

## Working with the DS Family Command in PowerShell

## Table of Contents

<i>Working with the DS Family Command in PowerShell</i> .....	<b>1</b>
<b>Objectives</b> .....	<b>3</b>
1. Commands Description.....	3
<b>2. Tasks</b> .....	<b>4</b>
• <b>Creating Sub-OUs:</b> I focused on the Sales OU, and I added two nested OUs (Sub-OUs).....	6
• Deleting unwanted OU.....	8
• Renaming and Moving OUs.....	9
3. Creating Security Groups .....	12
3.1 Creating Groups.....	12
4 Moving and Renaming the groups created.....	16
5 Creating Computer objects.....	19
6 Removing a Subtree (Branch of an Active Directory Structure) .....	21
7 Creating User Object .....	22
Conclusion.....	23

## **Objectives**

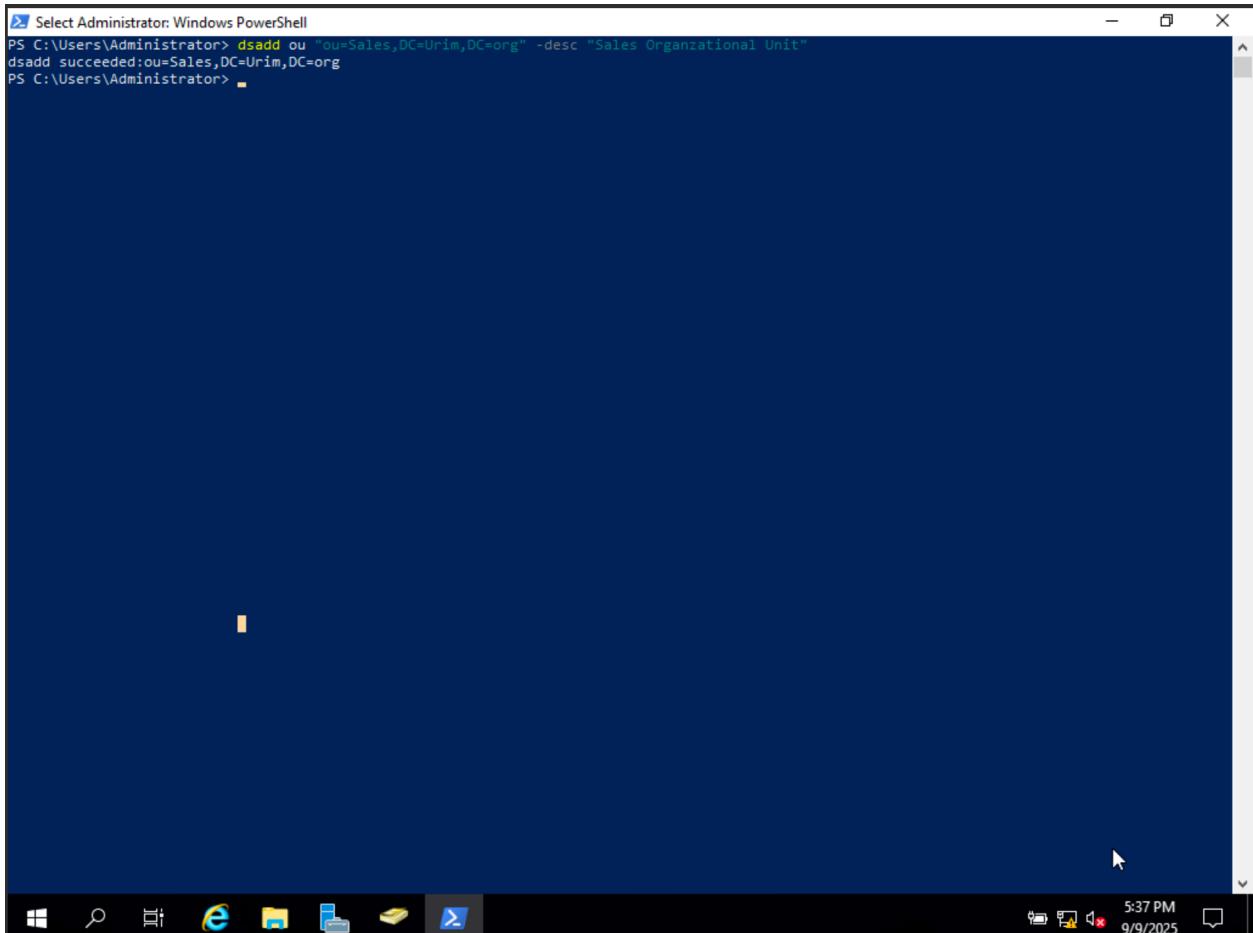
This lab aimed at demonstrating my understanding of the “ds” family command through different steps. It is worth noting that the commands are not case sensitive. The hands-on lab focused on creating Organizational Units (OUs), Computers, and Users Objects.

### **1. Commands Description**

- Dsquery/dsquery: This was used to display a query for requesting information. It allowed the search on Active Directory about objects, namely, Users, Computers, groups, contacts, and OUs.
- Dsadd/dsadd: This was used to add users, computers, OUs, Contacts, and groups to the Active Directory.
- Dsget/dsget: This was used to display the properties (properties search) of the Active Directory, namely, Users, Computers, OUs, Contacts, groups, sites, subnet, servers (DC), quotas, and partitions.
- Dsmove/dsmove: This was used to rename or move an Active Directory Object
- Dsrm/drsm: This was used to remove a single object/branch (subtree) of an Active Directory.
- Dsmod/dsmod: This was used to modify the properties of an Active Directory.

## 2. Tasks

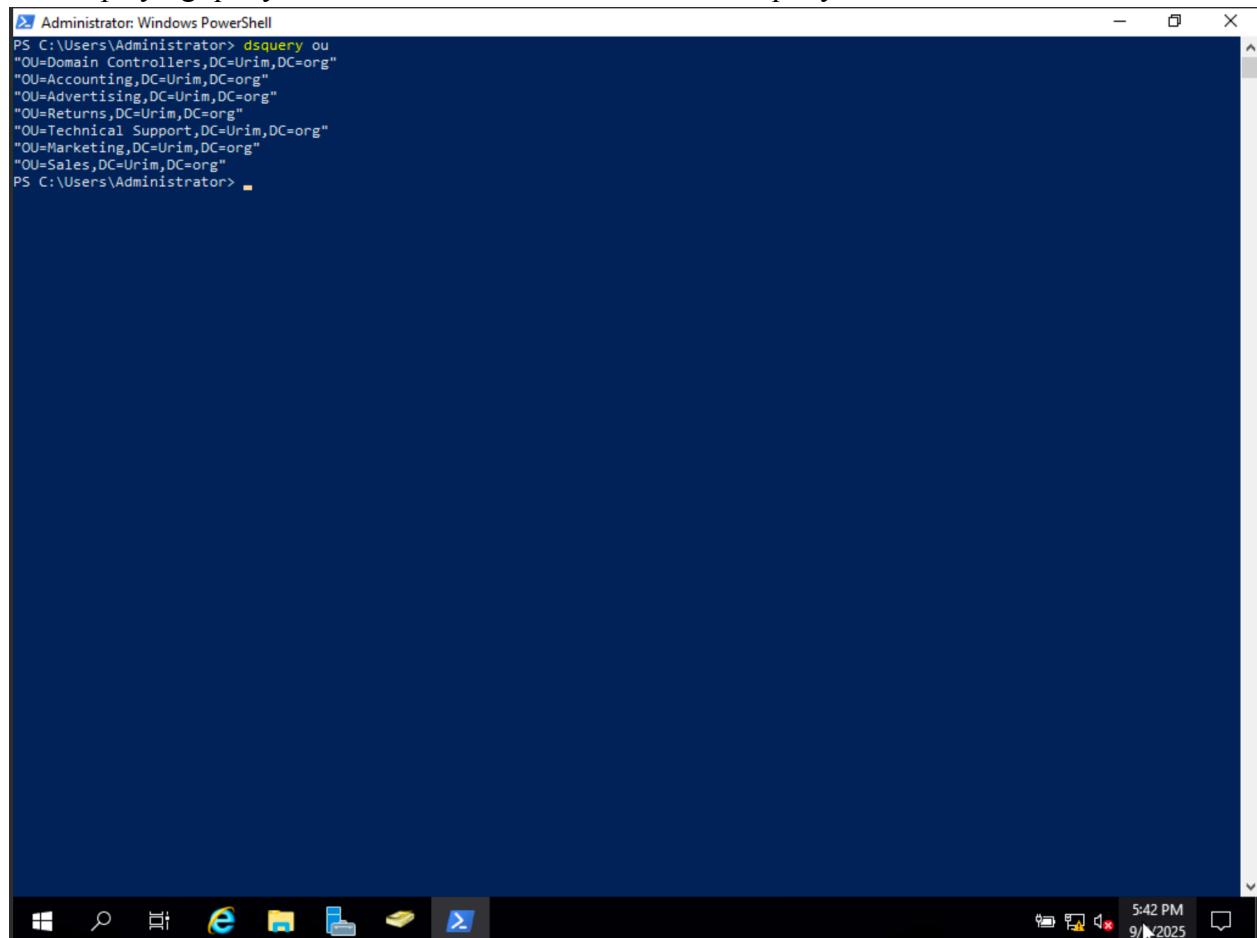
- Creating OU named “Sales” using the command: `dsadd ou "ou=Sales,DC=Urim,DC=org" -desc "Sales Organizational Unit"`



The screenshot shows a Windows PowerShell window titled "Select Administrator: Windows PowerShell". The command entered is `dsadd ou "ou=Sales,DC=Urim,DC=org" -desc "Sales Organizational Unit"`. The output shows that the command was successful: `dsadd succeeded:ou=Sales,DC=Urim,DC=org`. The PowerShell window has a dark blue background and a black title bar. The taskbar at the bottom shows icons for File Explorer, Task View, and other system icons. The system tray in the bottom right corner displays the date and time as "9/9/2025 5:37 PM".

Figure 1: Sales OU (source: personal collection)

- Displaying query information: I used the command “dsquery ou” as follows:



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command "dsquery ou" was run, and the output listed several organizational units (OUs) under the domain "Urim,DC=org". The OUs listed are: "OU=Domain Controllers,DC=Urim,DC=org", "OU=Accounting,DC=Urim,DC=org", "OU=Advertising,DC=Urim,DC=org", "OU>Returns,DC=Urim,DC=org", "OU=Technical Support,DC=Urim,DC=org", "OU=Marketing,DC=Urim,DC=org", and "OU=Sales,DC=Urim,DC=org". The PowerShell prompt "PS C:\Users\Administrator>" is visible at the bottom.

```
PS C:\Users\Administrator> dsquery ou
"OU=Domain Controllers,DC=Urim,DC=org"
"OU=Accounting,DC=Urim,DC=org"
"OU=Advertising,DC=Urim,DC=org"
"OU>Returns,DC=Urim,DC=org"
"OU=Technical Support,DC=Urim,DC=org"
"OU=Marketing,DC=Urim,DC=org"
"OU=Sales,DC=Urim,DC=org"
PS C:\Users\Administrator>
```

Figure 2: Dsquery in action (source: personal collection)

The query information displayed additional OUs to the one created in the previous task.

- **Creating Sub-OUs:** I focused on the Sales OU, and I added two nested OUs (Sub-OUs) using the command "dsadd ou "ou=Nairobi Sales, ou=Sales, DC=Urim, DC=org" and dsadd ou "ou=Nakuru Sales, ou=Sales, DC=Urim, DC=org" as follows:

```

Administrator: Windows PowerShell
PS C:\Users\Administrator> dsquery ou
"OU=Domain Controllers,DC=Urim,DC=org"
"OU=Accounting,DC=Urim,DC=org"
"OU=Advertising,DC=Urim,DC=org"
"OU>Returns,DC=Urim,DC=org"
"OU=Technical Support,DC=Urim,DC=org"
"OU=Marketing,DC=Urim,DC=org"
"OU=Sales,DC=Urim,DC=org"
PS C:\Users\Administrator> dsadd ou "ou=Nairobi Sales,ou=Sales,DC=Urim,DC=org"
dsadd succeeded:ou=Nairobi Sales,ou=Sales,DC=Urim,DC=org
PS C:\Users\Administrator> dsquery ou
"OU=Domain Controllers,DC=Urim,DC=org"
"OU=Accounting,DC=Urim,DC=org"
"OU=Advertising,DC=Urim,DC=org"
"OU>Returns,DC=Urim,DC=org"
"OU=Technical Support,DC=Urim,DC=org"
"OU=Marketing,DC=Urim,DC=org"
"OU=Sales,DC=Urim,DC=org"
"OU=Nairobi Sales,OU=Sales,DC=Urim,DC=org"
PS C:\Users\Administrator>

```

Figure 3: Nairobi Sales OU (source: personal collection)

```
PS C:\Users\Administrator> dsadd ou "ou=Nakuru Sales,ou=Sales,DC=Urim,DC=org"
dsadd succeeded:ou=Nakuru Sales,ou=Sales,DC=Urim,DC=org
PS C:\Users\Administrator> dsquery ou "ou=Sales,DC=Urim,DC=org"
"OU=Sales,DC=Urim,DC=org"
"OU=Nairobi Sales,OU=Sales,DC=Urim,DC=org"
"OU=Nakuru Sales,OU=Sales,DC=Urim,DC=org"
PS C:\Users\Administrator>
```

Figure 4: Nakuru Sales OU (source: personal collection)

- Deleting unwanted OU: I used the command `dsrm`

“`ou=Stuff, DC=Urim, DC=org`” as follows:

The screenshot shows the Windows Active Directory Users and Computers management console. The left pane displays a tree view of the directory structure under 'Urim.org', including 'Accounting', 'Advertising', 'Builtin', 'Computers', 'Domain Controllers', 'ForeignSecurityPrincipal...', 'Managed Service Account', 'Marketing', 'Returns', 'Sales', 'Stuff', 'Technical Support', and 'Users'. The right pane is a grid view showing a list of objects with columns for 'Name', 'Type', and 'Description'. The 'Stuff' object is visible in this list.

Name	Type	Description
Accounting	Organizational...	Accounting Organizatio...
Advertising	Organizational...	Accounting Organizatio...
Builtin	builtinDomain	
Computers	Container	Default container for up...
Domain Con...	Organizational...	Default container for do...
ForeignSecu...	Container	Default container for sec...
Managed Se...	Container	Default container for ma...
Marketing	Organizational...	Marketing Organization...
Returns	Organizational...	Accounting Organizatio...
Sales	Organizational...	Sales Organizational Unit
Stuff	Organizational...	
Technical Su...	Organizational...	Accounting Organizatio...
Users	Container	Default container for up...

Figure 5: Stuff OU before deletion (source: personal collection)

```
PS C:\Users\Administrator> dsrm "ou=Stuff,DC=Urim,DC=org"
Are you sure you wish to delete ou=Stuff,DC=Urim,DC=org (Y/N)? Y
dsrm succeeded:ou=Stuff,DC=Urim,DC=org
PS C:\Users\Administrator>
```

Figure 6: Removing Stuff OU (source: personal collection)

- Renaming and Moving OUs

#### Things to remember:

- Use dsmove to rename or move objects in Active Directory.
- Copying (cloning) objects creates a new instance in the same or a different location.
- Renaming an object keeps it in the same location and requires specifying its path (OU, DC).
- When you move an object, it changes location. You need to provide both its current path and the new path.

#### Tasks

1. Renaming the OU Sales to My Sales: I used the command `dsmove "ou=Sales,DC=Urim,DC=org" -newname "My Sales"` as follows:

The screenshot shows a Windows desktop environment with two open windows. The top window is a PowerShell session titled "Administrator: Windows PowerShell". It contains the following command and its output:

```
PS C:\Users\Administrator> dsmove "ou=Sales,DC=Urim,DC=org" -newname "My_Sales"
dsmove succeeded:ou=Sales,DC=Urim,DC=org
PS C:\Users\Administrator>
```

The bottom window is the "Active Directory Users and Computers" (ADUC) management console. The left pane shows the organizational structure under "Urim.org":

- Saved Queries
- Urim.org
  - Accounting
  - Advertising
  - Builtin
  - Computers
  - Domain Controllers
  - ForeignSecurityPrincipals
  - Managed Service Accounts
  - Marketing
  - My Sales
    - Nairobi Sales
    - Nakuru Sales
  - Returns
  - Technical Support
  - Users

The right pane displays a table of objects in the "My Sales" container:

Name	Type	Description
Accounting	Organizational...	Accounting Organizatio...
Advertising	Organizational...	Advertising Organizatio...
Builtin	builtinDomain	
Computers	Container	Default container for up...
Domain Con...	Organizational...	Default container for do...
ForeignSecu...	Container	Default container for sec...
Managed Se...	Container	Default container for ma...
Marketing	Organizational...	Marketing Organization...
My Sales	Organizational...	Sales Organizational Unit
Returns	Organizational...	Accounting Organizatio...
Technical Su...	Organizational...	Accounting Organizatio...
Users	Container	Default container for up...

Figure 7: PowerShell and ADUC display (source: personal collection)

2. Move the Nairobi Sales OU to the Marketing OU and rename it Nairobi Marketing:

I used the command `dsmove "ou=Nairobi Sales, ou=My Sales, DC=Urim, DC=org" -newname "Miami Marketing" -newparent "ou=Marketing, DC=Urim, DC=org"` as follows:

The screenshot shows a dual-pane interface. On the left is a Windows PowerShell window with the following command history:

```
PS C:\Users\Administrator> dsmove "ou=Sales,DC=Urim,DC=org" -newname "My Sales"
dsmove succeeded:ou=Sales,DC=Urim,DC=org
PS C:\Users\Administrator> dsquery ou
"OU=Domain Controllers,DC=Urim,DC=org"
"OU=Accounting,DC=Urim,DC=org"
"OU=Advertising,DC=Urim,DC=org"
"OU>Returns,DC=Urim,DC=org"
"OU=Technical Support,DC=Urim,DC=org"
"OU=Marketing,DC=Urim,DC=org"
"OU=My Sales,DC=Urim,DC=org"
"OU=Nairobi Sales,OU=My Sales,DC=Urim,DC=org"
"OU=Nakuru Sales,OU=My Sales,DC=Urim,DC=org"
PS C:\Users\Administrator> dsmove "ou=Miami Sales,DC=Urim,DC=org" -newparent "ou=Marketing,DC=Urim,DC=org"
dsmove failed:ou=Miami Sales,DC=Urim,DC=org:Directory object not found.
type dsmove /? for help.
PS C:\Users\Administrator> dsmove "ou=Nairobi Sales,DC=Urim,DC=org" -newname "Nairobi Marketing" -newparent "ou=Marketing,DC=Urim,DC=org"
dsmove failed:ou=Nairobi Sales,DC=Urim,DC=org:Directory object not found.
type dsmove /? for help.
PS C:\Users\Administrator> dsmove "ou=Nairobi Sales,ou=Sales,DC=Urim,DC=org" -newname "Nairobi Marketing" -newparent "ou=Marketing,DC=Urim,DC=org"
dsmove failed:ou=Nairobi Sales,ou=Sales,DC=Urim,DC=org:Directory object not found.
type dsmove /? for help.
PS C:\Users\Administrator> dsmove "ou=Nairobi Sales,ou=My Sales,DC=Urim,DC=org"
dsmove succeeded:ou=Nairobi Sales,ou=My Sales,DC=Urim,DC=org
PS C:\Users\Administrator>
```

On the right is the Active Directory Users and Computers snap-in. The left pane shows the organizational structure:

- Urim.org
  - Accounting
  - Advertising
  - Builtin
  - Computers
  - Domain Controllers
  - ForeignSecurityPrincipal
  - Managed Service Account
  - Marketing
    - Nairobi Marketing
    - My Sales
      - Nakuru Sales
      - Returns
      - Technical Support
      - Users
  - My Sales
  - Returns
  - Technical Support
  - Users

The right pane is a table of objects:

Name	Type	Description
Accounting	Organizational...	Accounting Organizational...
Advertising	Organizational...	Advertising Organizational...
Builtin	Container	Default container for up...
Computers	Container	Default container for do...
Domain Controllers	Organizational...	Default container for sec...
ForeignSecurityPrincipal	Container	Default container for ma...
Managed Service Account	Container	Marketing Organization...
Marketing	Organizational...	Sales Organizational Unit
My Sales	Organizational...	Accounting Organizational...
Returns	Organizational...	Technical Support Organizational...
Technical Support	Organizational...	Default container for up...
Users	Container	Default container for up...

Figure 8: Moving Nairobi Sales to the Marketing OU (source: personal collection)

### 3. Creating Security Groups

#### 3.1 Creating Groups

- I created security groups by using the syntax: `dsadd group "CN=name,OU=name,DC=Name,DC=domain" -secgrp yes`
- I then created a Sales Security Group in the OU as follows: `dsadd group "CN=Sales,OU=Sales,DC=Urim,DC=Org" -secgrp yes`

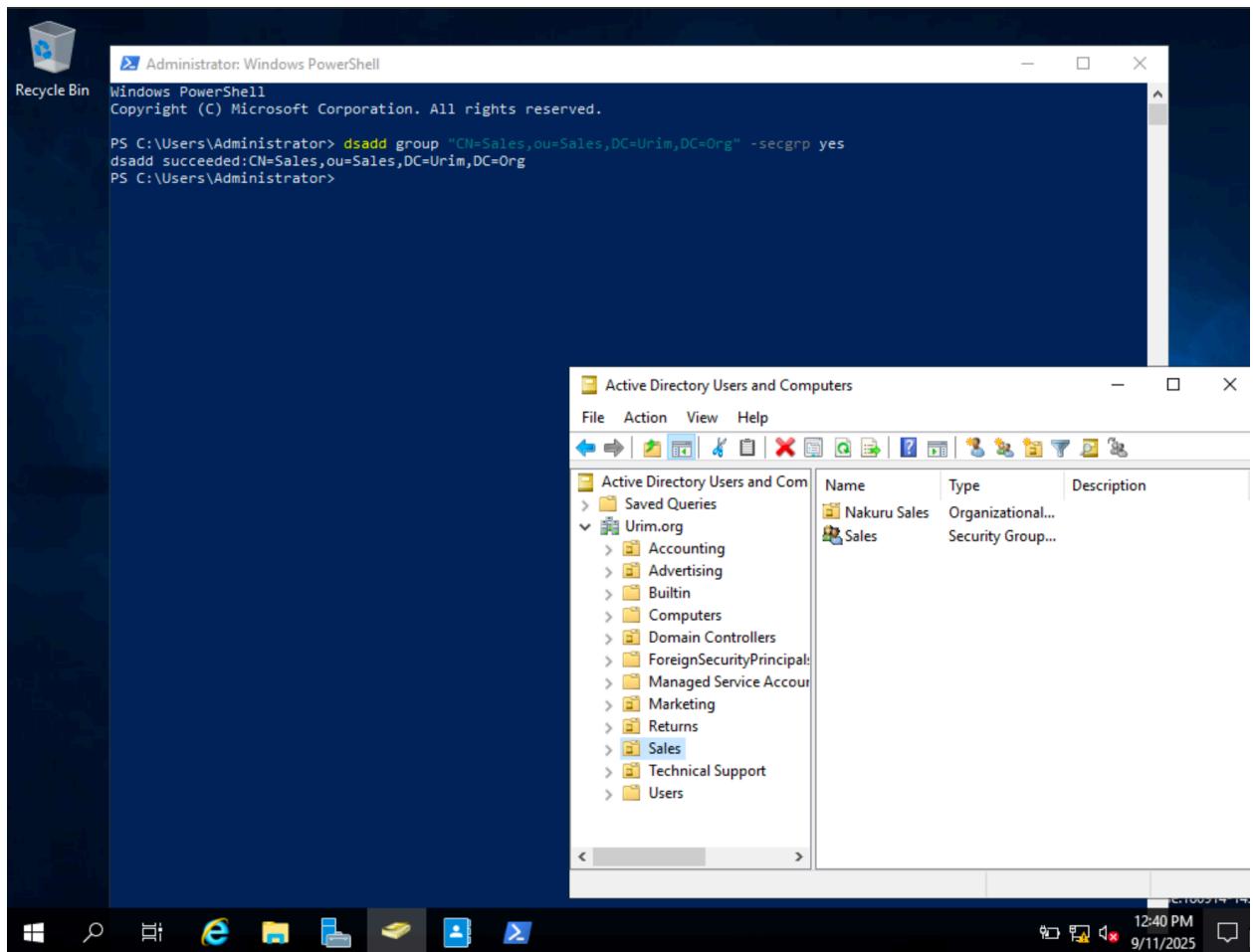


Figure 9: Sales group overview (source: personal collection)

- Next up, was the Sales Managers group created as follows: `dsadd group "CN=Sales Managers,OU=Sales,DC=Urim,DC=Org" -secgrp yes`

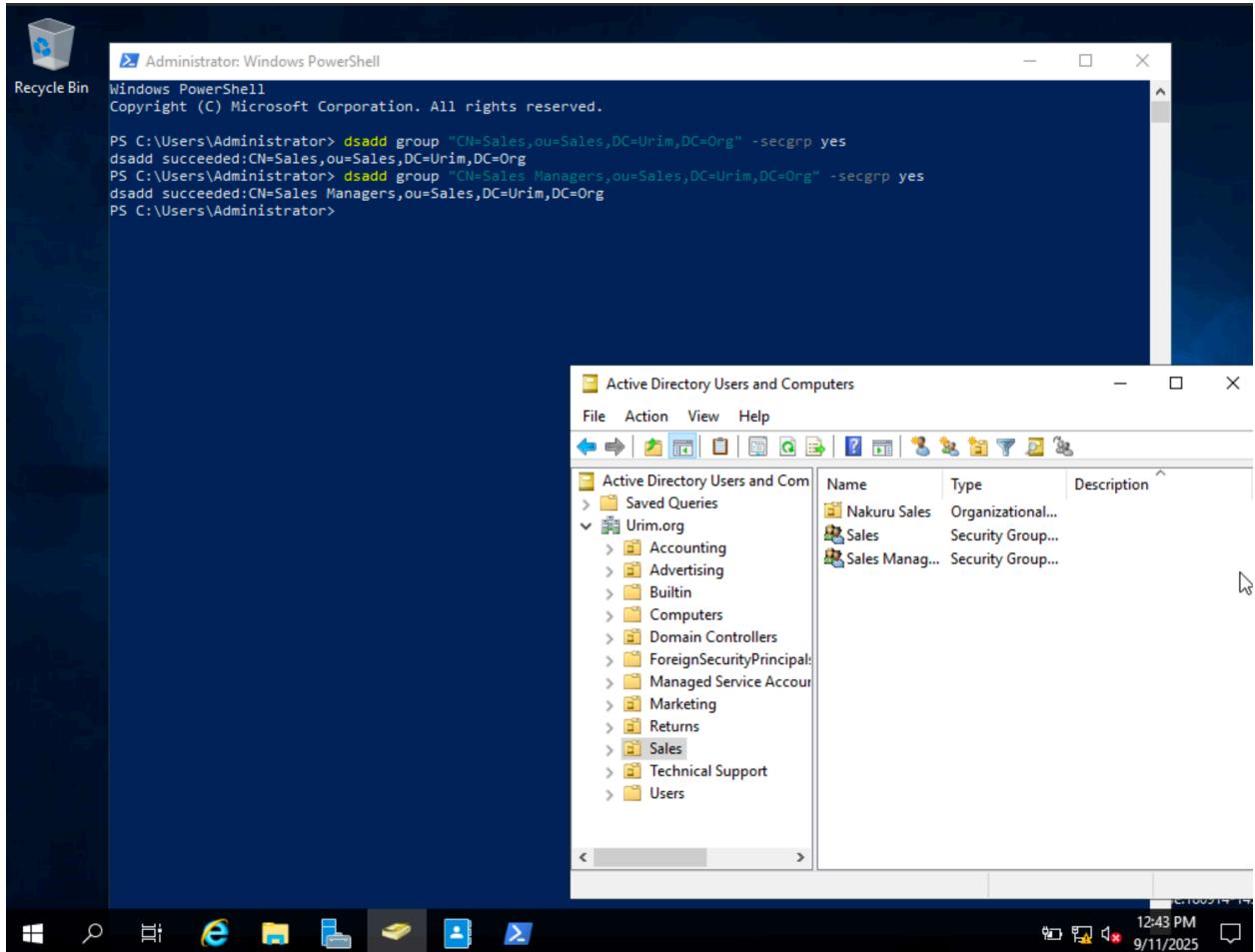


Figure 10: Sales Managers group overview (source: personal collection)

- Lastly, I created the Finance group inside the Finance OU as follows: `dsadd group "CN=Finance Group, ou=Finance,DC=Urim,DC=Org" -secgrp yes`

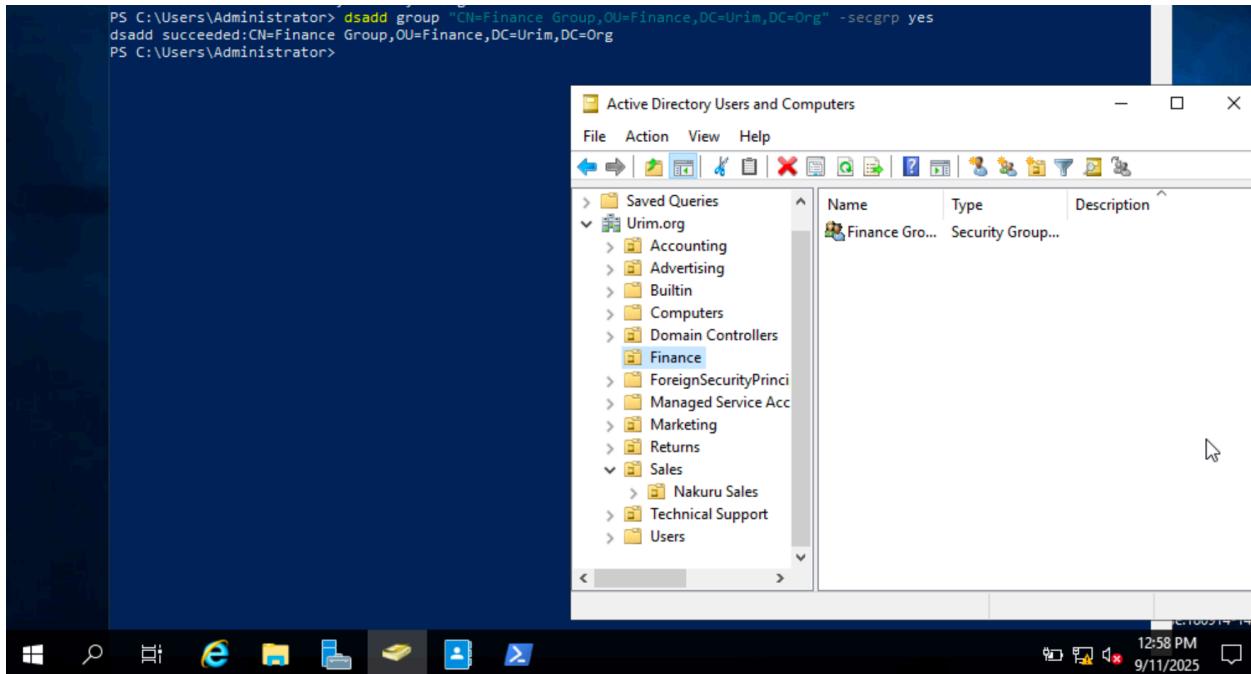
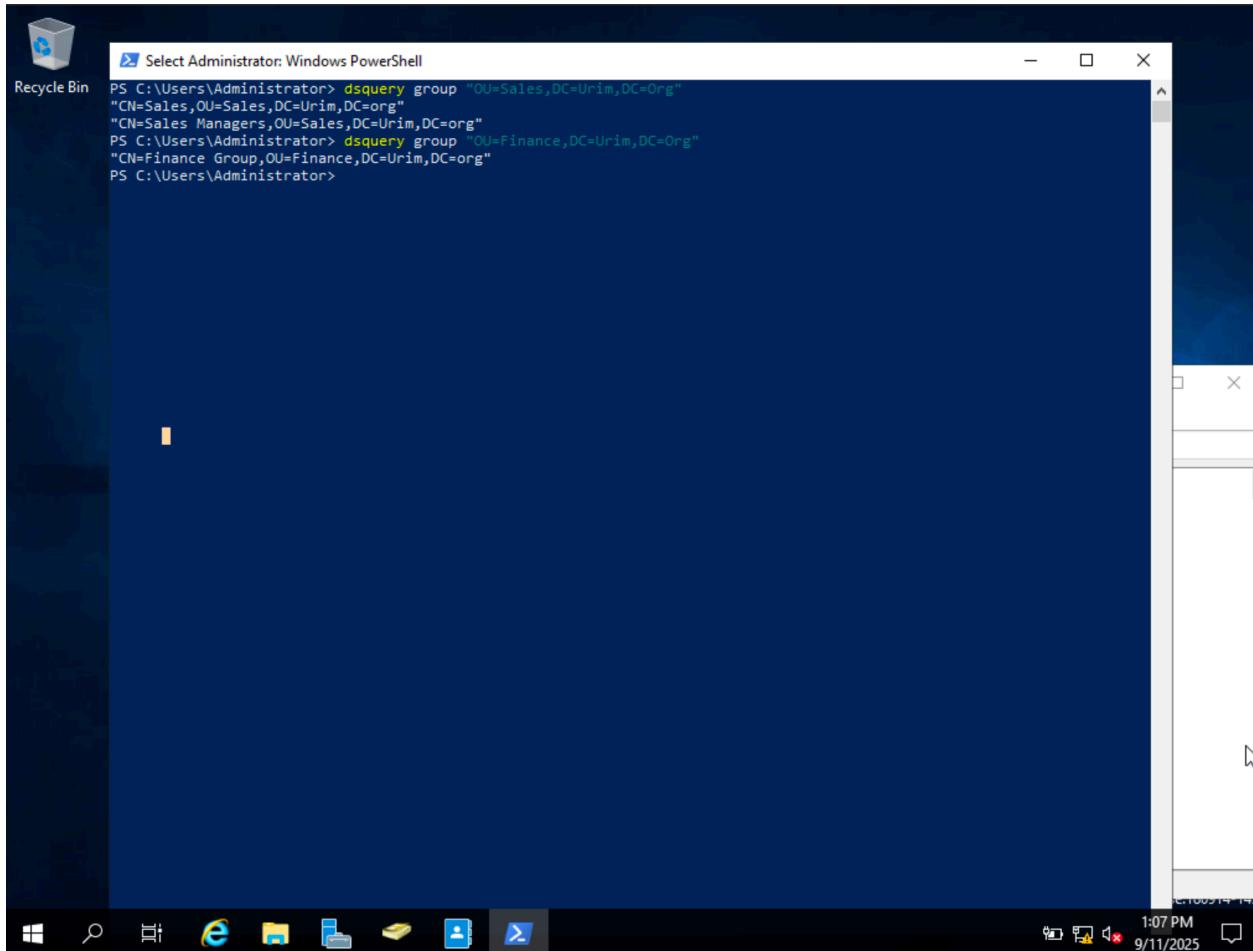


Figure 11: Finance Group (source: personal collection)

### 3.2 Verification

I used the syntax `dsquery group "OU=Name,DC=Name,DC=Domain"` as follows:

- Verifying groups created inside the Sales OU: `dsquery group "ou=Sales,DC=Urim,DC=Org"`
- Verifying groups created inside the Finance OU: `dsquery group "ou=Finance,DC=Urim,DC=Org"`
- Note: the syntax `dsquery group`, displays all groups in the domain.



The screenshot shows a Windows PowerShell window titled "Select Administrator: Windows PowerShell". The command entered is `dsquery group "OU=Sales,DC=Urim,DC=Org"`. The output shows two entries: "CN=Sales,OU=Sales,DC=Urim,DC=org" and "CN=Sales Managers,OU=Sales,DC=Urim,DC=org". Below this, another command is entered: `dsquery group "OU=Finance,DC=Urim,DC=Org"`, followed by its output: "CN=Finance Group,OU=Finance,DC=Urim,DC=org". The PowerShell window is running as Administrator. The desktop background is dark blue, and the taskbar at the bottom includes icons for File Explorer, Task View, Internet Explorer, File Explorer, Task View, File Explorer, Task View, and Task View. The system tray shows the date and time as 1:07 PM on 9/11/2025.

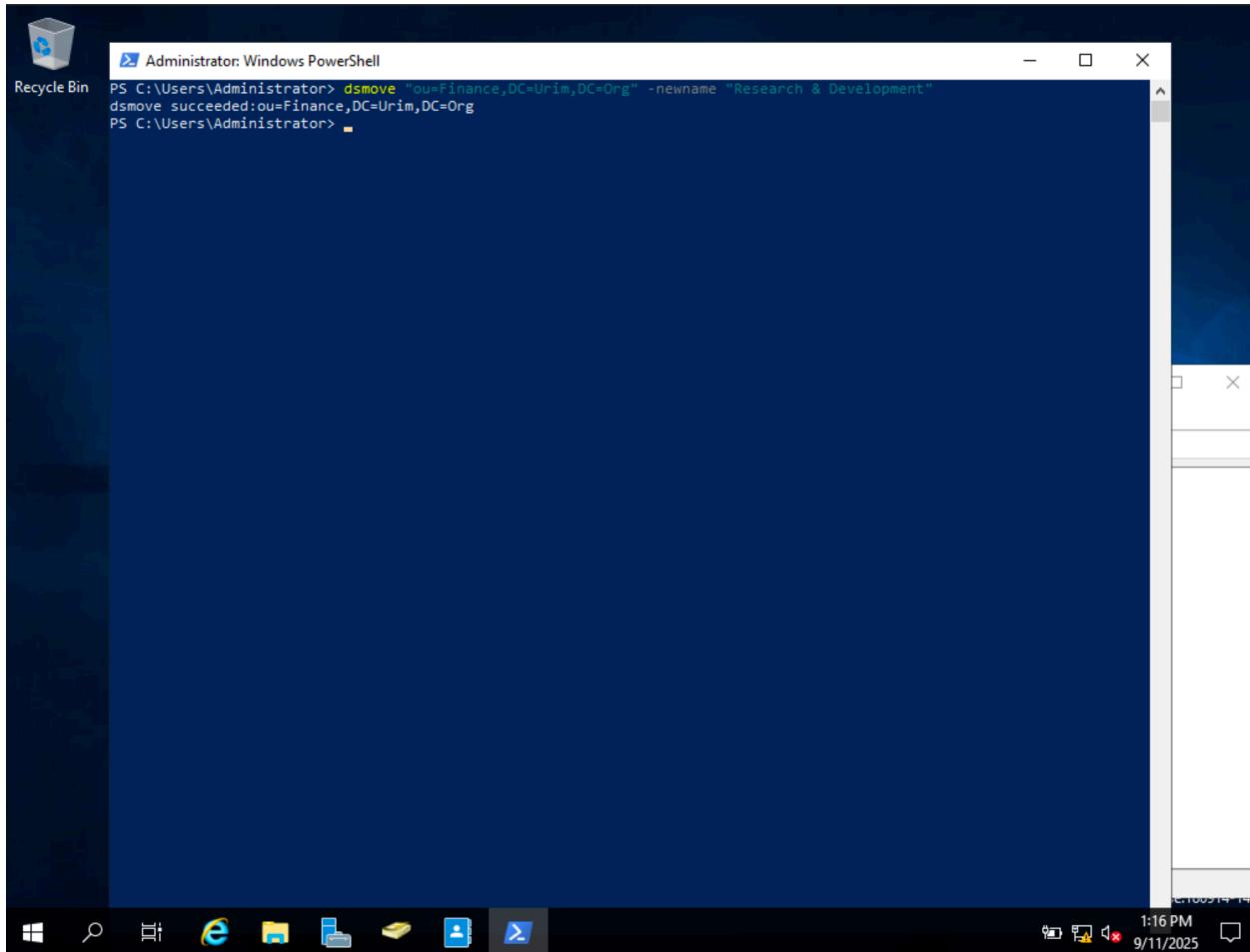
```
PS C:\Users\Administrator> dsquery group "OU=Sales,DC=Urim,DC=Org"
"CN=Sales,OU=Sales,DC=Urim,DC=org"
"CN=Sales Managers,OU=Sales,DC=Urim,DC=org"
PS C:\Users\Administrator> dsquery group "OU=Finance,DC=Urim,DC=Org"
"CN=Finance Group,OU=Finance,DC=Urim,DC=org"
PS C:\Users\Administrator>
```

Figure 12: Query info about groups created (source: personal collection)

## 4 Moving and Renaming the groups created

### Task 1: renaming the Finance OU to Research & Development

I used the command: `dsmove "OU=Finance,DC=Urim,DC=Org" -newname "Research & Development"` as follows:



The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command entered is `dsmove "ou=Finance,DC=Urim,DC=Org" -newname "Research & Development"`. The output shows the command succeeded: `dsmove succeeded:ou=Finance,DC=Urim,DC=Org`. The PowerShell window is running on a Windows desktop with a dark blue theme. The taskbar at the bottom shows various icons, and the system tray indicates the date and time as 9/11/2025 at 1:16 PM.

Figure 13: R&D creation (source: personal collection)

### Task 2: Renaming the Finance group to R&D group

I used the command: `dsmove "CN=Finance Group,OU=Research & Development,DC=Urim,DC=Org" -newname "R&D Group"`

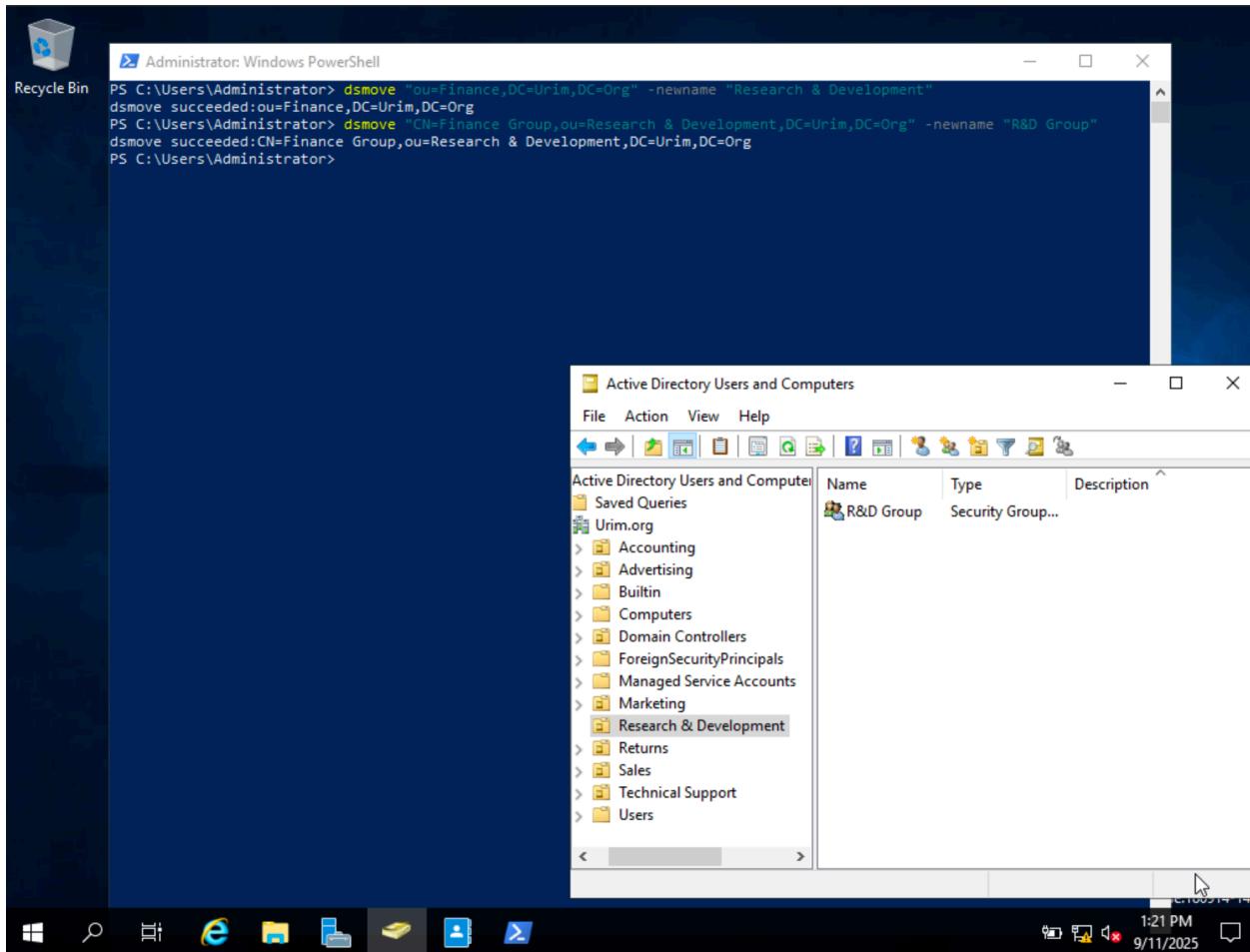
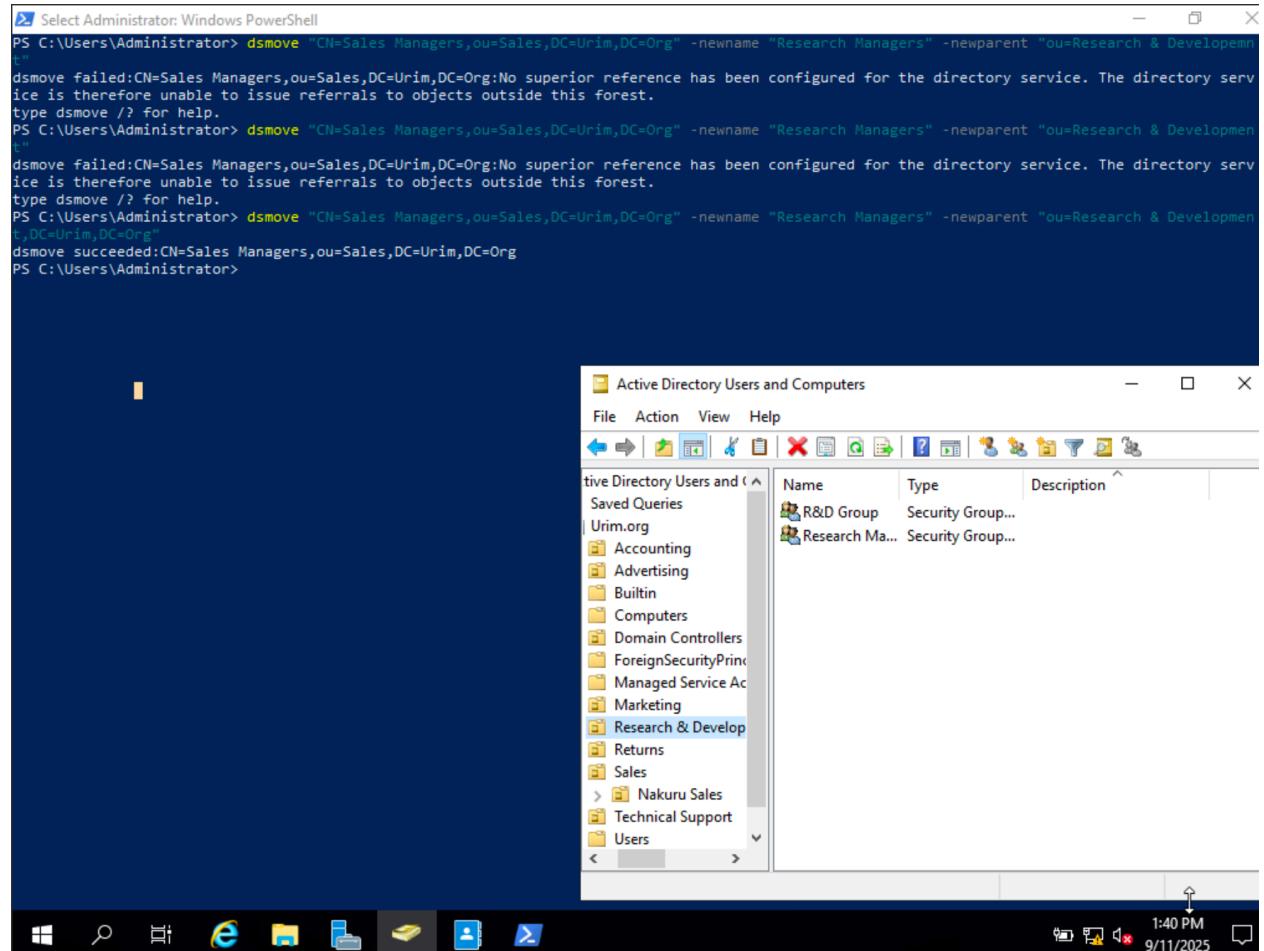


Figure 14: R&D group (source: personal collection)

**Task 3: Transferring the Sales Managers Group from the Sales Organizational Unit (OU) to the Research and Development OU. Simultaneously, rename the group to Research Managers.**

I used the command: `dsmove "CN=Sales Managers,ou=Sales,DC=Urim,DC=Org" -newname "Research Managers" -newparent "OU=Research and Development,DC=Urim,DC=Org"`



The screenshot shows a Windows desktop environment. At the top, there is a taskbar with icons for Start, Search, Task View, Edge browser, File Explorer, File History, Task Scheduler, User Accounts, and Task Manager. The system tray shows the date (9/11/2025), time (1:40 PM), battery status, and network connection. The main window is titled "Active Directory Users and Computers". The left pane displays the organizational structure under "Active Directory Users and Computers" and "Urim.org". The right pane lists security groups with columns for Name, Type, and Description. Two groups are listed: "R&D Group" (Security Group...) and "Research Ma... Security Group...".

Name	Type	Description
R&D Group	Security Group...	
Research Ma... Security Group...	Security Group...	

Figure 15: Research Managers group (source: personal collection)

## 5 Creating Computer objects

I used the syntax `dsadd computer <DN>` as follows:

**Task 1: creating computer objects inside the Advertising OU:** `dsadd computer "CN=Win11WKS21,OU=Advertising,DC=Urim,DC=Org"`

```
PS C:\Users\Administrator> dsadd computer "CN=Win11WKS12,ou=Accounting,DC=Urim,DC=Org"
dsadd succeeded:CN=Win11WKS12,ou=Accounting,DC=Urim,DC=Org
PS C:\Users\Administrator> dsadd computer "CN=Win11WKS21,ou=Advertising,DC=Urim,DC=Org"
dsadd succeeded:CN=Win11WKS21,ou=Advertising,DC=Urim,DC=Org
PS C:\Users\Administrator> dsadd computer "CN=Win11WKS22,ou=Advertising,DC=Urim,DC=Org"
dsadd succeeded:CN=Win11WKS22,ou=Advertising,DC=Urim,DC=Org
PS C:\Users\Administrator> dsadd computer "CN=Win11WKS23,ou=Advertising,DC=Urim,DC=Org"
dsadd succeeded:CN=Win11WKS23,ou=Advertising,DC=Urim,DC=Org
PS C:\Users\Administrator> dsadd computer "CN=Win11WKS24,ou=Advertising,DC=Urim,DC=Org"
dsadd succeeded:CN=Win11WKS24,ou=Advertising,DC=Urim,DC=Org
PS C:\Users\Administrator> dsadd computer "CN=Win11WKS25,ou=Advertising,DC=Urim,DC=Org"
dsadd succeeded:CN=Win11WKS25,ou=Advertising,DC=Urim,DC=Org
PS C:\Users\Administrator>
```

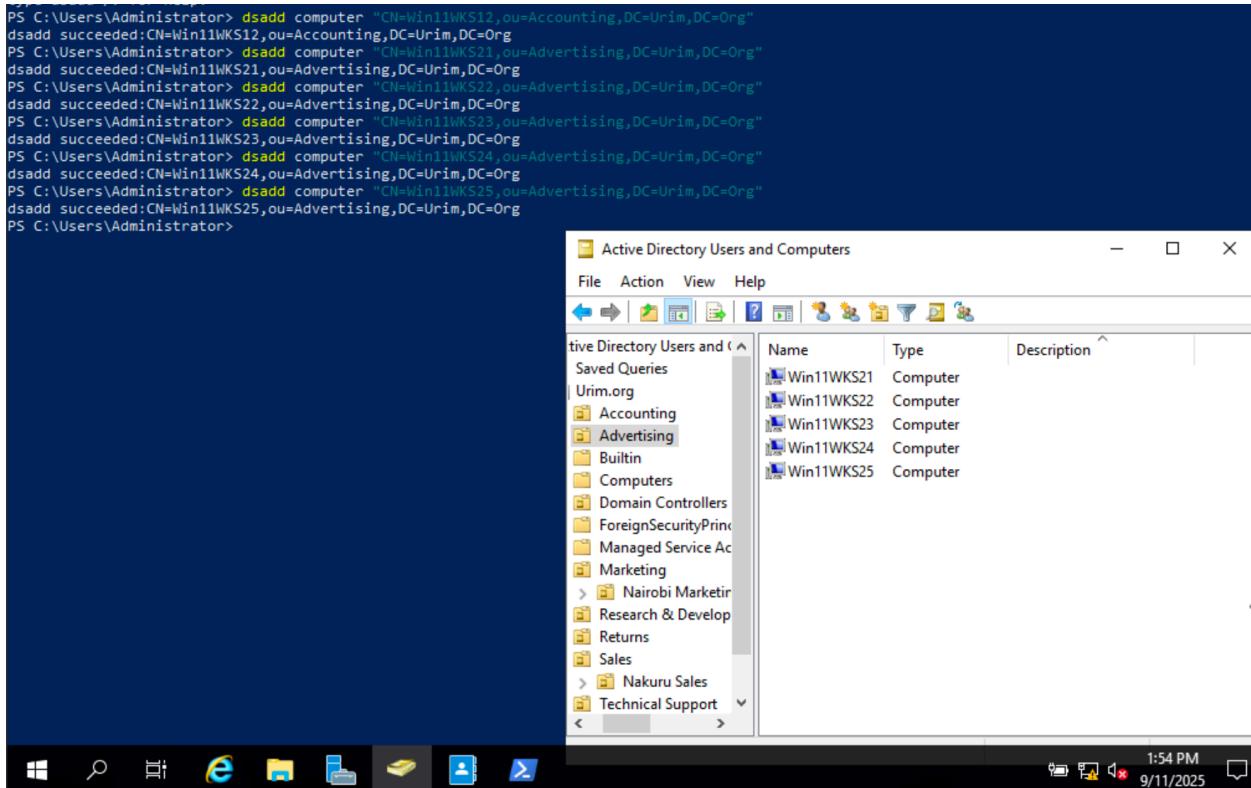


Figure 16: Advertising OU Computers (source: personal collection)

## **Task 2: Deleting the computer object**

I used the command: `dsrm "CN=Win11WKS24,ou=Advertising,DC=Urim,DC=Org"` as follows:

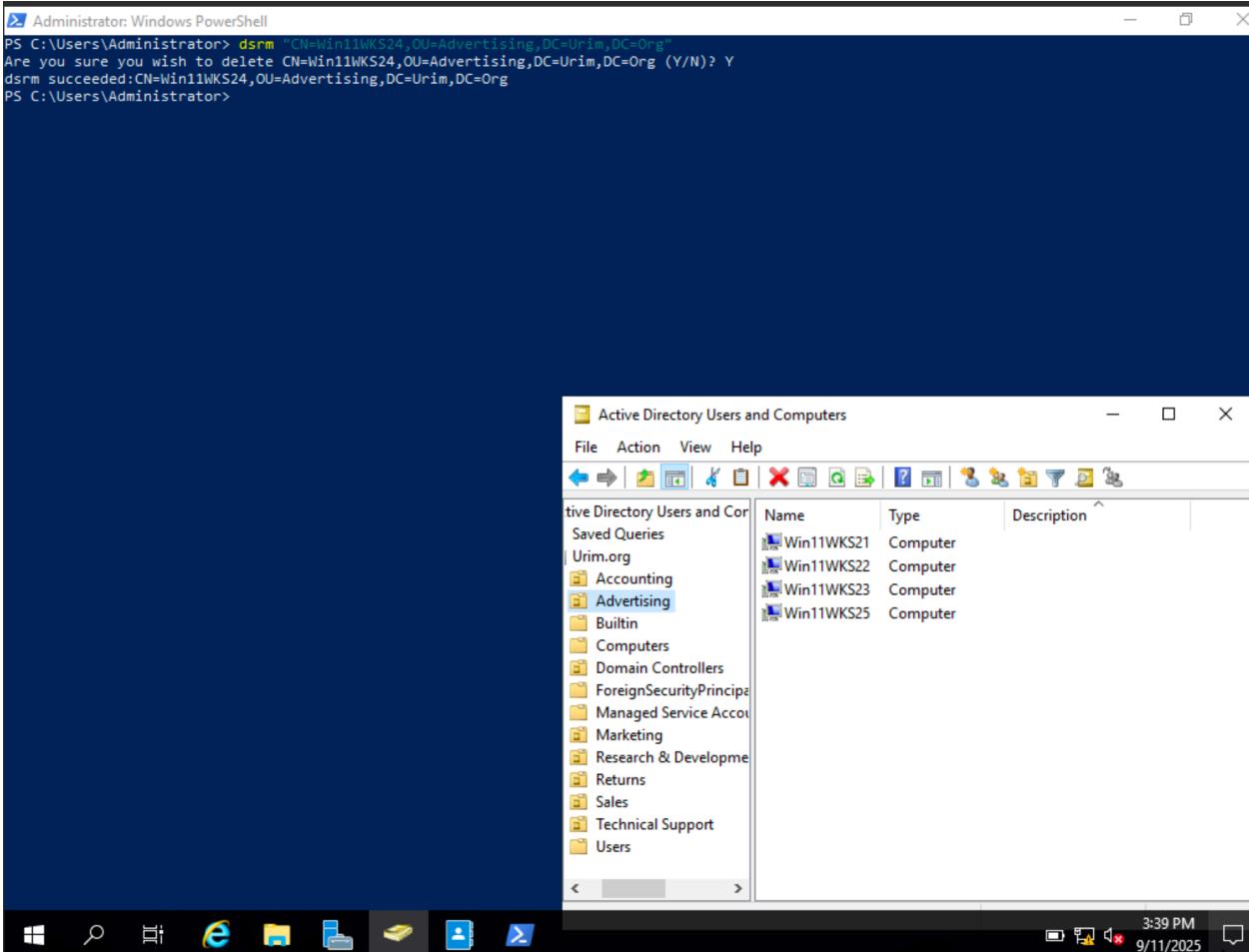


Figure 17: Removing Win11WKS24 from Advertising OU (source: personal collection)

## 6 Removing a Subtree (Branch of an Active Directory Structure)

I used the syntax `dsrm -subtree -noprompt <DN of the object>` as follows:

Task 1: Removing the Marketing subtree : I used the command `dsrm -subtree -noprompt "ou=Marketing, DC=Urim, DC=Org"`

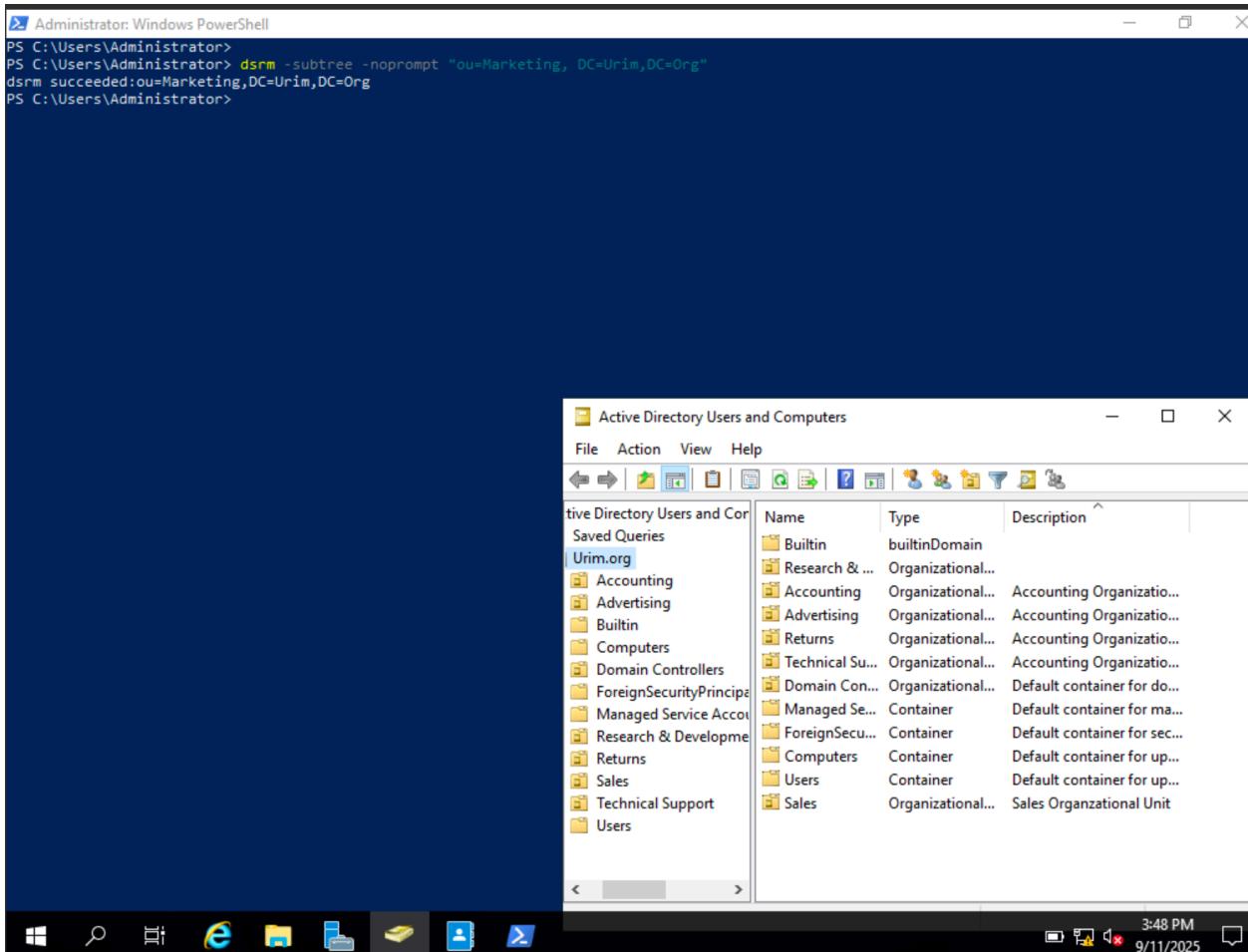


Figure 18: Marketing Subtree deletion (source: personal collection)

## 7 Creating User Object

### Task 1: Creating a user object Peter Parker, with properties as follows:

```
Dsadd user "CN=Peter Parker,OU=Sales,DC=Urim,DC=Org" -disabled  
no -memberof "CN=Sales,ou=Sales,DC=Urim,DC=Org" -pwd Secret123  
-upn pparker@Urim.org -samid pparker
```

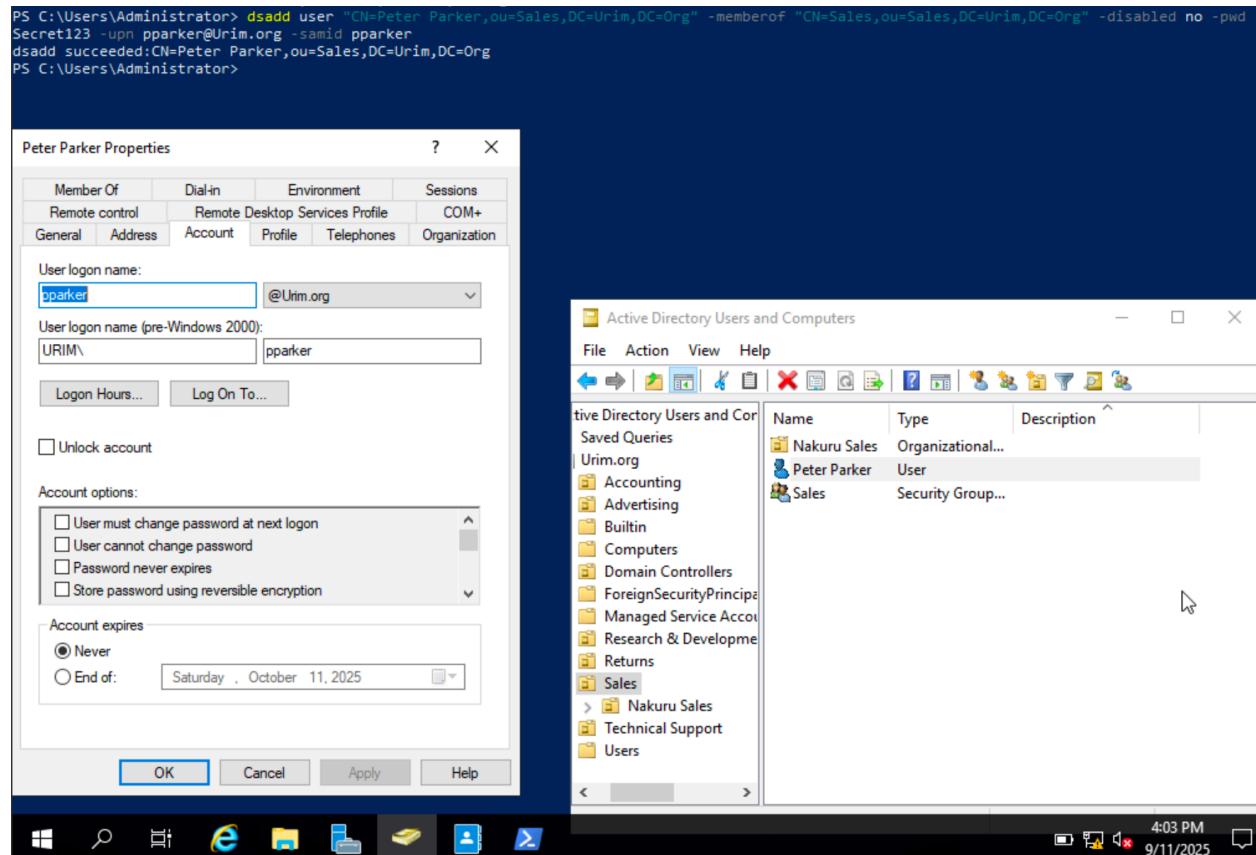


Figure 19: User object creation (source: personal collection)

## **Conclusion**

In this lab, I showed what I learned about the 'ds' family of commands by working through several steps. I also found out that the commands work the same way whether you use uppercase or lowercase letters. During the lab, I practiced creating Organizational Units, Computers, Users, and Database Objects.

I learned the value of automation through PowerShell commands. Using those commands made work easier and faster at the same time. I am looking forward to applying this in real real-world scenario.