PHASE 16: Automation & Scripting with PowerShell & Microsoft Graph API

Automate and streamline IT tasks in your hybrid infrastructure using secure, script-driven processes. This includes onboarding users, Intune configuration management, AD data cleanup, and backup exports—all using free tools and Microsoft APIs.

Technology Used:

- PowerShell 7+
- Microsoft Graph API
- AzureAD / Entra ID PowerShell module
- Microsoft.Graph.Intune SDK
- Task Scheduler

I. Setup PowerShell Modules & Environment

Actions Completed:

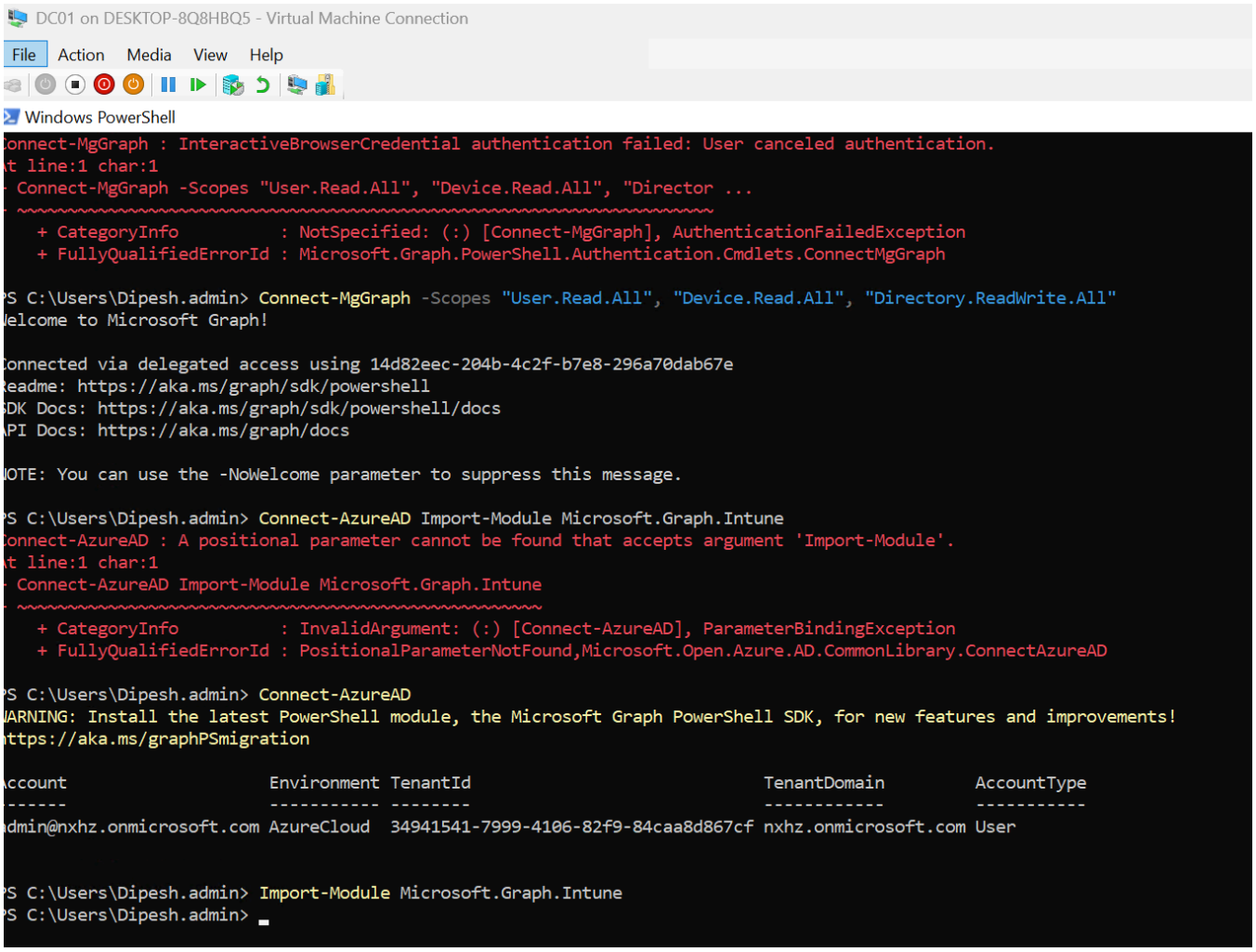
Step 1: Install Required Modules

Open PowerShell as Administrator and install the following:

1. Install-Module Microsoft.Graph -Scope CurrentUser
2. Install-Module Microsoft.Graph.Intune -Scope CurrentUser
3. Install-Module AzureAD -Scope CurrentUser
4. Install-Module ImportExcel -Scope CurrentUser

Step 2: Connect to Services:

1. Connect-MgGraph -Scopes "User.Read.All", "Device.Read.All", "Directory.ReadWrite.All"
2. Connect-AzureAD
3. Import-Module Microsoft.Graph.Intune



✅ Outcome:

Your workstation is now authenticated and authorized to read/write users, groups, devices, and Intune configuration from Microsoft 365.

II. Key Automation Scripts Implemented

Actions Completed:

1. Cloud-Only User Onboarding & License Assignment

   $user = @{

   accountEnabled = $true

displayName = "John Doe"

mailNickname = "jdoe"

userPrincipalName = "jdoe@dipeshcorp.onmicrosoft.com"

passwordProfile = @{

forceChangePasswordNextSignIn = $true

password = "Welcome123@"

}

}

New-MgUser -BodyParameter $user

```
PS C:\Users\Dipesh.admin> $user = @{
>> accountEnabled = $true
>>  displayName = "John Do"
>>  mailNickname = "jdoe"
>>  userPrincipalName = "jdoe@nxhz.onmicrosoft.com"
>>  passwordProfile = @{
>>  forceChangePasswordNextSignIn = $true
>>  password = "Welcome123@"
>>  }
>>  }
>> New-MgUser -BodyParameter $user

DisplayName Id                                   Mail UserPrincipalName
----------- --                                   ---- -----------------
John Do     d55bb7df-9990-4d15-ac14-a03ce7f8eb82      jdoe@nxhz.onmicrosoft.com


PS C:\Users\Dipesh.admin>
```

Assign M365 license

Assign-MgUserLicense -UserId "jdoe@dipeshcorp.onmicrosoft.com" -AddLicenses @{SkuId = "<your-sku-guid>"}

Result: Created user and assigned license in Entra ID using a single script.

2. BitLocker Recovery Key Export (On-Prem Devices)

Get-ADComputer -Filter * -Properties 'msFVE-RecoveryInformation' |

Where-Object { $.*'msFVE-RecoveryInformation'* } |

Select-Object Name, @{Name="RecoveryKey";

Expression={($.'msFVE-RecoveryInformation').RecoveryPassword}} |

Export-Csv BitLockerKeys.csv -NoTypeInformation

Result: Periodic backup of BitLocker recovery keys to encrypted storage.

3. Intune Configuration Backup

Get-IntuneConfigurationPolicy | Export-Clixml -Path "C:\backups\IntuneProfiles.xml"

Result: Exported all configuration profiles from Intune for disaster recovery or audit purposes.

4. Autopilot Hardware Hash Export for New Devices

Install-Script -Name Get-WindowsAutoPilotInfo

Set-ExecutionPolicy RemoteSigned -Scope Process

Get-WindowsAutoPilotInfo -OutputFile "autopilot-hash.csv"

Result: Hardware hash captured for seamless Autopilot provisioning.

5. Identify Stale Devices (>60 Days Inactive)

$devices = Get-AzureADDevice

$stale = $devices | Where-Object { $_.ApproximateLastSignInTimeStamp -lt

(Get-Date).AddDays(-60) } $stale | Export-Csv .\StaleDevices.csv

Result: Enabled cleanup of inactive cloud-registered devices and better license hygiene.

6. Automate Script Execution via Task Scheduler

Scheduled a PowerShell script (e.g., StaleDeviceScan.ps1) to run every morning:

Trigger: Daily at 6 AM

Action: powershell.exe -ExecutionPolicy Bypass -File "C:\scripts\StaleDeviceScan.ps1"

Output emailed to admin inbox using Send-MailMessage.

7. Secure Credential Management for Automation

Store credentials securely:

```
$cred = Get-Credential
$cred | Export-Clixml -Path "C:\secure\admin.xml"
```

Load in script:

```
$creds = Import-Clixml "C:\secure\admin.xml"
```

Used for automated scripts that access Graph API or Exchange Online without interactive login.