

Microsoft® Official Course



Module 4

Automating Active Directory Domain Services Administration

Module Overview

- Using Command-line Tools for AD DS Administration
- Using Windows PowerShell for AD DS Administration
- Performing Bulk Operations with Windows PowerShell

Lesson 1: Using Command-Line Tools for AD DS Administration

- Benefits of Using Command-Line Tools for AD DS Administration

What Is Csvde?

What Is Ldifde?

What Are DS Commands?

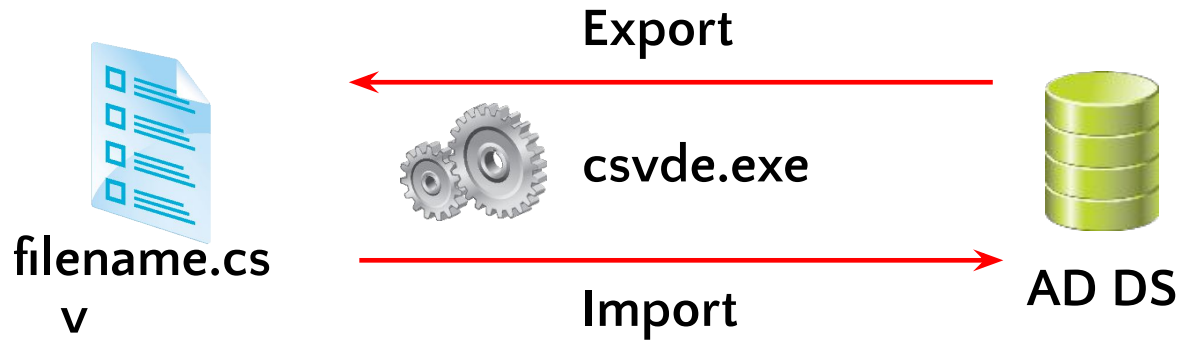
Benefits of Using Command-Line Tools for AD DS Administration

Command-line tools allow you to automate AD DS administration

Benefits of using command-line tools:

- Faster implementation of bulk operations
- Customized processes for AD DS administration
- AD DS administration on server core

What Is Csvde?



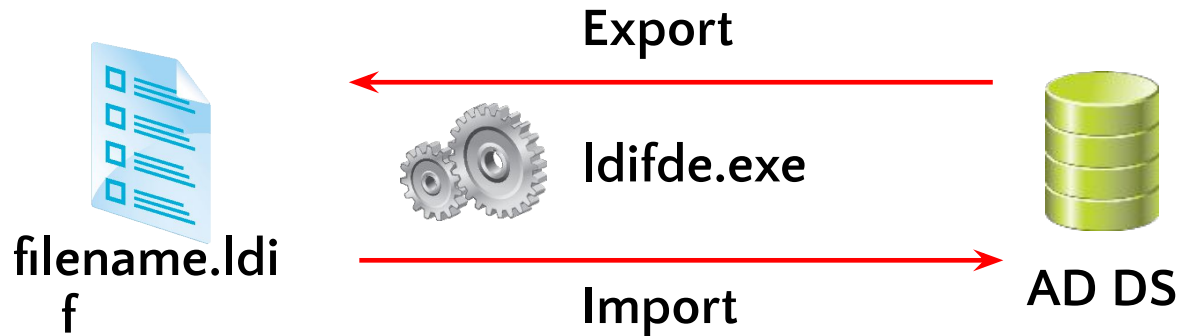
Use csvde to export objects to a .csv file:

- `-f filename`
- `-d RootDN`
- `-p SearchScope`
- `-r Filter`
- `-l ListOfAttributes`

Use csvde to create objects from a .csv file:

```
csvde -i -f filename -k
```

What Is Ldifde?



Use `Idifde` to export objects to a LDIF file:

- `-f filename`
- `-d RootDN`
- `-r Filter`
- `-p SearchScope`
- `-l ListOfAttributesToInclude`
- `-o ListOfAttributesToExclude`

Use `Idifde` to create, modify, or delete objects:

```
Idifde -i -f filename -k
```

What Are DS Commands?

Windows Server 2012 includes **ds*** commands that are suitable for use in scripts

- Examples

- To modify the department of a user account, type:

```
Dsmod user "cn=Joe  
Healy,ou=Managers,  
dc=adatum,dc=com" -dept IT
```

- To display the email of a user account, type:

```
Dsget user "cn=Joe Healy,ou=Managers,  
dc=adatum,dc=com" -email
```

- To delete a user account, type:

```
Dsrm "cn=Joe Healy,ou=Managers,dc=adatum,dc=com"
```

- To create a new user account, type:

```
Dsadd user "cn=Joe  
Healy,ou=Managers,dc=adatum,dc=com"
```

Lesson 2: Using Windows PowerShell for AD DS Administration

- Using Windows PowerShell Cmdlets to Manage User Accounts
- Using Windows PowerShell Cmdlets to Manage Groups
- Using Windows PowerShell Cmdlets to Manage Computer Accounts
- Using Windows PowerShell Cmdlets to Manage OUs

Using Windows PowerShell Cmdlets to Manage User Accounts

New-ADUser	Creates user accounts
Set-ADUser	Modifies properties of user accounts
Remove-ADUser	Deletes user accounts
Set-ADAccountPassword	Resets the password of a user account
Set-ADAccountExpiration	Modifies the expiration date of a user account
Unlock-ADAccount	Unlocks a user account after it has become locked after too many incorrect login attempts
Enable-ADAccount	Enables a user account
Disable-ADAccount	Disables a user account

```
New-ADUser "Sten Faerch" -AccountPassword (Read-Host  
-AsSecureString "Enter password") -Department IT
```

Using Windows PowerShell Cmdlets to Manage Groups

Cmdlet	Description
New-ADGroup	Creates new groups
Set-ADGroup	Modifies properties of groups
Get-ADGroup	Displays properties of groups
Remove-ADGroup	Deletes groups
Add-ADGroupMember	Adds members to groups
Get-ADGroupMember	Displays membership of groups
Remove-ADGroupMember	Removes members from groups
Add-ADPrincipalGroupMembership	Adds group membership to objects
Get-ADPrincipalGroupMembership	Displays group membership of objects
Remove-ADPrincipalGroupMember	Removes group membership from an object ship

```
New-ADGroup -Name "CustomerManagement" -Path  
"ou=managers,dc=adatum,dc=com" -GroupScope Global  
-GroupCategory Security
```

```
Add-ADGroupMember -Name  
"CustomerManagement"  
-Members "Joe"
```

Using Windows PowerShell Cmdlets to Manage Computer Accounts

Cmdlet	Description
New-ADComputer	Creates new computer accounts
Set-ADComputer	Modifies properties of computer accounts
Get-ADComputer	Displays properties of computer accounts
Remove-ADComputer	Deletes computer accounts
Test-ComputerSecureChannel	Verifies or repairs the trust relationship between a computer and the domain
Reset-ComputerMachinePassword	Resets the password for a computer account

```
New-ADComputer -Name "LON-SVR8" -Path "ou=marketing,dc=adatum,dc=com" -Enabled $true
```

```
Test-ComputerSecureChannel -Repair
```

Using Windows PowerShell Cmdlets to Manage OUs

Cmdlet	Description
New-ADOrganizationalUnit	Creates OUs
Set-ADOrganizationalUnit	Modifies properties of OUs
Get-ADOrganizationalUnit	Views properties of OUs
Remove-ADOrganizationalUnit	Deletes OUs

it

```
New-ADOrganizationalUnit -Name "Sales"  
-Path "ou=marketing,dc=adatum,dc=com"  
-ProtectedFromAccidentalDeletion $true
```

Lesson 3: Performing Bulk Operations with Windows PowerShell

- What Are Bulk Operations?

Demonstration: Using Graphical Tools to Perform Bulk Operations

Querying Objects with Windows PowerShell

Modifying Objects with Windows PowerShell

Working with CSV Files

Demonstration: Performing Bulk Operations with Windows PowerShell

What Are Bulk Operations?

- A bulk operation is a single action that changes multiple objects
- Sample bulk operations
 - Create user accounts based on data in a spreadsheet
 - Disable all accounts not used in six months
 - Rename the department for many users
- You can perform bulk operations by using:
 - Graphical tools
 - Command-line tools
 - Script

Demonstration: Using Graphical Tools to Perform Bulk Operations

In this demonstration, you will see how to:

- Create a query for all users
- Configure the Company attribute for all users
- Verify that the Company attribute has been modified

Querying Objects with Windows PowerShell

Parameter	Description
SearchBase	Defines the AD DS path to begin searching
SearchScope	Defines at what level below the SearchBase a search should be performed
ResultSetSize	Defines how many objects to return in response to a query
Properties	Defines which object properties to return and display
Filter	Defines a filter by using PowerShell syntax
LDAPFilter	Defines a filter by using LDAP query syntax

Descriptions of operators

-eq	Equal to	-gt	Greater than
-ne	Not equal to	-ge	Greater than or equal to
-lt	Less than	-like	Uses wildcards for pattern matching
-le	Less than or equal to		



Querying Objects with Windows PowerShell

Show all the properties for a user account:

```
Get-ADUser -Name "Administrator" -Properties *
```

Show all the user accounts in the Marketing OU and all its subcontainers:

```
Get-ADUser -Filter * -SearchBase  
"ou=Marketing,dc=adatum,dc=com" -SearchScope subtree
```

Show all of the user accounts with a last logon date older than a specific date:

```
Get-ADUser -Filter {lastlogondate -lt "January 1, 2012"}
```

Show all of the user accounts in the Marketing department that have a last logon date older than a specific date:

```
Get-ADUser -Filter {(lastlogondate -lt "January 1, 2012") -and  
(department -eq "Marketing")}
```



Modifying Objects with Windows PowerShell

Use the pipe character (|) to pass a list of objects to a cmdlet for further processing

```
Get-ADUser -Filter {company -notlike "*"} |  
Set-ADUser -Company "A. Datum"
```

```
Get-ADUser -Filter {lastlogondate -lt "January 1, 2012"} |  
Disable-ADAccount
```

```
Get-Content C:\users.txt | Disable-ADAccount
```

Working with CSV Files

The first line of a .csv file defines the names of the columns

```
FirstName,LastName,Department  
Greg,Guzik,IT  
Robin,Young,Research  
Qiong,Wu,Marketing
```

A **foreach** loop processes the contents of a .csv that have been imported into a variable

```
$users=Import-CSV -LiteralPath "C:\users.csv"  
foreach ($user in $users) {  
    Write-Host "The first name is:" $user.FirstName  
}
```

Demonstration: Performing Bulk Operations with Windows PowerShell

In this demonstration, you will see how to:

- Configure a department for users
- Create an OU
- Run a script to create new user accounts
- Verify that new user accounts were created

Lab: Automating AD DS Administration by Using Windows PowerShell

- Exercise 1: Creating User Accounts and Groups by Using Windows PowerShell
- Exercise 2: Using Windows PowerShell to Create User Accounts in Bulk
- Exercise 3: Using Windows PowerShell to Modify User Accounts in Bulk

Logon Information

Virtual machines	20410D-LON-DC1 20410D-LON-CL1
User name	Adatum\Administrator
Password	Pa\$\$wOrd

Estimated Time: 45 minutes

Lab Scenario

You have been working for A. Datum Corporation for several years as a desktop support specialist. In this role, you visited desktop computers to troubleshoot app and network problems. You have recently accepted a promotion to the server support team. One of your first assignments is configuring the infrastructure service for a new branch office.

As part of configuring a new branch office, you need to create user and group accounts. Creating multiple users with graphical tools is inefficient, so, you will use Windows PowerShell.

Lab Review

- By default, are new user accounts enabled or disabled when you create them by using the **New-ADUser** cmdlet?

What file extension do Windows PowerShell scripts use?

Module Review and Takeaways

- Review Questions
Tools

