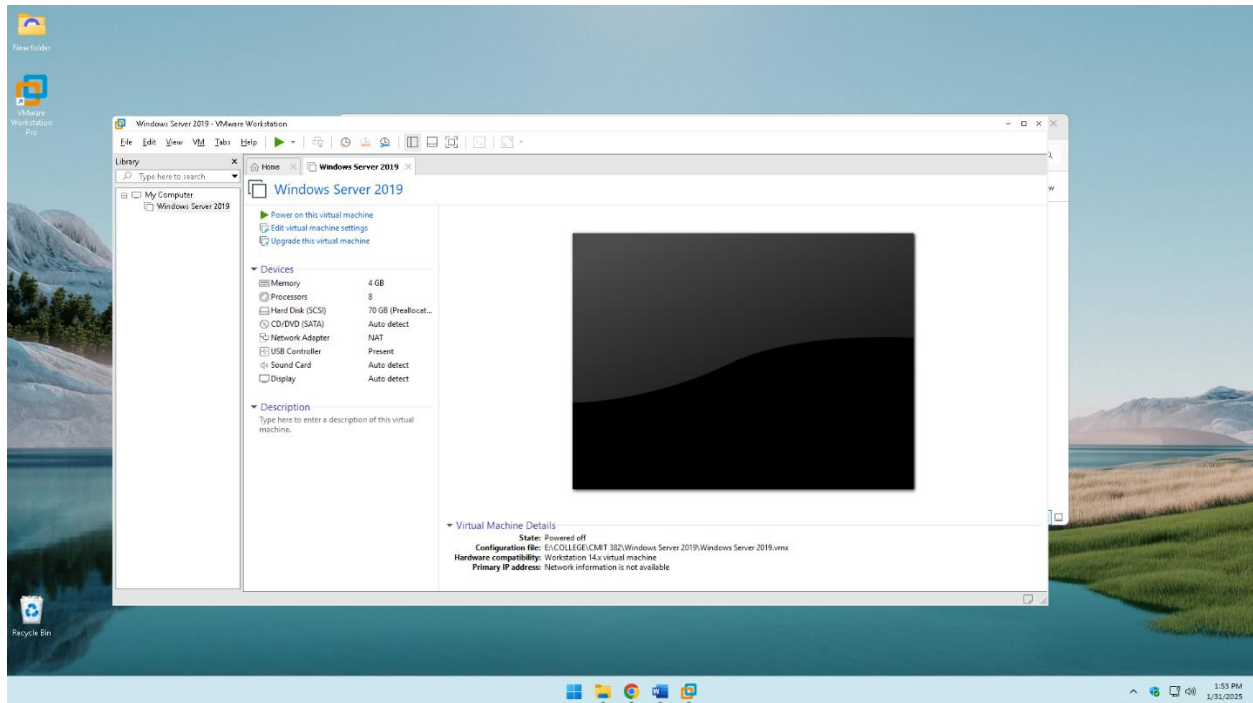
At this point, start the Windows Server 2019 so it can execute a fresh installation. When the setup screen appears, click next to continue.
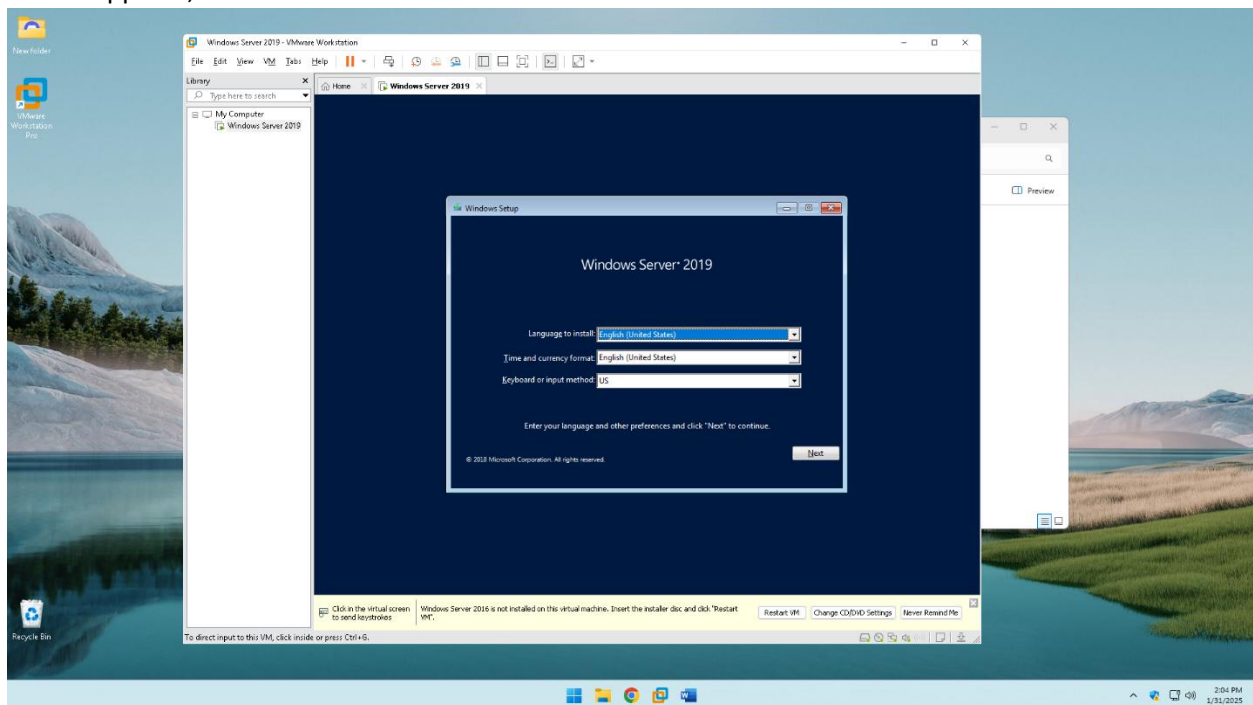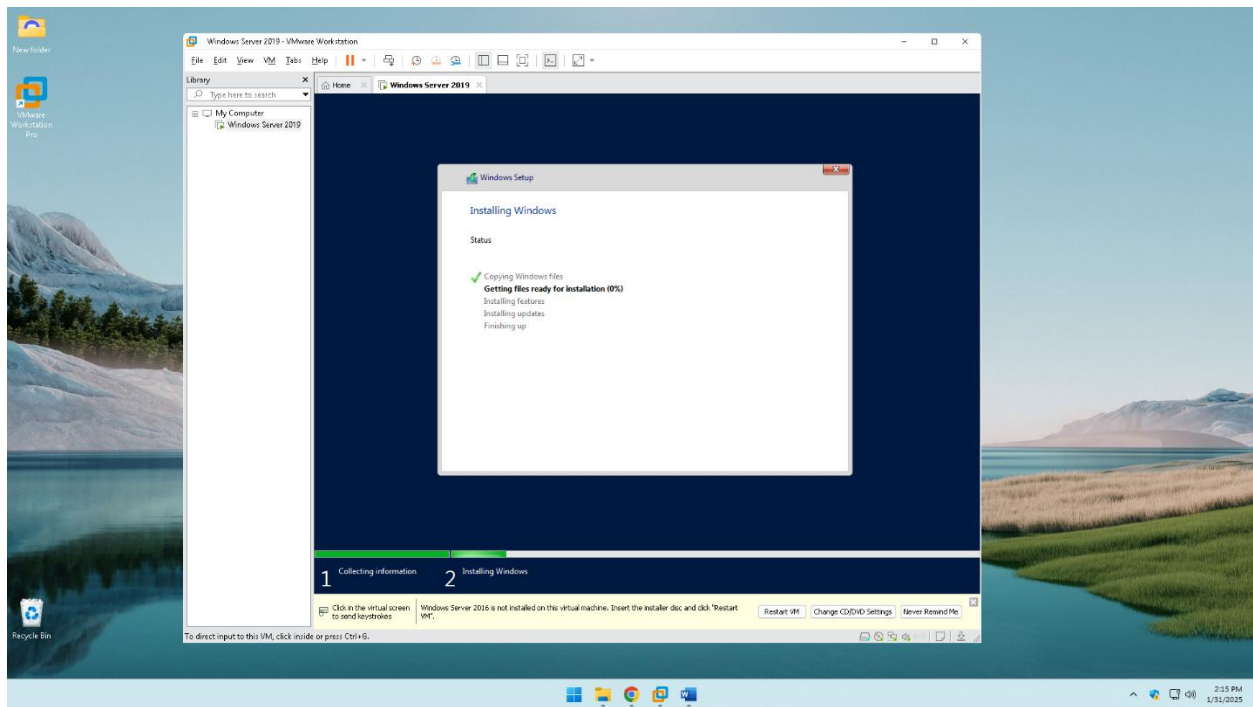
2. Step 2 - Select the operating system to install (Choose the Standard Desktop Experience version), then click next to continue.
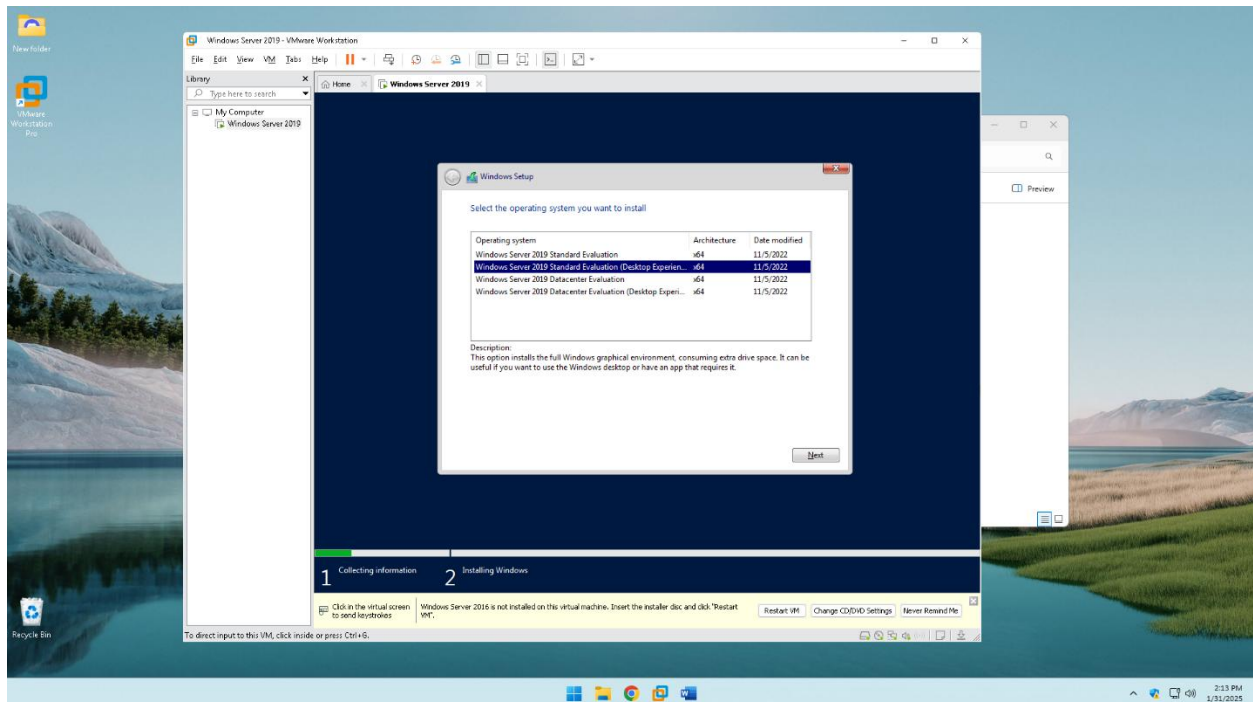
3. Step 3 – It will brief you on the Applicable Notices and License Terms. Scroll to the bottom and click I accept the terms and click "Next".
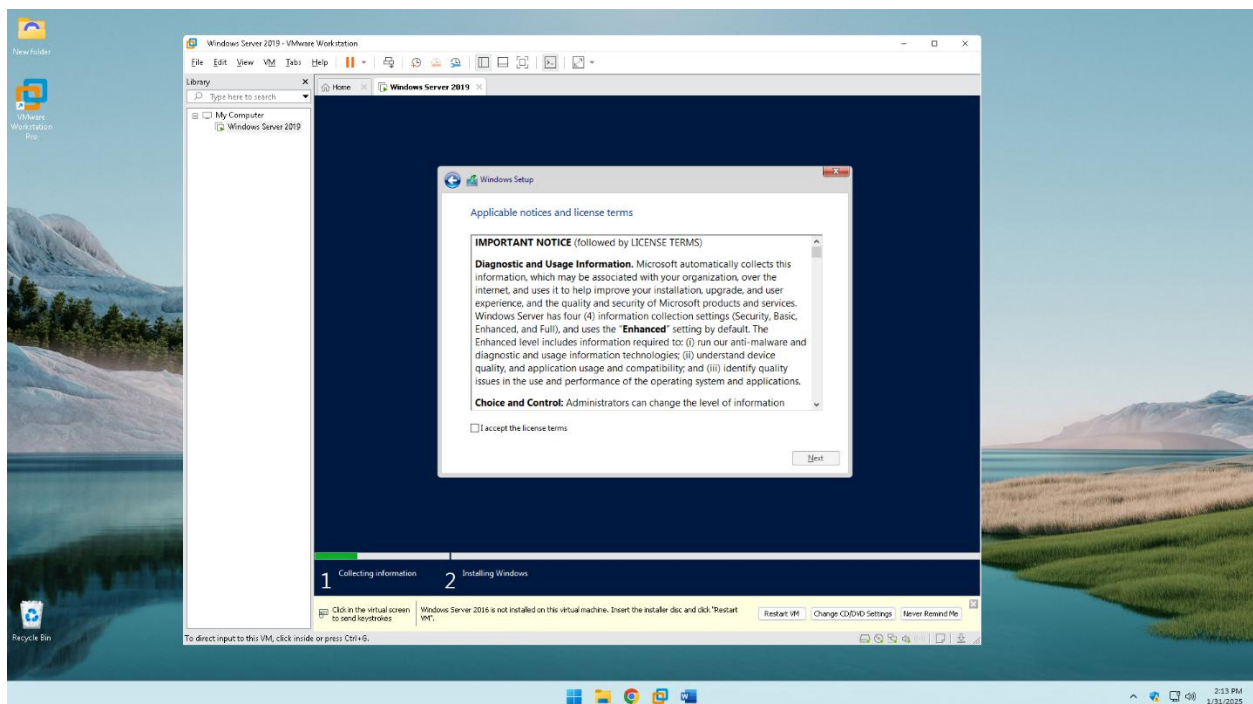
4. Step 4 – It will then start installing Windows, as shown below.

Part 2: Install and Configure Active Directory

Plan: Install Active Directory and Create Accounts

After the installation, you will then get ready to configure Active Directory on Windows Server. To do this, you first need to change the computer name to your own so you can identify that it's yours on the server.

1. Step 1 – Change the computername to FirstNameInitialLastNameInitial-CurrentDate (i.e John Smith with the current date of 10/09/2020 would be JS-20201009) using PowerShell (Rename-Computer), as shown below:
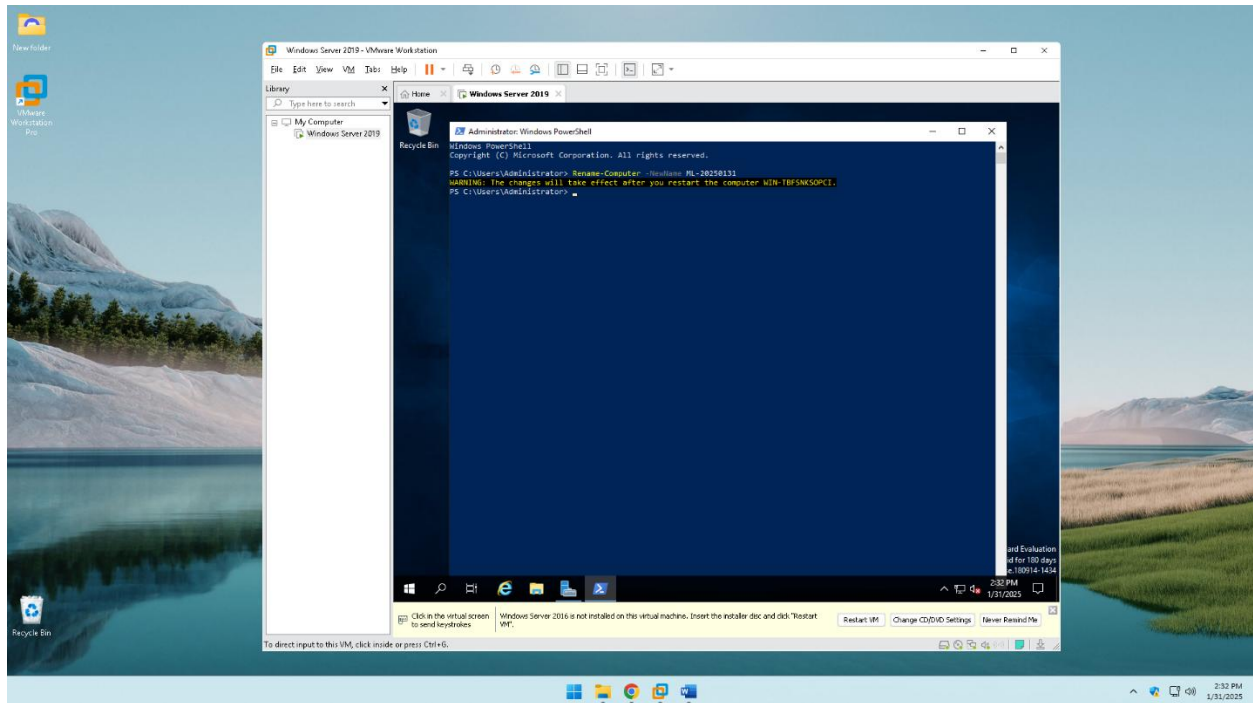
2. Step 2 – After, you will execute the "CreateDomainScript.ps1" file provided by your organization. It will have to have a slight edit by creating your local domain and naming it to your initials and organization name. This will create the AD domain services and create a new domain, shown below.
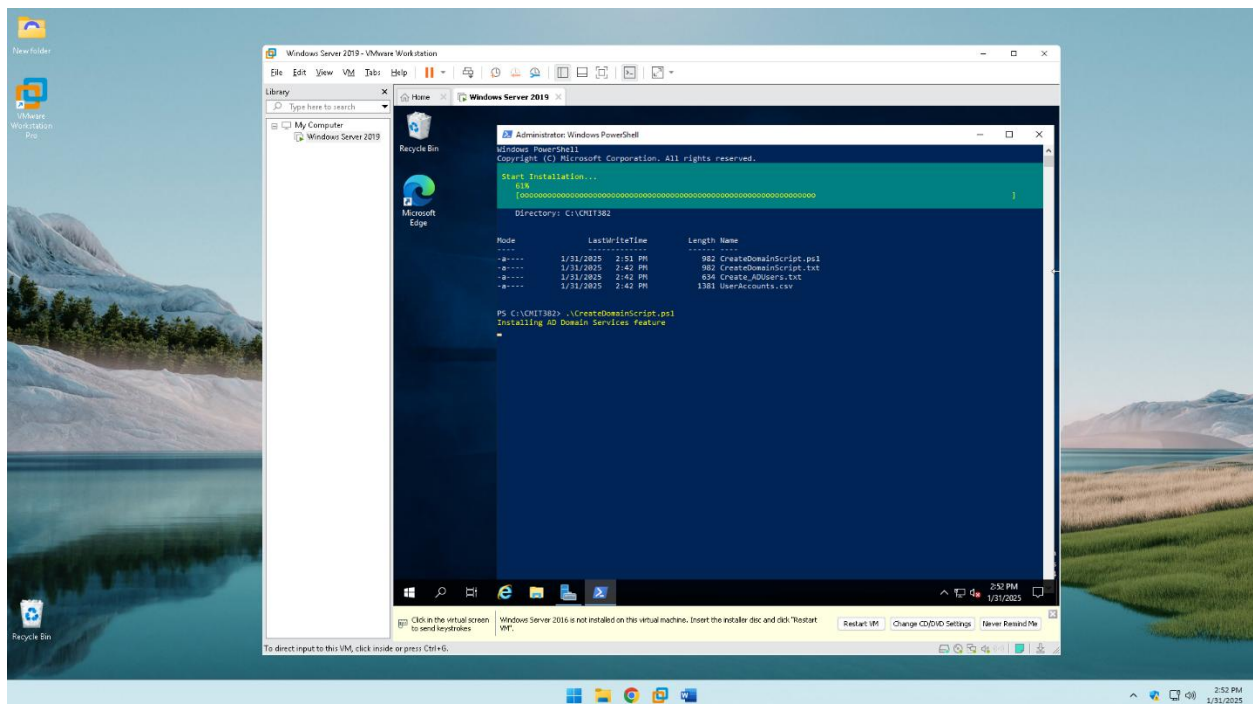
Below is what it will look like after the installation is complete. It will read: CMIT382ML.local, as shown below.
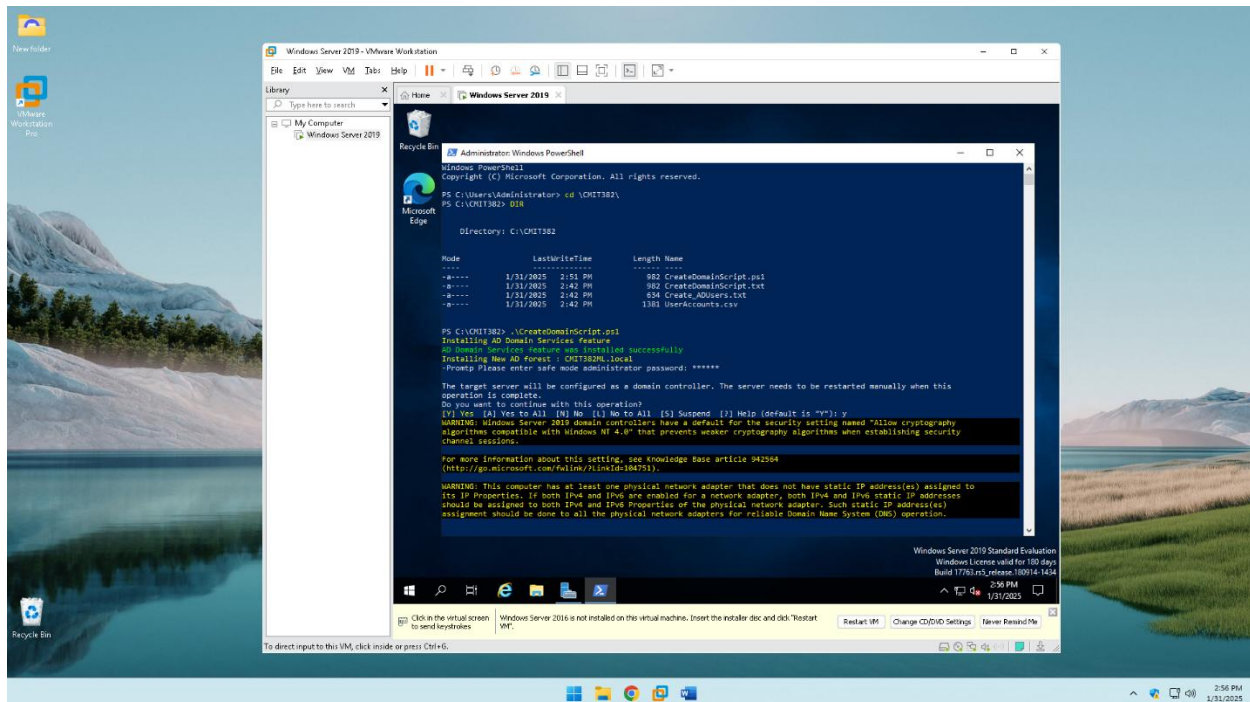

After the domain is setup, you will need to restart the server in order to apply the new changes. When this is completed, you will look into the Server's system info and notice that the domain name will reflect your full computer name and workgroup you are apart of (CMIT381ML.local). Shown below:

3. Step 3 – Next, you will add user accounts to the directory provided by your organization. To do this, you may need to have your organization send it to you, or download it from the local server. Save it it in the CMIT382 folder created in the C: drive. To execute, you must first run the "Set-ExecutionPolicy Unrestricted" command to allow the addition of Users in Powershell. Then you will create users using the provided script from your organization. It will be labeled "Create_AdUsers.ps1". You can execute this in Powershell ISE as administrator. After, you will also run the "Get-ADUser -Filter *" command to view all the users added to the Directory, shown below:

Part 3: Install and Configure Entra ID Connect

Plan: Install and Configure Entra ID Connect

1. Step 1 – To add and view the users in the Azure Active Directory, the Entra ID application needs to be installed first on the Server. You will use the express settings to run the install and keep in mind that you need TLS 1.2 active in order to install. It will ask you to provide your Entra ID login and password. This is your credentials created earlier with your Microsoft 365 account (i.e. MichaelLambinicio@MichaelLambinicio.onmicrosoft.com). You will also provide your password dand complete the login process. You will then come to a screen to configure your Azure AD sign-in, and asking your to check "UPM suffixes to verified domains." Click next after you check the box. After sync is done, you will open your browser and login into Microsoft entra ID. You will then be able to view all the users that were added earlier, shown below:
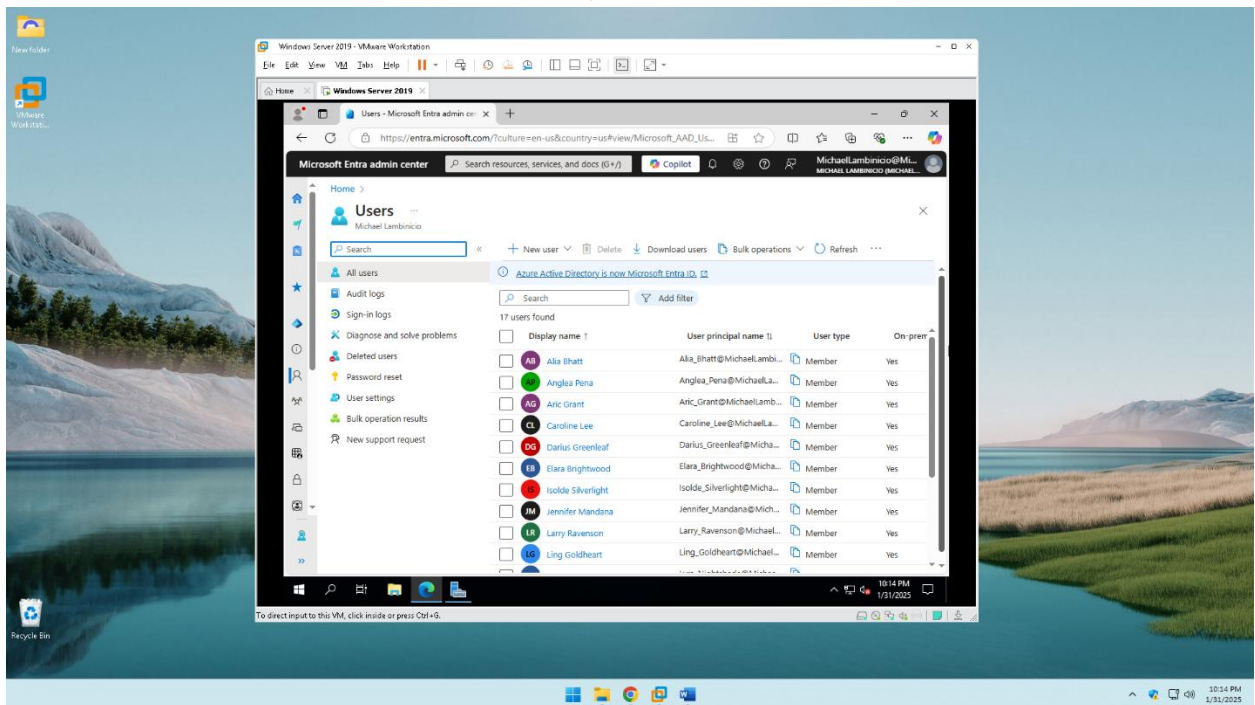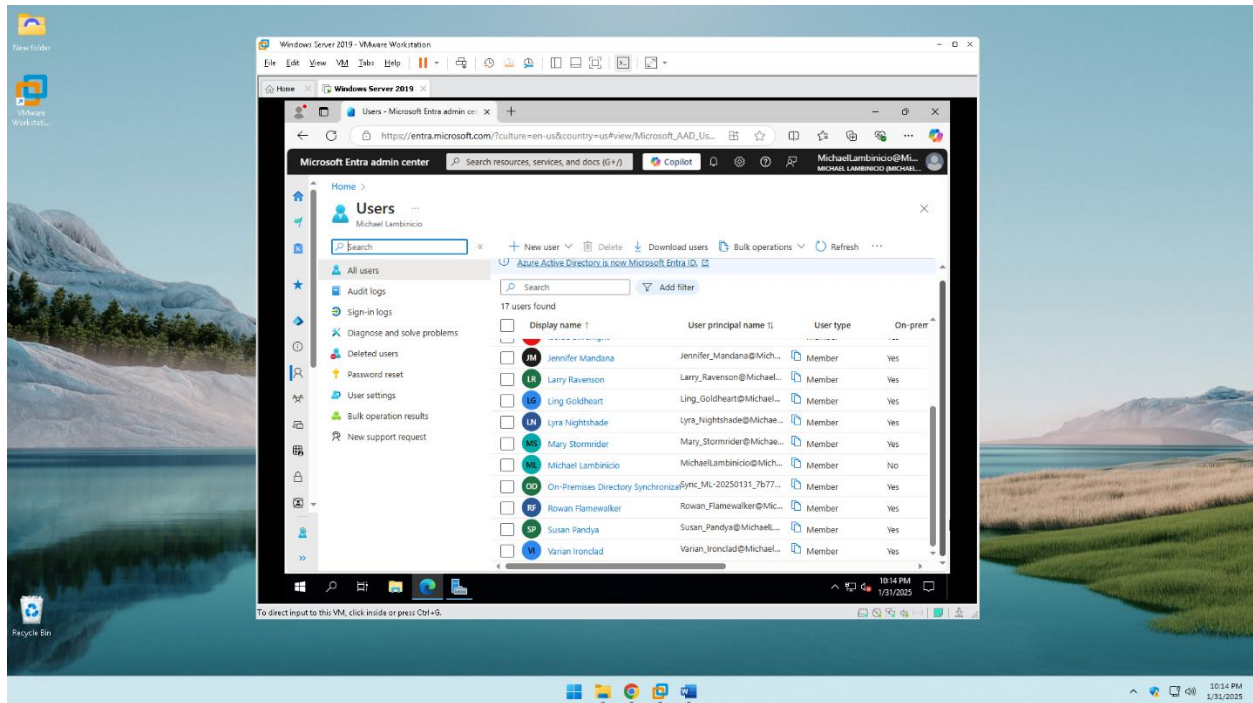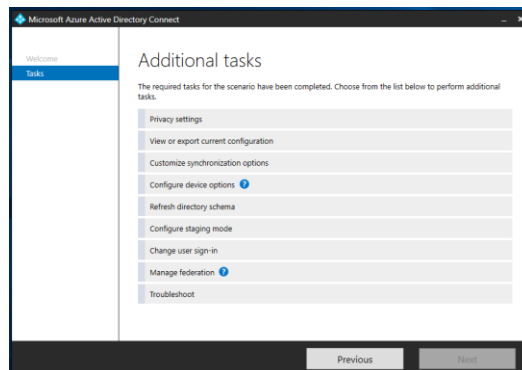
Part 4: Entra ID Connect Health

The Opportunity: Entra ID Connect Health

With Entra ID Connect Health, there are additional tasks that may be helpful during the configuration portion to help tailor it to your organizational needs. One good feature is being able to customize synchronization options. Because running Microsoft tenant will give you on-premises and Azure active directory, keeping all user accounts, groups and attributes in sync from both ends is a must. It will also help minimize inconsistencies and improve security. (Ninjaone, 2024)

Another good feature is is staging mode. With this, you are able to test out different configurations or experiment with configurations changes first before executing it on the actual server itself. To add, if

there were ever a failure with the server beyond repair and you needed to implement a new one, it this could be an option without rebuilding from the ground up. (Microsoft, 2024)

Resources:

Windows Server 2019 Download: https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2019

Install Windows Server 2019 on Hyper-V: https://www.itechguides.com/install-windows-server-2019-on-hyper-v/

Install Windows Server 2019 on VM: https://www.sysnettechsolutions.com/en/install-windows-server-2019-vmware-workstation-14/

Install Windows Server 2019 on Oracle VirtualBox: https://www.sysnettechsolutions.com/en/install-windows-server-2019-oracle-vm-virtualbox/

Download Entra ID Connect: https://www.microsoft.com/en-us/download/details.aspx?id=47594

Install Entra ID Connect: https://docs.microsoft.com/en-us/azure/active-directory/hybrid/how-to-connect-install-custom

References:

[1] L. Ballejos, "Azure ad connect: What it is & how to configure it," NinjaOne,

https://www.ninjaone.com/blog/azure-ad-connect-what-it-is-and-how-to-configure-it/ (accessed Feb. 1,

2025).

[2] "Microsoft Entra Connect Sync: Operational Tasks and considerations - microsoft entra ID," Microsoft

Entra Connect Sync: Operational tasks and considerations - Microsoft Entra ID | Microsoft Learn,

https://learn.microsoft.com/en-us/entra/identity/hybrid/connect/how-to-connect-sync-staging-server

(accessed Feb. 1, 2025).