



NETWORK
DESIGN &
ADMINISTRATION
(NDA) - LAB

NOTTINGHAM
TRENT UNIVERSITY 

Network Design and Administration Lab Book.

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Table of Contents

Lab 4: Managing Organisational Units (OUs), Groups and Users.	1
4.1 Creating an Organisational Unit.....	2
4.2 Creating groups.....	2
4.2.1 Creating global security groups using the AD Users & Computer console	3
4.2.2 Creating groups using DSADD.EXE	3
4.2.3 Creating groups using the new-adgroup cmdlet	4
4.3 Creating Domain User Accounts	5
4.3.1 Creating Domain User Accounts using dsadd	6
4.3.2 Creating Domain User Accounts using new-ADUser	7
4.3.3 Importing several users.....	8
4.4 Assigning a user account to a group	9
4.5 Adding members to a group	10
4.6 Modifying user logon restrictions	10
4.7 Setting up a user profile and home directory.....	11
4.8 Testing.....	12

Part 2:

Managing the Network

Lab 4: Managing Organisational Units (OUs), Groups and Users.

Overview

In this Lab you will learn how to start managing Active Directory. You will learn how to configure and manage the following:

Creating organisational units – these are containers for storing other active directory objects in.

Creating and managing groups – groups are another form of container object which can group users and other assets together for management purposes.

Creating and using Users – user accounts allow users to be able to log on to the network. You can assign security permissions dictating what they can do etc.

Learn to use PowerShell cmdlets - to manage these operations.

You will learn more about these in the lectures.

4.1 Creating an Organisational Unit

1. Start the “Windows Server 2008 R2 AD” virtual machine; log onto the Windows Server 2008 R2 AD.
2. *Type the password into the “password” box and press enter or click on the round blue arrow button. The password should be P@ssword. If you have previously received a message prompt that says “Your password has expired and must be changed” then following the instruction given in Lab1, you must have changed the password to P@ssword1. However, use whichever one is the case based on action you have previously performed.*
3. Open “Active Directory Users and Computers” from the “Administrative Tools” menu.
4. Note and study the names, types and the descriptions of the items (“folders”) under the dailyplanet.com.
5. Right-click on the dailyplanet.com domain name, click on the “New” option and then click on “Organizational Unit”.
6. In the “New Object – Organizational Unit” window type **Reporters** into the “Name” field and then click on the “OK” button.
7. Repeat these steps to create three more Organizational Units: **Photographers, Editor, Executives and Publisher**.
8. **Explain why you would want to use organizational units.**

4.2 Creating groups

4.2.1 Creating global security groups using the AD Users & Computer console

1. Right-click on the “Reporters” OU in the “Active Directory Users and Computers” scope pane, click on “New” and select “Group”.
2. In the “Group name” text box, type Reporters. Leave the defaults for all other settings.
3. Explain what the group scope and group type options mean.



4. Click on “OK”.
5. Repeat the above steps to create global security groups for **Daily Planet Executives** in the “Executives” OU and **All Reporters** in the “Reporters” OU.

4.2.2 Creating groups using DSADD.EXE

Note: you can add groups through a command line interface (i.e. PowerShell) using either **dsadd** which exists in other versions of Windows Server or using a PowerShell cmdlet. The preferred way of administering servers is through cmdlets.

1. Open a PowerShell window.
2. Enter the following command at the prompt:

dsadd group “cn=Photographers, ou=Photographers, dc=dailyplanet, dc=com”

3. Press enter.

Note:

You should get a message saying dsadd succeeded.

To find out what dsadd does, you can find out information by typing in dsadd /? at the prompt.

There are a number of options that can provide more help.

*For instance, typing in: **dsadd group /?** will provide help regarding what parameters it accepts and what they do.*

4. Explain what “**dsadd**” does and what the parameters mean. Explain what has occurred by performing this command.

5. In “**Active Directory Users and Computers**” navigate to the “**Photographers**” OU.

6. Note the scope and type assigned to the new group.

4.2.3 Creating groups using the new-adgroup cmdlet

1. In PowerShell type in **help new-adgroup** and press enter and read the help details.
2. Type in the following:

new-adgroup -name Editor -path “ou=Editor, dc=dailyplanet, dc=com” -GroupScope Global

3. Explain what new-adgroup did.

4. Explain what the parameters mean.

5. In “Active Directory Users and Computers” navigate to the “Editor” OU.
6. Note what has been added and the scope and type of the new group.
7. Close “Active Directory Users and Computers”.
8. Now create a security group for the **Publisher** within the “**Publisher**” OU by modifying the ***new-adgroup*** command line from before.
9. Verify that the publisher group has been added.

4.3 Creating Domain User Accounts

1. Right-click on the “Reporters” OU in the “Active Directory Users and Computers” scope pane. Click on “New” and then click on “User”.
2. In the “New Object – User” window, type Clark in to the “First Name” text box followed by “Kent” in the “Last Name” text box. In the “User Logon Name” text box, type in CKent.
3. Click on the “Next” button.
4. In the “Password” and “Confirm Password” text boxes, type **P@ssword**. Clear the “**User Must Change Password At Next Logon**” check box and select the “User Cannot Change Password” check box.
5. Click on “Next”.
6. Click on “Finish”.

Note: You can add users without having to go through the “Active Directory Users and Computers” console. Instead you can add users from the command prompt or PowerShell using the “***dsadd***” command or ***new-aduser cmdlet***.

4.3.1 Creating Domain User Accounts using dsadd

1. The first way of adding a user is by using an old DOS based command rather than a cmdlet. The preferred way of doing this task is by using a PowerShell cmdlet which is introduced in Section 4.3.2. However, for now, type the following into the PowerShell window:

dsadd user "cn=Perry White, ou=Editor, dc=dailyplanet, dc=com" -samid PWhite -ln White -fn Perry -upn PWhite@dailyplanet.com

2. Make brief notes of what dsadd does and what the parameters mean.

Note: Having created an account for "Perry White" in Active Directory using dsadd, you now want to change his "Description" to "Editor".

3. Type the following at the command prompt:

dsmod user "cn=Perry White, ou=Editor, dc=dailyplanet, dc=com" -desc "Editor"

Task: Figure out how to change other parameters apart from his Description.

4. Make brief notes of what dsmod does and what the parameters mean.

5. Now open the "Active Directory Users and Computers" console, or if it is currently open press F5 to refresh the screen contents.
6. Explain what has been added and why the "Perry White" account is disabled.

4.3.2 Creating Domain User Accounts using new-ADUser

***Note:** PowerShell provides a number of cmdlets which allow you to control different aspects of Active Directory. We will cover these in more detail in later lectures and labs, but you could have used new-ADUser and set-ADUser cmdlets.*

1. View the help information associated to the **new-ADUser** cmdlet.
2. View the examples for the cmdlet by typing in **help new-aduser -examples**
3. Work out what parameters are needed to add Lois Lane to the reporters OU.
4. **Make brief notes of what you had to do to accomplish step 3.**

5. At the PowerShell prompt, view the help information for set-aduser.
6. Work out what the parameters are needed to update the Lois Lane account so that it has a description "Senior Reporter".

7. Make brief notes of what you had to do to accomplish step 6.

4.3.3 Importing several users

1. Open up **notepad** and type the following in:

```
SamAccountName, Name, Path  
"OlsonJ", "Jimmy Olson", "ou=Photographers, dc=dailyplanet, dc=com"  
"GrantC", "Cat Grant", "ou=Reporters, dc=dailyplanet, dc=com"  
"TroupeR", "Ron Troupe", "ou=Reporters, dc=dailyplanet, dc=com"
```

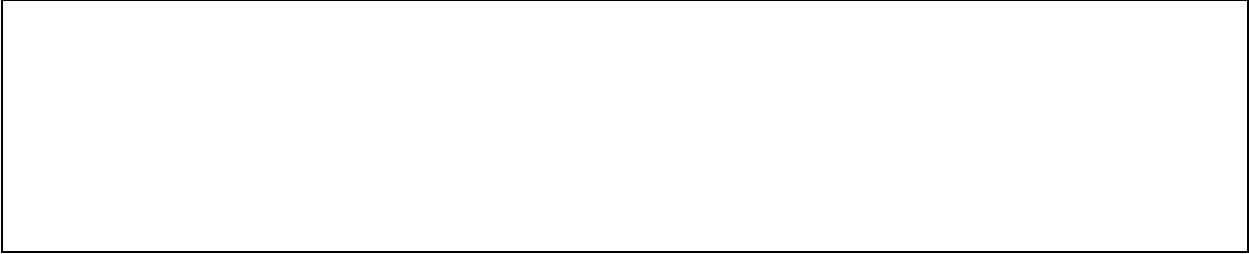
2. Save the text file as “users” in the **C:\Windows** directory.
3. At the PowerShell prompt, view the help information for **import-csv**

Note: to import the contents of the CSV file, you would use the import-csv cmdlet. You would also use a pipe (same as what you have encountered in Minix/Unix) to direct the output of the import-csv cmdlet into the new-aduser cmdlet.

4. Type in: **import-csv .\users.txt | new-aduser**
5. If you are returned to the prompt without any errors being displayed, the cmdlets have executed correctly. Verify that the three user accounts have been added to the correct OU's.
6. **Explain (with an example) why you would want to import user accounts in this way rather than one at a time.**



4.4 Assigning a user account to a group

1. In the “Active Directory Users and Computers” scope pane, select the “Reporters” OU.
 2. In the details pane, right-click on the user account for “Clark Kent” and click on “properties”. The “Clark Kent Properties” window will open.
 3. Click on the “Organization” tab and type **Reporter** in to the “Job Title” field.
 4. Click on the “Member Of” tab and click on “Add”.
 5. In the “Select Groups” window, type in Reporters in to the “Enter the object names to select” text box.
 6. Click on the “Check names” button. The “Reporters” group that was typed in should now be underlined. If not, check to see if you typed things in correctly and repeat step 5.
 7. Click on “OK” to close the “Select Groups” window. The “Reporters” group is now added to the “Member Of” list.
 8. Explain why the user would be added to this group and explain the purpose for each of the tabs that you used.
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9. Click on “OK” to close the “Clark Kent Properties” window.

10. Repeat the above steps to assign the “**Cat Grant**” and “**Lois Lane**” accounts to their respective groups.

4.5 Adding members to a group

1. Click on the “Editor” OU and then click on “Perry White”.
2. Right-click and select “Add to Group...”.
3. In the “Enter the object name to select” text box, type Editor
4. Click on “Check Names” and “Editor” will appear underlined.
5. Click on “OK” to close the “Select Group” window. A message box will appear indicating that you have successfully added the user to the group.
6. Double click on the “Editor” security group and click on the “Members” tab.
7. Note the members for this security group and then click on “OK” to close the window.

4.6 Modifying user logon restrictions

1. In the “Active Directory Users and Computers” scope pane, select the “Reporters” OU.
2. In the details pane, right-click on the “Clark Kent” user account and click on “Properties”.
3. Click on the “Logon Hours” button on the “Account” tab.
4. Make sure that all of the days/hours are highlighted and click on the “Logon Denied” option.
5. Highlight the **Monday 9 A.M. to 5 P.M.** time frame.
6. Click on the “Logon Permitted” option and then highlight the Wednesday 9 A.M. to 5 P.M. time frame.
7. Select the “Logon Permitted” option.
8. **Explain what would happen if you were to implement these restrictions.**

9. Click on “OK”.
10. Click on “OK” to close the properties dialog box.

4.7 Setting up a user profile and home directory

1. In the “Active Directory Users and Computers”
2. Create a new user: “**firstname surname**” in a new “OU” called “NDA”.
3. Make the login credentials to be your “**student number**” and your password to be “**P@ssword**”.
4. Make the newly created user member of “Domain Admins” group.
5. Create the folders with the path under drive **C:\network\home\firstname surname**.
6. Create the folders with the path under drive **C:\network\profiles\firstname surname**.
7. **Remember to share each of the respective nested folders appropriately.**
8. Create a file with any content and save as studentnumber.txt in the **C:\network\home\firstname surname** folder.
9. Right click on the newly created user and select properties.
10. Click on the “Profile” tab for newly created user.
11. In the “Profile path” box type **\\DailyPlanetServer\network\profiles\firstname surname**
12. In the “Home Folder” section, click on the “Connect” option and select H: from the pull-down box and type **\\DailyPlanetServer\network\home\firstname surname** in to the “To:” box.

Note:

What you have done here is to set the path of where the account profile is stored for this user account. It means that the profile for this account will always be stored on the server and that when the user logs on to any machine within the domain, any customizations they make (e.g. to their desktop) will be persistent and available on any other machine.

The H directory will also show up in Windows Explorer and any files that they store on that network drive will be stored on the server.

Both of these help in managing users to provide them with a consistent experience between different machines on the domain.

13. Now, we need to alter the permissions for the home directory so that only ***firstname surname*** and administrators have access to it. Open windows explorer.
14. Navigate to **C:\network\home\firstname surname**
15. Right-click on ***"firstname surname"*** and select "Properties".
16. Click on the "Security" tab.
17. Click on the "Edit" button.
18. Highlight "Everyone" and then click on the Deny option for Full Control in the permissions list. All deny options should now be ticked.
19. Click on "Close" on the ***"firstname surname Properties"*** window.
20. Explain why you think you had to change the NTFS permissions instead of the Share.

4.8 Testing

1. Log in to windows 7 professional with your ***student number*** as the login credential.
2. You need to confirm and check that drive H: is mapped correctly.
3. You need to ensure that ***"student number.txt"*** file is roaming and is located in drive H: