Project 1
Documentation for Powershell Add Users

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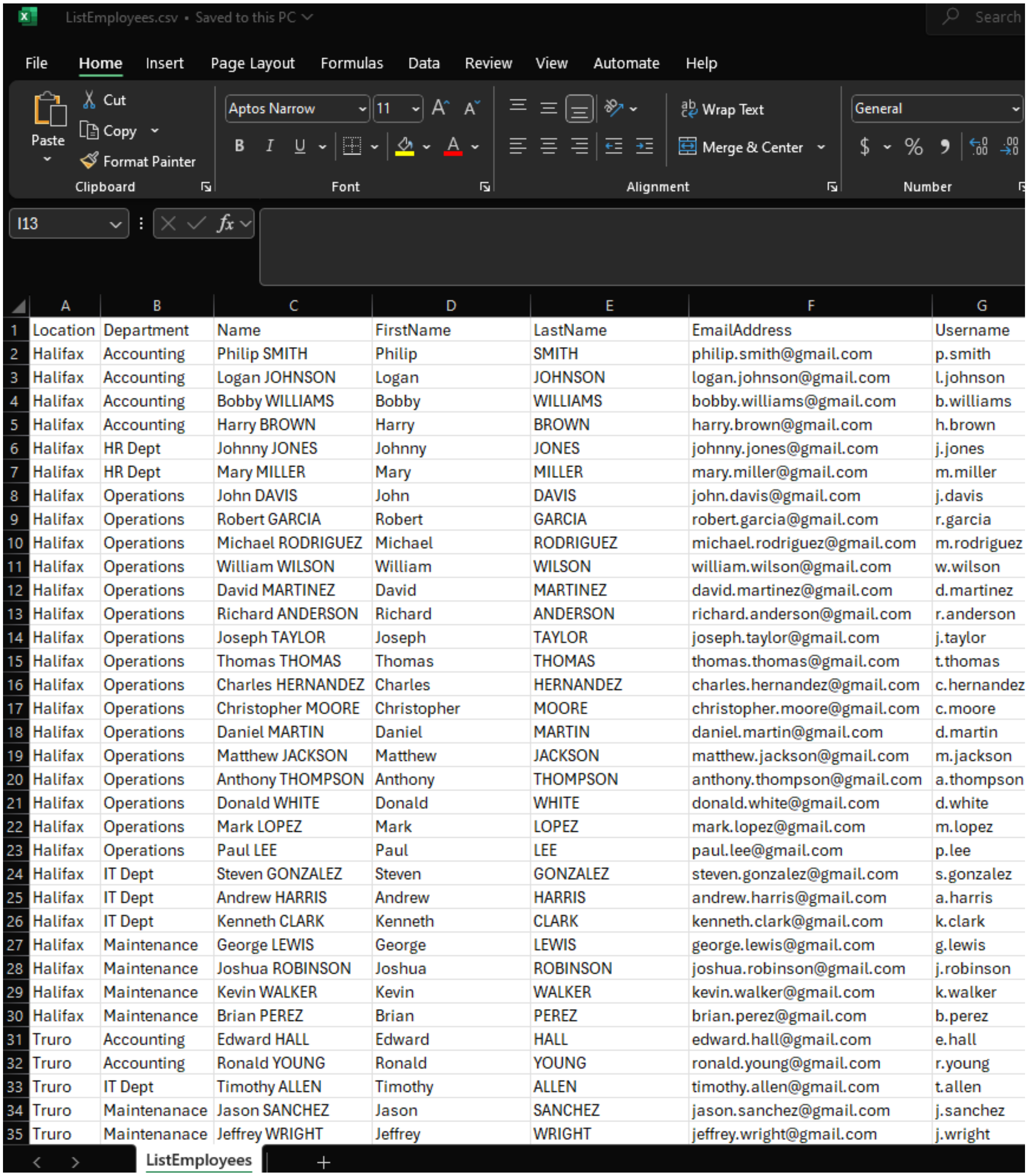
User’s Data Preparation

I’ve constructed the OU and Users data using Microsoft Excel. I organized it based on the users Location and Department. I also added a username as their login username which is the combination of their Firstname’s initials and Lastname.

Figure 1: Proof of User’s Data Preparation



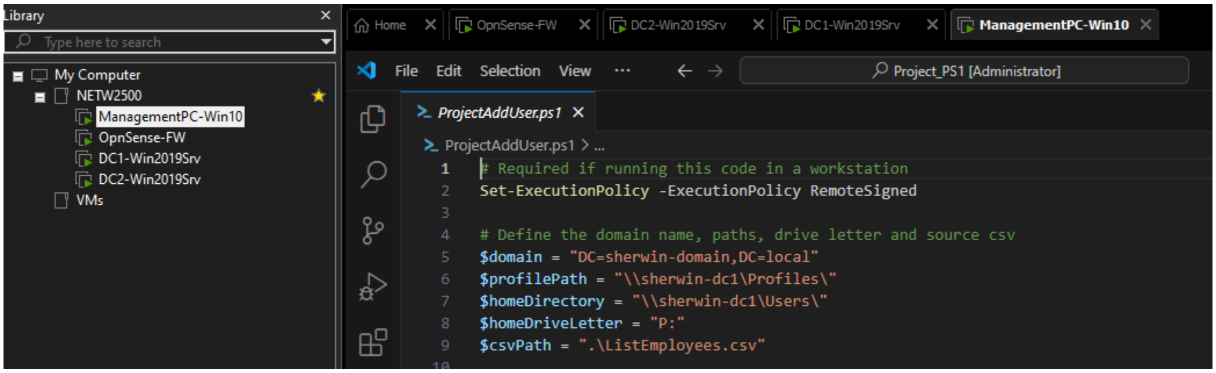
	A	B	C	D	E	F	G
1	Location	Department	Name	FirstName	LastName	EmailAddress	Username
2	Halifax	Accounting	Philip SMITH	Philip	SMITH	philip.smith@gmail.com	p.smith
3	Halifax	Accounting	Logan JOHNSON	Logan	JOHNSON	logan.johnson@gmail.com	l.johnson
4	Halifax	Accounting	Bobby WILLIAMS	Bobby	WILLIAMS	bobby.williams@gmail.com	b.williams
5	Halifax	Accounting	Harry BROWN	Harry	BROWN	harry.brown@gmail.com	h.brown
6	Halifax	HR Dept	Johnny JONES	Johnny	JONES	johnny.jones@gmail.com	j.jones
7	Halifax	HR Dept	Mary MILLER	Mary	MILLER	mary.miller@gmail.com	m.miller
8	Halifax	Operations	John DAVIS	John	DAVIS	john.davis@gmail.com	j.davis
9	Halifax	Operations	Robert GARCIA	Robert	GARCIA	robert.garcia@gmail.com	r.garcia
10	Halifax	Operations	Michael RODRIGUEZ	Michael	RODRIGUEZ	michael.rodriguez@gmail.com	m.rodriguez
11	Halifax	Operations	William WILSON	William	WILSON	william.wilson@gmail.com	w.wilson
12	Halifax	Operations	David MARTINEZ	David	MARTINEZ	david.martinez@gmail.com	d.martinez
13	Halifax	Operations	Richard ANDERSON	Richard	ANDERSON	richard.anderson@gmail.com	r.anderson
14	Halifax	Operations	Joseph TAYLOR	Joseph	TAYLOR	joseph.taylor@gmail.com	j.taylor
15	Halifax	Operations	Thomas THOMAS	Thomas	THOMAS	thomas.thomas@gmail.com	t.thomas
16	Halifax	Operations	Charles HERNANDEZ	Charles	HERNANDEZ	charles.hernandez@gmail.com	c.hernandez
17	Halifax	Operations	Christopher MOORE	Christopher	MOORE	christopher.moore@gmail.com	c.moore
18	Halifax	Operations	Daniel MARTIN	Daniel	MARTIN	daniel.martin@gmail.com	d.martin
19	Halifax	Operations	Matthew JACKSON	Matthew	JACKSON	matthew.jackson@gmail.com	m.jackson
20	Halifax	Operations	Anthony THOMPSON	Anthony	THOMPSON	anthony.thompson@gmail.com	a.thompson
21	Halifax	Operations	Donald WHITE	Donald	WHITE	donald.white@gmail.com	d.white
22	Halifax	Operations	Mark LOPEZ	Mark	LOPEZ	mark.lopez@gmail.com	m.lopez
23	Halifax	Operations	Paul LEE	Paul	LEE	paul.lee@gmail.com	p.lee
24	Halifax	IT Dept	Steven GONZALEZ	Steven	GONZALEZ	steven.gonzalez@gmail.com	s.gonzalez
25	Halifax	IT Dept	Andrew HARRIS	Andrew	HARRIS	andrew.harris@gmail.com	a.harris
26	Halifax	IT Dept	Kenneth CLARK	Kenneth	CLARK	kenneth.clark@gmail.com	k.clark
27	Halifax	Maintenance	George LEWIS	George	LEWIS	george.lewis@gmail.com	g.lewis
28	Halifax	Maintenance	Joshua ROBINSON	Joshua	ROBINSON	joshua.robinson@gmail.com	j.robinson
29	Halifax	Maintenance	Kevin WALKER	Kevin	WALKER	kevin.walker@gmail.com	k.walker
30	Halifax	Maintenance	Brian PEREZ	Brian	PEREZ	brian.perez@gmail.com	b.perez
31	Truro	Accounting	Edward HALL	Edward	HALL	edward.hall@gmail.com	e.hall
32	Truro	Accounting	Ronald YOUNG	Ronald	YOUNG	ronald.young@gmail.com	r.young
33	Truro	IT Dept	Timothy ALLEN	Timothy	ALLEN	timothy.allen@gmail.com	t.allen
34	Truro	Maintenanace	Jason SANCHEZ	Jason	SANCHEZ	jason.sanchez@gmail.com	j.sanchez
35	Truro	Maintenanace	Jeffrey WRIGHT	Jeffrey	WRIGHT	jeffrey.wright@gmail.com	j.wright

Powershell Script

I used VS Code editor to create my powershell script. The whole script is composed of 4 functions, CreateLocationOU, CreateDepartmentOU, CreateUser, and ProcessUsers. In the beginning of script, I've also defined all the paths and domains for easier modification and script reusability. I use try catch blocks to prevent the script from breaking when errors are encountered and suppress redundant error messages.

These variables stored the paths, domain name, drive letter, and source csv file path.

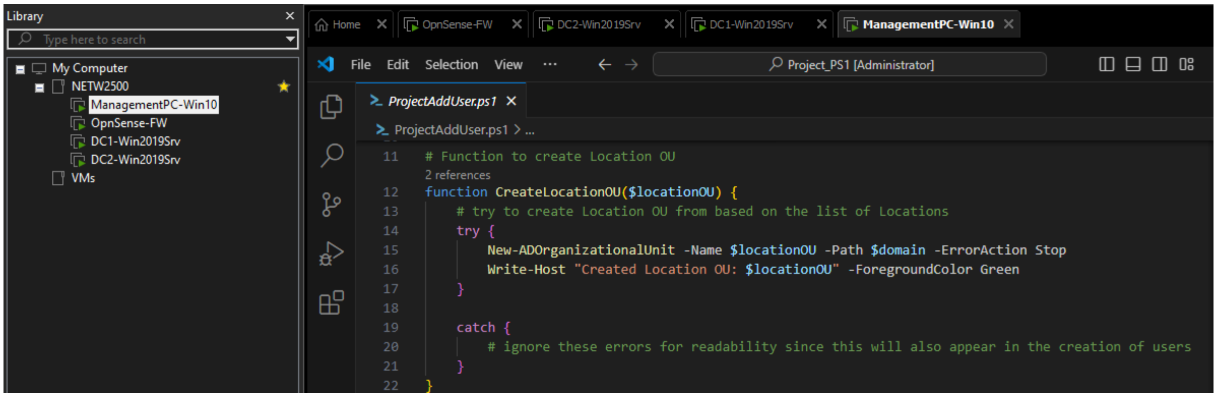
Figure 2: Proof of defined domains, paths, and source file paths.



```
# Required if running this code in a workstation
Set-ExecutionPolicy -ExecutionPolicy RemoteSigned

# Define the domain name, paths, drive letter and source csv
$domain = "DC=sherwin-domain,DC=local"
$profilePath = "\\sherwin-dc1\Profiles\"
$homeDirectory = "\\sherwin-dc1\Users\"
$homeDriveLetter = "P:"
$csvPath = ".\ListEmployees.csv"
```

This function creates the Halifax and Truro OU using the New-ADOrganizationalUnit cmdlet.

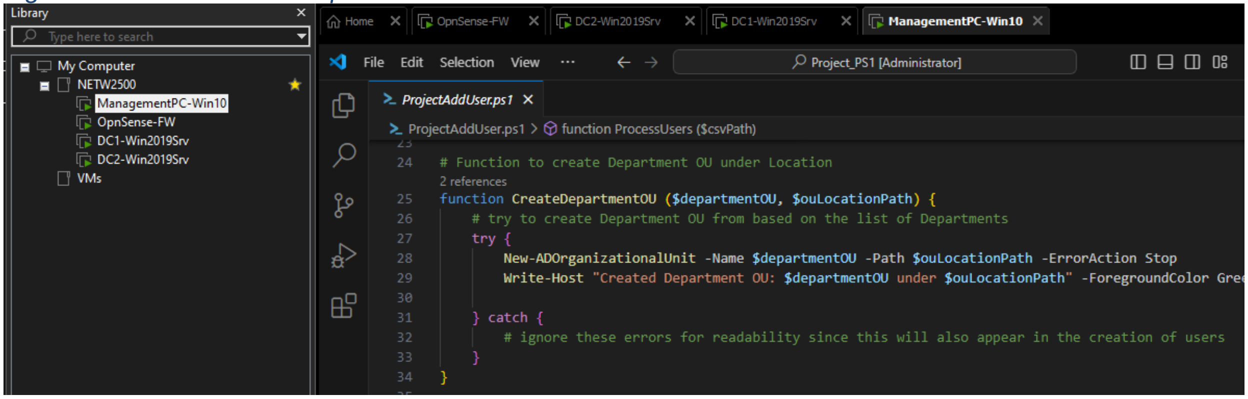
Figure 3: Proof of CreateLocationOU function.



```
# Function to create Location OU
function CreateLocationOU($locationOU) {
    # try to create Location OU from based on the list of Locations
    try {
        New-ADOrganizationalUnit -Name $locationOU -Path $domain -ErrorAction Stop
        Write-Host "Created Location OU: $locationOU" -ForegroundColor Green
    }

    catch {
        # ignore these errors for readability since this will also appear in the creation of users
    }
}
```

This function creates the Department OUs under Halifax and Truro using the New-ADOrganizationalUnit cmdlet.

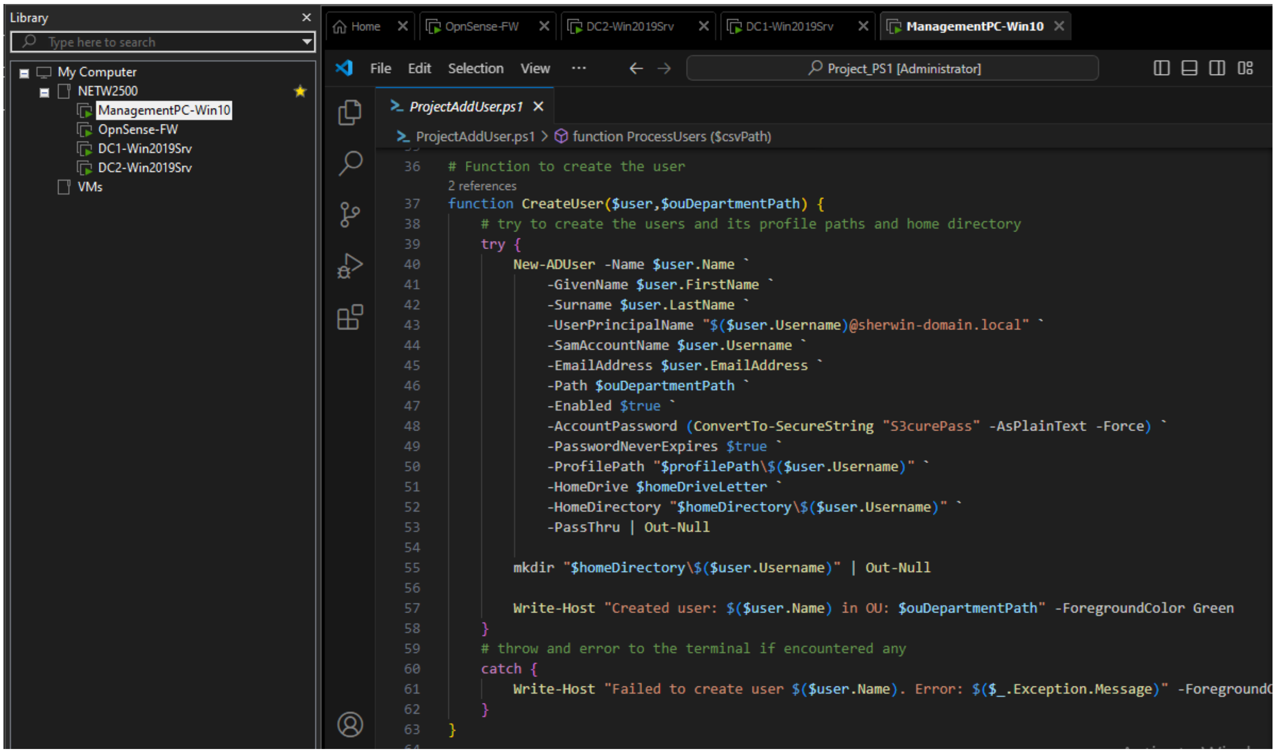
Figure 4: Proof of CreateDepartmentOU function.



```powershell
# Function to create Department OU under Location
function CreateDepartmentOU ($departmentOU, $ouLocationPath) {
    # try to create Department OU from based on the list of Departments
    try {
        New-ADOrganizationalUnit -Name $departmentOU -Path $ouLocationPath -ErrorAction Stop
        Write-Host "Created Department OU: $departmentOU under $ouLocationPath" -ForegroundColor Gree

    } catch {
        # ignore these errors for readability since this will also appear in the creation of users
    }
}
```

This function creates the users. It includes all the details in the csv file like the Names, Emails and User login. I also set profile directory and home folders. I also gave it a default password of “S3curePass”. These function also throws any errors encountered.

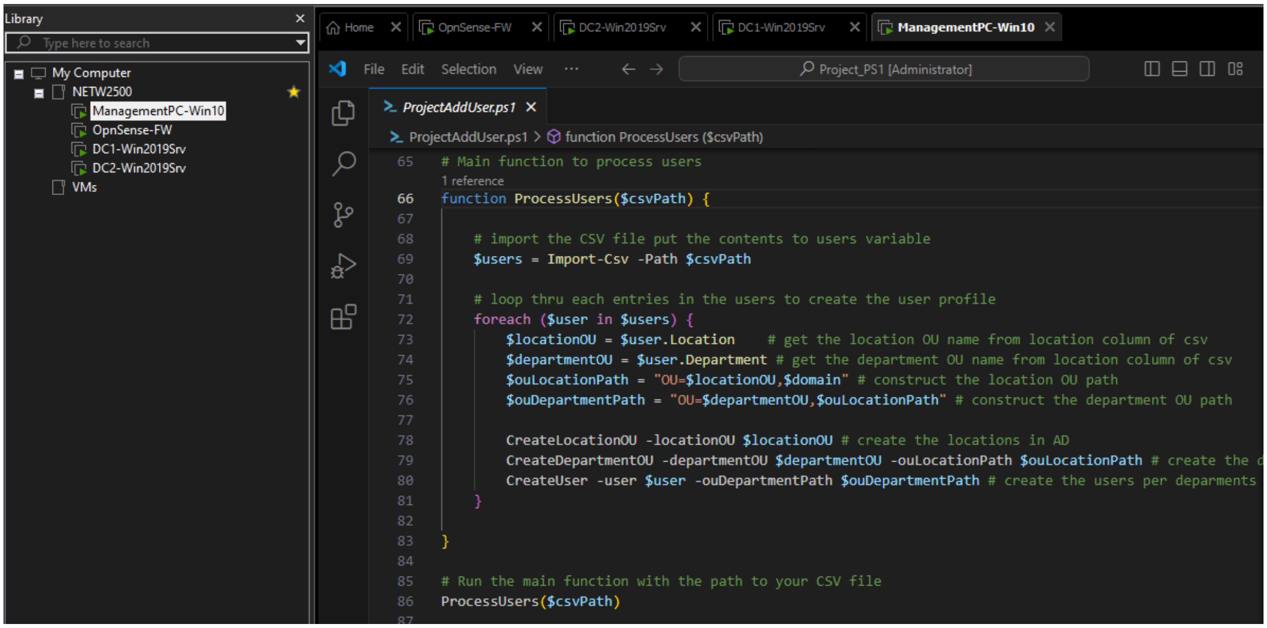
Figure 4: Proof of CreateUser Function



```powershell
# Function to create the user
function CreateUser($user,$ouDepartmentPath) {
    # try to create the users and its profile paths and home directory
    try {
        New-ADUser -Name $user.Name `
            -GivenName $user.FirstName `
            -Surname $user.LastName `
            -UserPrincipalName "$($user.Username)@sherwin-domain.local" `
            -SamAccountName $user.Username `
            -EmailAddress $user.EmailAddress `
            -Path $ouDepartmentPath `
            -Enabled $true `
            -AccountPassword (ConvertTo-SecureString "S3curePass" -AsPlainText -Force) `
            -PasswordNeverExpires $true `
            -ProfilePath "$profilePath\$($user.Username)" `
            -HomeDrive $homeDriveLetter `
            -HomeDirectory "$homeDirectory\$($user.Username)" `
            -PassThru | Out-Null

        mkdir "$homeDirectory\$($user.Username)" | Out-Null

        Write-Host "Created user: $($user.Name) in OU: $ouDepartmentPath" -ForegroundColor Green
    }
    # throw and error to the terminal if encountered any
    catch {
        Write-Host "Failed to create user $($user.Name). Error: $($_.Exception.Message)" -ForegroundC
    }
}
```

This function will import the contents of csv file, loop thru each entries and run the create functions. It is then called in the bottom line with the csvPath as an argument.

Figure 5: Proof of ProcessUsers Function and calling it in the main loop.

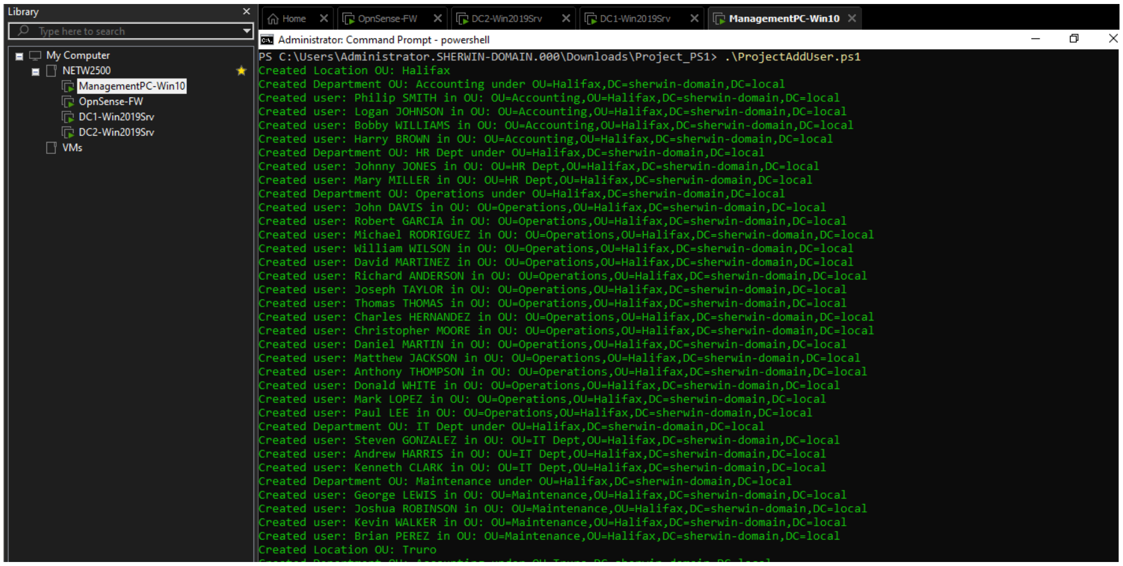


```
# Main function to process users
function ProcessUsers($csvPath) {

    # import the CSV file put the contents to users variable
    $users = Import-Csv -Path $csvPath

    # loop thru each entries in the users to create the user profile
    foreach ($user in $users) {
        $locationOU = $user.Location    # get the location OU name from location column of csv
        $departmentOU = $user.Department # get the department OU name from location column of csv
        $ouLocationPath = "OU=$locationOU,$domain" # construct the location OU path
        $ouDepartmentPath = "OU=$departmentOU,$ouLocationPath" # construct the department OU path

        CreateLocationOU -locationOU $locationOU # create the locations in AD
        CreateDepartmentOU -departmentOU $departmentOU -ouLocationPath $ouLocationPath # create the d
        CreateUser -user $user -ouDepartmentPath $ouDepartmentPath # create the users per deparments
    }

}

# Run the main function with the path to your CSV file
ProcessUsers($csvPath)
```

Testing the Script

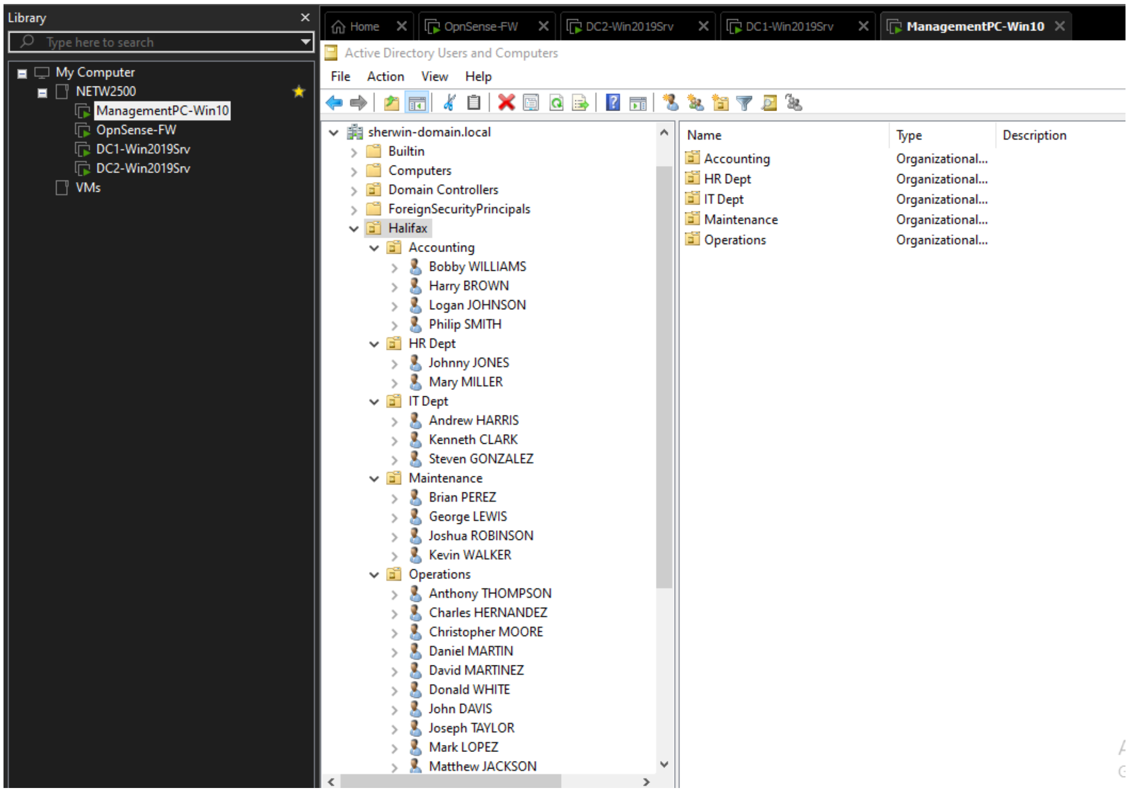
Script can be run in any terminals that handle powershell. The csv file should be in the same directory as well. This script can be reused in other systems provided that the defined constants in the top part of the script are updated.

Figure 6: Proof of running the script



```
PS C:\Users\Administrator.SHERWIN-DOMAIN.000\Downloads\Project_PS1> .\ProjectAddUser.ps1
Created Location OU: Halifax
Created Department OU: Accounting under OU=Halifax,DC=sherwin-domain,DC=local
Created user: Philip SMITH in OU: OU=Accounting,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Logan JOHNSON in OU: OU=Accounting,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Bobby WILLIAMS in OU: OU=Accounting,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Harry BROWN in OU: OU=Accounting,OU=Halifax,DC=sherwin-domain,DC=local
Created Department OU: HR Dept under OU=Halifax,DC=sherwin-domain,DC=local
Created user: Johnny JONES in OU: OU=HR Dept,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Mary MILLER in OU: OU=HR Dept,OU=Halifax,DC=sherwin-domain,DC=local
Created Department OU: Operations under OU=Halifax,DC=sherwin-domain,DC=local
Created user: John DAVIS in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Robert GARCIA in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Michael RODRIGUEZ in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: William WILSON in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: David MARTINEZ in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Richard ANDERSON in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Joseph TAYLOR in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Thomas THOMAS in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Charles HERNANDEZ in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Christopher MOORE in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Daniel MARTIN in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Matthew JACKSON in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Anthony THOMPSON in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Donald WHITE in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Mark LOPEZ in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Paul LEE in OU: OU=Operations,OU=Halifax,DC=sherwin-domain,DC=local
Created Department OU: IT Dept under OU=Halifax,DC=sherwin-domain,DC=local
Created user: Steven GONZALEZ in OU: OU=IT Dept,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Andrew HARRIS in OU: OU=IT Dept,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Kenneth CLARK in OU: OU=IT Dept,OU=Halifax,DC=sherwin-domain,DC=local
Created Department OU: Maintenance under OU=Halifax,DC=sherwin-domain,DC=local
Created user: George LEWIS in OU: OU=Maintenance,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Joshua ROBINSON in OU: OU=Maintenance,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Kevin WALKER in OU: OU=Maintenance,OU=Halifax,DC=sherwin-domain,DC=local
Created user: Brian PEREZ in OU: OU=Maintenance,OU=Halifax,DC=sherwin-domain,DC=local
Created Location OU: Truro
Created Department OU: Accounting under OU=Truro,DC=sherwin-domain,DC=local
```

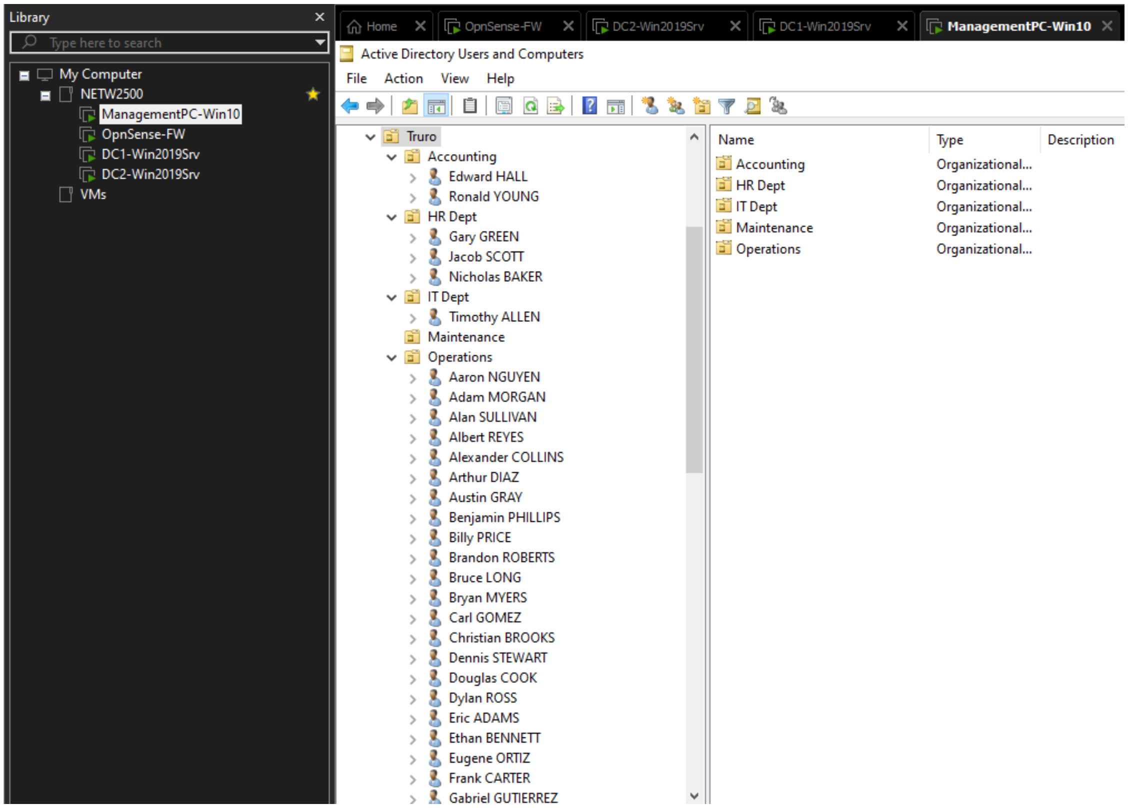
Figure 7: Proof of Created Users and their respective Department OU under Halifax OU



- sherwin-domain.local
  - Builtin
  - Computers
  - Domain Controllers
  - ForeignSecurityPrincipals
  - Halifax
    - Accounting
      - Bobby WILLIAMS
      - Harry BROWN
      - Logan JOHNSON
      - Philip SMITH
    - HR Dept
      - Johnny JONES
      - Mary MILLER
    - IT Dept
      - Andrew HARRIS
      - Kenneth CLARK
      - Steven GONZALEZ
    - Maintenance
      - Brian PEREZ
      - George LEWIS
      - Joshua ROBINSON
      - Kevin WALKER
    - Operations
      - Anthony THOMPSON
      - Charles HERNANDEZ
      - Christopher MOORE
      - Daniel MARTIN
      - David MARTINEZ
      - Donald WHITE
      - John DAVIS
      - Joseph TAYLOR
      - Mark LOPEZ
      - Matthew JACKSON

Name	Type	Description
Accounting	Organizational...	
HR Dept	Organizational...	
IT Dept	Organizational...	
Maintenance	Organizational...	
Operations	Organizational...	

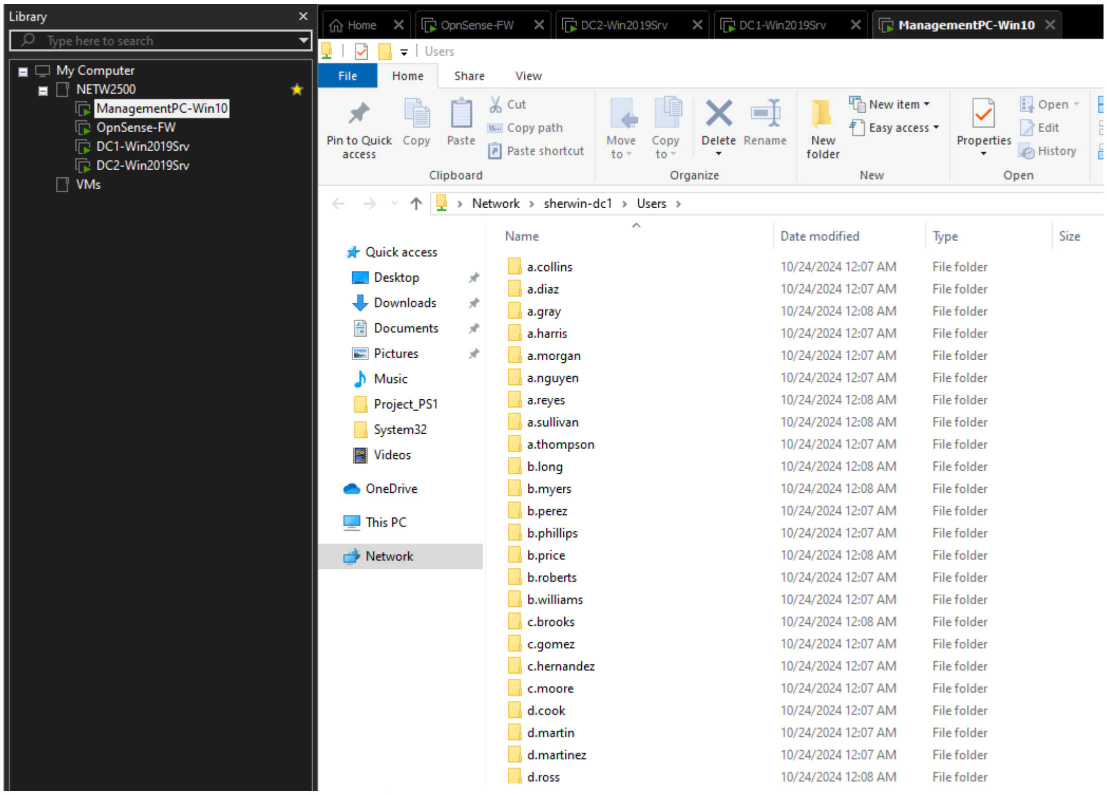
Figure 8: Proof of Created Users and their respective Department OU under Truro OU



- Truro
  - Accounting
    - Edward HALL
    - Ronald YOUNG
  - HR Dept
    - Gary GREEN
    - Jacob SCOTT
    - Nicholas BAKER
  - IT Dept
    - Timothy ALLEN
  - Maintenance
  - Operations
    - Aaron NGUYEN
    - Adam MORGAN
    - Alan SULLIVAN
    - Albert REYES
    - Alexander COLLINS
    - Arthur DIAZ
    - Austin GRAY
    - Benjamin PHILLIPS
    - Billy PRICE
    - Brandon ROBERTS
    - Bruce LONG
    - Bryan MYERS
    - Carl GOMEZ
    - Christian BROOKS
    - Dennis STEWART
    - Douglas COOK
    - Dylan ROSS
    - Eric ADAMS
    - Ethan BENNETT
    - Eugene ORTIZ
    - Frank CARTER
    - Gabriel GUTIERREZ

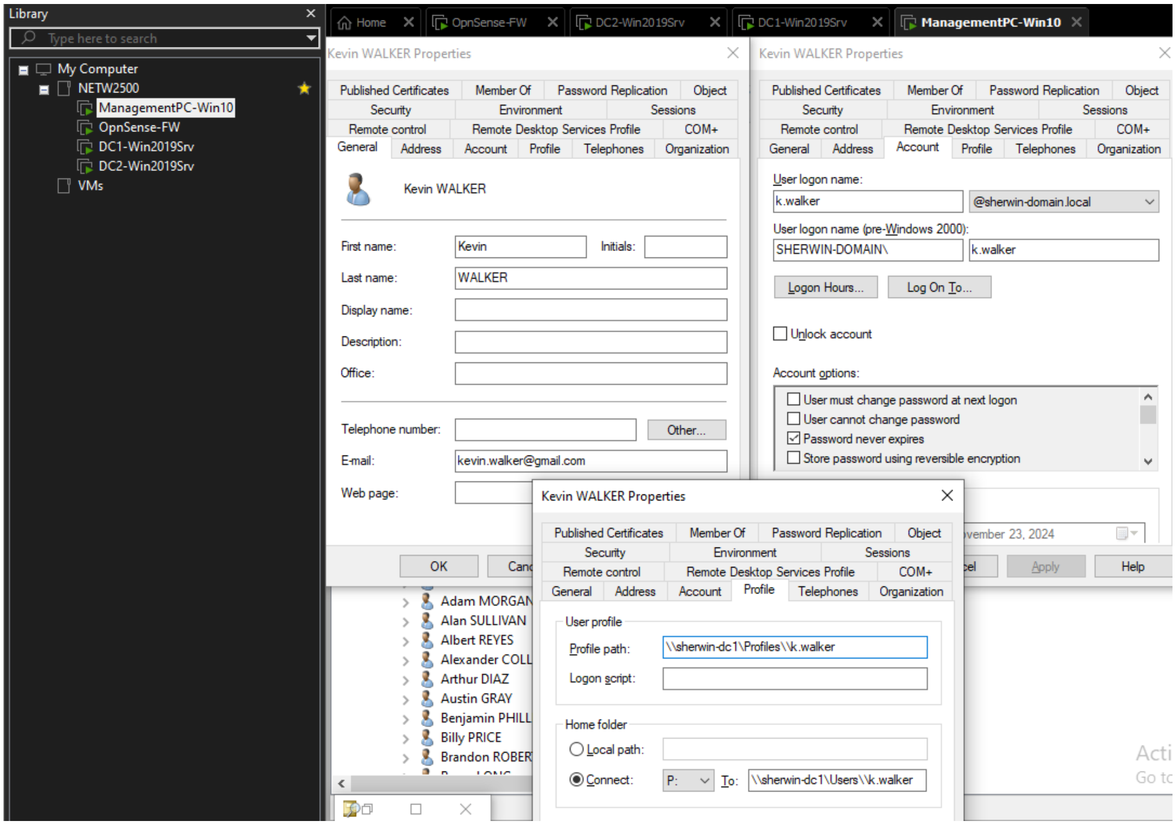
Name	Type	Description
Accounting	Organizational...	
HR Dept	Organizational...	
IT Dept	Organizational...	
Maintenance	Organizational...	
Operations	Organizational...	

Figure 9: Proof of Created Home Folders For Each Created Users


Network > sherwin-dc1 > Users

Name	Date modified	Type	Size
a.collins	10/24/2024 12:07 AM	File folder	
a.diaz	10/24/2024 12:07 AM	File folder	
a.gray	10/24/2024 12:08 AM	File folder	
a.harris	10/24/2024 12:07 AM	File folder	
a.morgan	10/24/2024 12:07 AM	File folder	
a.nguyen	10/24/2024 12:07 AM	File folder	
a.reyes	10/24/2024 12:08 AM	File folder	
a.sullivan	10/24/2024 12:08 AM	File folder	
a.thompson	10/24/2024 12:07 AM	File folder	
b.long	10/24/2024 12:08 AM	File folder	
b.myers	10/24/2024 12:08 AM	File folder	
b.perez	10/24/2024 12:07 AM	File folder	
b.phillips	10/24/2024 12:07 AM	File folder	
b.price	10/24/2024 12:08 AM	File folder	
b.roberts	10/24/2024 12:07 AM	File folder	
b.williams	10/24/2024 12:07 AM	File folder	
c.brooks	10/24/2024 12:08 AM	File folder	
c.gomez	10/24/2024 12:07 AM	File folder	
c.hernandez	10/24/2024 12:07 AM	File folder	
c.moore	10/24/2024 12:07 AM	File folder	
d.cook	10/24/2024 12:07 AM	File folder	
d.martin	10/24/2024 12:07 AM	File folder	
d.martinez	10/24/2024 12:07 AM	File folder	
d.ross	10/24/2024 12:08 AM	File folder	

Figure 10: Proof of Configured User Info (Kevin WALKER)


Kevin WALKER Properties

General

Kevin WALKER

First name: Kevin

Last name: WALKER

Display name:

Description:

Office:

Telephone number:

E-mail: kevin.walker@gmail.com

Web page:

Account

User logon name: k.walker @sherwin-domain.local

User logon name (pre-Windows 2000): SHERWIN-DOMAIN\ k.walker

□ Unlock account

Account options:
- □ User must change password at next logon
- □ User cannot change password
- ☑ Password never expires
- □ Store password using reversible encryption

Profile

User profile

Profile path: \\sherwin-dc1\Profiles\\k.walker

Logon script:

Home folder

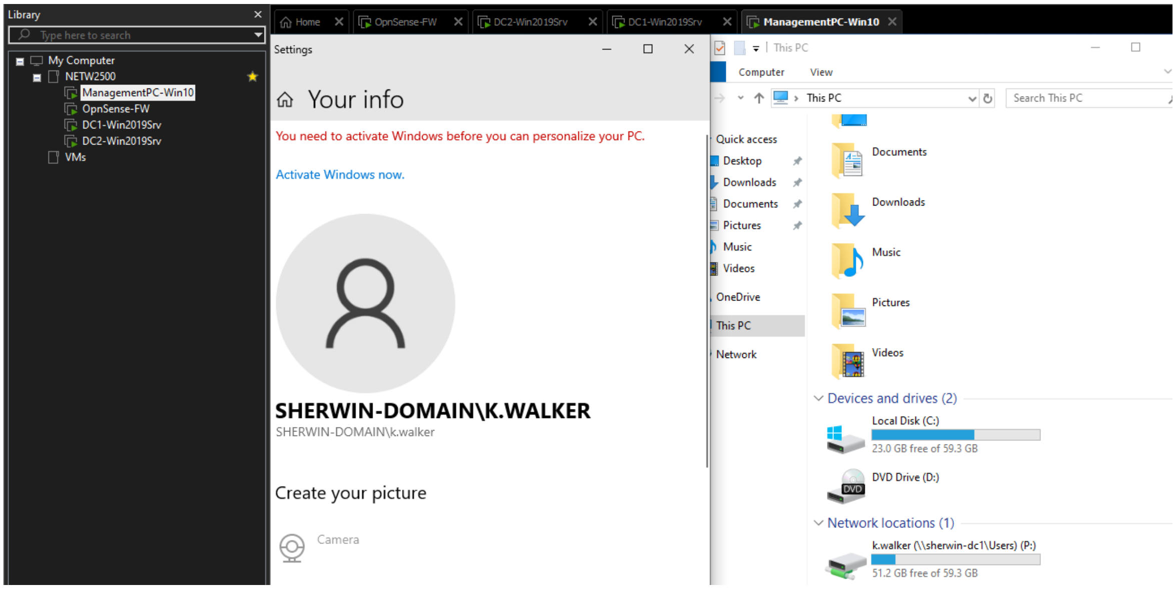
○ Local path:

● Connect: P: To: \\sherwin-dc1\Users\\k.walker

Adam MORGAN
Alan SULLIVAN
Albert REYES
Alexander COLL
Arthur DIAZ
Austin GRAY
Benjamin PHILL
Billy PRICE
Brandon ROBER

Logging In The Created User

Figure 11: Proof of User Login (Kevin WALKER)



Your info

You need to activate Windows before you can personalize your PC.

Activate Windows now.

SHERWIN-DOMAIN\K.WALKER

SHERWIN-DOMAIN\k.walker

Create your picture

Local Disk (C:) 23.0 GB free of 59.3 GB

DVD Drive (D:)

k.walker (\\sherwin-dc1\Users) (P:) 51.2 GB free of 59.3 GB

References

Instructor’s (Alfred Parks) demo and Lectures thru Teams

Course Content
https://nscconline.brightspace.com/d2l/le/content/

Microsoft Powershell Commands

https://learn.microsoft.com/en-us/powershell/module/activedirectory/new-adorganizationalunit?view=windowsserver2022-ps

https://learn.microsoft.com/en-us/powershell/module/activedirectory/new-aduser?view=windowsserver2022-ps

https://learn.microsoft.com/en-us/powershell/module/microsoft.powershell.utility/write-host?view=powershell-7.4

-END-