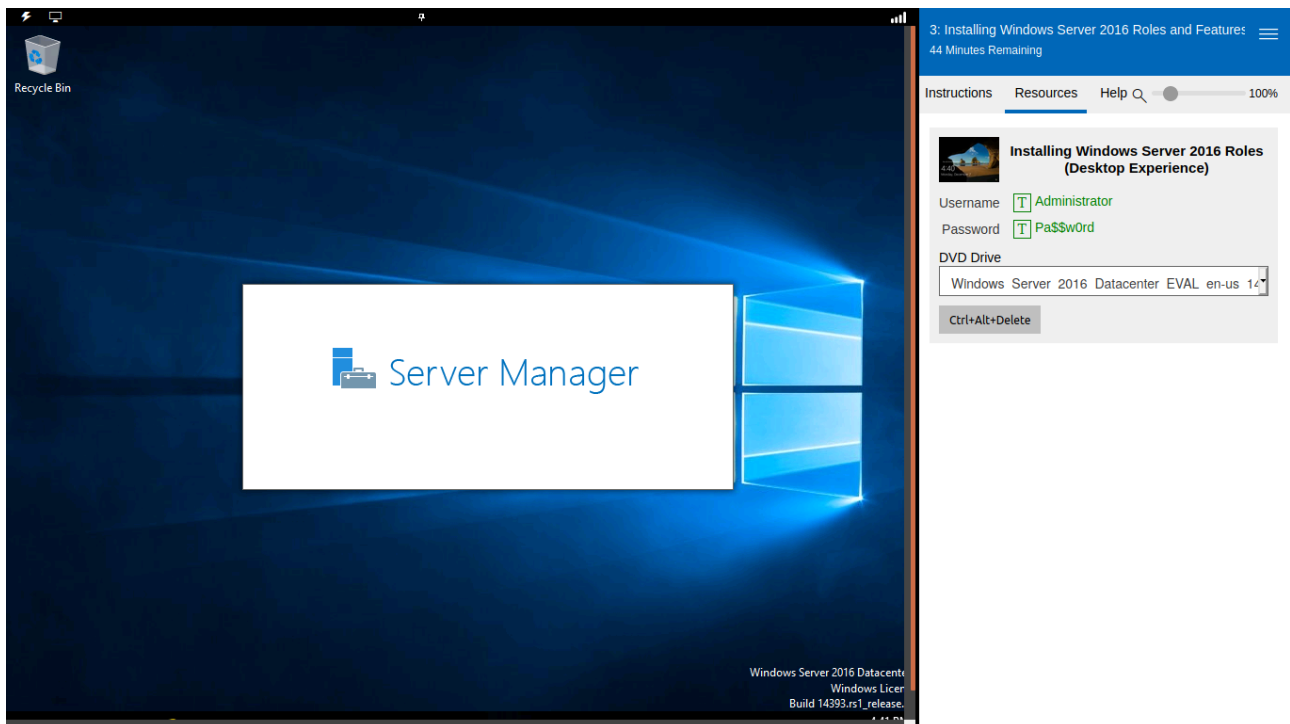


Module 1 part 2: Roles and features

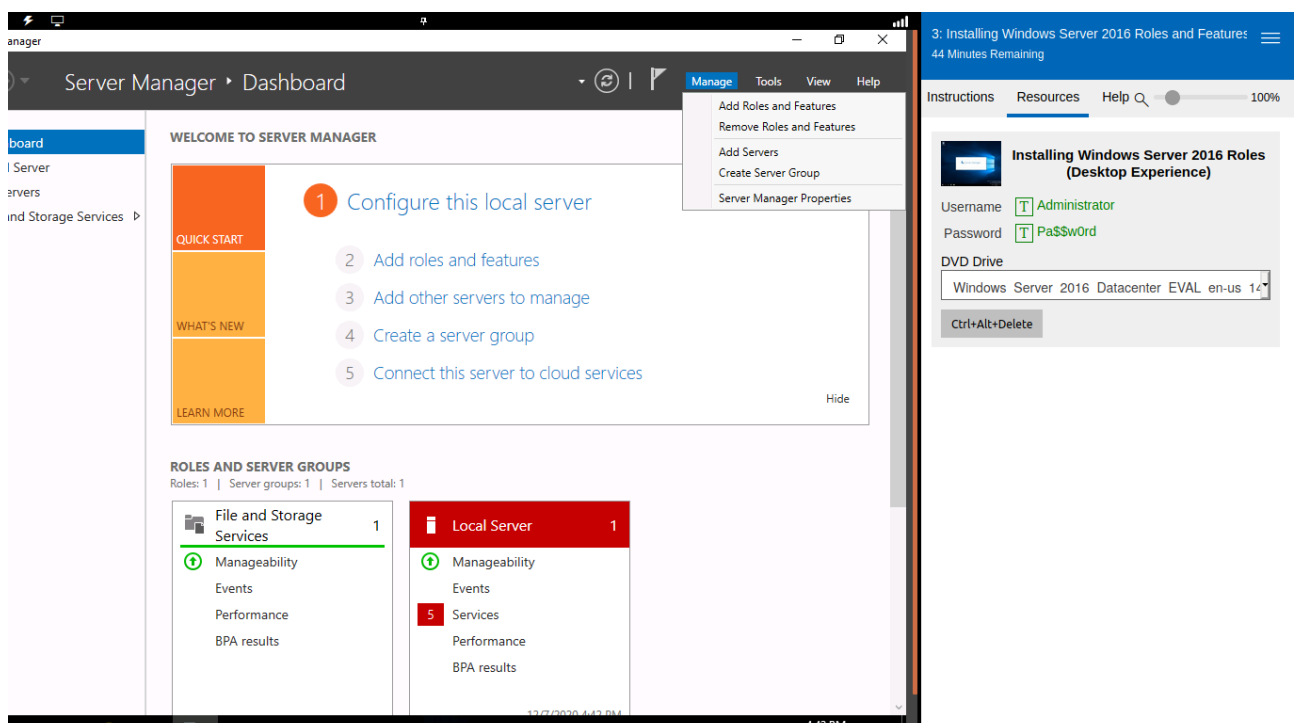
Installing roles and features on Windows Server both desktop and core version. The task was to install DNS server and .NET 3.5 and then uninstall DNS and .NET 3.5. One thing that I noticed was the core was superior when it comes to installation speed. One big difference between installation and removing, is that removing requires restart to upgrade, which has not the case for the installation.

Desktop version:

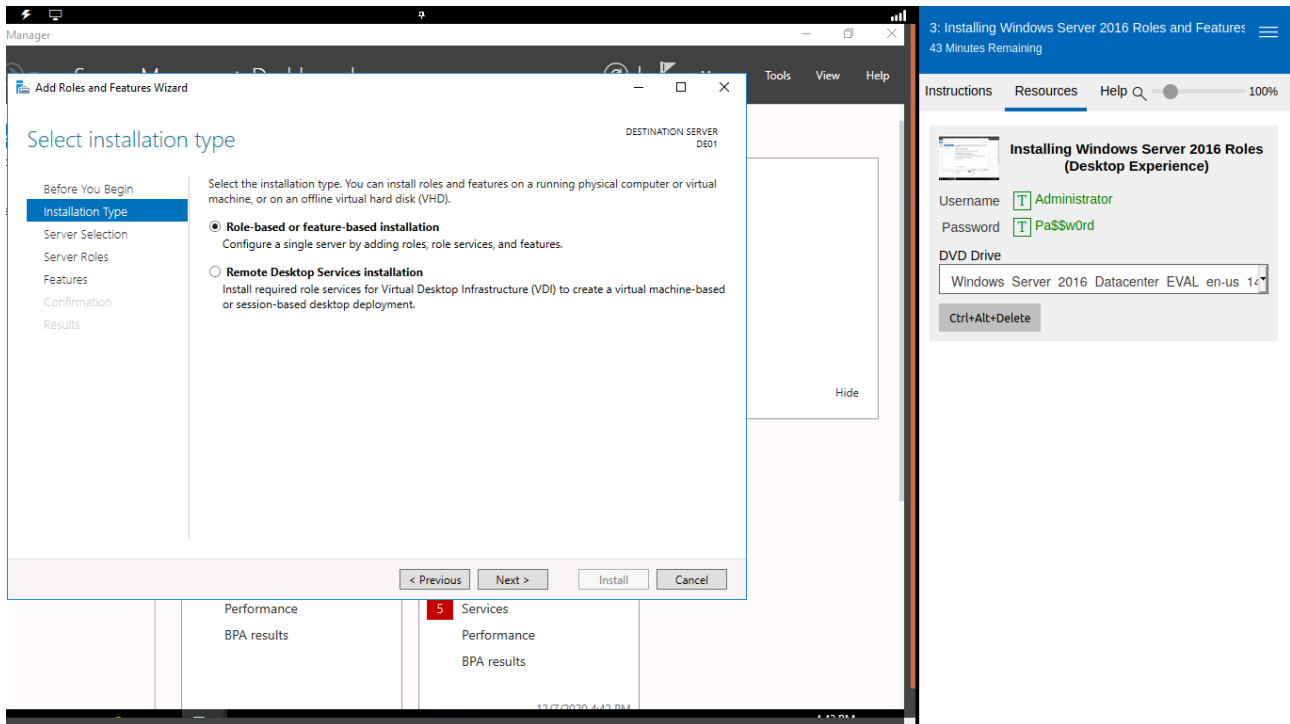
Starting server manager:



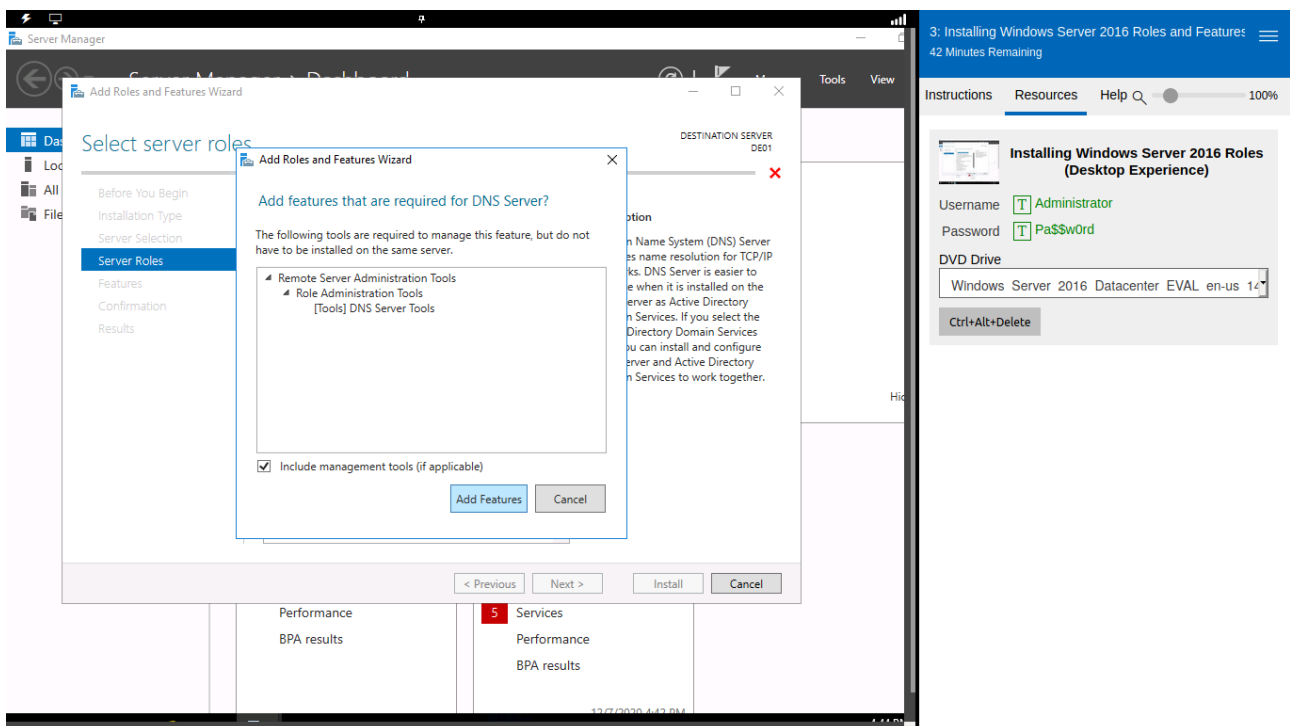
Manage and "add role and features":



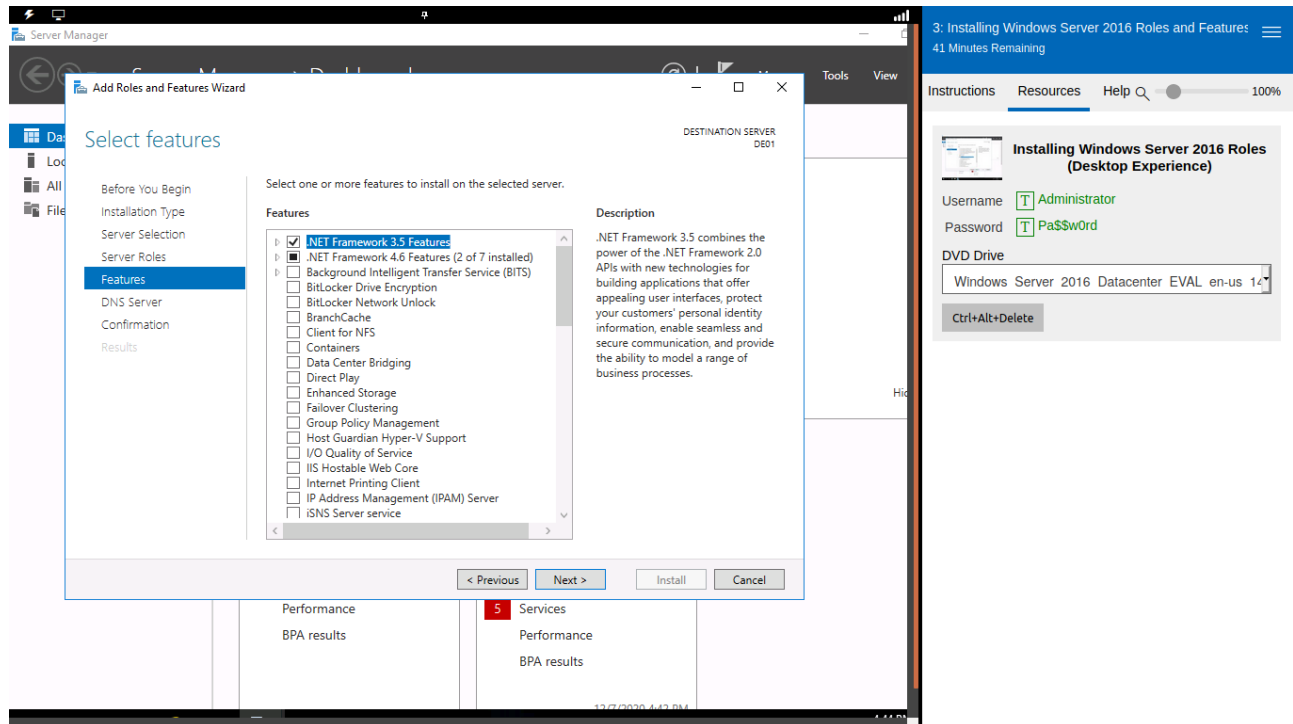
Selecting type of installation:



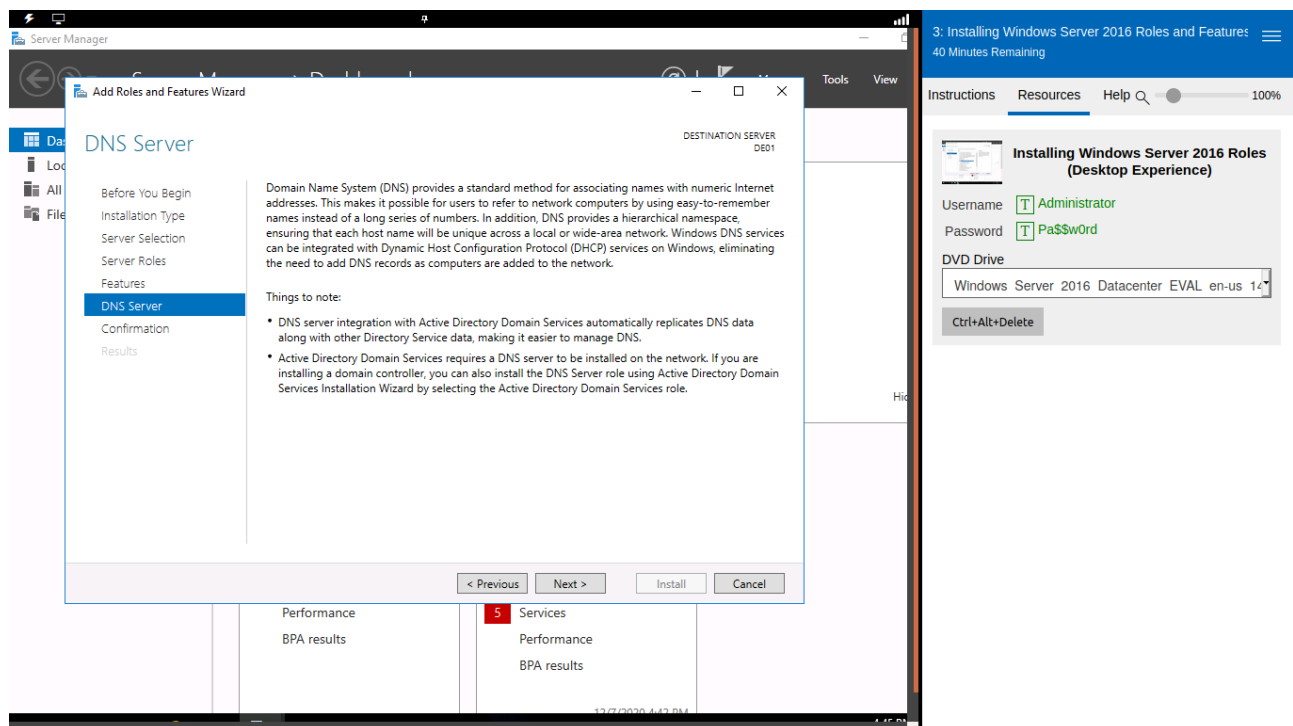
only 1 server to select so no image included for that. Adding Features:



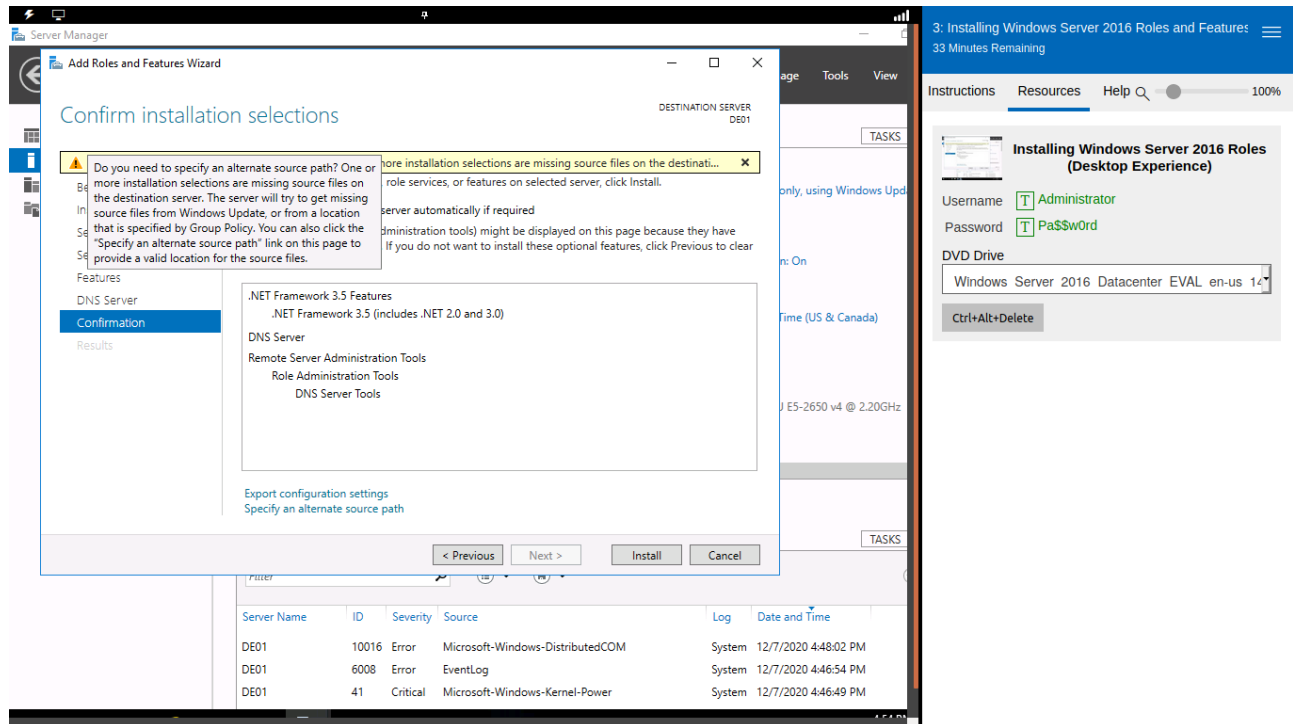
Selecting the features:



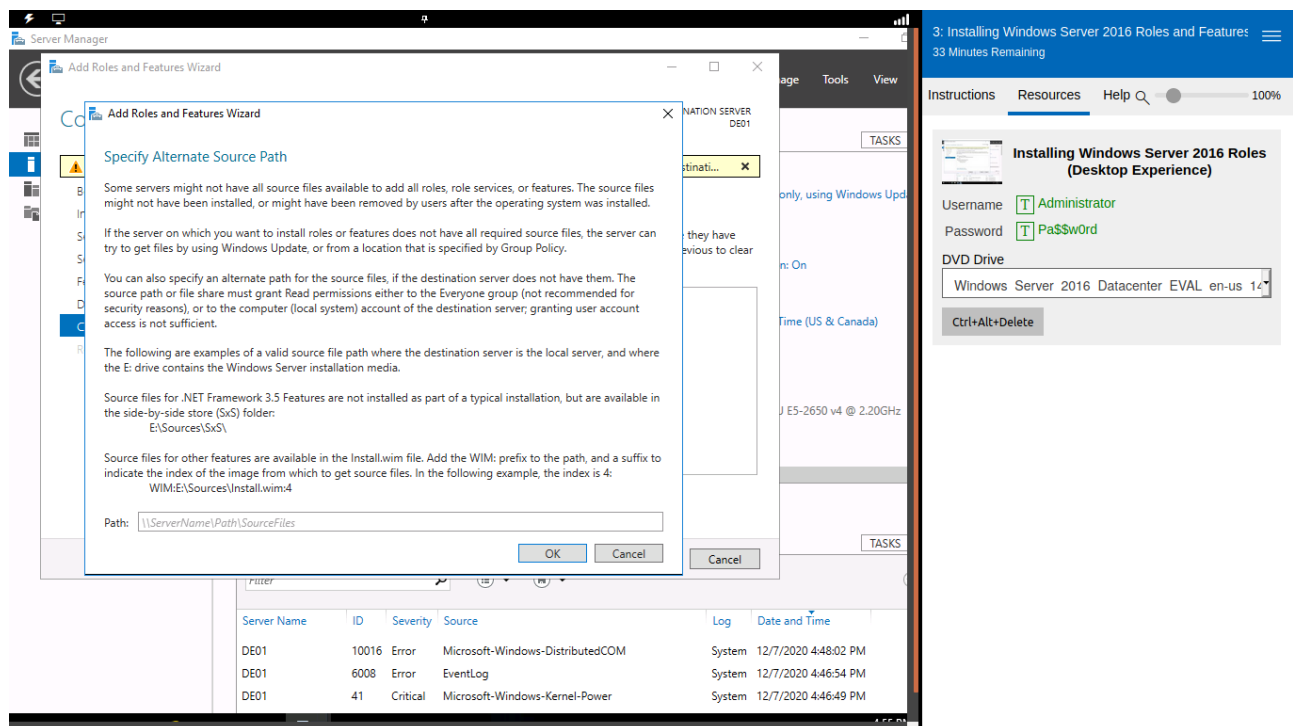
Some info about DNS before the installation contious:



Path need in this case to be specified:



Specifies the path:



Find the path name:

The screenshot shows the 'Add Roles and Features Wizard' window on the right, titled '3: Installing Windows Server 2016 Roles and Features: 32 Minutes Remaining'. The 'Resources' tab is active, displaying 'Installing Windows Server 2016 Roles (Desktop Experience)' with fields for Username (Administrator), Password (Pa\$\$w0rd), and DVD Drive (Windows Server 2016 Datacenter EVAL en-us 14). On the left, a file explorer window is open to 'DVD Drive (D:) SSS_X64FREE_EN-US_DV9 > sources'. The 'sxS' folder is selected, showing a list of files and folders including 'dism manifests', 'en-us', 'etwproviders', 'inf', 'migration', 'replacement manifests', 'sxS', 'vist', 'xp', 'acres.dll', 'actionqueue.dll', 'adfscomp.dll', 'admtv3check.dll', 'aeinv.dll', 'alert', 'api-ms-win-core-apiquery-l1-1-0.dll', 'api-ms-win-downlevel-advapi32-l1-1-0.dll', 'api-ms-win-downlevel-advapi32-l1-1-1.dll', 'api-ms-win-downlevel-advapi32-l2-1-0.dll', and 'api-ms-win-downlevel-advapi32-l2-1-1.dll'.

Use the path:

The screenshot shows the 'Specify Alternate Source Path' dialog box in the 'Add Roles and Features Wizard'. The dialog explains that some servers might not have all source files available and provides instructions on how to specify an alternate path. It includes examples of valid source file paths: 'E:\Sources\i386' for .NET Framework 3.5 Features and 'WIM:E:\Sources\install.wim:4' for other features. The 'Path' field is filled with 'D:\sources\i386'. The 'OK' button is highlighted. In the background, the 'Add Roles and Features Wizard' window is visible, showing the 'Resources' tab and the 'DVD Drive' field. Below the wizard, a table lists system events:

Server Name	ID	Severity	Source	Log	Date and Time
DE01	10016	Error	Microsoft-Windows-DistributedCOM	System	12/7/2020 4:48:02 PM
DE01	6008	Error	EventLog	System	12/7/2020 4:46:54 PM
DE01	41	Critical	Microsoft-Windows-Kernel-Power	System	12/7/2020 4:46:49 PM

Starting installation progress:

The screenshot shows the 'Add Roles and Features Wizard' in progress. The 'Installation progress' window is open, displaying the 'Results' tab. The progress bar indicates that the installation has started on DE01. The installed features are listed as follows:

- .NET Framework 3.5 Features
 - .NET Framework 3.5 (includes .NET 2.0 and 3.0)
- DNS Server
 - Remote Server Administration Tools
 - Role Administration Tools
 - DNS Server Tools

Below the list, a message states: 'You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details. Export configuration settings'.

The 'Tasks' pane on the right shows the progress of the installation. The 'Instructions' pane on the right shows the 'Installing Windows Server 2016 Roles (Desktop Experience)' window, which includes fields for Username (Administrator), Password (Pa\$\$w0rd), and DVD Drive (Windows Server 2016 Datacenter EVAL en-us 14).

Server Name	ID	Severity	Source	Log	Date and Time
DE01	10016	Error	Microsoft-Windows-DistributedCOM	System	12/7/2020 4:48:02 PM
DE01	6008	Error	EventLog	System	12/7/2020 4:46:54 PM
DE01	41	Critical	Microsoft-Windows-Kernel-Power	System	12/7/2020 4:46:49 PM

The installation is done:

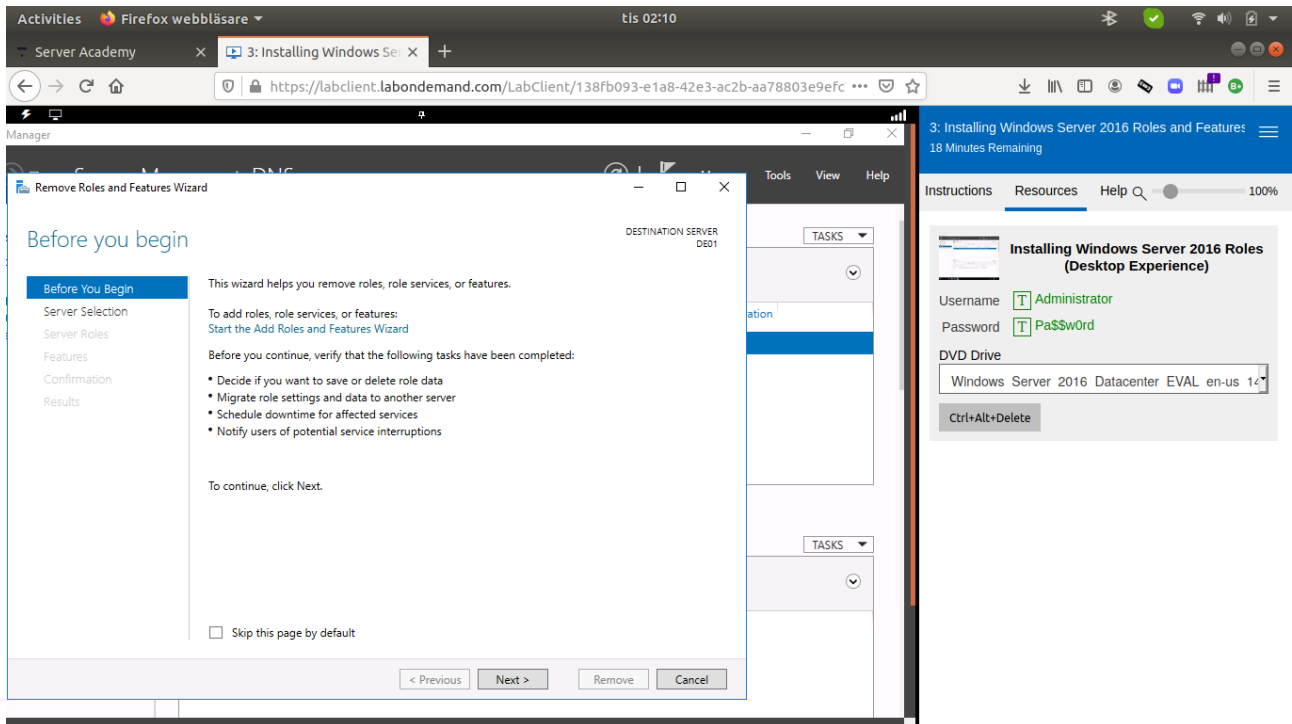
The screenshot shows the 'Server Manager' window. The 'Local Server' tab is selected, displaying the properties for the local server (DE01). The 'Properties' section shows the following information:

- Computer name: DE01
- Workgroup: WORKGROUP
- Windows Firewall: Public: On
- Remote management: Enabled
- Remote Desktop: Disabled
- NIC Teaming: Disabled
- Ethernet 2: 192.168.1.49
- Windows Defender: Real-time protection: On
- Feedback & Diagnostics: Settings
- IE Enhanced Security Configuration: On
- Time zone: (UTC-08:00) Pacific Time (US & Canada)
- Product ID: Not activated
- Operating system version: Microsoft Windows Server 2016 Datacenter Evaluation
- Hardware information: Microsoft Corporation Virtual Machine
- Processors: Intel(R) Xeon(R) CPU E5-2650 v4 @ 2.20GHz
- Installed memory (RAM): 1 GB
- Total disk space: 126.5 GB

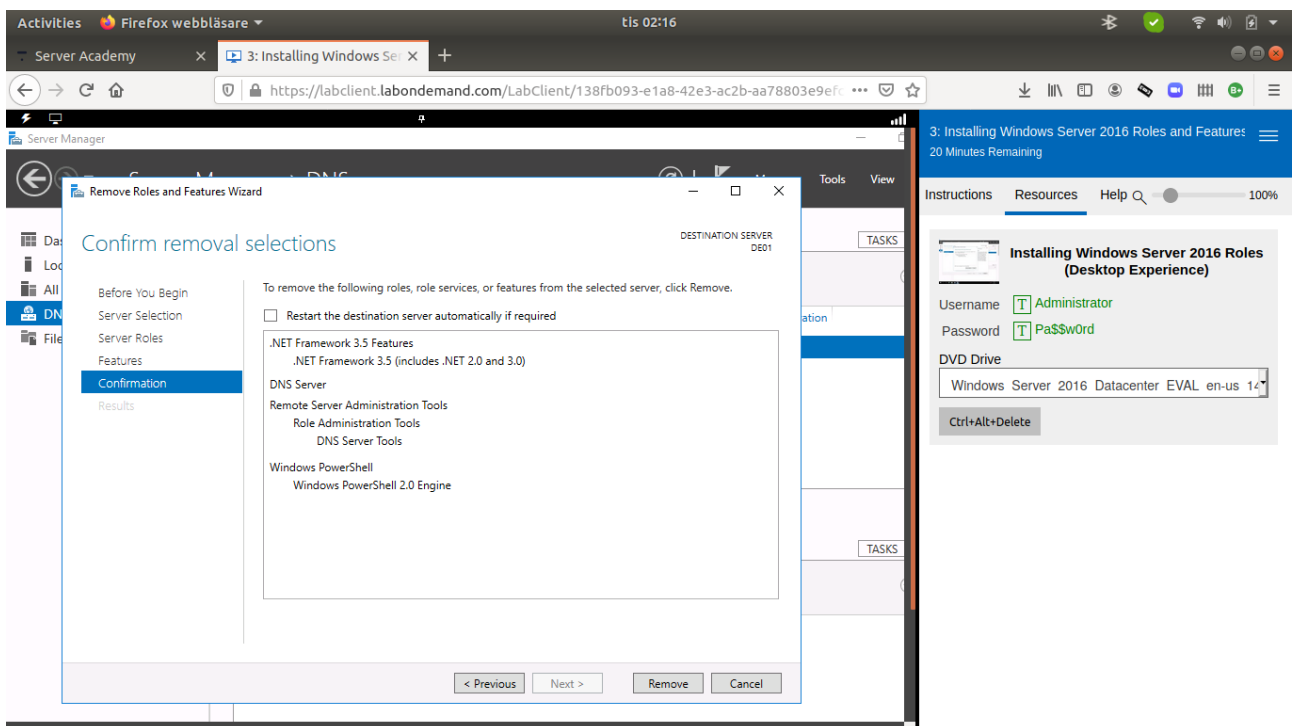
The 'EVENTS' section shows a list of events. The 'Filter' button is visible. The 'Tasks' pane on the right shows the progress of the installation. The 'Instructions' pane on the right shows the 'Installing Windows Server 2016 Roles (Desktop Experience)' window, which includes fields for Username (Administrator), Password (Pa\$\$w0rd), and DVD Drive (Windows Server 2016 Datacenter EVAL en-us 14).

Server Name	ID	Severity	Source	Log	Date and Time
DE01	257	Error	Microsoft-Windows-Defrag	Application	12/7/2020 4:58:49 PM
DE01	257	Error	Microsoft-Windows-Defrag	Application	12/7/2020 4:58:48 PM
DE01	7023	Error	Microsoft-Windows-Service Control Manager	System	12/7/2020 4:58:29 PM

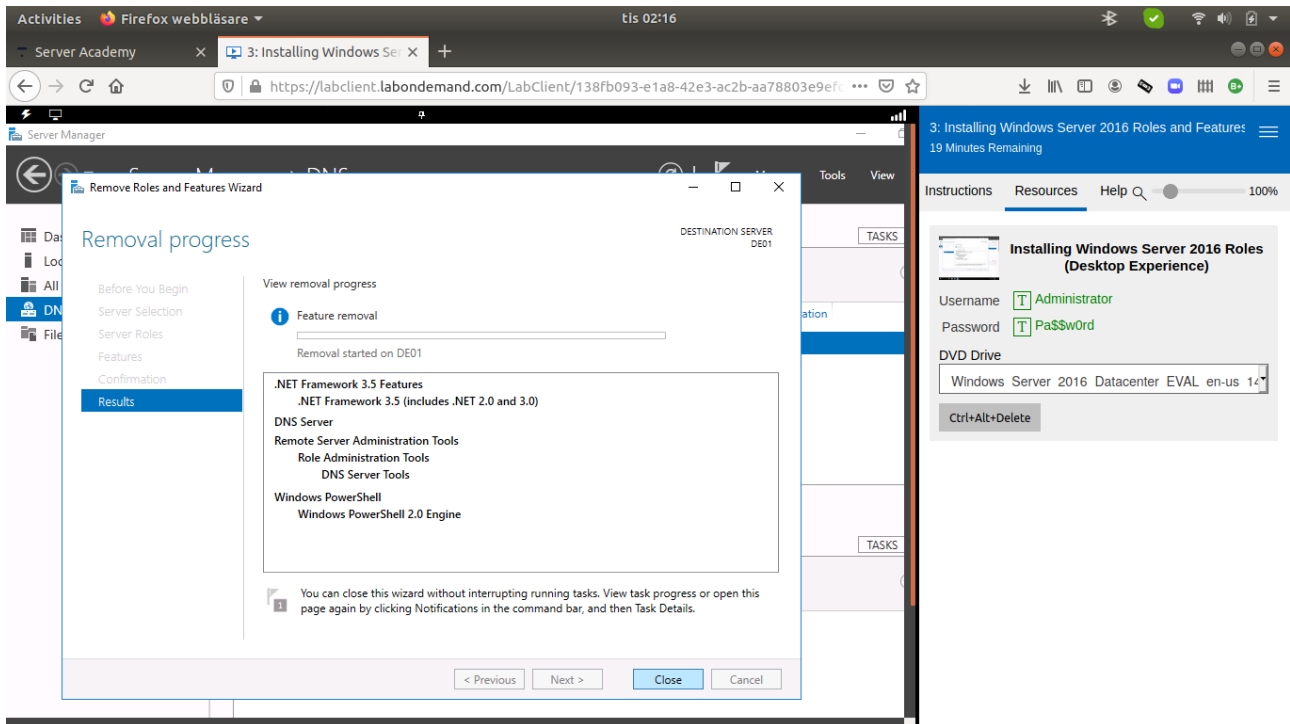
Start removing:



Selecting was done by unchecking boxes, list of selection:



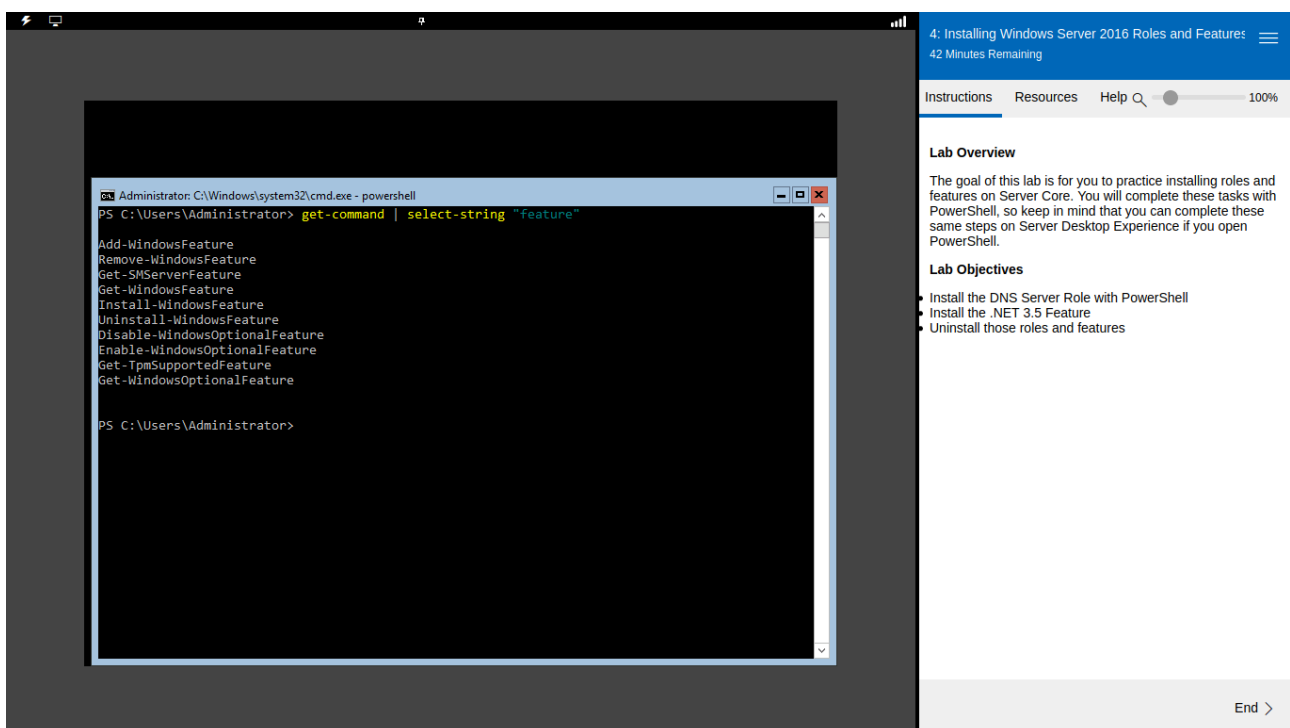
Remove complete just waiting for a restart:



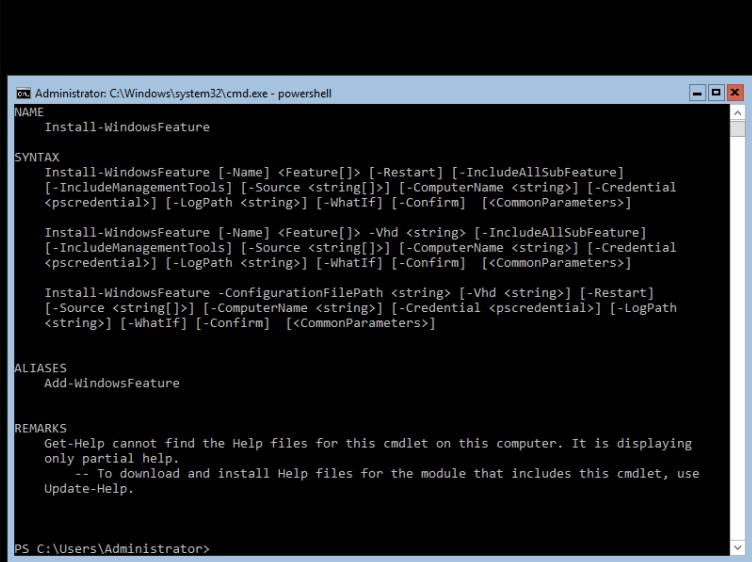
Core version:

Starting powershell by typing powershell:

List the commands by typing `get-command | select-string "feature"`, tab was used to autocomplete:



Using get-help Install-WindowsFeature to get more info on how to install:



```
Administrator: C:\Windows\system32\cmd.exe - powershell

NAME
Install-WindowsFeature

SYNTAX
Install-WindowsFeature [-Name] <Feature[]> [-Restart] [-IncludeAllSubFeature]
[-IncludeManagementTools] [-Source <string[]>] [-ComputerName <string>] [-Credential
<pscredential>] [-LogPath <string>] [-WhatIf] [-Confirm] [<CommonParameters>]

Install-WindowsFeature [-Name] <Feature[]> -Vhd <string> [-IncludeAllSubFeature]
[-IncludeManagementTools] [-Source <string[]>] [-ComputerName <string>] [-Credential
<pscredential>] [-LogPath <string>] [-WhatIf] [-Confirm] [<CommonParameters>]

Install-WindowsFeature -ConfigurationFilePath <string> [-Vhd <string>] [-Restart]
[-Source <string[]>] [-ComputerName <string>] [-Credential <pscredential>] [-LogPath
<string>] [-WhatIf] [-Confirm] [<CommonParameters>]

ALIASES
Add-WindowsFeature

REMARKS
Get-Help cannot find the Help files for this cmdlet on this computer. It is displaying
only partial help.
-- To download and install Help files for the module that includes this cmdlet, use
Update-Help.

PS C:\Users\Administrator>
```

4: Installing Windows Server 2016 Roles and Features
41 Minutes Remaining

Instructions Resources Help Q 100%

Lab Overview

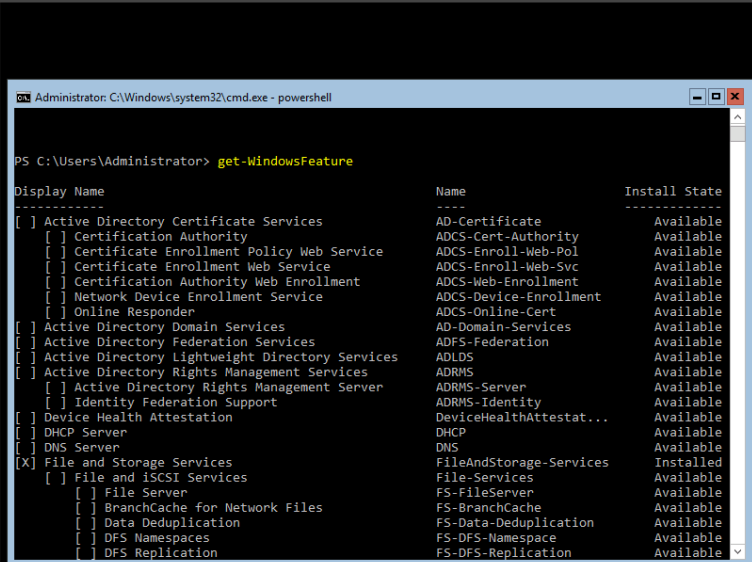
The goal of this lab is for you to practice installing roles and features on Server Core. You will complete these tasks with PowerShell, so keep in mind that you can complete these same steps on Server Desktop Experience if you open PowerShell.

Lab Objectives

- Install the DNS Server Role with PowerShell
- Install the .NET 3.5 Feature
- Uninstall those roles and features

End >

Listing the roles and features with Get-WindowsFeature (as you can see DNS is not installed):



```
Administrator: C:\Windows\system32\cmd.exe - powershell

PS C:\Users\Administrator> get-WindowsFeature

Display Name                                     Name                                Install State
-----
[ ] Active Directory Certificate Services         AD-Certificate                     Available
[ ] Certification Authority                     ADCS-Cert-Authority               Available
[ ] Certificate Enrollment Policy Web Service    ADCS-Enroll-Web-Pol              Available
[ ] Certificate Enrollment Web Service           ADCS-Enroll-Web-Svc              Available
[ ] Certification Authority Web Enrollment       ADCS-Web-Enrollment              Available
[ ] Network Device Enrollment Service            ADCS-Device-Enrollment           Available
[ ] Online Responder                            ADCS-Online-Cert                  Available
[ ] Active Directory Domain Services             AD-Domain-Services                Available
[ ] Active Directory Federation Services         ADFS-Federation                   Available
[ ] Active Directory Lightweight Directory Services ADLDS                             Available
[ ] Active Directory Rights Management Services  ADRMS                             Available
[ ] Active Directory Rights Management Server    ADRMS-Server                      Available
[ ] Identity Federation Support                 ADRMS-Identity                    Available
[ ] Device Health Attestation                   DeviceHealthAttestat...           Available
[ ] DHCP Server                                 DHCP                               Available
[ ] DNS Server                                  DNS                               Available
[X] File and Storage Services                   FileAndStorage-Services           Installed
[ ] File and iSCSI Services                     File-Services                     Available
[ ] File Server                                 FS-FileServer                     Available
[ ] BranchCache for Network Files               FS-BranchCache                    Available
[ ] Data Deduplication                         FS-Data-Deduplication             Available
[ ] DFS Namespaces                             FS-DFS-Namespaces                 Available
[ ] DFS Replication                            FS-DFS-Replication                Available
```

4: Installing Windows Server 2016 Roles and Features
40 Minutes Remaining

Instructions Resources Help Q 100%

Lab Overview

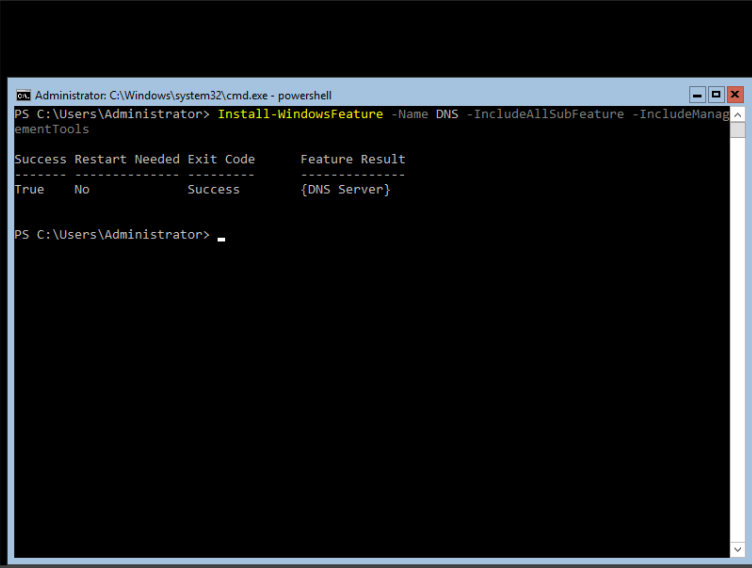
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Lab Objectives

- Install the DNS Server Role with PowerShell
- Install the .NET 3.5 Feature
- Uninstall those roles and features

End >

Installing DNS with Install-WindowsFeature -Name DNS -IncludeAllSubFeature -IncludeManagementTools (without -IncludeAllSubFeature is not automatic included):



The screenshot shows a PowerShell window titled "Administrator: C:\Windows\system32\cmd.exe - powershell". The command executed is `Install-WindowsFeature -Name DNS -IncludeAllSubFeature -IncludeManagementTools`. The output shows the installation was successful, with a restart needed and an exit code of 0. The feature result is listed as {DNS Server}.

Success	Restart Needed	Exit Code	Feature Result
True	No	Success	{DNS Server}

PS C:\Users\Administrator> .

4: Installing Windows Server 2016 Roles and Features
39 Minutes Remaining

Instructions Resources Help Q 100%

Lab Overview

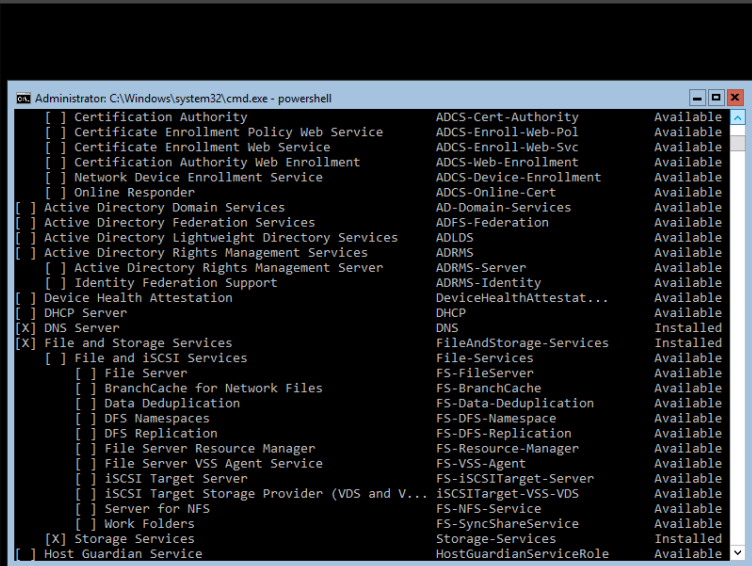
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Lab Objectives

- Install the DNS Server Role with PowerShell
- Install the .NET 3.5 Feature
- Uninstall those roles and features

End >

DNS Installed:



The screenshot shows a PowerShell window titled "Administrator: C:\Windows\system32\cmd.exe - powershell". The command executed is `Get-WindowsFeature`. The output lists various roles and features, their status, and the files they depend on.

Feature Name	Status	Files
Certification Authority	Available	ADCS-Cert-Authority
Certificate Enrollment Policy Web Service	Available	ADCS-Enroll-Web-Pol
Certificate Enrollment Web Service	Available	ADCS-Enroll-Web-Svc
Certification Authority Web Enrollment	Available	ADCS-Web-Enrollment
Network Device Enrollment Service	Available	ADCS-Device-Enrollment
Online Responder	Available	ADCS-Online-Cert
Active Directory Domain Services	Available	AD-Domain-Services
Active Directory Federation Services	Available	ADFS-Federation
Active Directory Lightweight Directory Services	Available	AD LDS
Active Directory Rights Management Services	Available	AD RMS
Active Directory Rights Management Server	Available	AD RMS-Server
Identity Federation Support	Available	AD RMS-Identity
Device Health Attestation	Available	DeviceHealthAttestat...
DHCP Server	Available	DHCP
DNS Server	Installed	DNS
File and Storage Services	Installed	FileAndStorage-Services
File and iSCSI Services	Available	File-Services
File Server	Available	FS-FileServer
BranchCache for Network Files	Available	FS-BranchCache
Data Deduplication	Available	FS-Data-Deduplication
DFS Namespaces	Available	FS-DFS-Namespaces
DFS Replication	Available	FS-DFS-Replication
File Server Resource Manager	Available	FS-Resource-Manager
File Server VSS Agent Service	Available	FS-VSS-Agent
iSCSI Target Server	Available	FS-iSCSI-Target-Server
iSCSI Target Storage Provider (VDS and V...)	Available	iSCSI-Target-VSS-VDS
Server for NFS	Available	FS-NFS-Service
Work Folders	Available	FS-SyncShareService
Storage Services	Installed	Storage-Services
Host Guardian Service	Available	HostGuardianServiceRole

4: Installing Windows Server 2016 Roles and Features
33 Minutes Remaining

Instructions Resources Help Q 100%

Installing Windows Server Roles (Desktop Experience)

Username

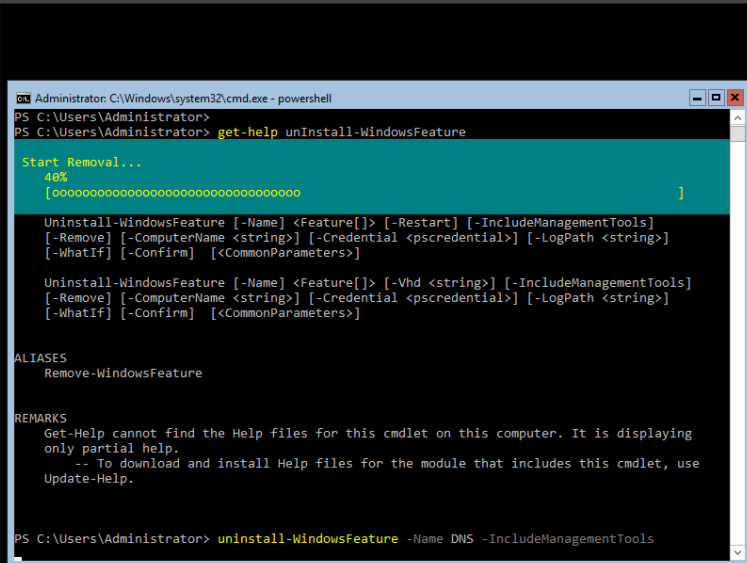
Password

DVD Drive

Ctrl+Alt+Delete

How to unistall and starting uninstalling with get-help unInstall-WindowsFeature

unInstall-WindowsFeature -Name DNS -IncludeManagementTools:



```
Administrator: C:\Windows\system32\cmd.exe - powershell
PS C:\Users\Administrator> get-help uninstall-WindowsFeature

Start Removal...
40%
[oooooooooooooooooooooooooooooooooooo]

Uninstall-WindowsFeature [-Name] <Feature[]> [-Restart] [-IncludeManagementTools]
[-Remove] [-ComputerName <string>] [-Credential <pscredential>] [-LogPath <string>]
[-WhatIf] [-Confirm] [<CommonParameters>]

Uninstall-WindowsFeature [-Name] <Feature[]> [-Vhd <string>] [-IncludeManagementTools]
[-Remove] [-ComputerName <string>] [-Credential <pscredential>] [-LogPath <string>]
[-WhatIf] [-Confirm] [<CommonParameters>]

ALIASES
Remove-WindowsFeature

REMARKS
Get-Help cannot find the Help files for this cmdlet on this computer. It is displaying
only partial help.
-- To download and install Help files for the module that includes this cmdlet, use
Update-Help.

PS C:\Users\Administrator> uninstall-WindowsFeature -Name DNS -IncludeManagementTools
```

4: Installing Windows Server 2016 Roles and Features 37 Minutes Remaining

Instructions Resources Help 100%

Lab Overview

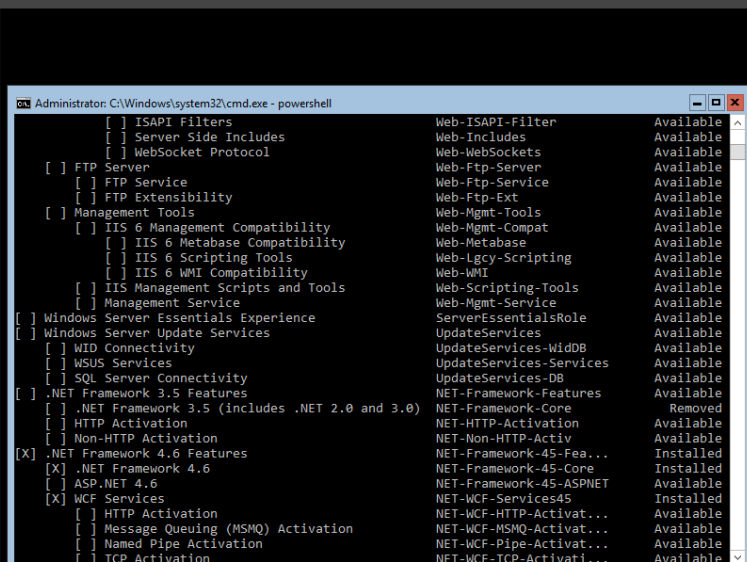
The goal of this lab is for you to practice installing roles and features on Server Core. You will complete these tasks with PowerShell, so keep in mind that you can complete these same steps on Server Desktop Experience if you open PowerShell.

Lab Objectives

- Install the DNS Server Role with PowerShell
- Install the .NET 3.5 Feature
- Uninstall those roles and features

End >

And then restarting with restart-computer and listing the progams again seeing that .NET 3.5 is removed:



```
Administrator: C:\Windows\system32\cmd.exe - powershell

[ ] ISAPI Filters Web-ISAPI-Filter Available
[ ] Server Side Includes Web-Includes Available
[ ] WebSocket Protocol Web-WebSockets Available
[ ] FTP Server Web-Ftp-Server Available
[ ] FTP Service Web-Ftp-Service Available
[ ] FTP Extensibility Web-Ftp-Ext Available
[ ] Management Tools Web-Mgmt-Tools Available
[ ] IIS 6 Management Compatibility Web-Mgmt-Compat Available
[ ] IIS 6 Metabase Compatibility Web-Metabase Available
[ ] IIS 6 Scripting Tools Web-Lgcy-Scripting Available
[ ] IIS 6 WMI Compatibility Web-WMI Available
[ ] IIS Management Scripts and Tools Web-Scripting-Tools Available
[ ] Management Service Web-Mgmt-Service Available
[ ] Windows Server Essentials Experience ServerEssentialsRole Available
[ ] Windows Server Update Services UpdateServices Available
[ ] WID Connectivity UpdateServices-WidDB Available
[ ] WSUS Services UpdateServices-Services Available
[ ] SQL Server Connectivity UpdateServices-DB Available
[ ] .NET Framework 3.5 Features NET-Framework-Features Available
[ ] .NET Framework 3.5 (includes .NET 2.0 and 3.0) NET-Framework-Core Removed
[ ] HTTP Activation NET-HTTP-Activation Available
[ ] Non-HTTP Activation NET-Non-HTTP-Activ Available
[X] .NET Framework 4.6 Features NET-Framework-45-Fea... Installed
[X] .NET Framework 4.6 NET-Framework-45-Core Installed
[ ] ASP.NET 4.6 NET-Framework-45-ASPNET Available
[X] WCF Services NET-WCF-Services45 Installed
[ ] HTTP Activation NET-WCF-HTTP-Activat... Available
[ ] Message Queuing (MSMQ) Activation NET-WCF-MSMQ-Activat... Available
[ ] Named Pipe Activation NET-WCF-Pipe-Activat... Available
[ ] TCP Activation NET-WCF-TCP-Activati... Available

restart-computer
```

4: Installing Windows Server 2016 Roles and Features 32 Minutes Remaining

Instructions Resources Help 100%

Lab Overview

The goal of this lab is for you to practice installing roles and features on Server Core. You will complete these tasks with PowerShell, so keep in mind that you can complete these same steps on Server Desktop Experience if you open PowerShell.

Lab Objectives

- Install the DNS Server Role with PowerShell
- Install the .NET 3.5 Feature
- Uninstall those roles and features

End >