

Student Lab Manual

MS100.3x: Microsoft 365 Identity Management

Lab Scenario

You are the system administrator for Adatum Corporation, and you have Microsoft 365 deployed in a virtualized lab environment. In this lab, you will set manage your Microsoft 365 identity environment, and you will implement Identity Synchronization.

There are two labs in this course. Lab 1 should be performed after you complete Module 1, and Lab 2 should be completed after you finish Module 2. For a successful outcome to each lab, the exercises and their corresponding tasks must be completed in order. The two labs include:

Lab 1 - Managing your Microsoft 365 Identity environment (after completing Module 1)

- Exercise 1: Setting up your lab environment
 - Task 1 - Obtain your Office 365 credentials
 - Task 2 - Create a Microsoft 365 tenant account

- Exercise 2: Managing your Microsoft 365 identity environment using the Microsoft 365 admin center
 - Task 1 - Create user accounts
 - Task 2 – Edit Microsoft 365 users
 - Task 3 – Verify user settings
 - Task 4 – Create security groups and add users to each group
 - Task 5 – Manage security groups

- Exercise 3: Managing your Microsoft 365 identity environment using Windows PowerShell
 - Task 1 – Install Microsoft Azure Active
 - Task 2 - Create new users and assign licenses
 - Task 3 – Modify user accounts
 - Task 4 – Configure groups and group membership
 - Task 5 – Configure user passwords

- Task 6 – Assign service administrators in the Microsoft 365 admin center
- Task 7 – Manage service administration with Windows PowerShell
- Task 8 – Verify service administration

Lab 2 – Implementing Identity Synchronization (after completing Module 2)

- Exercise 1: Setting up your organization for identity synchronization
 - Task 1 – Configure your UPN suffix
 - Task 2 – Prepare problem user accounts
 - Task 3 - Run the IdFix tool and fix identified issues
 - Task 4 - Enable Directory Synchronization
 - Task 5 – Set Up Azure AD Connect
 - Task 6 – Create a new user and group account
 - Task 7 – Change group membership

- Exercise 2: Implement Identity Synchronization
 - Task 1 – Force synchronization
 - Task 2 – Validate the results of Directory Synchronization
 - Task 3 – Deploy Azure AD Pass-Through Authentication
 - Task 4 – Enable High Availability

Lab Design

This lab manual provides two sets of instruction for each lab:

- High-level, summarized instructions
- Detailed, step-by-step instructions, also known as the Lab Solution

IMPORTANT: Start with the high-level, summarized instructions

You are encouraged to perform the labs using the high-level instructions. These summarized instructions offer you guidance on what tasks need to be performed and what, if any, data needs to be entered, but they do not provide detailed click-by-click instruction on how to complete each task.

The point of the labs is to apply what you've learned in the course by working your way through the tasks without being guided through each mouse click. Using these high-level, summarized lab instructions forces you to work your way through the problems, which provides a far better learning experience for students as opposed to being told how to solve each task.

When to use the Lab Solution

Should you find yourself stuck or unsure on how to proceed with a certain task, or if you are unable to complete a lab exercise successfully, then refer to the detailed, step-by-step lab solution at the back of this manual. Please challenge yourself by following the high-level instructions first, and only refer to the lab solution if you find yourself needing help.

Getting a lab for the lab exercises

The lab exercises in this course require you to log on to the Microsoft Labs Online environment to do the lab steps in a virtual environment.

WARNING – Be prepared for UI changes

Given the dynamic nature of Microsoft cloud tools, you may experience user interface (UI) changes that were made following the development of this training content that do not match up with lab instructions presented in this lab manual.

The Microsoft Learning team will update this training course as soon as any such changes are brought to our attention. However, given the dynamic nature of cloud updates, you may run into UI changes before this training content is updated. **If this occurs, you will have to adapt to the changes and work through them in the labs as needed.**

SUMMARIZED LAB INSTRUCTION

This section of the Student Lab Manual contains the summarized lab instructions for each lab exercise. **It is recommended that you perform the labs using these high-level instructions**, which offer you guidance on what tasks need to be performed and what, if any, data needs to be entered. However, these summarized instructions typically do not provide detailed click-by-click instruction on how to complete each task (that can be found in the Lab Solution).

Try to complete the labs using these summarized instructions, which will emulate more of a real-world scenario than simply following the click-click-instruction in the Lab Solution. You should only refer to the Lab Solution should you find yourself stuck or unable to successfully complete the labs using these summarized, high-level instructions.

Lab 1: Managing your Microsoft 365 Identity environment

NOTE: This lab should be performed after you complete Module 1.

In this lab, you must create a tenant account in Office 365 to set up an integrated environment.

Exercise 1: Setting up your lab environment

Task 1 - Obtain Your Office 365 Credentials

Once you launch the lab, a free trial tenant will be automatically created for you to access Azure in the Microsoft Virtual Lab environment. This tenant will be automatically assigned a unique user name and password. You must retrieve this user name and password so that you can sign into Azure within the Microsoft Virtual Lab environment.

1. On the **XtremeLabs Online** menu bar at the top of the screen, click on the **Files** drop-down arrow.
2. Click on **O365 Credentials**. A window will open with your credentials.
3. This is the user name and password you will need to sign in to Azure. Keep this page open as you will need the information later.
4. When the lab directs you to sign in to the Azure portal at <https://portal.azure.com>, you will sign in using the credentials you obtained in this task.

Task 2 - Create the tenant account

1. At the top of the screen, click the **Virtual machine** drop-down field and select **LON-DC1**.
2. On the VM titled **LON-DC1**, you are already logged on as the **adatum\administrator** account.
3. Open **Internet Explorer**. Navigate to **Tools > Internet Options > Security** tab.
4. In the **Internet** zone, click **Custom Level**. Scroll down and under the **Downloads** section, you must enable the **File download** setting.
5. Then in the **Trusted Sites** zone, you need to add the following sites:
 - **https://outlook.office365.com/**
 - **https://outlook.office.com/**
 - **https://portal.office.com/**
6. In Internet Explorer, sign in to Office 365 by navigating to **https://portal.office.com** and logging in with the O365 Credentials (username and password) that you retrieved in the prior task.
7. On the **Stay signed in?** page, click **Yes** to stay signed in.
8. Select **Admin**.
9. Under **Active users**, you should add a user account for **Jenna Glover** with the following attributes:
 - **Username:** jenna
 - **Domain:** leave as is
 - **Location:** United States
 - **Password:** Pa\$\$w0rd (uncheck **the Make user change their password when they first sign in** option)
 - **Role:** Global Administrator
 - **Product licenses:** Office 365 Enterprise E5
10. After adding the user, in the **User was added** window, review the information for correctness. Unselect the **Send password in email** check box.
11. Close the window and sign out.

Exercise 2: Managing your Microsoft 365 identity environment using the Microsoft 365 admin center

Task 1: Create user accounts

1. On LON-CL1, verify that you signed in as **ADATUM\Holly**.
2. Open **Microsoft Edge**, and then browse to **https://portal.office.com/**.
3. Sign in as **Holly@Adatumyyxxxx.onmicrosoft.com**, where **yyxxxx** is your unique Adatum number, with the password **Pa55w.rd**.
4. Navigate to the **Active Users** list.
5. Create a new user account with the following attributes:
 - First name: **Lindsey**
 - Last name: **Gates**

- Display name: **Lindsey Gates**
 - Username: **Lindsey**
Verify that **xyyyzza.xtremelabs.us** (where xyyzza is your unique UPN name) is listed in the text box after the at sign (@).
 - Password: Select **Let me create the password** and enter a password of **Pa\$\$w0rd**. Uncheck **Make this user change their password when they first sign in**.
6. Repeat the prior step, adding user records for the following users (for the **Username**, use the user's first name):
 - **Christie Thomas**
 - **Amy Santiago**
 - **Sallie McIntosh**
 - **Francisco Chaves**
 7. After the last user is added, click **Send email and close**.

Task 2: Edit Microsoft 365 users

1. In the admin center, in the **Active Users** list, select **Francisco Chaves**.
2. Edit Francisco's **Contact Information** by typing **Accounts** in the **Department** text box.
3. Edit Francisco's **Sign in status** by selecting the **Block the user from signing in** option.
4. In the **Active Users** list, delete **Lindsey Gates** account record.
5. View the list of **Deleted users**.
6. Restore **Lindsey Gates'** account record.
7. On the **Restore** page, select **Let me create the password**, set the password to **Pa\$\$w0rd**, and uncheck the **Make this user change their password when they first sign in**.
8. After restoring, click **Send email and close**.
9. Verify that Lindsey Gates appears in the **Active Users** list.
10. Close Microsoft Edge.

Task 3: Verify user settings

1. On LON-CL1, open Microsoft Edge, and then browse to **https://portal.office.com/**.
2. Sign in as **Lindsey@xyyyzza.xtremelabs.us** with the password **Pa\$\$w0rd**.
3. Verify that you can access the Office 365 portal home page.
4. Open Microsoft Edge, and then browse to **https://portal.office.com/**.
5. Sign in as **Francisco@xyyyzza.xtremelabs.us** with the password **Pa\$\$w0rd**.
6. Verify that you **cannot** sign in and that the message states that your account has been locked.
7. Open Microsoft Edge, and then browse to **https://portal.office.com/**.
8. Sign in as **holly@Adatumyxxxxx.onmicrosoft.com** with the password **Pa55w.rd**.
9. On the Office 365 portal, click **Admin**.

10. Navigate to the **Active Users** list and select **Francisco Chaves**.
11. Click **Unblock sign in**.
12. Change his sign-in status to **Allow this user to sign in**.
13. Open Microsoft Edge, and then browse to **https://portal.office.com/**.
14. Sign in as **Francisco@xyyyza.xtremelabs.us** with the password **Pa\$\$w0rd**.
15. Verify that you can now access the Office 365 portal.
16. Close Microsoft Edge.

Task 4: Create security groups and add users to each group

1. On LON-CL1, open Microsoft Edge, and then browse to **https://portal.office.com/**.
2. Sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where **yyxxxxx** is your unique Adatum number, with the password **Pa55w.rd**.
3. In the admin center, navigate to **Groups** and add a group with the following attributes:
 - **Type** = Security
 - **Name** = Sales
 - **Description** = Sales department users
4. After adding the group, add **Lindsey Gates** and **Christie Thomas** as members.
5. Add another group record with the following attributes:
 - **Type** = Security
 - **Name** = Accounts
 - **Description** = Accounts department users
6. After adding the group, add **Francisco Chaves** and **Sallie McIntosh** as members.

Task 5: Manage security groups

1. In the Office 365 admin center, verify that you can see the following groups:
 - Sales
 - Accounts
2. Add the **Amy Santiago** to the **Sales** group.
3. Open the **Sales** details page and ensure that Amy Santiago appears in the **Members** list.
4. Delete the **Sales** group.
5. Navigate to the list of **Active users**.

6. Confirm that Amy Santiago's account still exists in the list of active users even though the group she was a member of has been deleted.
7. Close Microsoft Edge.

Exercise 3: Managing your Microsoft 365 identity environment using Windows PowerShell

Task 1: Install Microsoft Azure Active Directory

1. On LON-CL1, open Microsoft Edge, and browse to **http://aka.ms/t01i1o**
2. Under Microsoft Online Services Sign-In Assistant for IT Professionals RTW, click **Download**.
3. Select the **en\msoidcl_64.msi** check box, and then click **Next**.
4. Wait for the download to finish.
5. When the download finishes, click **Run**.
6. In the **Microsoft Online Services Sign-in Assistant Setup** wizard, click **I accept the terms in the License Agreement and Privacy Statement**, and then click **Install**.
7. In the **User Account Control** dialog box, click **Yes**.
8. On the **Completed the Microsoft Online Services Sign-in Assistant Setup Wizard** page, click **Finish**.
9. Close Microsoft Edge.
10. Right click on Start and click **Windows PowerShell (Admin)**.
11. At the prompt, type **Install-Module MSOnline** command.
12. If prompted to install the NuGet provider, type **Y** and press **ENTER**.
13. If prompted to install the module from PSGallery, type **Y** and press **ENTER**.

Task 2: Create new users and assign licenses

1. On LON-CL1, run **Windows PowerShell (Admin)**.
2. At the command prompt, type the following command, and then press Enter:

Connect-MsolService

3. In the **Enter Credentials** dialog box, sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where **yyxxxxx** is your unique Adatum number, with the password **Pa55w.rd**.
4. At the command prompt, type the following command, and then press Enter; **xyyyzza** is your unique domain name:

```
New-MsolUser -UserPrincipalName Catherine@xyyyzza.xtremelabs.us -DisplayName  
"Catherine
```

```
Richard" -FirstName "Catherine" -LastName "Richard" -Password 'Pa55w.rd' -  
ForceChangePassword
```

```
$false -UsageLocation "CH"
```

5. At the command prompt, type the following command, and then press Enter; **xyyyzza** is your unique domain name:

```
New-MsolUser -UserPrincipalName tameka@xyyyzza.xtremelabs.us -DisplayName "Tameka  
Reed" -
```

```
FirstName "Tameka" -LastName "Reed" -Password 'Pa55w.rd' -ForceChangePassword  
$false -
```

```
UsageLocation "CH"
```

6. To determine which users are unlicensed, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser -UnlicensedUsersOnly
```

7. To view the available licenses, at the command prompt, type the following command, and then press Enter:

```
Get-MsolAccountSku
```

8. To license Catherine Richard, at the command prompt, type the following command, and then press Enter; replace **Adatumyyxxxxx** in the **-AddLicenses** attribute with the **onmicrosoft.com** domain name provided by the hosting provider:

```
Set-MsolUserLicense -UserPrincipalName Catherine@xyyyzza.xtremelabs.us -  
AddLicenses
```

```
"Adatumyyxxxxx:ENTERPREMIUM
```

9. To license Tameka Reed, at the command prompt, type the following command, and then press Enter; replace **Adatumyyxxxxx** in the **-AddLicenses** attribute with the **onmicrosoft.com** domain name provided by the hosting provider:

```
Set-MsolUserLicense -UserPrincipalName Tameka@xxyyza.xtremelabs.us -AddLicenses  
"Adatumyxxxxx:ENTERPRISEPREMIUM"
```

10. To prevent a user from signing in, at the command prompt, type the following command, and then press Enter; *xxyyza* is your unique domain name:

```
Set-MsolUser -UserPrincipalName Catherine@xxyyza.xtremelabs.us -BlockCredential  
$true
```

11. To delete a user, at the command prompt, type the following command, and then press Enter; *xxyyza* is your unique domain name:

```
Remove-MsolUser -UserPrincipalName Catherine@xxyyza.xtremelabs.us -Force
```

12. To view the **Deleted Users** list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser -ReturnDeletedUsers
```

13. Verify that Catherine Richard is in the list of deleted users. Note that it specifies that she is still licensed.

14. To restore a deleted user, at the command prompt, type the following command, and then press Enter; *xxyyza* is your unique domain name:

```
Restore-MsolUser -UserPrincipalName Catherine@xxyyza.xtremelabs.us
```

15. To view the deleted users list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser -ReturnDeletedUsers
```

16. Verify that Catherine Richard is no longer in the list of deleted users.

17. To view the active users list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser
```

18. Verify that Catherine Richard is in the active users list.

19. To allow a user to sign in, at the command prompt, type the following command, and then press Enter; *xxyyza* is your unique domain name:

```
Set-MsolUser -UserPrincipalName Catherine@xxyyza.xtremelabs.us -BlockCredential  
$false
```

Task 3: Modify user accounts

1. On LON-CL1, on the taskbar, click **File Explorer**.
2. Navigate to **C:\labfiles**, right-click **O365users.csv**, point to **Open with**, and then click **Notepad**.
3. In Notepad, click **Edit**, and then click **Replace**.
4. In the **Find what** text box, type **yourdomain.hostdomain.com**
5. In the **Replace with** text box, type your unique public domain name value **xyyyzza.xtremelabs.us** (where xyyzza is your unique UPN name), and then click **Replace All**.
6. In the **Find what** text box, type **Adatumyyxxxx**
7. In the **Replace with** text box, type your unique Adatumyyxxxx value and then click **Replace All**.

Note: Adatumyyxxxx in this step must be the onmicrosoft.com domain name.

8. Close O365users.csv, and then in the **Notepad** message box, click **Save**.
9. To bulk import several users from a comma-separated value (CSV) file, copy and paste this code into the Administrator: Microsoft Azure Active Directory Module for Windows PowerShell window on LON-CL1, and then press Enter: PLEASE COPY TO A NOTE PAD.

```
Import-Csv -Path C:\labfiles\O365Users.csv | ForEach-Object { New-MsolUser -
UserPrincipalName
$_.UPN" -AlternateEmailAddresses $_.AltEmail" -FirstName $_.FirstName" -
LastName
$_.LastName" -DisplayName $_.DisplayName" -BlockCredential $False -
ForceChangePassword
$False -LicenseAssignment $_.LicenseAssignment" -Password $_.Password" -
```

```
PasswordNeverExpires $True -Title $_.Title" -Department $_.Department" -Office
$_.Office"
-PhoneNumber $_.PhoneNumber" -MobilePhone $_.MobilePhone" -Fax $_.Fax" -
StreetAddress
$_.StreetAddress" -City $_.City" -State $_.State" -PostalCode $_.PostalCode" -
Country
$_.Country" -UsageLocation $_.UsageLocation" }
```

10. To view the **Active Users** list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser
```

11. Open Microsoft Edge, and then browse to **https://portal.office.com/**.
12. Sign in as **Holly@Adatumyyxxxx.onmicrosoft.com**, where yyxxxx is your unique Adatum number, with the password **Pa55w.rd**.

13. On the Home page, click **Admin**, point to **Users** and click **Active Users**.
14. Review the active users that you just imported.

Task 4: Configure groups and group membership

1. To create a Marketing group, at the command prompt, type the following command, and then press Enter:

```
New-MsolGroup -DisplayName "Marketing" -Description "Marketing department users"
```

2. To configure a variable for the group, at the command prompt, type the following command, and then press Enter:

```
$MktGrp = Get-MsolGroup | Where-Object {$_.DisplayName -eq "Marketing"}
```

3. To configure a variable for the first user account, at the command prompt, type the following command, and then press Enter:

```
$Catherine = Get-MsolUser | Where-Object {$_.DisplayName -eq "Catherine Richard"}
```

4. To configure a variable for the second user account, at the command prompt, type the following command, and then press Enter:

```
$Tameka = Get-MsolUser | Where-Object {$_.DisplayName -eq "Tameka Reed"}
```

5. To add Catherine Richard to the Marketing group, at the command prompt, type the following command, and then press Enter:

```
Add-MsolGroupMember -GroupObjectId $MktGrp.ObjectId -GroupMemberType "User" -GroupMemberObjectId $Catherine.ObjectId
```

6. To add Tameka Reed to the Marketing group, at the command prompt, type the following command, and then press Enter:

```
Add-MsolGroupMember -GroupObjectId $MktGrp.ObjectId -GroupMemberType "User" -GroupMemberObjectId $Tameka.ObjectId
```

7. To verify the members of the Marketing group, at the command prompt, type the following command, and then press Enter:

```
Get-MsolGroupMember -GroupObjectId $MktGrp.ObjectId
```

Task 5: Configure user passwords

1. At the command prompt, type the following command, and then press Enter; yyxxxxx is your unique Adatum number:

```
Set-MsolPasswordPolicy -DomainName "Adatumyyxxxxx.onmicrosoft.com" -ValidityPeriod "90" -NotificationDays "14"
```

2. At the command prompt, type the following command, and then press Enter; yourdomain is your unique domain name:

```
Set-MsolUserPassword -UserPrincipalName "Tameka@xxyyza.xtremelabs.us" -NewPassword 'Pa55w.rd123'
```

3. At the command prompt, type the following command, and then press Enter:

```
Get-MsolUser | Set-MsolUser -PasswordNeverExpires $false
```

Task 6: Assign service administrators in the Microsoft 365 admin center

This task does not use Windows PowerShell, but it does set up your service administrators so that you can manage them in the next task using PowerShell.

1. On LON-CL1, open Microsoft Edge, and then browse to **<https://portal.office.com>**.
2. Sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where yyxxxxx is your unique Adatum number, with the password **Pa55w.rd**.
3. Navigate to the list of **Active users** and select **Francisco Chaves**.
4. Assign Francisco to the **Customized administrator** and **Billing administrator** roles, and enter **user@alt.none** as his **Alternate email address**.
5. Repeat these steps for **Tameka Reed**. Assign Tameka to the **Customized administrator** and **Password administrator** roles, and enter **user@alt.none** as her **Alternate email address**.
6. Repeat these steps for **Christie Thomas**. Assign Christie to the **Customized administrator** and **User Management administrator** roles, and enter **user@alt.none** as her **Alternate email address**.
7. Close Microsoft Edge.

Task 7: Manage service administration with Windows PowerShell

1. In the Windows PowerShell window, at the command prompt, type the following command, and then press Enter (where xxyyza is your unique UPN name):

```
Add-MsolRoleMember -RoleName "Service Support Administrator" -  
RoleMemberEmailAddress "Sallie@xxyyza.xtremelabs.us"
```

2. At the command prompt, type the following command, and then press Enter (where xxyyza is your unique UPN name):

```
Add-MsolRoleMember -RoleName "Company Administrator" -RoleMemberEmailAddress  
"Amy@xxyyza.xtremelabs.us"
```

3. At the command prompt, type the following command, and then press Enter:

```
$role = Get-MsolRole -RoleName "Service Support Administrator"
```

4. At the command prompt, type the following command, and then press Enter:

```
Get-MsolRoleMember -RoleObjectId $role.ObjectId
```

5. Verify that Sallie McIntosh is in the list of users who have the Service Support Administrator role.
6. At the command prompt, type the following command, and then press Enter:

```
$role = Get-MsolRole -RoleName "Billing Administrator"
```

7. At the command prompt, type the following command, and then press Enter:

```
Get-MsolRoleMember -RoleObjectId $role.ObjectId
```

8. Verify that Francisco Chaves is in the list of users who have the billing administrator role.
9. At the command prompt, type the following command, and then press Enter:

```
$role = Get-MsolRole -RoleName "Company Administrator"
```

10. At the command prompt, type the following command, and then press Enter:

```
Get-MsolRoleMember -RoleObjectId $role.ObjectId
```

11. Verify that Amy Santiago is in the list of users who have the Company Administrator role. You should also see Holly Dickson on the list.
12. Close the Windows PowerShell window.

Task 8: Verify service administration

1. On LON-CL1, open Microsoft Edge, and then browse to **https://portal.office.com**.
2. Sign in as **Tameka@xxyyza.xtremelabs.us**, where *xxyyza* is your unique domain name, with the password **Pa55w.rd123**.
3. On the **Update your password** page, in the **Current password** text box, type **Pa55w.rd123**.
4. In the **New password** and **Confirm password** text boxes, type a **unique password**, and then click **Update password and sign in**.
5. On the **Office 365 portal**, click **Admin**.
6. If prompted, sign in again as **Tameka@xxyyza.xtremelabs.us** using the password you chose in Step 4.
7. Navigate to the **Active Users** list.
8. Select **Jessica Jennings**. Note that you cannot perform any administrative tasks.
9. Reset Jessica's password.
10. Write down the temporary password here for future reference, and then click **Send email and close**.
11. Close and reopen Microsoft Edge, and then browse to **https://portal.office.com**.
12. Sign in as **Christie@xxyyza.xtremelabs.us**, using the password **Pa\$\$w0rd**.
13. In the **Office 365 portal**, click **Admin**.
14. If asked about **update your admin contact information**, click on the **Cancel** button to skip this request.
15. In the Office 365 admin center, navigate to the **Active Users** and select **Jessica Jennings**.
16. Update Jessica's **Contact information** by changing her **Office Phone** to **555-1234** and her sign-in status to **Block the user from signing in**.
17. Add a new user account with the following attributes:
 - First name: **Chris**
 - Last name: **Breland**
 - Display name: **Chris Breland**
 - Username: **Chris**
 - Product license: **Office365 E3** is turned **On (enabled)**
In the **First name** text box, type **Chris**.
18. After adding Chris' user account, you should delete the account.
19. Close Microsoft Edge.

Lab 2: Implementing Identity Synchronization

NOTE: This lab should be performed after you complete Module 2.

You are now ready to start the directory synchronization process. In this lab exercise you to first make sure your local Active Directory is ready to start the directory synchronization process by adding a custom domain to the forest and configuring Exchange to use the new custom domain.

Exercise 1: Setting up your organization for identity synchronization

Task 1: Configure your UPN suffix

1. On LON-DC1, log on as **ADATUM\Administrator** and password **Pa55w.rd**.
2. Using Windows PowerShell, update the UPN suffix for the domain and on the UPN on every user in AD DS with "@xxyyza.xtremelabs.us" (where xxyyza is your unique UPN name) for the domain name. To do this, run the following command (remember to change xxyyza to your unique UPN name):

```
Set-ADForest -identity "adatum.com" -UPNSuffixes  
@{replace="xxyyza.xtremelabs.us"}
```

3. Next type the follow command (remember to change xxyyza to your unique UPN name):

```
Get-ADUser -Filter * -Properties SamAccountName | ForEach-Object { Set-ADUser $_ -  
UserPrincipalName ($_.SamAccountName + "@xxyyza.xtremelabs.us" )}
```

Task 2: Prepare problem user accounts

1. On the LON-DC1, in the Windows PowerShell prompt, type the following command, and then press Enter:

```
CD C:\labfiles\
```

2. At the Windows PowerShell prompt, type the following command, and then press Enter:

```
Set-ExecutionPolicy Unrestricted
```

3. To confirm the execution policy change, press Enter.
4. At the Windows PowerShell prompt, type the following command, and then press Enter:

`.\CreateProblemUsers.ps1`

Note: Wait until the script has completed before proceeding to the next step.

5. This Windows PowerShell script will make the following changes in AD DS:
 - **Amr Zaki.** Add the "@" character to the beginning of "adatum" for the UserPrincipalName attribute.
 - **Brad Sutton.** Replace the existing string with "lara@adatum.com" for the emailAddress attribute.
 - **Don Funk.** Replace the existing string with "lara@adatum.com" for the emailAddress attribute.
 - **Holly Dickson.** Replace the existing string with "holly @adatum.com" for the EmailAddress attribute.
 - **Kelly Rollin.** Replace the existing string with " " for the emailAddress attribute.

Task 3: Run the IdFix tool and fix identified issues

1. On LON-CL1, open Microsoft Edge, and then connect to <https://www.microsoft.com/en-us/download/details.aspx?id=36832>
2. Download the **IdFix DirSync Error Remediation Tool**.
3. Wait for the download to complete, and then click **Open**.
4. In the File Explorer window, browse to the **Downloads** folder, right-click **IdFix.zip**, and then click **Extract All...**
5. In the **Extract Compressed (Zipped) Folders** dialog box, in the destination box, type **C:\Deployment Tools\IdFix**, and then click **Extract**.
6. In File Explorer, in the **C:\Deployment Tools\IdFix** folder, right-click **IdFix.exe**, and then click **Run as administrator**.
7. In the **IdFix Privacy Statement message box**, click **OK**.
8. Click **Query**. You should see several errors.
9. Click the **ERROR** column to sort the character errors to the top of the list. **Note:** Ignore topleveldomain errors, which cannot be fixed by the IdFix tool.
10. In the **Amr Zaki** row, in the **ACTION** column, select **EDIT**.
11. In the **Holly Dickson** row, in the **ACTION** column, select **EDIT**. 13. In the Kelly Rollin row, in the **ACTION** column, select **EDIT**
12. On the toolbar, click **Apply**.
13. In the **Apply Pending** dialog box, click **Yes**; note the **COMPLETE** status in the **ACTION** column indicating successful writes.
14. Switch to **File Explorer**, and in the **C:\Deployment Tools\IdFix** folder, double-click **Verbose <date> <time>.txt** to view the updated transactions in the transaction log.

15. Switch back to the IdFix tool.
16. On the toolbar, click **Query**.
17. Click in the **UPDATE** column to locate the Don Funk error, and replace the string with don@adatum.com, and then in the **ACTION** column, select **EDIT**.
18. Click in the **UPDATE** column to locate the Kelly Rollin error, and replace the string with kelly@adatum.com, and then in the **ACTION** column, select **EDIT**.
19. On the toolbar, click **Apply**.
20. In the **Apply Pending** box, click **Yes**.
21. On the toolbar, click **Query** and verify that errors are corrected.


Note: Where there are format and duplicate errors for distinguished names, the UPDATE column either contains the same string as the VALUE column, or the UPDATE column entry is blank; in either case, this means that IdFix cannot suggest a remediation for the error. You can either fix these errors outside IdFix, or manually remediate them within IdFix. You can also export the results and use Windows PowerShell to remediate many errors.

Task 4: Enable Directory Synchronization

1. On LON-DS1, if necessary, log on as **ADATUM\Administrator** and password **Pa55w.rd**.
2. Open **Internet Explorer**. Navigate to **Tools > Internet Options > Security** tab.
3. In the **Internet** zone, click **Custom Level**. Scroll down and under the **Downloads** section, you must enable the **File download** setting.
4. Then in the **Trusted Sites** zone, you need to add the following sites:
 - **https://outlook.office365.com/**
 - **https://outlook.office.com/**
 - **https://portal.office.com/**
5. Browse to **https://portal.office.com/**.
6. Sign in as **Holly@AdatumXXYYZZ.onmicrosoft.com** with the password **Pa55w.rd** (where XXYYZZ is your unique Adatum O365 Blob).
7. Click **Admin**.
8. If asked about **update your admin contact information** click on the **Cancel** button to skip this request.
9. Navigate to the **Active Users**.

Note: If you see the Active Directory synchronization is being activated warning, you can ignore it at this time, but you will not be able to run directory synchronization later in this exercise. You must wait until directory synchronization is activated. However, you can complete the following steps, even if you do see the warning message.

10. Select **Holly Dickson**.
11. Edit Holly's alias by changing it to **Holly** and ensure that **xyyyza.xtremelabs.us** domain is selected.

12. Click **Set as primary** and then read the warning and save your change.
13. You should be signed out automatically, but if not click on the top right corner of Holly Dickson's profile icon and click **Sign Out**.
14. Close Internet Explorer.
15. Open Internet Explorer.
16. Sign in as **Holly@xxyyza.xtremelabs.us** with the password **Pa55w.rd** (where XXYYZZ is your UPN domain).
17. Click **Admin**.
18. If asked about **update your admin contact information** click on the **Cancel** button to skip this request.
19. In the left-hand navigation, select the user's icon () and select **Active users**, click on **More** on the top menu and choose **Directory Synchronization**.
20. Click on the **Go to the DirSync readiness wizard**.
21. On the next screen choose **51-250** for the number of users you will move to the cloud, click **Next**.
22. Click **Next** on the **Sync your local directory with the cloud** screen.
23. Click **continue manually** to skip checking your directory since it was already fixed.
24. Click **Next** to configure the domains.
25. Click **Ok I've added and verified all my domains** to continue.
26. Click **Next** to continue the process (Skip IdFix).
27. Click on **Download** to go to the download page for Azure AD Connect.
28. Click **Download** again to download Azure AD Connect application.
29. Click **Save** and **Run** the download.

Task 5: Set up Azure AD Connect

1. On the Azure AD Connect setup wizard, proceed through the wizard.
2. Click on **Use express settings**.
3. On the **Connect to Azure AD** screen enter your Office 365 admin username of **Holly@xxyyza.xtremelabs.us** with password **Pa55w.rd** (where XXYYZZ is your UPN domain) and click **Next**.
4. On the **Connect to AD DS** screen enter your domain administrator **ADATUM\Administrator** and password **Pa55w.rd** and click **Next**.
5. Click **Next** on the Azure AD sign-in configuration screen.
6. On the **Ready to configure** screen click the check box for **Start the synchronization process when configuration completes** and click on **Install**.
7. Wait for the installation to complete.
8. Click on **Exit**.

9. Click on **Start**, search for the **Synchronization Service** application and open it.
10. Monitor the synchronization process by looking at the operations tab. Wait for the **Export** profile to complete (Status: **success**)
11. Return to the **Run Azure Active Directory Connect** screen in Internet Explorer and click on **Next**.

Note: The web page should say **Directory synchronization enabled**. If it doesn't then refresh the page to see that the Directory synchronization is enabled. If status does not update continue to the next step if the export was successful.

12. Click **Next** on the **Make sure sync worked as expected** screen.
13. Click **Next** on the **Activate users** screen.
14. Click **Finish** on the **You're all set up** screen.

Task 6: Create a new user and group account

1. On **LON-DC1**, in **Server Manager**, navigate to **Active Directory Users and Computers**.
2. In the console tree, expand **Adatum.com**, right-click **Research**, then add a new user.
3. In the **First name** box, type **Perry**.
4. In the **Lastname** box, type **Brill**.
5. In the **User logon name** box, type **Perry**, and select your lab domain **UPN** (not **Adatum.com**).
6. In the **Password** and **Confirm password** boxes, type **Pa55w.rd**, clear the **User must change password at next logon** checkbox, select the **Password never expires** checkbox, click **Next**, and then click **Finish**.
7. In the **Research** OU user list, double-click the **Perry Brill** user.
8. In the **Properties** dialog box, in the **E-mail** box, type **Perry@xxyyza.xtremelabs.us**, and then click **OK**.
9. In the console tree, right-click the **Research** OU, click **New**, and then click **Group**.
10. In the **New Object - Group** window, in the **Group name:** box, type **Project Team**, click **Universal**, click **Distribution**, and then click **OK**.
11. In the **Research** OU, double-click the **Project Team** group.
12. In the **Properties** dialog window, in the **E-mail** box, type **projectteam@xxyyza.xtremelabs.us**.
13. On the **Members** tab, click **Add**.
14. In the **Select Users, Contacts, Computers, Service Accounts, or Groups** dialog box, in the **Enter the object names to select**, type the following names, and then click **Check Names**:
 - Anil Elson
 - Deepak Kumar
 - Olivier Renaud
15. Click **OK** twice.

Task 7: Change group membership

1. In the console tree of **Active Directory Users and Computers**, click **Research**.
2. View the members of this group.
3. Select the following three users, and then remove them:
 - Chloe Brussard
 - Chris Sells
 - Florian Stiller

Exercise 2: Implement identity synchronization

Task 1: Force synchronization

1. On LON-DS1, from the taskbar, right-click the **Windows PowerShell** shortcut, and then click **Run as administrator**.
2. At the Windows PowerShell prompt, type the following, and then press Enter:

```
Start-ADSyncSyncCycle -PolicyType Delta
```

Note: The **Delta** switch is used here so that only the updates are synchronized.

3. Wait until synchronization has completed before proceeding to the next task.

Task 2: Validate the results of directory synchronization

1. To verify the new user you created, on LON-CL1, open the Office 365 Admin Center in Microsoft Edge by typing **https://portal.office.com/admin/default.aspx** in the address bar.
2. Sign in using the following credentials: User name: **holly@xyyyza.xtremelabs.us**, Password: **Pa55w.rd**
3. If you are connected to the previous Office 365 admin center, click that banner at the top of the page to connect to the new Office 365 admin center.
4. Navigate to the **Active Users**.
5. In the Active Users list, verify that **Perry Brill** has a value of **Synced with Active Directory** in the Sync Type column.

Note: You might need to wait up to 10 minutes before the account appears. Refresh the list until you see Perry Brill's account.

6. In the **Active Users** list, select **Perry Brill**.
7. Edit Perry's **Product licenses** as follows:
 - Location = **United Kingdom**
 - Product License = **Office 365 Enterprise E3**
8. Repeat steps 6-7 to assign an Office 365 license for user **Anil Elson**.
9. Navigate to **Groups** to verify that you have created the new group.
10. In the **Groups** list, verify that the **Project Team** appears.

Note: You might need to wait up to 10 minutes before the group appears. Refresh the list until you see the object.

11. In the **Groups** list, select the **Project Team** group.

Note: In the right pane, notice that **Edit Members** is unavailable. This is because group membership is maintained by Active Directory. To view the membership, you need to use Windows PowerShell.

12. On LON-CL1, on the desktop, if PowerShell is not already open, then then open it by clicking **Run as administrator**.
13. If PowerShell wasn't open, at the command prompt, type the following command, and then press Enter:

```
Connect-MsolService
```

14. If necessary, in the **Enter Credentials** dialog box, sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where **yyxxxxx** is your unique Adatum number, with the password **Pa55w.rd**.

15. Type the following command, and then press Enter:

```
Get-MsolGroup
```

16. Verify that you can see the **Research** and **Project Team** groups. Copy the **ObjectID** value for these two groups.
17. To verify that you updated the group membership in AD DS, type the following command at the Windows PowerShell prompt, and then press Enter (where <<ObjectID for Research group>> is the ObjectID of the group):

```
Get-MsolGroupMember -GroupObjectId <<ObjectID for Research group>>
```

18. Verify the membership of the group does not contain the users removed in AD DS. The users who were removed from the group are:

- Chloe Brussard
- Chris Sells
- Florian Stiller

19. At the Windows PowerShell prompt, type the following command, and then press Enter:

```
Get-MsolAccountSku
```

Note: This command shows the current license consumed units.

Task 3: Deploy Azure AD Pass-through Authentication

1. Sign in to the **LON-DS1** virtual machine as **ADATUM\Administrator** with a password of **Pa\$\$word**.
2. On the Desktop, double click the **Microsoft Azure AD Connect** application.
3. Select **Change user Sign-in** and then click **Next**.
4. Click **configure**.
5. Sign in to Azure AD.
6. Select **Pass-Through Authentication** and then click **Next**.
7. Upon successful completion, Pass-Through Authentication will be enabled.
8. To verify that Pass-Through Authentication is successfully enabled, open an Edge Browser.
9. Sign in to **<https://aad.portal.azure.com/>**.
10. Select **Azure Active Directory** on the left pane.
11. Verify the Pass-Through Authentication feature appears as **ENABLED**.
12. Select **Pass-Through Authentication**. The Pass-Through authentication pane lists the servers where your authentication agents are installed.

End of lab

LAB SOLUTION

This section of the Student Lab Manual contains the detailed, step-by-step lab instructions for each lab exercise. It is recommended that you only refer to these instructions should you find yourself stuck or unable to successfully complete the labs using the summarized, high-level instructions.

Lab 1: Managing your Microsoft 365 Identity environment

NOTE: This lab should be performed after you complete Module 1.

In this lab, you must create a tenant account in Office 365 to set up an integrated environment.

Exercise 1: Setting up your lab environment

Task 1 - Obtain Your Office 365 Credentials

Once you launch the lab, a free trial tenant will be automatically created for you to access Azure in the Microsoft Virtual Lab environment. This tenant will be automatically assigned a unique user name and password. You must retrieve this user name and password so that you can sign into Azure within the Microsoft Virtual Lab environment.

1. On the **XtremeLabs Online** menu bar at the top of the screen, click on the **Files** drop-down arrow.
2. Click on **O365 Credentials**. A window will open with your credentials.
3. This is the user name and password you will need to sign in to Azure. Keep this page open as you will need the information later.
4. When the lab directs you to sign in to the Azure portal at <https://portal.azure.com>, you will sign in using the credentials you obtained in this task.

Task 2 - Create the tenant account

1. At the top of the screen, click the **Virtual machine** drop-down field and select **LON-DC1**.
2. On the VM titled **LON-DC1**, you are already logged on as the **adatum\administrator** account.
3. Click the Windows icon in the lower left corner of the task bar and then click on the **Internet Explorer** tile.
4. In Internet Explorer, click on the gear icon in the top right corner to display the **Tools** drop-down menu.
5. In the drop-down menu, click **Internet Options**.

6. Click on the **Security** tab.
7. Click **Internet**. Click **Custom Level**. Scroll down and under the **Downloads** section, under **File download**, select **Enable**. Click **OK**.
8. Click **Yes** to confirm you want to change the settings for this zone.
9. Click **Trusted sites** and then click **Sites**.
10. In the **Trusted Sites** window, you will add the following three sites as Trusted Sites:
 - In the **Add this website to the zone** field, type in **https://outlook.office365.com/** and then click **Add**.
 - Type in **https://outlook.office.com/** and then click **Add**.
 - Type in **https://portal.office.com/** and then click **Add**.
 - All three URL's should appear in the **Websites** box. Click **Close**.
11. Click **OK** to close the Internet Options window.
12. To sign in to Microsoft 365, go to Internet Explorer and type in **https://portal.office.com** as the URL, and then hit Enter. This will open the **Sign in** window.
13. In the **Email, phone, or Skype** field, enter the **Tenant email** from your **O365 Credentials** (or you can copy and paste in the **Tenant email** from the **O365 Credentials** window if you still have it open; if you closed the **O365 Credentials** window, click the **Files** drop down arrow again and click **O365 Credentials**). After entering your tenant email, click **Next**.
14. On the **Enter Password** window, in the **Password** field, enter the **Tenant password** from your O365 Credentials (or you can copy and paste in the **Tenant password** from the O365 Credentials window if you still have it open) and then click **Sign In**.
15. On the **Stay signed in?** page, click **Yes** to stay signed in.
16. On the Office 365 portal, if the **Get your work done with Office 365** window appears in the middle of the page, click the right arrow 5 times to show the 5 slides. The window will scroll off the page. From the main page, click **Admin**.
17. This opens the **Microsoft 365 admin center**. If a **Welcome to the Office 365 Admin Center** window appears, click **Skip**.
18. Under **Active users**, click **Add a user**.
19. In the **New User** window, create a user named **Jenna Glover**.
20. Type **Jenna** in the **First name** field.
21. Type **Glover** in the **Last name** field.
22. Click in the **Display name** field and Jenna Glover will automatically appear.
23. Type **jenna** in the **Username** field. For the purposes of this labs, the **Domain** field is prefilled with the domain from your O365 Credentials. Leave this as is.
24. Leave **United States** as the **Location**.
25. Click on **Password**.
26. Select the **Let me create the password** option. Type **Pa\$\$w0rd** in the **Password** field.
27. Uncheck the box that says **Make user change their password when they first sign in**.
28. Click **on Roles**.
29. Select the **Global Administrator** option.
30. **Product licenses** is already set to **Office 365 Enterprise E5**, so no change is required.
31. Click **Add**.
32. In the **User was added** windows, review the information for correctness. Unselect the **Send password in email** check box.

33. Click **Close**.
34. If the **We would love to hear from you** window appears, click **Cancel**.
35. While still on the **Microsoft 365 admin center** screen, click on the **User Profile Icon** in the top right corner of the browser. It will be a grey circle with the letters "CA".
36. Click Sign-Out.
37. Once the screen indicates you are signed out, Close **Internet Explorer**. Select **Close all tabs**.

Exercise 2: Managing your Microsoft 365 identity environment using the Microsoft 365 admin center

Task 1: Create user accounts

1. On LON-CL1, verify that you signed in as **ADATUM\Holly**.
2. Open **Microsoft Edge**, and then browse to **https://portal.office.com/**.
3. Sign in as **Holly@Adatumyyxxxx.onmicrosoft.com**, where yyxxxx is your unique Adatum number, with the password **Pa55w.rd**.
4. On the Microsoft 365 portal, click **Admin**.
5. On the menu on the left side, point to **Users**, and then click **Active Users**.
6. Click **Add a user** with the following information:
 - First name: **Lindsey**.
 - Last name: **Gates**.
 - Display name: **Lindsey Gates**.
 - Username: **Lindsey**.
7. Verify that **xyyyzza.xtremelabs.us** (where xyyzza is your unique UPN name) is listed in the text box after the at sign (@).
8. Under **Password**, select **Let me create the password** and enter a password of **Pa\$\$w0rd**. Uncheck **Make this user change their password when they first sign in**.
9. Click **Add**. On the User was added page, click on **Add another user** under Next Steps.
10. Repeat steps 6 through 9 to create the following users (for the **Username**, use the **Firstname**):
 - **Christie Thomas**
 - **Amy Santiago**
 - **Sallie McIntosh**
 - **Francisco Chaves**
11. After added the last user, click **Send email and close**.

Task 2: Edit Microsoft 365 users

1. In the Office 365 admin center, in the **Active Users** list, click the **Francisco Chaves** user object.
2. On the **Contact Information** section, click **Edit**.
3. On the **Edit contact information** page, expand **Contact information**, and in the **Department** text box, type **Accounts**, click **Save**, and then click **Close**.
4. On the right-side menu, in the **Sign in status** section, click **Edit**.
5. Click **Block the user from signing in**, click **Save**, and then click **Close**.
6. **Close** the Francisco Chaves page.
7. In the **Active Users** list, click the **Lindsey Gates** user object.
8. Click **Delete user**.
9. On the **Delete user** page, click **Delete user**. Click **Confirm Changes** then click **Close**.
10. In the left navigation pane, point to **Users**, and click **Deleted users**.
11. Verify that **Lindsey Gates** is in this list.
12. In the **Deleted users** list, select **Lindsey Gates**.
13. On the toolbar, click **Restore**.
14. On the **Restore** page, select **Let me create the password**, set the password to **Pa\$\$w0rd**, and uncheck the **Make this user change their password when they first sign in**.
15. Click **Restore**, then click **Send email and close**.
16. On the left navigation pane, point to **Users**, and click **Active Users**.
17. Verify that **Lindsey Gates** is in this list.
18. Close Microsoft Edge.

Task 3: Verify user settings

1. On LON-CL1, open Microsoft Edge, and then browse to **https://portal.office.com/**.
2. Sign in as **Lindsey@xyyyza.xtremelabs.us** with the password **Pa\$\$w0rd**.
3. Verify that you can access the Office 365 portal home page.
4. Close Microsoft Edge.
5. Open Microsoft Edge, and then browse to **https://portal.office.com/**.
6. Sign in as **Francisco@xyyyza.xtremelabs.us** with the password **Pa\$\$w0rd**.
7. Verify that you cannot sign in and that the message states that your account has been locked.
8. Close Microsoft Edge.
9. Open Microsoft Edge, and then browse to **https://portal.office.com/**.
10. Sign in as **holly@Adatumyyxxxxx.onmicrosoft.com** with the password **Pa55w.rd**.
11. On the Office 365 portal, click **Admin**.

12. On the left menu, point to **Users**, and then click **ActiveUsers**.
13. In the **Active Users** list, click **Francisco Chaves**.
14. Click **Unblock sign in**.
15. On the **Edit sign-in status** page, select **Allow this user to sign in**, click **Save**, and then click **Close**.
16. Close Microsoft Edge.
17. Open Microsoft Edge, and then browse to **https://portal.office.com/**.
18. Sign in as **Francisco@xxyyzza.xtremelabs.us** with the password **Pa\$\$w0rd**.
19. Verify that you can access the Office 365 portal.
Note: It may take several minutes before the blocked user message no longer shows.
20. Close Microsoft Edge.

Task 4: Create security groups and add users to each group

1. On LON-CL1, open Microsoft Edge, and then browse to **https://portal.office.com/**.
2. Sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where **yyxxxxx** is your unique Adatum number, with the password **Pa55w.rd**.
3. In the Office 365 admin center, click **Admin**.
4. On the left side menu, point to **Groups**, click **Groups**, and then click **Add a group**.
5. On the **New Group** page, in the **Type** drop-down box, click **Security**, and in the **Name** text box, type **Sales**.
6. In the **Description** text box, type **Sales department users**, click **Add**, and then click **Close**.
7. Select the **Sales** group, and then on the **Sales** page, next to **Members**, click **Edit**.
8. Click **Add members**, type **Lindsey** in the search box and select **Lindsey Gates**.
9. Type **Christie** in the search box and select **Christie Thomas**.
10. Expand the **Adding** drop-down to verify both users are being added. Click **Save**, and then click **Close** three times.
11. Click **Add a group**.
12. On the **New Group** page, in the **Type** drop-down box, click **Security**, and then in the **Name** text box, type **Accounts**.
13. In the **Description** text box, type **Accounts department users**, click **Add**, and then click **Close**.
14. Select the **Accounts** group, and then on the **Accounts** page, next to **Members**, click **Edit**.
15. Click **Add members**, type **Francisco** in the search box and select **Francisco Chaves**.
16. Type **Sallie** in the search box and select **Sallie McIntosh**.
17. Expand the **Adding** drop-down to verify both users are being added. Click **Save**, and then click **Close** three times.
18. Click **Add members**, click **Francisco Chaves**, click **Sallie McIntosh**, click **Save**, and then click **Close** three times.

Task 5: Manage security groups

1. In the Office 365 admin center, verify that you can see the following groups:
 - Sales
 - Accounts
2. In the **Groups** list, select the **Sales** group, and then on the **Sales** page, next to **Members**, click **Edit**.
3. Click **Add members**, click **Amy Santiago**, click **Save**, and then click **Close** three times.
4. Open **Sales** details page, and ensure that Amy Santiago now lists under the **Members** list.
5. Click **Delete group**.
6. On the **Delete group** page, click **Delete**, and then click **Close**.
7. On the left side menu, point to **Users**, and then click **Active users**.
8. Confirm that Amy Santiago's account still exists in the list of users.
9. Close Microsoft Edge.

Exercise 3: Managing your Microsoft 365 identity environment using Windows PowerShell

Task 1: Install Microsoft Azure Active Directory

1. On LON-CL1, open Microsoft Edge, and browse to: **http://aka.ms/t01i1o**
2. Under Microsoft Online Services Sign-In Assistant for IT Professionals RTW, click **Download**.
3. Select the **en\msoidcl_64.msi** check box, and then click **Next**.
4. Wait for the download to finish.
5. When the download finishes, click **Run**.
6. In the **Microsoft Online Services Sign-in Assistant Setup** wizard, click **I accept the terms in the License Agreement and Privacy Statement**, and then click **Install**.
7. In the **User Account Control** dialog box, click **Yes**.
8. On the **Completed the Microsoft Online Services Sign-in Assistant Setup Wizard** page, click **Finish**.
9. Close Microsoft Edge.
10. Right click on **Start** and click **Windows PowerShell (Admin)**.
11. At the prompt, type **Install-Module MSOnline** command.
12. If prompted to install the NuGet provider, type **Y** and press **ENTER**.
13. If prompted to install the module from PSGallery, type **Y** and press **ENTER**.

Task 2: Create new users and assign licenses

1. On LON-CL1, run **Windows PowerShell (Admin)**.
2. If a **User Account Control** dialog box appears, click **Yes**.
3. At the command prompt, type the following command, and then press Enter:

```
Connect-MsolService
```

4. In the **Enter Credentials** dialog box, sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where **yyxxxxx** is your unique Adatum number, with the password **Pa55w.rd**.
5. At the command prompt, type the following command, and then press Enter; **xyyyzza** is your unique domain name:

```
New-MsolUser -UserPrincipalName Catherine@xyyyzza.xtremelabs.us -DisplayName  
"Catherine  
Richard" -FirstName "Catherine" -LastName "Richard" -Password 'Pa55w.rd' -  
ForceChangePassword  
$false -UsageLocation "CH"
```

6. At the command prompt, type the following command, and then press Enter; **xyyyzza** is your unique domain name:

```
New-MsolUser -UserPrincipalName tameka@xyyyzza.xtremelabs.us -DisplayName "Tameka  
Reed" -  
FirstName "Tameka" -LastName "Reed" -Password 'Pa55w.rd' -ForceChangePassword  
$false -  
UsageLocation "CH"
```

7. To determine which users are unlicensed, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser -UnlicensedUsersOnly
```

8. To view the available licenses, at the command prompt, type the following command, and then press Enter:

```
Get-MsolAccountSku
```

9. To license Catherine Richard, at the command prompt, type the following command, and then press Enter; replace **Adatumyyxxxxx** in the **-AddLicenses** attribute with the **onmicrosoft.com** domain name provided by the hosting provider:

```
Set-MsolUserLicense -UserPrincipalName Catherine@xxyyza.xtremelabs.us -  
AddLicenses  
"Adatumyxxxxx:ENTERPREMIUM"
```

10. To license Tameka Reed, at the command prompt, type the following command, and then press Enter; replace Adatumyxxxxx in the -AddLicenses attribute with the onmicrosoft.com domain name provided by the hosting provider:

```
Set-MsolUserLicense -UserPrincipalName Tameka@xxyyza.xtremelabs.us -AddLicenses  
"Adatumyxxxxx:ENTERPRISEPREMIUM"
```

11. To prevent a user from signing in, at the command prompt, type the following command, and then press Enter; xxyyza is your unique domain name:

```
Set-MsolUser -UserPrincipalName Catherine@xxyyza.xtremelabs.us -BlockCredential  
$true
```

12. To delete a user, at the command prompt, type the following command, and then press Enter; xxyyza is your unique domain name:

```
Remove-MsolUser -UserPrincipalName Catherine@xxyyza.xtremelabs.us -Force
```

13. To view the **Deleted Users** list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser -ReturnDeletedUsers
```

14. Verify that Catherine Richard is in the list of deleted users. Note that it specifies that she is still licensed.

15. To restore a deleted user, at the command prompt, type the following command, and then press Enter; xxyyza is your unique domain name:

```
Restore-MsolUser -UserPrincipalName Catherine@xxyyza.xtremelabs.us
```

16. To view the deleted users list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser -ReturnDeletedUsers
```

17. Verify that Catherine Richard is no longer in the list of deleted users.

18. To view the active users list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser
```

19. Verify that Catherine Richard is in the active users list.
20. To allow a user to sign in, at the command prompt, type the following command, and then press Enter; *xyyzza* is your unique domain name:

```
Set-MsolUser -UserPrincipalName Catherine@xyyzza.xtremelabs.us -BlockCredential $false
```

Task 3: Modify user accounts

1. On LON-CL1, on the taskbar, click **File Explorer**.
2. Navigate to **C:\labfiles**, right-click **O365users.csv**, point to **Open with**, and then click **Notepad**.
3. In Notepad, click **Edit**, and then click **Replace**.
4. In the **Find what** text box, type **yourdomain.hostdomain.com**
5. In the **Replace with** text box, type your unique public domain name value **xyyzza.xtremelabs.us** (where *xyyzza* is your unique UPN name), and then click **Replace All**.
6. In the **Find what** text box, type **Adatumyxxxx**
7. In the **Replace with** text box, type your unique Adatumyxxxx value and then click **Replace All**.

Note: Adatumyxxxx in this step must be the onmicrosoft.com domain name.

8. Close O365users.csv, and then in the **Notepad** message box, click **Save**.
9. To bulk import several users from a comma-separated value (CSV) file, copy and paste this code into the Administrator: Microsoft Azure Active Directory Module for Windows PowerShell window on LON-CL1, and then press Enter: PLEASE COPY TO A NOTE PAD.

```
Import-Csv -Path C:\labfiles\O365Users.csv | ForEach-Object { New-MsolUser -
UserPrincipalName
$_.UPN" -AlternateEmailAddresses $_.AltEmail" -FirstName $_.FirstName" -
LastName
$_.LastName" -DisplayName $_.DisplayName" -BlockCredential $False -
ForceChangePassword
$False -LicenseAssignment $_.LicenseAssignment" -Password $_.Password" -
PasswordNeverExpires $True -Title $_.Title" -Department $_.Department" -Office
$_.Office"
-PhoneNumber $_.PhoneNumber" -MobilePhone $_.MobilePhone" -Fax $_.Fax" -
StreetAddress
$_.StreetAddress" -City $_.City" -State $_.State" -PostalCode $_.PostalCode" -
Country
$_.Country" -UsageLocation $_.UsageLocation" }
```


10. To view the **Active Users** list, at the command prompt, type the following command, and then press Enter:

```
Get-MsolUser
```

11. Open Microsoft Edge, and then browse to <https://portal.office.com/>.
12. Sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where *yyxxxxx* is your unique Adatum number, with the password **Pa55w.rd**.
13. On the Home page, click **Admin**, point to **Users** and click **Active Users**.
14. Review the active users that you just imported.

Task 4: Configure groups and group membership

1. To create a Marketing group, at the command prompt, type the following command, and then press Enter:

```
New-MsolGroup -DisplayName "Marketing" -Description "Marketing department users"
```

2. To configure a variable for the group, at the command prompt, type the following command, and then press Enter:

```
$MktGrp = Get-MsolGroup | Where-Object {$_.DisplayName -eq "Marketing"}
```

3. To configure a variable for the first user account, at the command prompt, type the following command, and then press Enter:

```
$Catherine = Get-MsolUser | Where-Object {$_.DisplayName -eq "Catherine Richard"}
```

4. To configure a variable for the second user account, at the command prompt, type the following command, and then press Enter:

```
$Tameka = Get-MsolUser | Where-Object {$_.DisplayName -eq "Tameka Reed"}
```

5. To add Catherine Richard to the Marketing group, at the command prompt, type the following command, and then press Enter:

```
Add-MsolGroupMember -GroupObjectId $MktGrp.ObjectId -GroupMemberType "User" -GroupMemberObjectId $Catherine.ObjectId
```

6. To add Tameka Reed to the Marketing group, at the command prompt, type the following command, and then press Enter:

```
Add-MsolGroupMember -GroupObjectId $MktGrp.ObjectId -GroupMemberType "User" -GroupMemberObjectId $Tameka.ObjectId
```

7. To verify the members of the Marketing group, at the command prompt, type the following command, and then press Enter:

```
Get-MsolGroupMember -GroupObjectId $MktGrp.ObjectId
```

Task 5: Configure user passwords

1. At the command prompt, type the following command, and then press Enter; yyxxxxx is your unique Adatum number:

```
Set-MsolPasswordPolicy -DomainName "Adatumyyxxxxx.onmicrosoft.com" -ValidityPeriod "90" -NotificationDays "14"
```

2. At the command prompt, type the following command, and then press Enter; yourdomain is your unique domain name:

```
Set-MsolUserPassword -UserPrincipalName "Tameka@xxyyyza.xtremelabs.us" -NewPassword 'Pa55w.rd123'
```

3. At the command prompt, type the following command, and then press Enter:

```
Get-MsolUser | Set-MsolUser -PasswordNeverExpires $false
```

Task 6: Assign service administrators in the Microsoft 365 admin center

This task does not use Windows PowerShell, but it does set up your service administrators so that you can manage them in the next task using PowerShell.

1. On LON-CL1, open Microsoft Edge, and then browse to <https://portal.office.com>.
2. Sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where yyxxxxx is your unique Adatum number, with the password **Pa55w.rd**.
3. In the **Office 365 admin center**, click **Admin**.
4. On the left-hand side, point to **Users**, click **Active users**, and then click **Francisco Chaves**.
5. On the **Francisco Chaves** page, in the Roles section, click **Edit**.
6. Under **Edit user role**, click **Customized administrator**, select **Billing administrator** from the list, in the **Alternate email address** text box, click **Edit**, type user@alt.none, click **Save**, and then click **Close** twice.
7. In the list view, click **Tameka Reed**.
8. On the **Tameka Reed** page, in the Roles section, click **Edit**.
9. Under **Edit user role**, click **Customized administrator**, and then select **Password administrator** from the list.

10. In the **Alternative email address** text box, click **Edit**, type [user@alt.none](#), and then click **Save**, and then click **Close** twice.
11. In the list view, click **Christie Thomas**.
12. On the **Christie Thomas** page, in the Roles section, click **Edit**.
13. Under **Assign role**, click **Customized administrator**, and then select **User management administrator** from the list.
14. In the **Alternative email address** text box, click **Edit**, type [user@alt.none](#), click **Save**, and then click **Close** twice.
15. Close Microsoft Edge.

Task 7: Manage service administration with Windows PowerShell

1. In the Windows PowerShell window, at the command prompt, type the following command, and then press Enter (where xxyyza is your unique UPN name):

```
Add-MsolRoleMember -RoleName "Service Support Administrator" -  
RoleMemberEmailAddress "Sallie@xxyyza.xtremelabs.us"
```

2. At the command prompt, type the following command, and then press Enter (where xxyyza is your unique UPN name):

```
Add-MsolRoleMember -RoleName "Company Administrator" -RoleMemberEmailAddress  
"Amy@xxyyza.xtremelabs.us"
```

3. At the command prompt, type the following command, and then press Enter:

```
$role = Get-MsolRole -RoleName "Service Support Administrator"
```

4. At the command prompt, type the following command, and then press Enter:

```
Get-MsolRoleMember -RoleObjectId $role.ObjectId
```

5. Verify that Sallie McIntosh is in the list of users who have the Service Support Administrator role.
6. At the command prompt, type the following command, and then press Enter:

```
$role = Get-MsolRole -RoleName "Billing Administrator"
```

7. At the command prompt, type the following command, and then press Enter:

```
Get-MsolRoleMember -RoleObjectId $role.ObjectId
```

8. Verify that Francisco Chaves is in the list of users who have the billing administrator role.
9. At the command prompt, type the following command, and then press Enter:

```
$role = Get-MsolRole -RoleName "Company Administrator"
```

10. At the command prompt, type the following command, and then press Enter:

```
Get-MsolRoleMember -RoleObjectId $role.ObjectId
```

11. Verify that Amy Santiago is in the list of users who have the Company Administrator role. You should also see Holly Dickson on the list.
12. Close the Windows PowerShell window.

Task 8: Verify service administration

1. On LON-CL1, open Microsoft Edge, and then browse to **<https://portal.office.com>**.
2. Sign in as **Tameka@xyyyza.xtremelabs.us**, where *xyyyza* is your unique domain name, with the password **Pa55w.rd123**.
3. On the **Update your password** page, in the **Current password** text box, type **Pa55w.rd123**.
4. In the **New password** and **Confirm password** text boxes, type **a unique password**, and then click **Update password and sign in**.
5. On the **Office 365 portal**, click **Admin**.
6. If prompted, sign in again as **Tameka@xyyyza.xtremelabs.us** using the password you chose in Step 4.
7. On the **Home** page, click **Active Users**.
8. Click **Jessica Jennings**. Note that you cannot perform any administrative tasks.
9. Click **Reset passwords**.
10. On the **Reset password** page, click **Reset**.
11. Write down the temporary password here for future reference, and then click **Send email and close**.
12. Close and reopen Microsoft Edge, and then browse to **<https://portal.office.com>**.
13. Sign in as **Christie@xyyyza.xtremelabs.us**, using the password **Pa\$\$w0rd**.
14. In the **Office 365 portal**, click **Admin**.
15. If asked about **update your admin contact information** click on the cancel button to skip this request.

16. In the Office 365 admin center, on the Home page, click **Active Users**, and then click **Jessica Jennings**.
17. On the **Jessica Jennings** page, in the **Contact information** section, click **Edit**.
18. On the **Edit contact information** page, expand **Contact** information.
19. In the **Office Phone** text box, type **555-1234**, click **Save**, and then click **Close**.
20. In the **Sign-in status** section, click **Edit**, click **Block the user from signing in**, click **Save**, and then click **Close** twice.
21. In the **Office 365 admin center**, click **Add a user**.
22. In the **First name** text box, type **Chris**.
23. In the **Last name** text box, type **Breland**.
24. Notice the Display name text box is automatically completed as **Chris Breland**.
25. In the **User name** text box, type **Chris**, click **Add**, in Product licenses section, enable Office365 E3 license, and then click **Send email and close**.
26. In the **Active users** list, click **Chris Breland**.
27. On **Chris Breland** page, click the **Delete user**.
28. On the **Delete user** page, click **Delete**, and then click **Close**.
29. Close Microsoft Edge.

Lab 2: Implementing Identity Synchronization

NOTE: This lab should be performed after you complete Module 2.

You are now ready to start the directory synchronization process. In this lab exercise you to first make sure your local Active Directory is ready to start the directory synchronization process by adding a custom domain to the forest and configuring Exchange to use the new custom domain.

Exercise 1: Setting up your organization for identity synchronization

Task 1: Configure your UPN suffix

1. On LON-DC1, log on as **ADATUM\Administrator** and password **Pa55w.rd**.
2. Using Windows PowerShell, update the UPN suffix for the domain and on the UPN on every user in AD DS with "@xxyyza.xtremelabs.us" (where xxyyza is your unique UPN name) for the domain name. To do this, run the following command (remember to change xxyyza to your unique UPN name):

```
Set-ADForest -identity "adatum.com" -UPNSuffixes  
@{replace="xxyyza.xtremelabs.us"}
```

3. Next type the follow command (remember to change xxyyza to your unique UPN name):

```
Get-ADUser -Filter * -Properties SamAccountName | ForEach-Object { Set-ADUser $_ -  
UserPrincipalName ($_.SamAccountName + "@xxyyza.xtremelabs.us" )}
```

Task 2: Prepare problem user accounts

1. On the LON-DC1, in the Windows PowerShell prompt, type the following command, and then press Enter:

```
CD C:\labfiles\
```

2. At the Windows PowerShell prompt, type the following command, and then press Enter:

```
Set-ExecutionPolicy Unrestricted
```

3. To confirm the execution policy change, press Enter.
4. At the Windows PowerShell prompt, type the following command, and then press Enter:

`.\CreateProblemUsers.ps1`

Note: Wait until the script has completed before proceeding to the next step.

5. This Windows PowerShell script will make the following changes in AD DS:
 - **Amr Zaki.** Add the "@" character to the beginning of "adatum" for the UserPrincipalName attribute.
 - **Brad Sutton.** Replace the existing string with "lara@adatum.com" for the emailAddress attribute.
 - **Don Funk.** Replace the existing string with "lara@adatum.com" for the emailAddress attribute.
 - **Holly Dickson.** Replace the existing string with "holly @adatum.com" for the EmailAddress attribute.
 - **Kelly Rollin.** Replace the existing string with " " for the emailAddress attribute.


Task 3: Run the IdFix tool and fix identified issues

1. On **LON-CL1**, open Microsoft Edge, and then connect to <https://www.microsoft.com/en-us/download/details.aspx?id=36832>
2. On the **IdFix DirSync Error Remediation Tool** page, click **Download**.
3. Wait for the download to complete, and then click **Open**.
4. In the File Explorer windows, browse to the **Downloads** folder, right-click **IdFix.zip**, and then click **Extract All...**
5. In the **Extract Compressed (Zipped) Folders** dialog box, in the destination box, type **C:\Deployment Tools\IdFix**, and then click **Extract**.
6. In File Explorer, in the **C:\Deployment Tools\IdFix** folder, right-click **IdFix.exe**, and then click **Run as administrator**.
7. In the **User Account Control** dialog box, click **Yes**.
8. In the **IdFix Privacy Statement message box**, click **OK**.
9. Click **Query**. You should see several errors.
10. Click the **ERROR** column to sort the character errors to the top of the list. **Note:** Ignore topleveldomain errors, which cannot be fixed by the IdFix tool.
11. In the **Amr Zaki** row, in the **ACTION** column, select **EDIT**.
12. In the **Holly Dickson** row, in the **ACTION** column, select **EDIT**. 13. In the Kelly Rollin row, in the **ACTION** column, select **EDIT**
14. On the toolbar, click **Apply**.
15. In the **Apply Pending** dialog box, click **Yes**; note the **COMPLETE** status in the **ACTION** column indicating successful writes.

16. Switch to **File Explorer**, and in the **C:\Deployment Tools\IdFix** folder, double-click **Verbose <date><time>.txt** to view the updated transactions in the transaction log.
17. Switch back to the IdFix tool.
18. On the toolbar, click **Query**.
19. Click in the **UPDATE** column to locate the Don Funk error, and replace the string with **don@adatum.com**, and then in the **ACTION** column, select **EDIT**.
20. Click in the **UPDATE** column to locate the Kelly Rollin error, and replace the string with **kelly@adatum.com**, and then in the **ACTION** column, select **EDIT**.
21. On the toolbar, click **Apply**.
22. In the **Apply Pending** box, click **Yes**.
23. On the toolbar, click **Query** and verify that errors are corrected.

Note: Where there are format and duplicate errors for distinguished names, the UPDATE column either contains the same string as the VALUE column, or the UPDATE column entry is blank; in either case, this means that IdFix cannot suggest a remediation for the error. You can either fix these errors outside IdFix, or manually remediate them within IdFix. You can also export the results and use Windows PowerShell to remediate many errors.

Task 4: Enable Directory Synchronization

1. On LON-DS1, if necessary, log on as **ADATUM\Administrator** and password **Pa55w.rd**.
2. Open **Internet Explorer**, click on the gear icon () in the top right corner.
3. Choose **Internet Options**.
4. Click on the **Security** tab.
5. Click **Internet**. Click **Custom Level**. Scroll down and under the **Downloads** section, under **File download**, select **Enable**. Click **OK**.
6. Click **Yes** to confirm you want to change the settings for this zone.
7. Click on **Trusted sites** and click on **Sites**.
8. Type in **https://outlook.office365.com/**, click on **Add**.
9. Type in **https://outlook.office.com/**, click on **Add**.
10. Type in **https://portal.office.com/**, click on **Add** and **Close**.
11. Click **Ok**.
12. Browse to **https://portal.office.com/**.
13. Sign in as **Holly@AdatumXXYYZZ.onmicrosoft.com** with the password **Pa55w.rd** (where XXYYZZ is your unique Adatum O365 Blob).
14. Click **Admin**.
15. If asked about **update your admin contact information** click on the cancel button to skip this request.

16. In the left side menu, click **Users**, and then click **Active Users**.

Note: If you see the Active Directory synchronization is being activated warning, you can ignore it at this time, but you will not be able to run directory synchronization later in this exercise. You must wait until directory synchronization is activated. However, you can complete the following steps, even if you do see the warning message.

17. Click **Holly Dickson**.

18. On the **Holly Dickson** page, click **Edit** in the **User name / Email** section.

19. In the **Aliases** section, type **Holly** in the **Alias** textbox and ensure that **xyyyza.xtremelabs.us** domain is selected. Click **Add**.

20. Click **Set as primary** and then read the warning and click **Save**.

21. You should be signed out automatically, but if not click on the top right corner of Holly Dickson's profile icon and click **Sign Out**.


22. Close Internet Explorer.

23. Open Internet Explorer.

24. Sign in as **Holly@xyyyza.xtremelabs.us** with the password **Pa55w.rd** (where XYZZ is your UPN domain).

25. Click **Admin**

26. If asked about **update your admin contact information** click on the cancel button to skip this request.

27. In the left-hand navigation, select the user's icon () and select **Active users**, click on **More** on the top menu and choose Directory Synchronization.

28. Click on the **Go to the DirSync readiness wizard**.

29. On the next screen choose **51-250** for the number of users you will move to the cloud, click **Next**.

30. Click **Next** on the Sync your local directory with the cloud screen.

31. Click **continue manually** to skip checking your directory since it was already fixed.

32. Click **Next** to configure the domains.

33. Click **Ok I've added and verified all my domains** to continue.

34. Click **Next** to continue the process (Skip IdFix).

35. Click on **Download** to go to the download page for Azure AD Connect.

36. Click **Download** again to download Azure AD Connect application.

37. Click **Save** and **Run** the download.

Task 5: Set up Azure AD Connect

1. On the **Welcome** screen, click in the check box **I agree to the license terms and privacy notice**.

2. If asked, click on **Continue**.

3. Click on **Use express settings**.

4. On the **Connect to Azure AD** screen enter your Office 365 admin username **Holly@xxyyza.xtremelabs.us** with password **Pa55w.rd** (where XXYYZZ is your UPN domain) and click **Next**.
5. On the **Connect to AD DS** screen enter your domain administrator **ADATUM\Administrator** and password **Pa55w.rd** and click **Next**.
6. Click **Next** on the Azure AD sign-in configuration screen.
7. On the **Ready to configure** screen click the check box for **Start the synchronization process when configuration completes** and click on **Install**.
8. Wait for the installation to complete.
9. Click on **Exit**.
10. Click on **Start**, search for the **Synchronization Service** application and open it.
11. Monitor the synchronization process by looking at the operations tab. Wait for the **Export** profile to complete (Status: **success**)
12. Return to the **Run Azure Active Directory Connect** screen in Internet Explorer and click on **Next**.

Note: The web page should say **Directory synchronization enabled**. If it doesn't then refresh the page to see that the Directory synchronization is enabled. If status does not update continue to the next step if the export was successful.

13. Click **Next** on the **Make sure sync worked as expected** screen.
14. Click **Next** on the **Activate users** screen.
15. Click **Finish** on the **You're all set up** screen.

Task 6: Create a new user and group account

1. On **LON-DC1**, in **Server Manager**, click **Tools**, and then click **Active Directory Users and Computers**.
2. In the console tree, expand **Adatum.com**, right-click **Research**, click **New**, and then click **User**.
3. In the **First name** box, type **Perry**.
4. In the **Lastname** box, type **Brill**.
5. In the **User logon name** box, type **Perry**, select your lab domain **UPN** (not **Adatum.com**), and then click **Next**.
6. In the **Password** and **Confirm password** boxes, type **Pa55w.rd**, clear the **User must change password at next logon** checkbox, select the **Password never expires** checkbox, click **Next**, and then click **Finish**.
7. In the **Research** OU user list, double-click the **Perry Brill** user.
8. In the **Properties** dialog box, in the **E-mail** box, type **Perry@xxyyza.xtremelabs.us**, and then click **OK**.

9. In the console tree, right-click the **Research** OU, click **New**, and then click **Group**.
10. In the **New Object - Group** window, in the **Group name:** box, type **Project Team**, click **Universal**, click **Distribution**, and then click **OK**.
11. In the **Research** OU, double-click the **Project Team** group.
12. In the **Properties** dialog window, in the **E-mail** box, type **projectteam@xyyyza.xtremelabs.us**.
13. On the **Members** tab, click **Add**.
14. In the **Select Users, Contacts, Computers, Service Accounts, or Groups** dialog box, in the **Enter the object names to select**, type the following names, and then click **Check Names**:
 - Anil Elson
 - Deepak Kumar
 - Olivier Renaud
15. Click **OK** twice.

Task 7: Change group membership

1. In the console tree of **Active Directory Users and Computers**, click **Research**.
2. In the right pane, double-click **Research**.
3. In the **Research Properties** dialog box, click the **Members** tab.
4. Select the following three users, and then click **Remove**. In the confirmation dialog box, click **Yes**.
 - Chloe Brussard
 - Chris Sells
 - Florian Stiller
5. Click **OK**.

Exercise 2: Implement identity synchronization

Task 1: Force synchronization

1. On LON-DS1, from the taskbar, right-click the **Windows PowerShell** shortcut, and then click **Run as administrator**.

Note: If a **User Account Control** dialog box appears, click **Yes**.

2. At the Windows PowerShell prompt, type the following, and then press Enter:

```
Start-ADSyncSyncCycle -PolicyType Delta
```

Note: The **Delta** switch is used here so that only the updates are synchronized.

3. Wait until synchronization has completed before proceeding to the next task.

Task 2: Validate the results of directory synchronization

1. To verify the new user you created, on LON-CL1, open the Office 365 Admin Center in Microsoft Edge by typing **https://portal.office.com/admin/default.aspx** in the address bar.
2. Sign in using the following credentials:
 - User name: **holly@xxyzza.xtremelabs.us**
 - Password: **Pa55w.rd**
3. If you are connected to the previous Office 365 admin center, click that banner at the top of the page to connect to the new Office 365 admin center.
4. In the **Office 365 Admin Center**, in the left navigation, click **Users**, and then click **Active Users**.
5. In the Active Users list, verify that **Perry Brill** has a value of **Synced with Active Directory** in the Sync Type column.

Note: You might need to wait up to 10 minutes before the account appears. Refresh the list until you see Perry Brill's account.

6. In the **Active Users** list, click the **Perry Brill**.
7. Under the **Product licenses** section, click **Edit**.
8. On the **Product licenses** page, in the **Location** drop-down menu, select **United Kingdom**, and then click on the icon next to **Office 365 Enterprise E3**.
9. Click **Save**, and then click **Close** twice.
10. Repeat the steps 8-11 to assign an Office 365 license for user **Anil Elson**.
11. To verify that you have created the new group, in **Office 365 admin center**, in the left navigation, click **Groups**, and then click **Groups**.
12. In the **Groups** list, verify that the **Project Team** appears.

Note: You might need to wait up to 10 minutes before the group appears. Refresh the list until you see the object.

13. In the **Groups** list, select the **Project Team** group.

Note: In the right pane, notice that **Edit Members** is unavailable. This is because group membership is maintained by Active Directory. To view the membership, you need to use Windows PowerShell.
14. On **LON-CL1**, on the desktop, if PowerShell is not already open, and then click **Run as administrator**.
15. If a **User Account Control** dialog box appears, click **Yes**.
16. If PowerShell wasn't open, at the command prompt, type the following command, and then press Enter:

```
Connect-MsolService
```

17. If necessary, in the **Enter Credentials** dialog box, sign in as **Holly@Adatumyyxxxxx.onmicrosoft.com**, where yyxxxxx is your unique Adatum number, with the password **Pa55w.rd**.
18. Type the following command, and then press Enter:

```
Get-MsolGroup
```

19. Verify that you see **Research** and **Project Team** groups. Copy the **ObjectID** value for these two groups.
20. To verify that you updated the group membership in AD DS, type the following command at the Windows PowerShell prompt, and then press Enter (where <<ObjectID for Research group>> is the ObjectID of the group):

```
Get-MsolGroupMember -GroupObjectId <<ObjectID for Research group>>
```

21. Verify the membership of the group does not contain the users removed in AD DS. The users who were removed from the group are:
 - Chloe Brussard
 - Chris Sells
 - Florian Stiller
22. At the Windows PowerShell prompt, type the following command, and then press Enter:

```
Get-MsolAccountSku
```

Note: This command shows the current license consumed units.

Task 3: Deploy Azure AD Pass-through Authentication

1. Sign in to the **LON-DS1** virtual machine as **ADATUM\Administrator** with a password of **Pa\$\$word**.
2. On the desktop, double click the **Microsoft Azure AD Connect** application.
3. Select **Change user Sign-in** and then click **Next**.
4. Click **configure**.
5. Sign in to Azure AD.

6. Select **Pass-Through Authentication** and then click **Next**.
7. Upon successful completion Pass-Through Authentication will be enabled.
8. To verify that Pass-Through Authentication is successfully enabled, open an Edge Browser.
9. Sign in to <https://aad.portal.azure.com/>.
10. Select **Azure Active Directory** on the left pane.
11. Verify pass-through authentication feature appears as **ENABLED**.
12. Select **Pass-Through Authentication**. The Pass-Through authentication pane lists the servers where your authentication agents are installed.

End of lab