

IT 236 Project Report Form

Report Prepared By:	Vivian John Goshashy
Date:	11/19/2025
Project Phase	Microsoft Entra PowerShell Administration

Section 1: Executive Summary

This phase of the NewVue Health Infrastructure Modernization Project focused on establishing secure and reliable administrative connectivity to the Microsoft Entra environment using PowerShell. The workstation was prepared for cloud administration by installing PowerShell 7, configuring execution policies, updating PowerShellGet, and confirming module readiness.

The Microsoft.Entra PowerShell module was deployed successfully, and a secure connection was established to the cloud tenant. Core directory information—including tenant attributes, domain configuration, user objects, and group structures—was queried to validate end-to-end connectivity between the workstation and the Microsoft Entra directory service.

Collectively, these steps establish the baseline operational capability required for subsequent cloud identity management, automation, and hybrid integration activities within the NewVue Health modernization project.

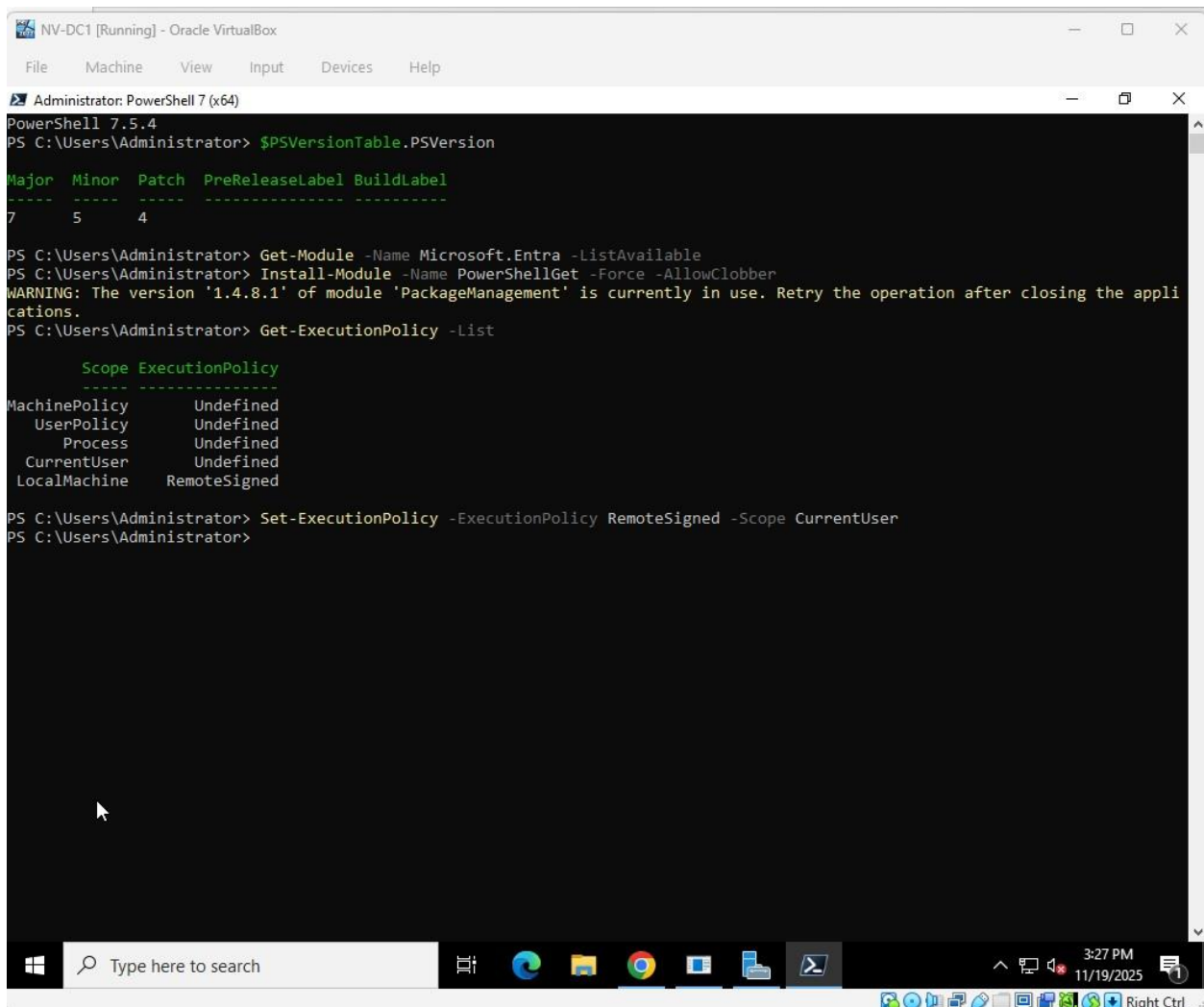
Section 2: Implementation & Verification Evidence

Task 1-Workstation Preparation (10 pts)

The workstation environment was prepared for Microsoft Entra PowerShell administration by installing PowerShell 7, validating the PowerShell version, updating PowerShellGet, checking execution policies, and confirming readiness for module installation.

Evidence Requirements

- **Evidence 1:** Screenshot showing:
 - PowerShell 7 version
 - Execution policy
 - PowerShellGet update



The screenshot shows a PowerShell 7 terminal window running in Oracle VM VirtualBox. The terminal displays the following commands and output:

```
PowerShell 7.5.4
PS C:\Users\Administrator> $PSVersionTable.PSVersion
```

Major	Minor	Patch	PreReleaseLabel	BuildLabel
7	5	4		

```
PS C:\Users\Administrator> Get-Module -Name Microsoft.Entra -ListAvailable
PS C:\Users\Administrator> Install-Module -Name PowerShellGet -Force -AllowClobber
WARNING: The version '1.4.8.1' of module 'PackageManagement' is currently in use. Retry the operation after closing the applications.
PS C:\Users\Administrator> Get-ExecutionPolicy -List
```

Scope	ExecutionPolicy
MachinePolicy	Undefined
UserPolicy	Undefined
Process	Undefined
CurrentUser	Undefined
LocalMachine	RemoteSigned

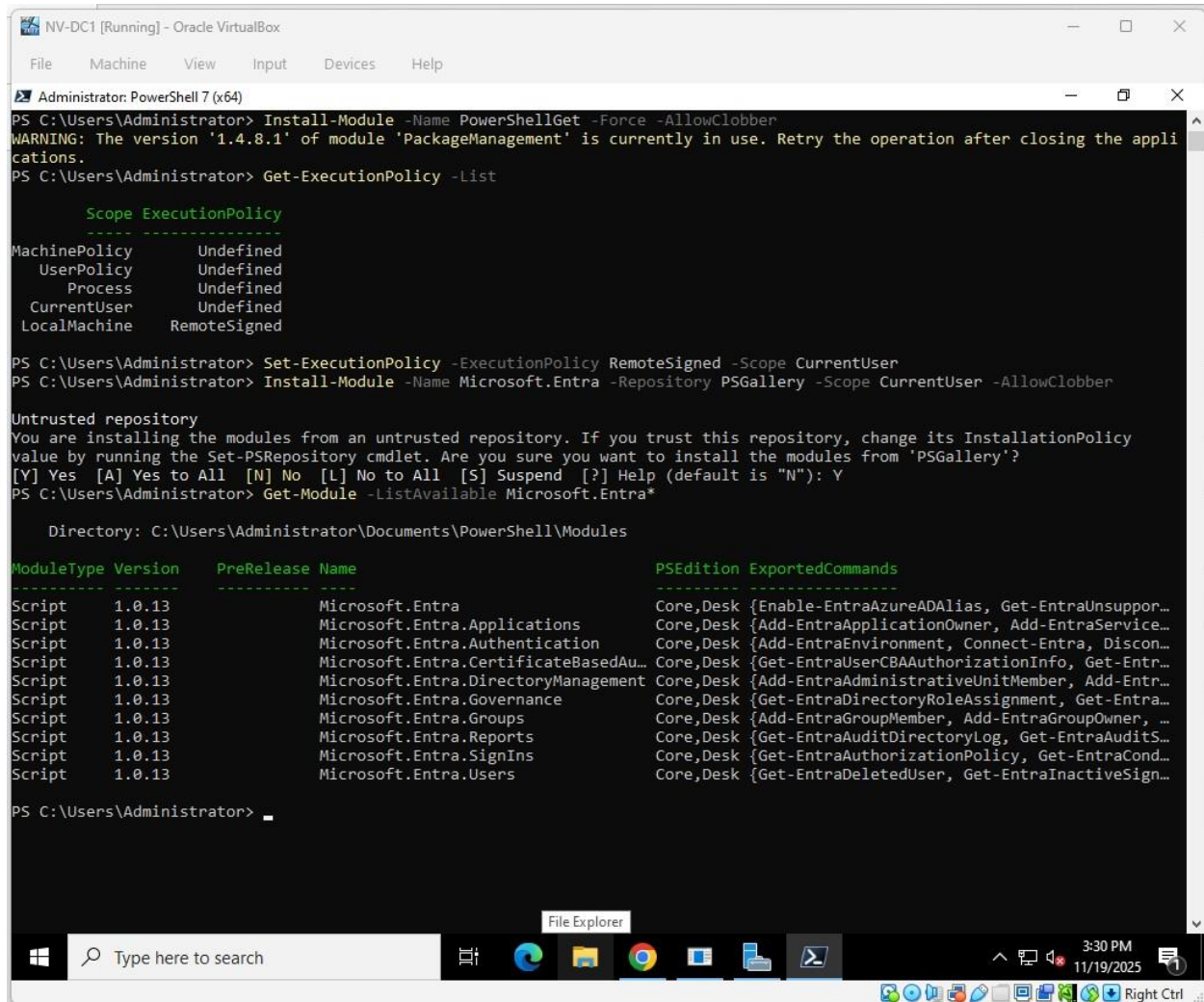
```
PS C:\Users\Administrator> Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser
PS C:\Users\Administrator>
```


Task 2— Module Installation (10 pts)

The Microsoft.Entra PowerShell module was installed from the PowerShell Gallery, and availability of the module was verified to confirm a successful installation.

Evidence Requirements

- **Evidence 2:** Screenshot showing installation and verification of the Microsoft.Entra module



The screenshot shows a PowerShell console window titled "Administrator: PowerShell 7 (x64)" running within an Oracle VM VirtualBox environment. The console displays the following commands and output:

```
PS C:\Users\Administrator> Install-Module -Name PowerShellGet -Force -AllowClobber
WARNING: The version '1.4.8.1' of module 'PackageManagement' is currently in use. Retry the operation after closing the applications.
PS C:\Users\Administrator> Get-ExecutionPolicy -List

Scope ExecutionPolicy
-----
MachinePolicy Undefined
UserPolicy Undefined
Process Undefined
CurrentUser Undefined
LocalMachine RemoteSigned

PS C:\Users\Administrator> Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope CurrentUser
PS C:\Users\Administrator> Install-Module -Name Microsoft.Entra -Repository PSGallery -Scope CurrentUser -AllowClobber

Untrusted repository
You are installing the modules from an untrusted repository. If you trust this repository, change its InstallationPolicy value by running the Set-PSRepository cmdlet. Are you sure you want to install the modules from 'PSGallery'?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): Y
PS C:\Users\Administrator> Get-Module -ListAvailable Microsoft.Entra*

Directory: C:\Users\Administrator\Documents\PowerShell\Modules

ModuleType Version PreRelease Name PSEdition ExportedCommands
-----
Script 1.0.13 Microsoft.Entra Core,Desk {Enable-EntraAzureADAlias, Get-EntraUnsuppor...
Script 1.0.13 Microsoft.Entra.Applications Core,Desk {Add-EntraApplicationOwner, Add-EntraService...
Script 1.0.13 Microsoft.Entra.Authentication Core,Desk {Add-EntraEnvironment, Connect-Entra, Discon...
Script 1.0.13 Microsoft.Entra.CertificateBasedAu... Core,Desk {Get-EntraUserCBAAuthorizationInfo, Get-Entr...
Script 1.0.13 Microsoft.Entra.DirectoryManagement Core,Desk {Add-EntraAdministrativeUnitMember, Add-Entr...
Script 1.0.13 Microsoft.Entra.Governance Core,Desk {Get-EntraDirectoryRoleAssignment, Get-Entra...
Script 1.0.13 Microsoft.Entra.Groups Core,Desk {Add-EntraGroupMember, Add-EntraGroupOwner, ...
Script 1.0.13 Microsoft.Entra.Reports Core,Desk {Get-EntraAuditDirectoryLog, Get-EntraAuditS...
Script 1.0.13 Microsoft.Entra.SignIns Core,Desk {Get-EntraAuthorizationPolicy, Get-EntraCond...
Script 1.0.13 Microsoft.Entra.Users Core,Desk {Get-EntraDeletedUser, Get-EntraInactiveSign...
```

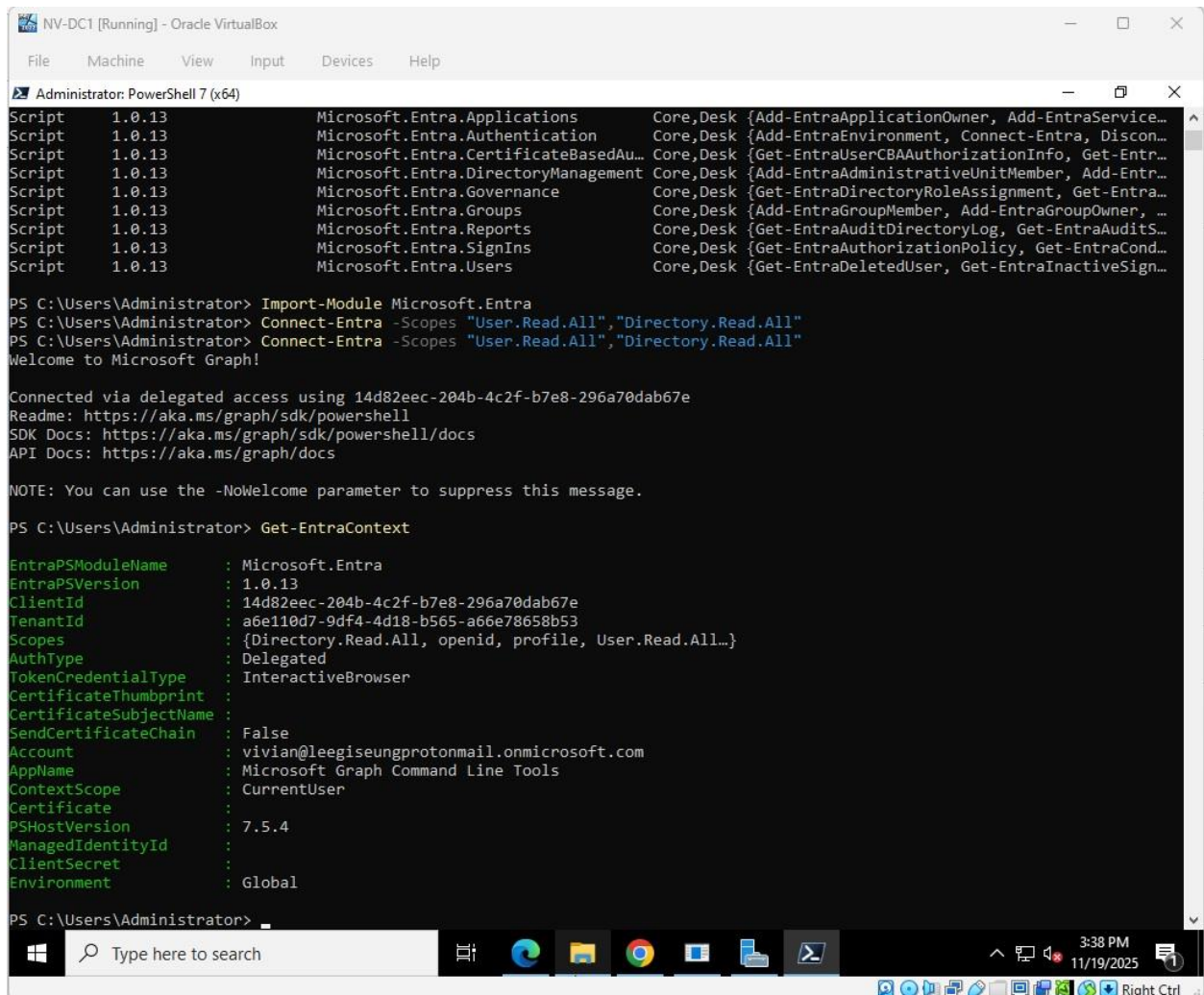
The Windows taskbar at the bottom shows the time as 3:30 PM on 11/19/2025, with various system icons and a search bar.

Task 3— Entra Tenant Connection (10 points)

An authenticated PowerShell session was established with the Microsoft Entra tenant, and the session context was verified to confirm proper authentication and directory connectivity.

Evidence Requirements

- **Evidence 3:** Screenshot of **Get-EntraContext** showing authenticated session details



```
NV-DC1 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Administrator: PowerShell 7 (x64)
Script 1.0.13 Microsoft.Entra.Applications Core,Desk {Add-EntraApplicationOwner, Add-EntraService...
Script 1.0.13 Microsoft.Entra.Authentication Core,Desk {Add-EntraEnvironment, Connect-Entra, Discon...
Script 1.0.13 Microsoft.Entra.CertificateBasedAu... Core,Desk {Get-EntraUserCBAAuthorizationInfo, Get-Entra...
Script 1.0.13 Microsoft.Entra.DirectoryManagement Core,Desk {Add-EntraAdministrativeUnitMember, Add-Entra...
Script 1.0.13 Microsoft.Entra.Governance Core,Desk {Get-EntraDirectoryRoleAssignment, Get-Entra...
Script 1.0.13 Microsoft.Entra.Groups Core,Desk {Add-EntraGroupMember, Add-EntraGroupOwner, ...
Script 1.0.13 Microsoft.Entra.Reports Core,Desk {Get-EntraAuditDirectoryLog, Get-EntraAuditS...
Script 1.0.13 Microsoft.Entra.SignIns Core,Desk {Get-EntraAuthorizationPolicy, Get-EntraCond...
Script 1.0.13 Microsoft.Entra.Users Core,Desk {Get-EntraDeletedUser, Get-EntraInactiveSign...

PS C:\Users\Administrator> Import-Module Microsoft.Entra
PS C:\Users\Administrator> Connect-Entra -Scopes "User.Read.All","Directory.Read.All"
PS C:\Users\Administrator> Connect-Entra -Scopes "User.Read.All","Directory.Read.All"
Welcome to Microsoft Graph!

Connected via delegated access using 14d82eec-204b-4c2f-b7e8-296a70dab67e
Readme: https://aka.ms/graph/sdk/powershell
SDK Docs: https://aka.ms/graph/sdk/powershell/docs
API Docs: https://aka.ms/graph/docs

NOTE: You can use the -NoWelcome parameter to suppress this message.

PS C:\Users\Administrator> Get-EntraContext

EntraPSModuleName      : Microsoft.Entra
EntraPSVersion          : 1.0.13
ClientId                : 14d82eec-204b-4c2f-b7e8-296a70dab67e
TenantId               : a6e110d7-9df4-4d18-b565-a66e78658b53
Scopes                  : {Directory.Read.All, openid, profile, User.Read.All...}
AuthType                : Delegated
TokenCredentialType     : InteractiveBrowser
CertificateThumbprint   :
CertificateSubjectName  :
SendCertificateChain    : False
Account                 : vivian@leegiseungprotonmail.onmicrosoft.com
AppName                 : Microsoft Graph Command Line Tools
ContextScope            : CurrentUser
Certificate              :
PSHostVersion           : 7.5.4
ManagedIdentityId      :
ClientSecret             :
Environment              : Global

PS C:\Users\Administrator>
```

NV-DC1 [Running] - Oracle VirtualBox

File Machine View Input Devices Help

Administrator: PowerShell 7 (x64)

```
PowerShell 7.5.4
PS C:\Users\Administrator> Get-EntraUser
Get-EntraUser: Not connected to Microsoft Graph. Use 'Connect-Entra -Scopes User.Read.All' to authenticate.
PS C:\Users\Administrator> Connect-Entra -Scopes "User.Read.All","Directory.Read.All"
Welcome to Microsoft Graph!

Connected via delegated access using 14d82eec-204b-4c2f-b7e8-296a70dab67e
Readme: https://aka.ms/graph/sdk/powershell
SDK Docs: https://aka.ms/graph/sdk/powershell/docs
API Docs: https://aka.ms/graph/docs

NOTE: You can use the -NoWelcome parameter to suppress this message.

PS C:\Users\Administrator> Get-EntraUser
```

DisplayName	Id	Mail	UserPrincipalName
Alice Morgan	83d90cb0-ce5d-4a2f-a32d-05ce86ab9843	alice.morgan@leegiseungprotonmail.onmicrosoft.com	alice.morg...
Brian Patel	c9620ac9-4bab-4117-adbd-ac45a839dd0a	brian.patel@leegiseungprotonmail.onmicrosoft.com	brian.pate...
Carla Johnson	2c59d80a-75f2-491b-beff-2dd776c0b58d	carla.johnson@leegiseungprotonmail.onmicrosoft.com	carla.john...
Daniel Kim	ab1b17a4-d1c7-42f5-86a1-0f2cb4951749	daniel.kim@leegiseungprotonmail.onmicrosoft.com	daniel.kim...
Evelyn Rodriguez	f77be2b9-ff7b-4913-bcda-6dfe7744cc16	evelyn.rodriguez@leegiseungprotonmail.onmicrosoft.com	evelyn.rod...
Vivian Goshashy	ba181a18-4d81-4a9b-8e32-6f86d7da2153		vivian@lee...

```
PS C:\Users\Administrator> _
```

Type here to search

4:53 PM 11/19/2025

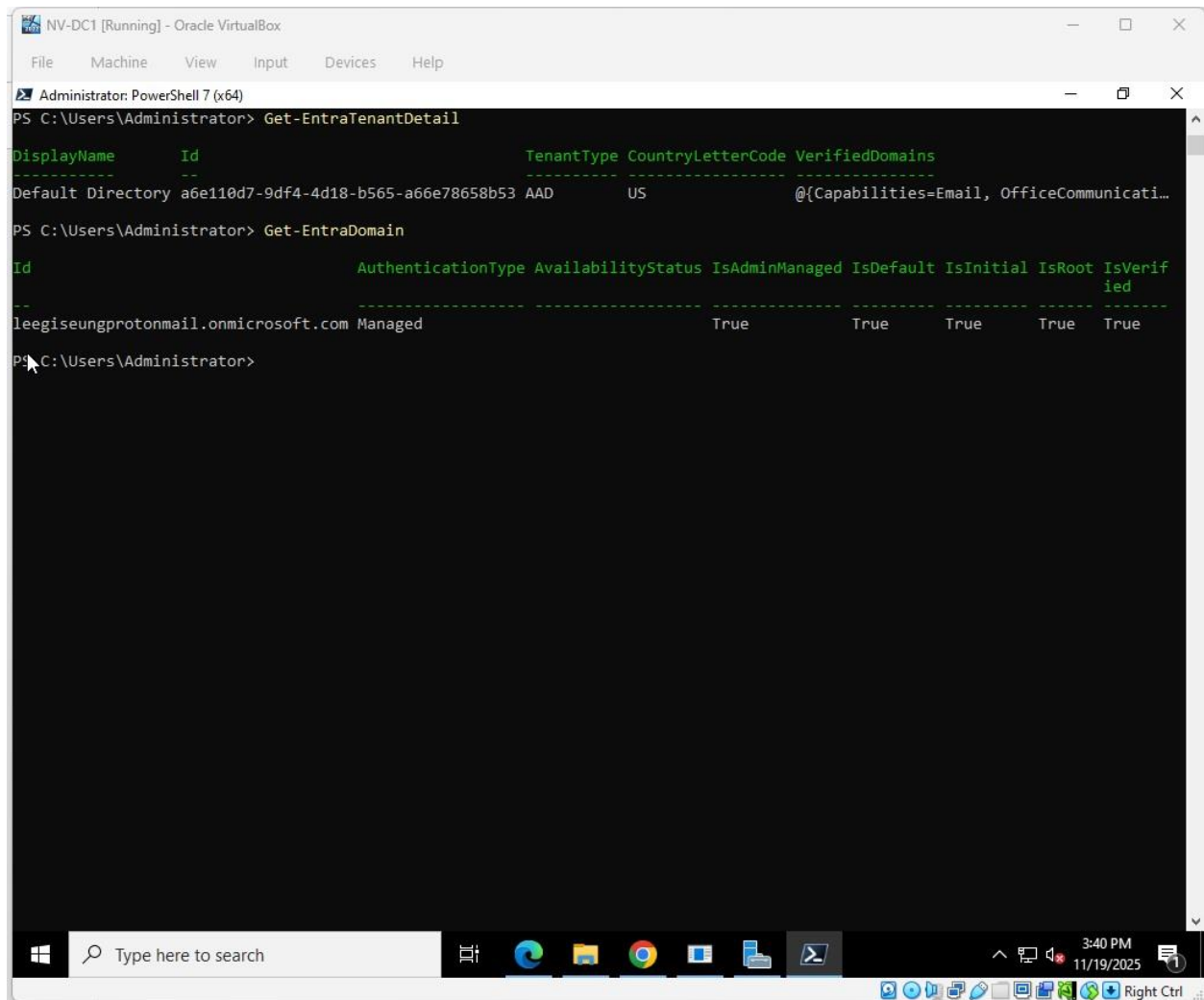
Right Ctrl

Task 4 - Tenant and Domain Information Retrieval (10 pts)

Tenant-level information and domain configuration were retrieved using Entra PowerShell cmdlets to validate visibility into core directory settings.

Evidence Requirements

- **Evidence 4A:** Screenshot of **Get-EntraTenantDetail**



The screenshot shows a PowerShell terminal window titled "Administrator: PowerShell 7 (x64)" running inside an Oracle VM VirtualBox environment. The terminal displays the output of two PowerShell cmdlets: `Get-EntraTenantDetail` and `Get-EntraDomain`.

Get-EntraTenantDetail Output:

DisplayName	Id	TenantType	CountryLetterCode	VerifiedDomains
Default Directory	a6e110d7-9df4-4d18-b565-a66e78658b53	AAD	US	@{Capabilities=Email, OfficeCommunicati...

Get-EntraDomain Output:

Id	AuthenticationType	AvailabilityStatus	IsAdminManaged	IsDefault	IsInitial	IsRoot	IsVerified
leegiseungprotonmail.onmicrosoft.com	Managed		True	True	True	True	True

The terminal window also shows the Windows taskbar at the bottom with the search bar and various application icons. The system clock indicates 3:40 PM on 11/19/2025.

- **Evidence 4B: Screenshot of Get-EntraDomain**

The screenshot shows a PowerShell terminal window titled "Administrator: PowerShell 7 (x64)" running inside an Oracle VM VirtualBox environment. The terminal displays the output of two commands: `Get-EntraTenantDetail` and `Get-EntraDomain`.

Get-EntraTenantDetail Output:

DisplayName	Id	TenantType	CountryLetterCode	VerifiedDomains
Default Directory	a6e110d7-9df4-4d18-b565-a66e78658b53	AAD	US	@{Capabilities=Email, OfficeCommunicati...

Get-EntraDomain Output:

Id	AuthenticationType	AvailabilityStatus	IsAdminManaged	IsDefault	IsInitial	IsRoot	IsVerified
leegiseungprotonmail.onmicrosoft.com	Managed		True	True	True	True	True

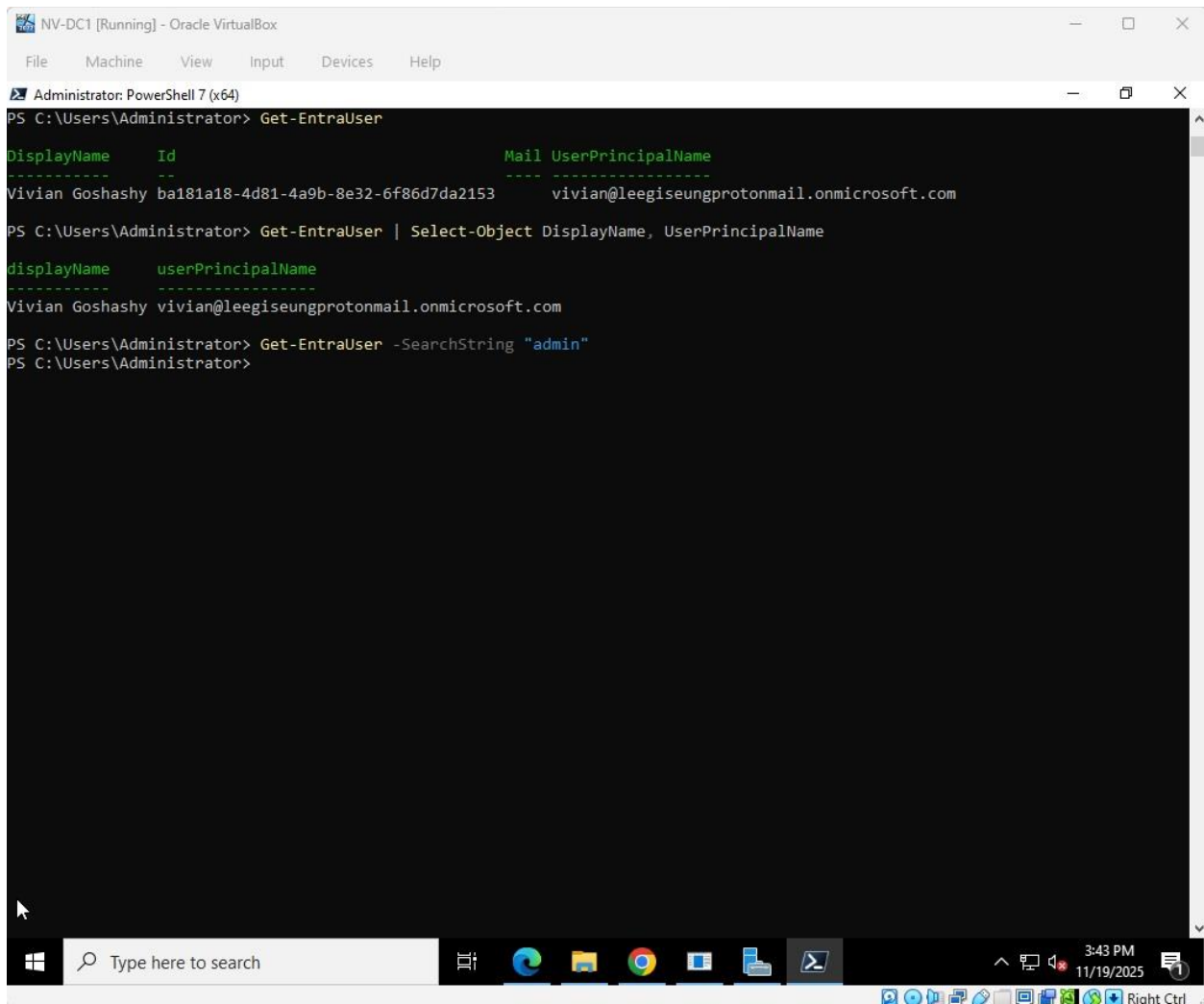
The terminal window is part of a virtual machine named "NV-DC1 [Running] - Oracle VM VirtualBox". The taskbar at the bottom shows the Windows Start button, a search bar, and several application icons including Edge, File Explorer, Chrome, and PowerShell. The system clock indicates 3:40 PM on 11/19/2025.

Task 5 - Cloud User Queries (10 pts)

Cloud users were queried to demonstrate directory visibility, including full listings, selected property extraction, and filtered queries based on search strings.

Evidence Requirements

- **Evidence 5:** Screenshot showing filtered or selected user query output



The screenshot shows a PowerShell terminal window titled "Administrator: PowerShell 7 (x64)" running inside an Oracle VM VirtualBox environment. The terminal displays the output of three different commands related to querying Entra users.

```
PS C:\Users\Administrator> Get-EntraUser

DisplayName      Id                                     Mail UserPrincipalName
-----
Vivian Goshashy  ba181a18-4d81-4a9b-8e32-6f86d7da2153  vivian@leegiseungprotonmail.onmicrosoft.com

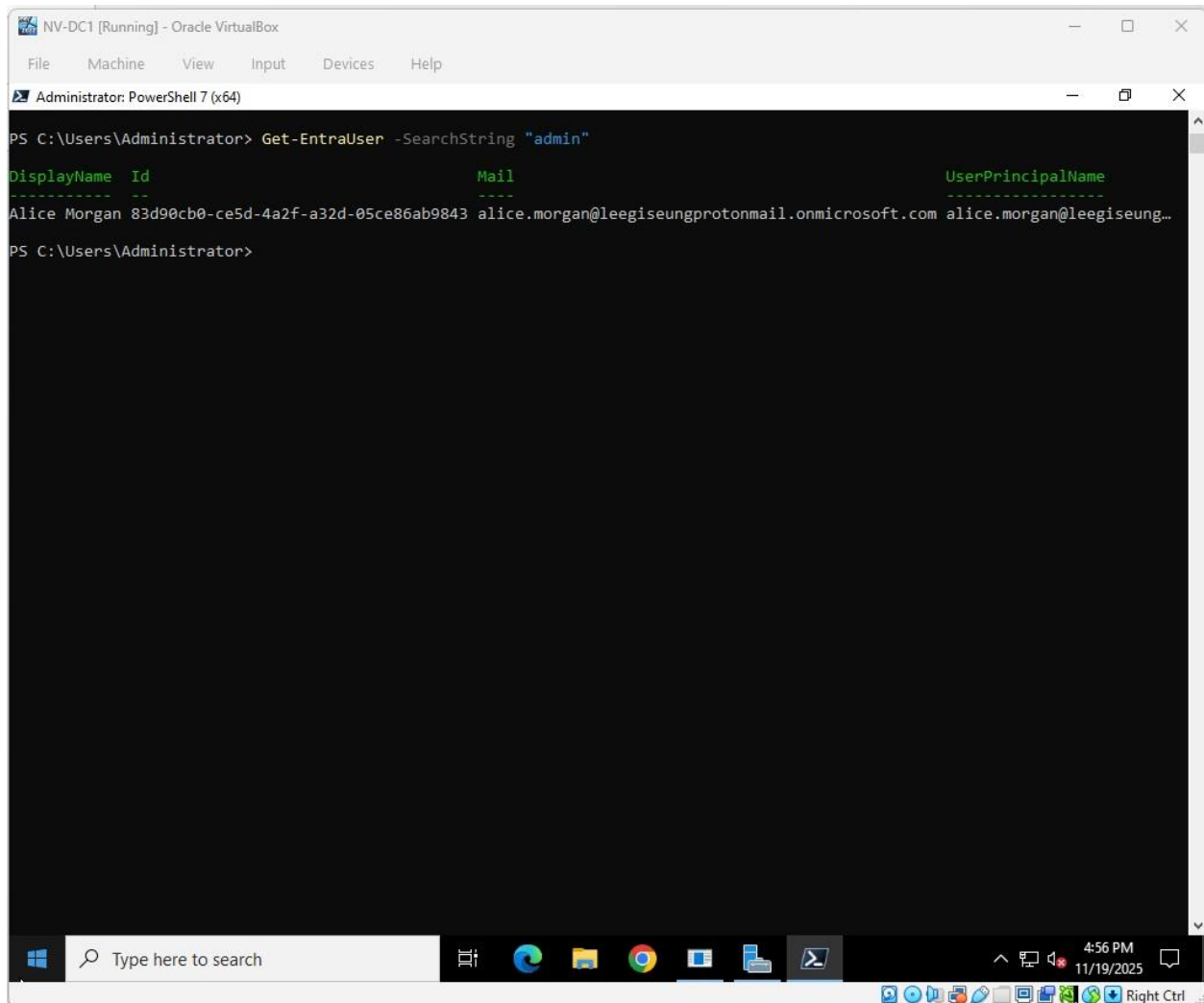
PS C:\Users\Administrator> Get-EntraUser | Select-Object DisplayName, UserPrincipalName

displayName      userPrincipalName
-----
Vivian Goshashy  vivian@leegiseungprotonmail.onmicrosoft.com

PS C:\Users\Administrator> Get-EntraUser -SearchString "admin"
PS C:\Users\Administrator>
```

The bottom of the screenshot shows the Windows taskbar with the search bar, task view button, and several application icons. The system clock in the bottom right corner indicates the time is 3:43 PM on 11/19/2025.

Note: After users were added



The screenshot shows a PowerShell terminal window titled "Administrator: PowerShell 7 (x64)" running inside an Oracle VM VirtualBox environment. The command executed is `Get-EntraUser -SearchString "admin"`. The output is a table with four columns: `DisplayName`, `Id`, `Mail`, and `UserPrincipalName`. The table contains one entry for Alice Morgan.

```
PS C:\Users\Administrator> Get-EntraUser -SearchString "admin"
```

DisplayName	Id	Mail	UserPrincipalName
Alice Morgan	83d90cb0-ce5d-4a2f-a32d-05ce86ab9843	alice.morgan@leegiseungprotonmail.onmicrosoft.com	alice.morgan@leegiseung...

```
PS C:\Users\Administrator>
```

The bottom of the image shows the Windows taskbar with the search bar, task view button, and several application icons (Edge, File Explorer, Chrome, etc.). The system clock indicates 4:56 PM on 11/19/2025.

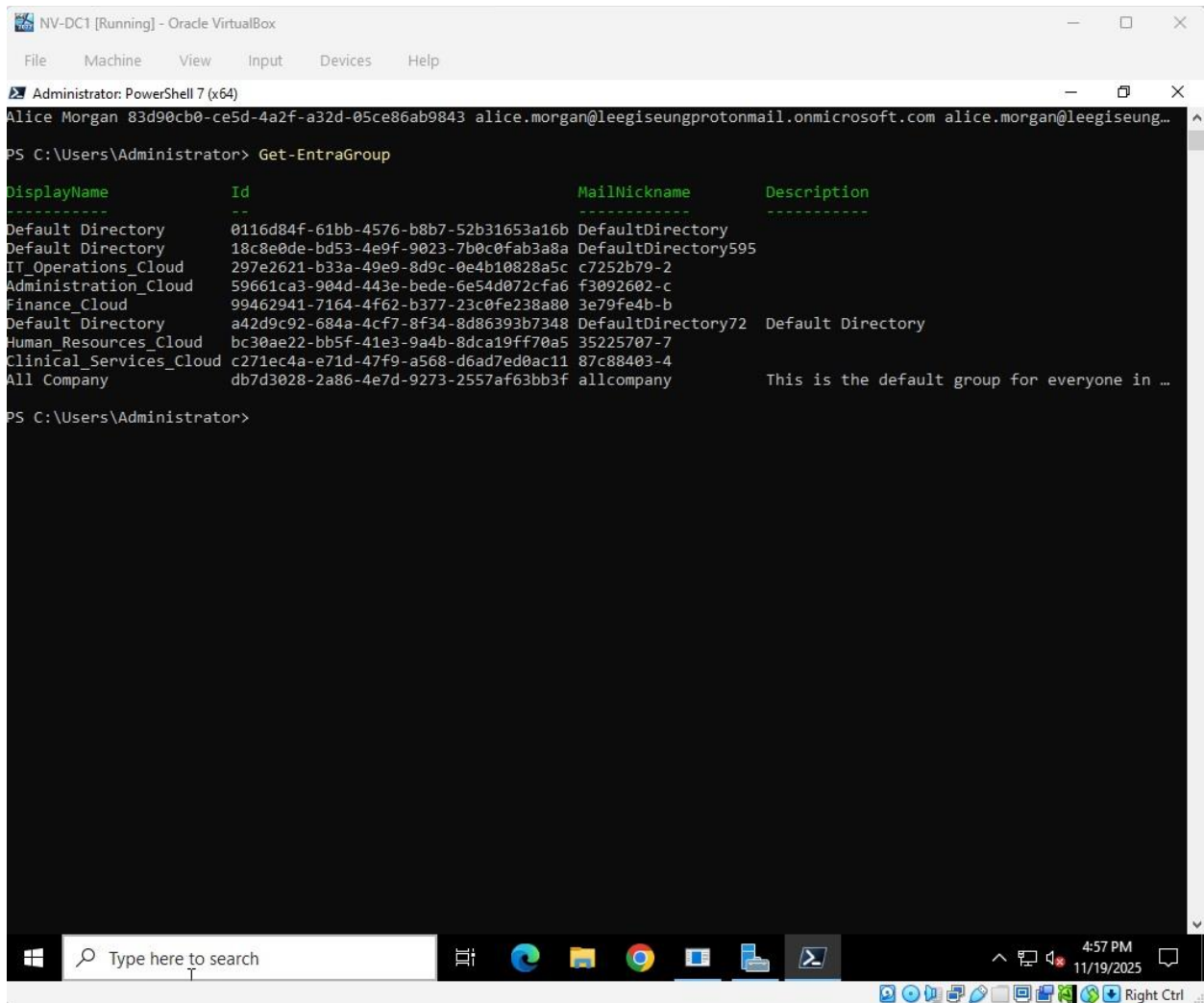
Task 4 - Cloud Group Queries (10 pts)

Cloud groups were retrieved, key attributes displayed, and group membership examined to validate Entra ID group visibility through PowerShell.

Evidence Requirements

- **Evidence 6:** Screenshot of a group listing or group membership query

Note: This part should be empty before groups were created. However, when groups are created then the result is shown



```
NV-DC1 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Administrator: PowerShell 7 (x64)
Alice Morgan 83d90cb0-ce5d-4a2f-a32d-05ce86ab9843 alice.morgan@leegiseungprotonmail.onmicrosoft.com alice.morgan@leegiseung...
PS C:\Users\Administrator> Get-EntraGroup

DisplayName      Id                                     MailNickname      Description
-----
Default Directory 0116d84f-61bb-4576-b8b7-52b31653a16b DefaultDirectory
Default Directory 18c8e0de-bd53-4e9f-9023-7b0c0fab3a8a DefaultDirectory595
IT_Operations_Cloud 297e2621-b33a-49e9-8d9c-0e4b10828a5c c7252b79-2
Administration_Cloud 59661ca3-904d-443e-bede-6e54d072cfa6 f3092602-c
Finance_Cloud 99462941-7164-4f62-b377-23c0fe238a80 3e79fe4b-b
Default Directory a42d9c92-684a-4cf7-8f34-8d86393b7348 DefaultDirectory72 Default Directory
Human_Resources_Cloud bc30ae22-bb5f-41e3-9a4b-8dca19ff70a5 35225707-7
Clinical_Services_Cloud c271ec4a-e71d-47f9-a568-d6ad7ed0ac11 87c88403-4
All Company db7d3028-2a86-4e7d-9273-2557af63bb3f allcompany This is the default group for everyone in ...

PS C:\Users\Administrator>
```

