

DFS NAMESPACE AND REPLICATION

SERVER 2012

- Dashboard
- Local Server
- All Servers
- AD DS
- DNS
- File and Storage Services >

WELCOME TO SERVER MANAGER

- QUICK START
- WHAT'S NEW
- LEARN MORE

- 1 Configure this local server
- 2 Add roles and features
- 3 [Add other servers to manage](#)
- 4 Create a server group

ROLES AND SERVER GROUPS

Roles: 3 | Server groups: 1 | Servers total: 1

AD DS 1

- Manageability
- Events
- Services
- Performance
- BPA results

DNS 1

- Manageability
- Events
- Services
- Performance
- BPA results

File and Storage Services 1

- Manageability
- Events
- Services
- Performance
- BPA results

Local Server 1

- Manageability
- Events
- Services
- Performance
- BPA results

The screenshot displays the Windows Server 2012 Server Manager interface. The main window is titled "Server Manager" and shows a "Dashboard" for a "DESTINATION SERVER" (DC1.comtest.com). A "Add Roles and Features Wizard" dialog box is open, showing the "Select installation type" step. The wizard has a progress bar on the left with steps: "Before you begin", "Installation Type" (selected), "Server Selection", "Server Roles", "Features", "Confirmation", and "Results".

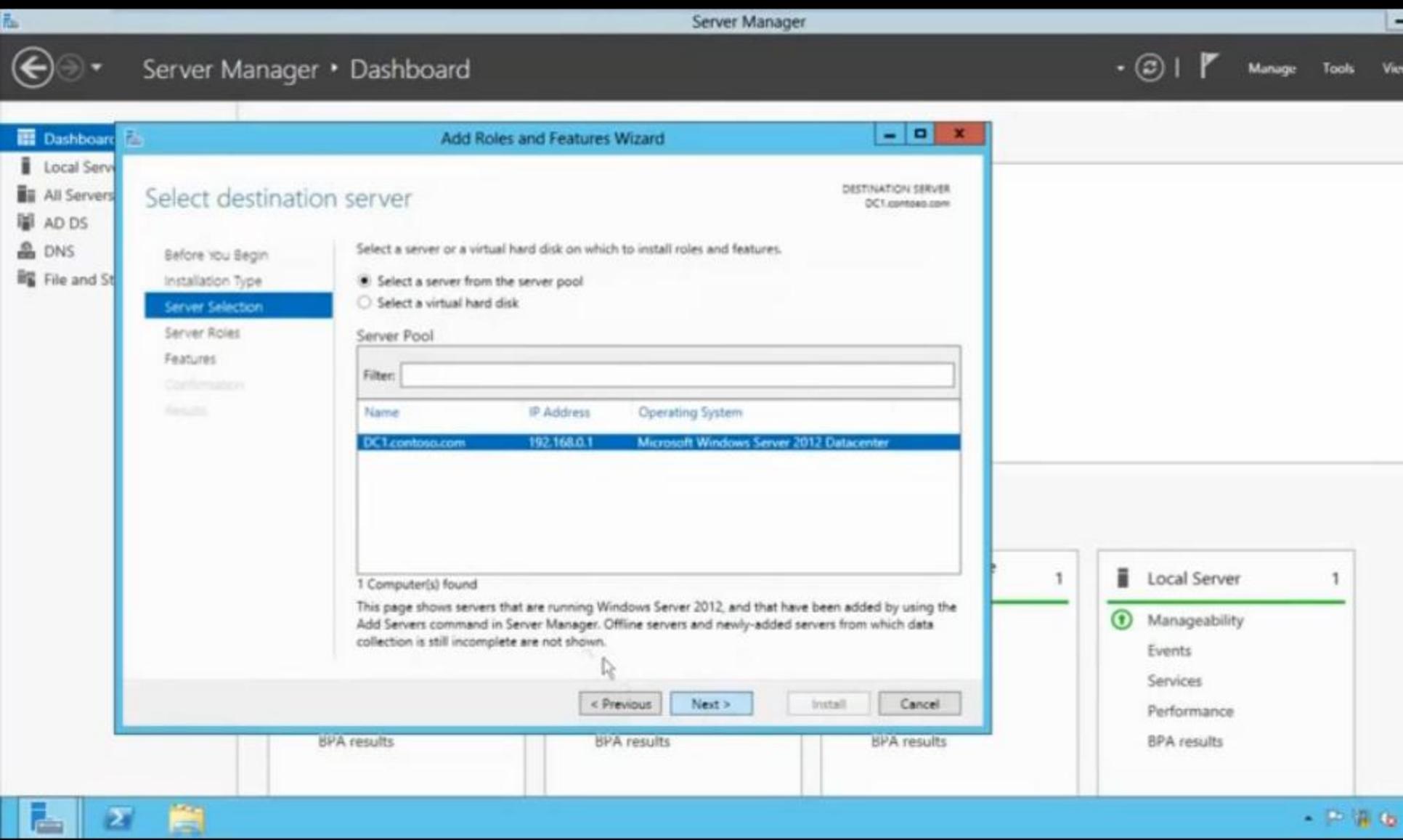
Select installation type

Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD).

- Role-based or feature-based installation**
Configure a single server by adding roles, role services, and features.
- Remote Desktop Services installation**
Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

Navigation buttons at the bottom of the wizard: < Previous, Next >, Install, Cancel.

In the background, the Server Manager dashboard shows a "Local Server" tile with a green progress bar and a "1" indicator. A list of server components is visible: Manageability (with a green status icon), Events, Services, Performance, and BPA results.



Add Roles and Features Wizard

DESTINATION SERVER
DC1.contoso.com

Select server roles

Select one or more roles to install on the selected server.

Roles	Description
<input checked="" type="checkbox"/> DNS Server (Installed)	
<input type="checkbox"/> Fax Server	
<input checked="" type="checkbox"/> File And Storage Services (Installed)	
<input checked="" type="checkbox"/> File and iSCSI Services (Installed)	
<input checked="" type="checkbox"/> File Server (Installed)	
<input type="checkbox"/> BranchCache for Network Files	
<input type="checkbox"/> Data Deduplication	
<input checked="" type="checkbox"/> DFS Namespace	
<input type="checkbox"/> DFS Replication	
<input type="checkbox"/> File Server Resource Manager	
<input type="checkbox"/> File Server VSS Agent Service	
<input type="checkbox"/> iSCSI Target Server	
<input type="checkbox"/> iSCSI Target Storage Provider (VDS and VSI)	
<input type="checkbox"/> Server for NFS	

DFS Namespaces enables you to group shared folders located on different servers into one or more logically structured namespaces. Each namespace appears to users as a single shared folder with a series of subfolders. However, the underlying structure of the namespace can consist of numerous shared folders located on different servers and in multiple sites.

< Previous Next > Install Cancel

BPA results BPA results BPA results

Local Server 1

- Manageability
- Events
- Services
- Performance
- BPA results

Add Roles and Features Wizard

Select server roles

DESTINATION SERVER
DC1.contoso.com

Add features that are required for DFS Namespaces?

The following tools are required to manage this feature, but do not have to be installed on the same server.

- Remote Server Administration Tools
 - Role Administration Tools
 - File Services Tools
 - [Tools] DFS Management Tools

Include management tools (if applicable)

Add Features Cancel

< Previous Next > Install Cancel

DFS namespaces enables you to share folders located on multiple servers into one or more structured namespaces. A namespace appears to users as a shared folder with a series of subfolders. However, the underlying structure of the namespace can consist of numerous subfolders located on different servers and in multiple sites.

Local Server

- Manageability
- Events
- Services
- Performance
- BPA results

- Dashboard
- Local Servers
- All Servers
- AD DS
- DNS
- File and Storage

Add Roles and Features Wizard

DESTINATION SERVER
DC1.contoso.com

Select server roles

Before you begin

- Installation Type
- Server Selection
- Server Roles**
- Features
- Confirmation

Select one or more roles to install on the selected server.

Roles	Description
<input checked="" type="checkbox"/> DNS Server (Installed)	
<input type="checkbox"/> Fax Server	
<input checked="" type="checkbox"/> File and Storage Services (Installed)	
<input checked="" type="checkbox"/> File and iSCSI Services (Installed)	
<input checked="" type="checkbox"/> File Server (Installed)	
<input type="checkbox"/> BranchCache for Network Files	
<input type="checkbox"/> Data Deduplication	
<input checked="" type="checkbox"/> DFS Namespaces	
<input type="checkbox"/> DFS Replication	
<input type="checkbox"/> File Server Resource Manager	
<input type="checkbox"/> File Server VSS Agent Service	
<input type="checkbox"/> iSCSI Target Server	
<input type="checkbox"/> iSCSI Target Storage Provider (VDS and VSI)	
<input type="checkbox"/> Server for NFS	

DFS Replication is a multimaster replication engine that enables you to synchronize folders on multiple servers across local or wide area network (WAN) network connections. It uses the Remote Differential Compression (RDC) protocol to update only the portions of files that have changed since the last replication. DFS Replication can be used in conjunction with DFS Namespaces, or by itself.

< Previous Next > Install Cancel

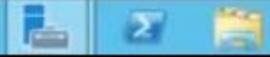
BPA results

BPA results

BPA results

Local Server 1

- Manageability
- Events
- Services
- Performance
- BPA results



Add Roles and Features Wizard

DESTINATION SERVER
DC1.contoso.com

Select features

Before you begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results

Select one or more features to install on the selected server.

Features	Description
<input type="checkbox"/> .NET Framework 3.5 Features	.NET Framework 3.5 combines the power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provide the ability to model a range of business processes.
<input checked="" type="checkbox"/> .NET Framework 4.5 Features (Installed)	
<input type="checkbox"/> Background Intelligent Transfer Service (BITS)	
<input type="checkbox"/> BitLocker Drive Encryption	
<input type="checkbox"/> BitLocker Network Unlock	
<input type="checkbox"/> BranchCache	
<input type="checkbox"/> Client for NFS	
<input type="checkbox"/> Data Center Bridging	
<input type="checkbox"/> Enhanced Storage	
<input type="checkbox"/> Failover Clustering	
<input checked="" type="checkbox"/> Group Policy Management (Installed)	
<input type="checkbox"/> Ink and Handwriting Services	
<input type="checkbox"/> Internet Printing Client	
<input type="checkbox"/> IP Address Management (IPAM) Server	
...	

< Previous Next > Install Cancel

1

Local Server 1

- Manageability
- Events
- Services
- Performance
- BPA results

Add Roles and Features Wizard

DESTINATION SERVER
DC1.contoso.com

Confirm installation selections

Before you begin

- Installation Type
- Server Selection
- Server Roles
- Features
- Confirmation**

To install the following roles, role services, or features on selected server, click Install.

Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

File And Storage Services

- File and iSCSI Services
- DFS Namespaces
- DFS Replication

Remote Server Administration Tools

- Role Administration Tools
- File Services Tools
- DFS Management Tools

Export configuration settings
Specify an alternate source path

< Previous Next > **Install** Cancel

1

Local Server 1

- Manageability
- Events
- Services
- Performance
- BPA results

BPA results BPA results BPA results

Add Roles and Features Wizard

Installation progress

DESTINATION SERVER
DC1.contoso.com

- Before you begin
- Installation Type
- Server Selection
- Server Roles
- Features
- Confirmation
- Results**

View installation progress

Feature installation

Installation succeeded on DC1.contoso.com.

File And Storage Services

- File and iSCSI Services
- DFS Namespaces
- DFS Replication

Remote Server Administration Tools

- Role Administration Tools
- File Services Tools
- DFS Management Tools

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

< Previous Next > **Close** Cancel

1

Local Server 1

- Manageability
- Events
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Server Manager

Server Manager Dashboard

Dashboard

- Local Server
- All Servers
- AD DS
- DNS
- File and Storage Services

WELCOME TO SERVER MANAGER

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4 Create a server group

QUICK START

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 3 | Server groups: 1 | Servers total: 1

AD DS	DNS	File and Storage Services
1	1	1
Manageability	Manageability	Manageability
Events	Events	Events
Services	Services	Services
Performance	Performance	Performance
BPA results	BPA results	BPA results

Active Directory Administrative Center

Active Directory Domains and Trusts

Active Directory Module for Windows Powershell

Active Directory Sites and Services

Active Directory Users and Computers

ADSI Edit

Component Services

Computer Management

Defragment and Optimize Drives

DFS Management

DNS

Event Viewer

Group Policy Management

iSCSI Initiator

Local Security Policy

ODBC Data Sources (32-bit)

ODBC Data Sources (64-bit)

Performance Monitor

Resource Monitor

Security Configuration Wizard

Services

System Configuration

System Information

Task Scheduler

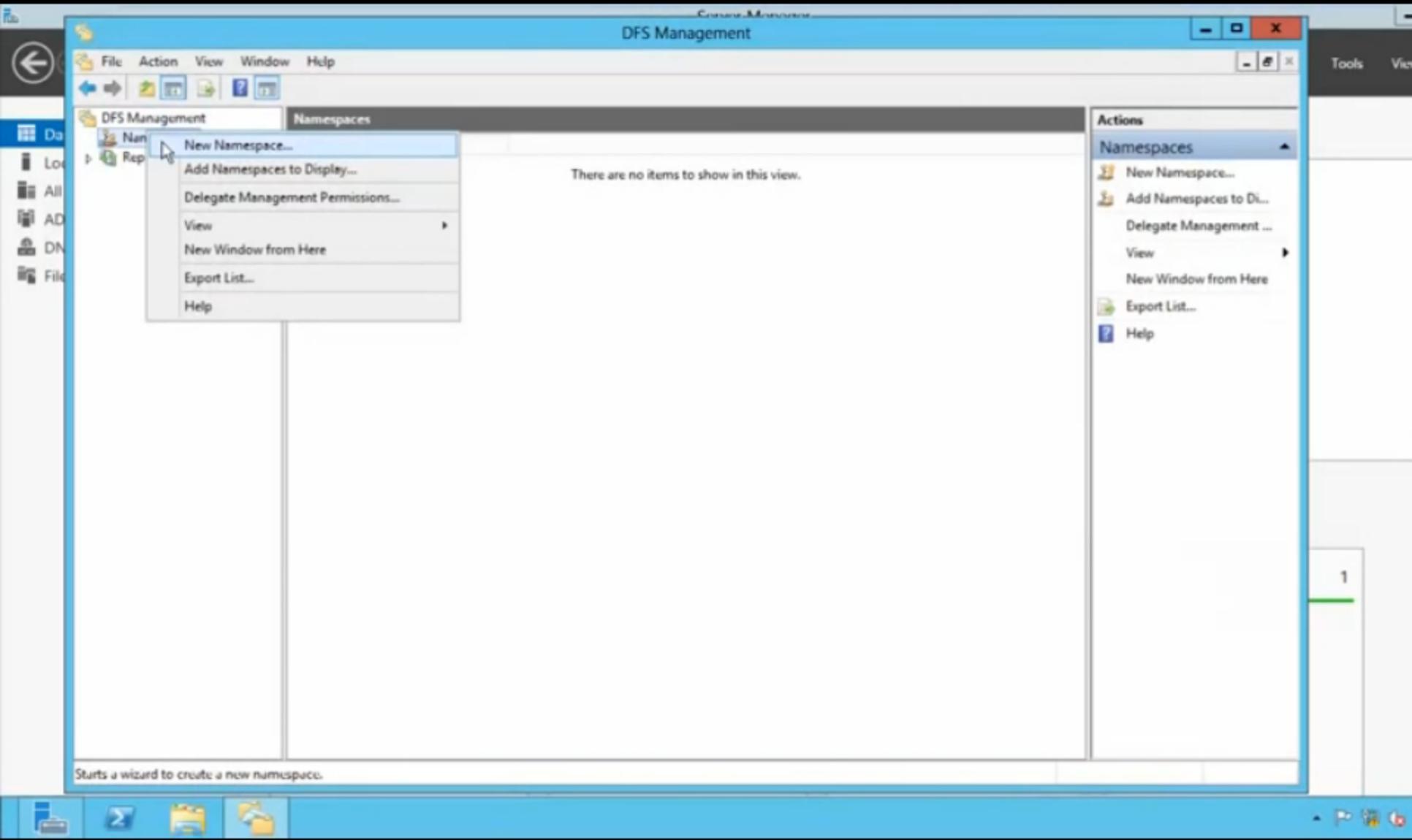
Windows Firewall with Advanced Security

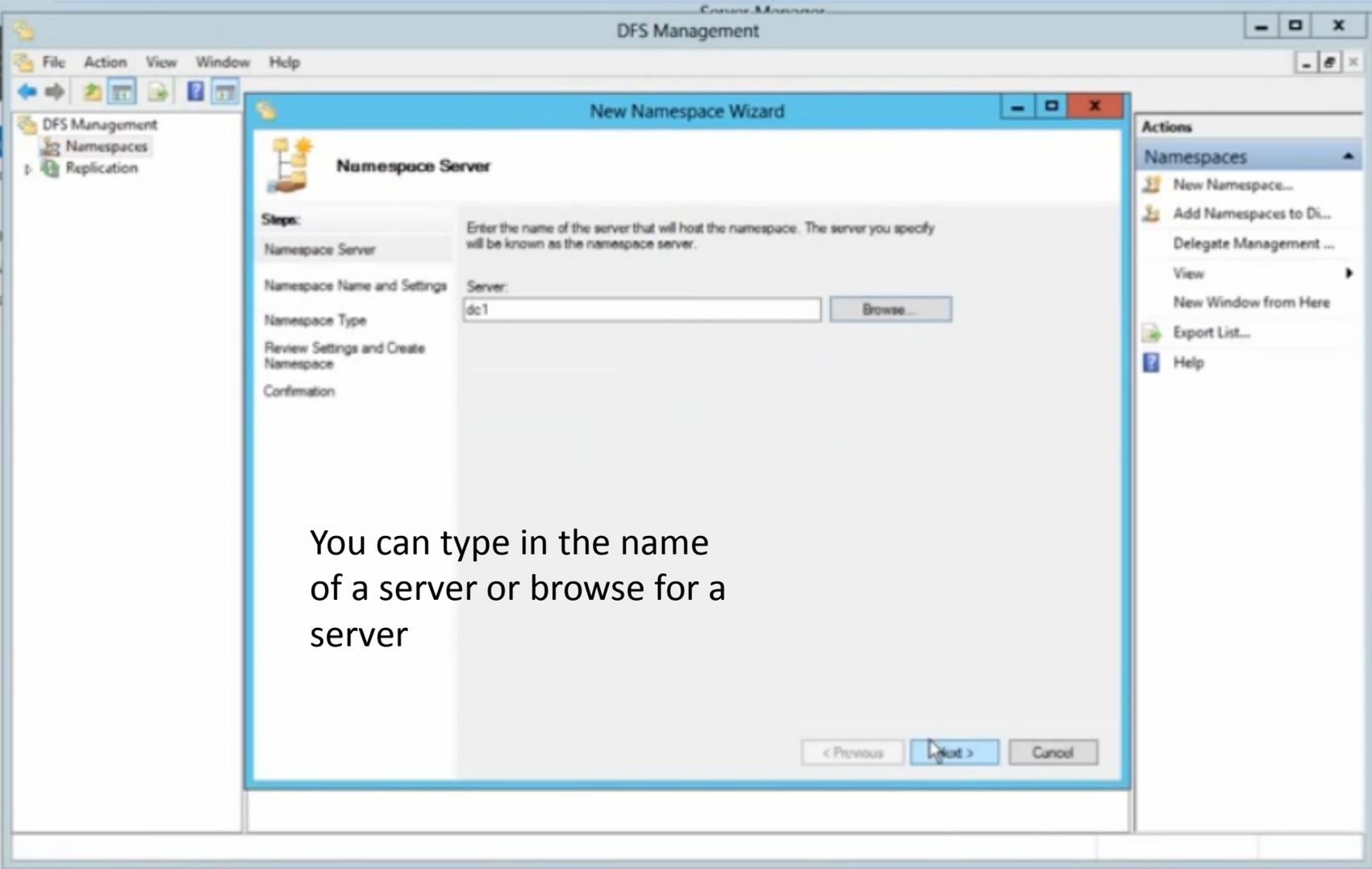
Windows Memory Diagnostic

Windows PowerShell

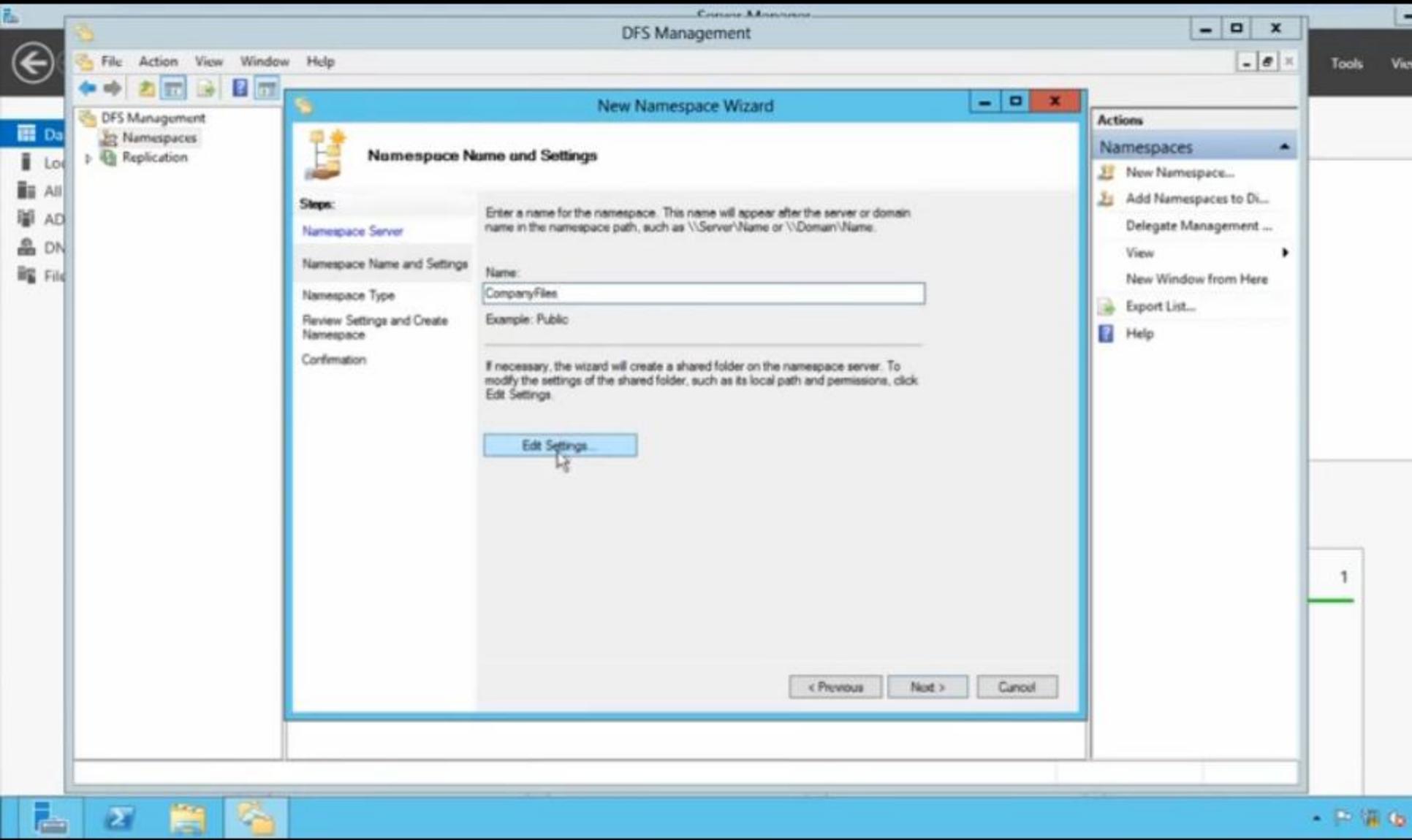
Windows PowerShell (x86)

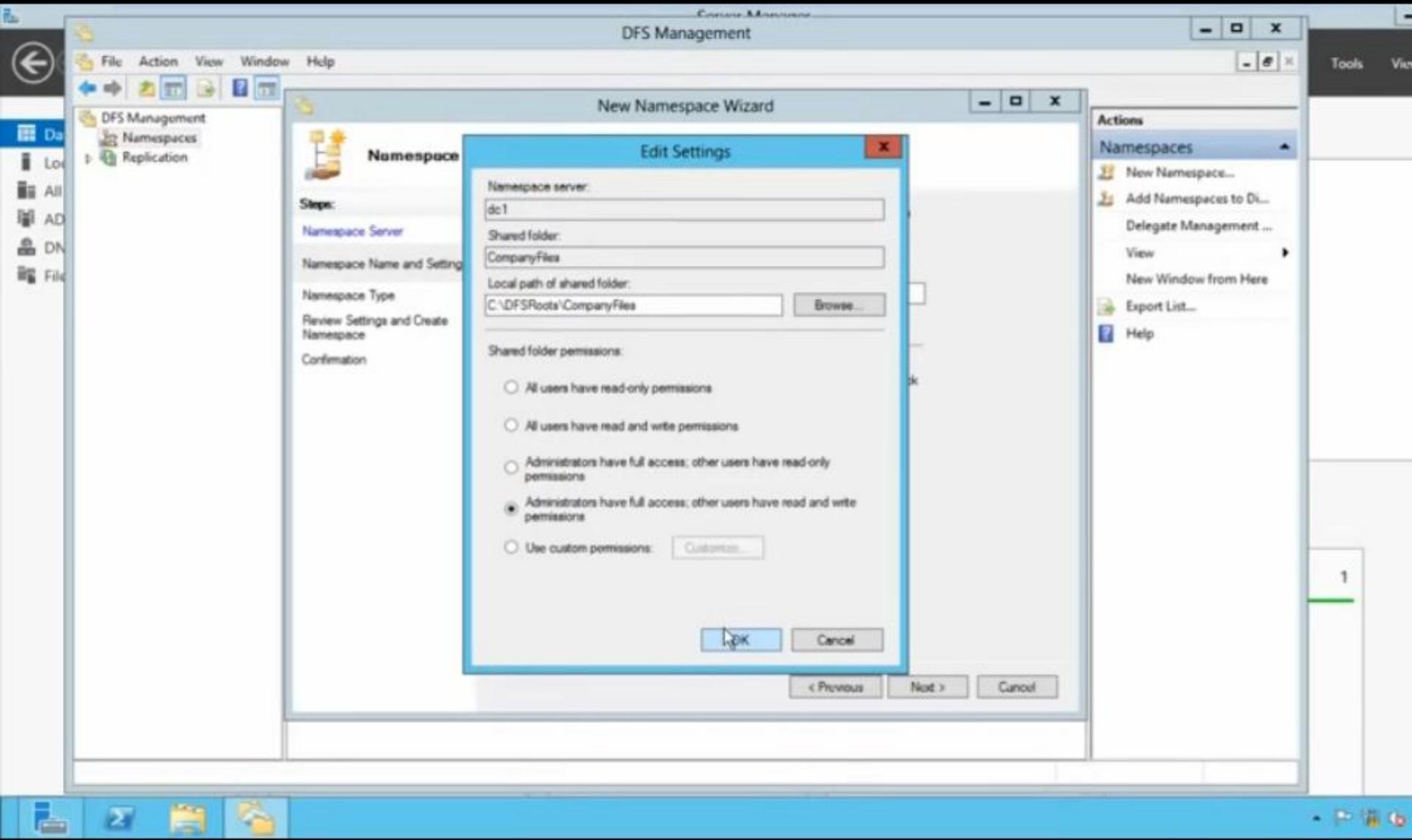
Windows PowerShell ISE

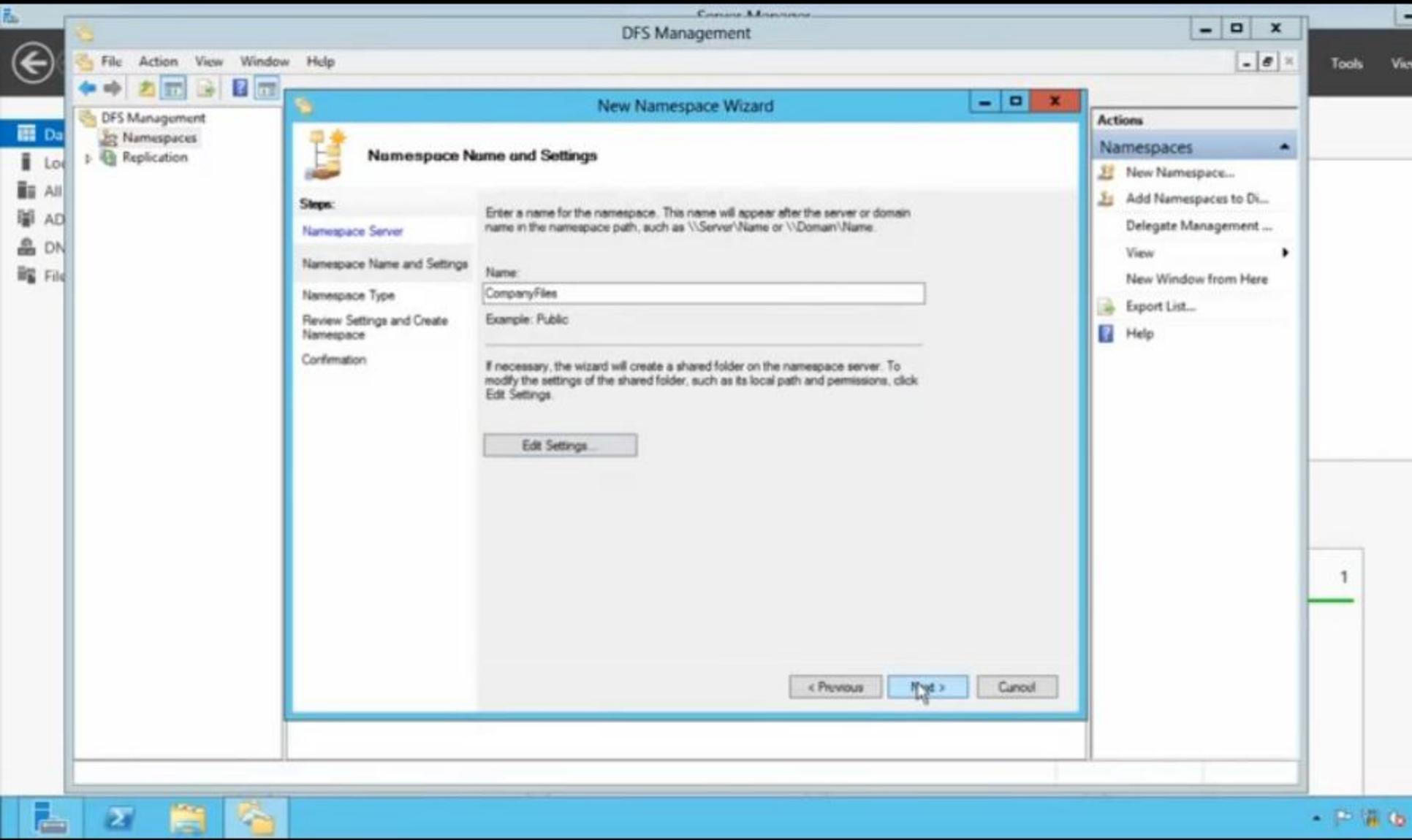


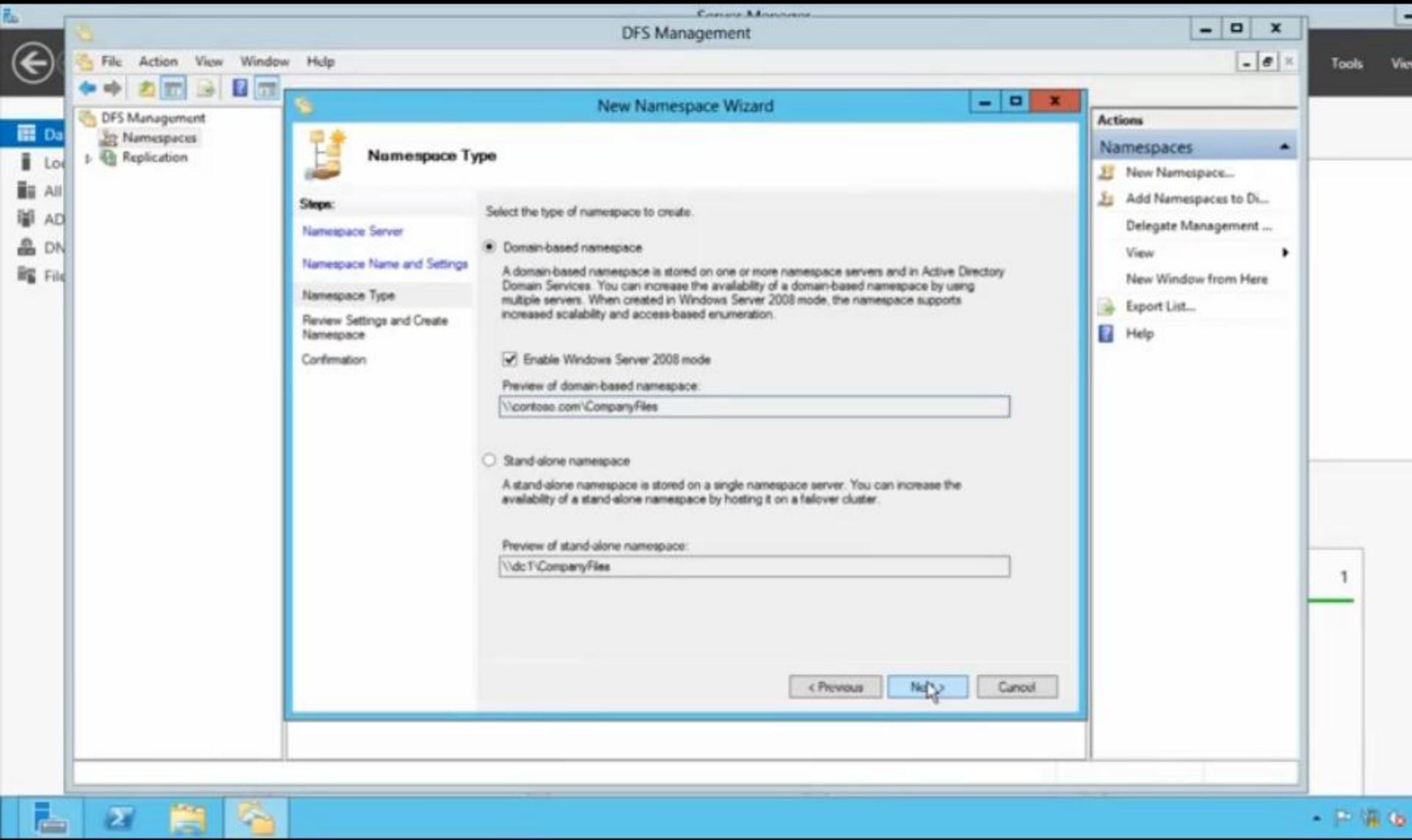


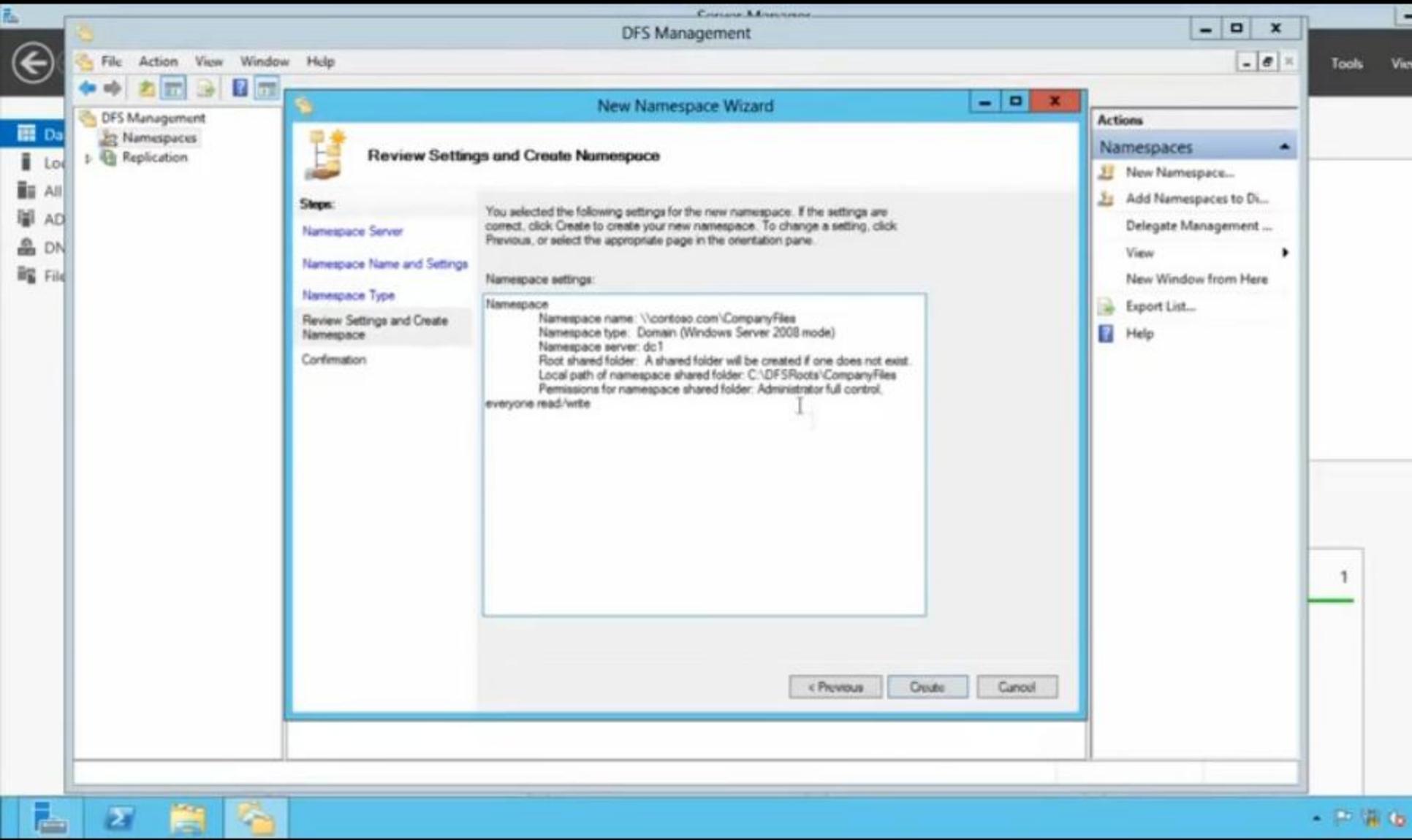
You can type in the name of a server or browse for a server

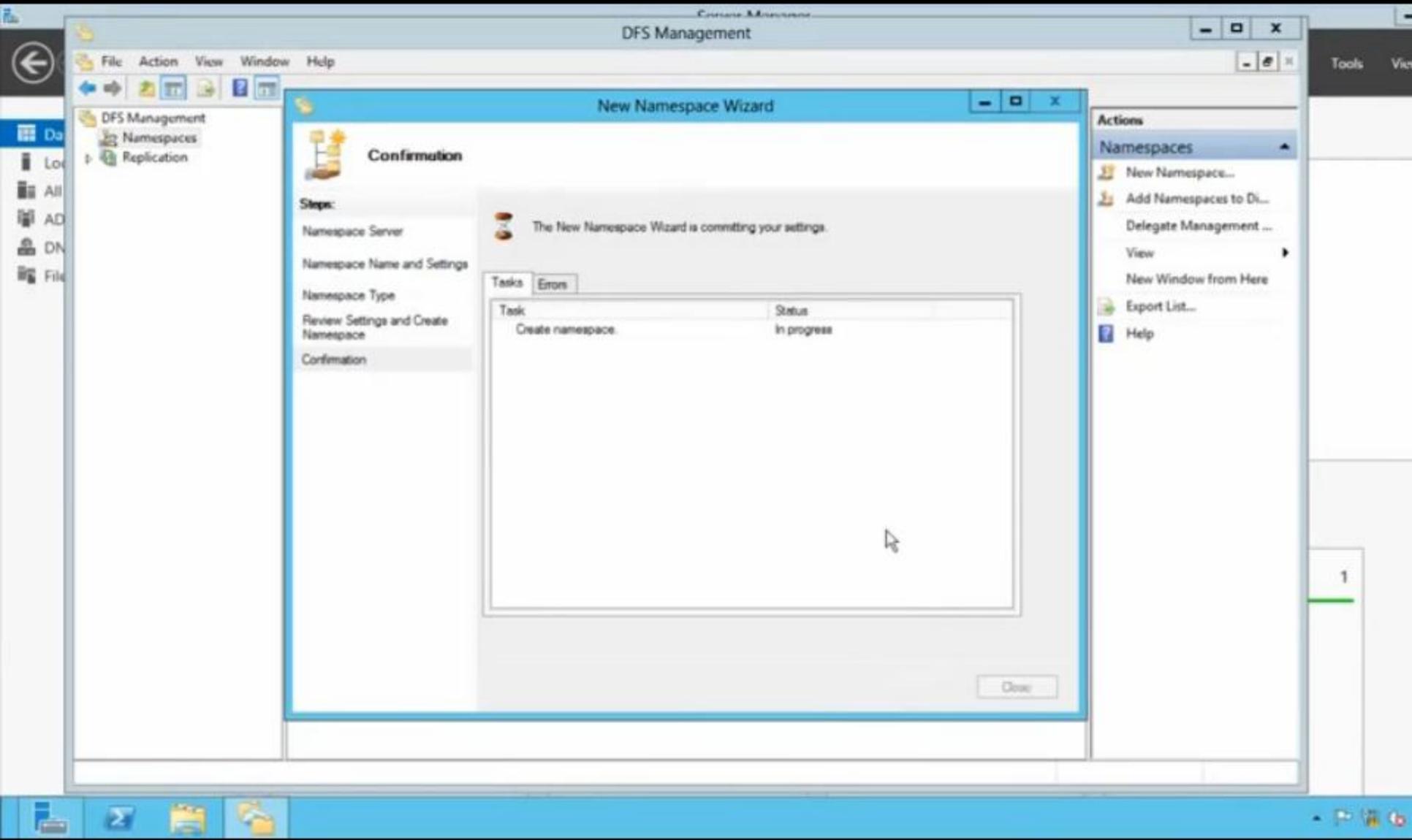


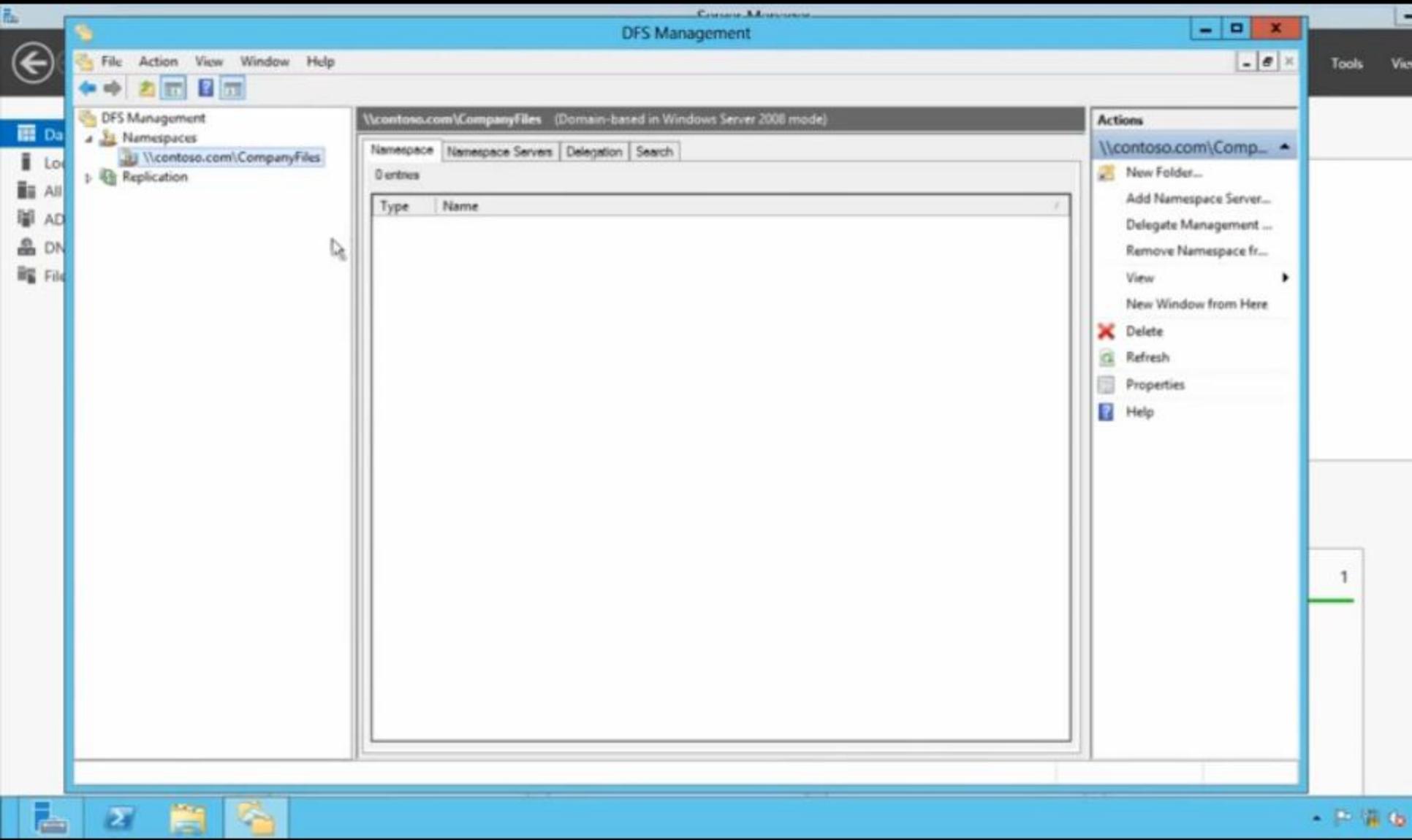


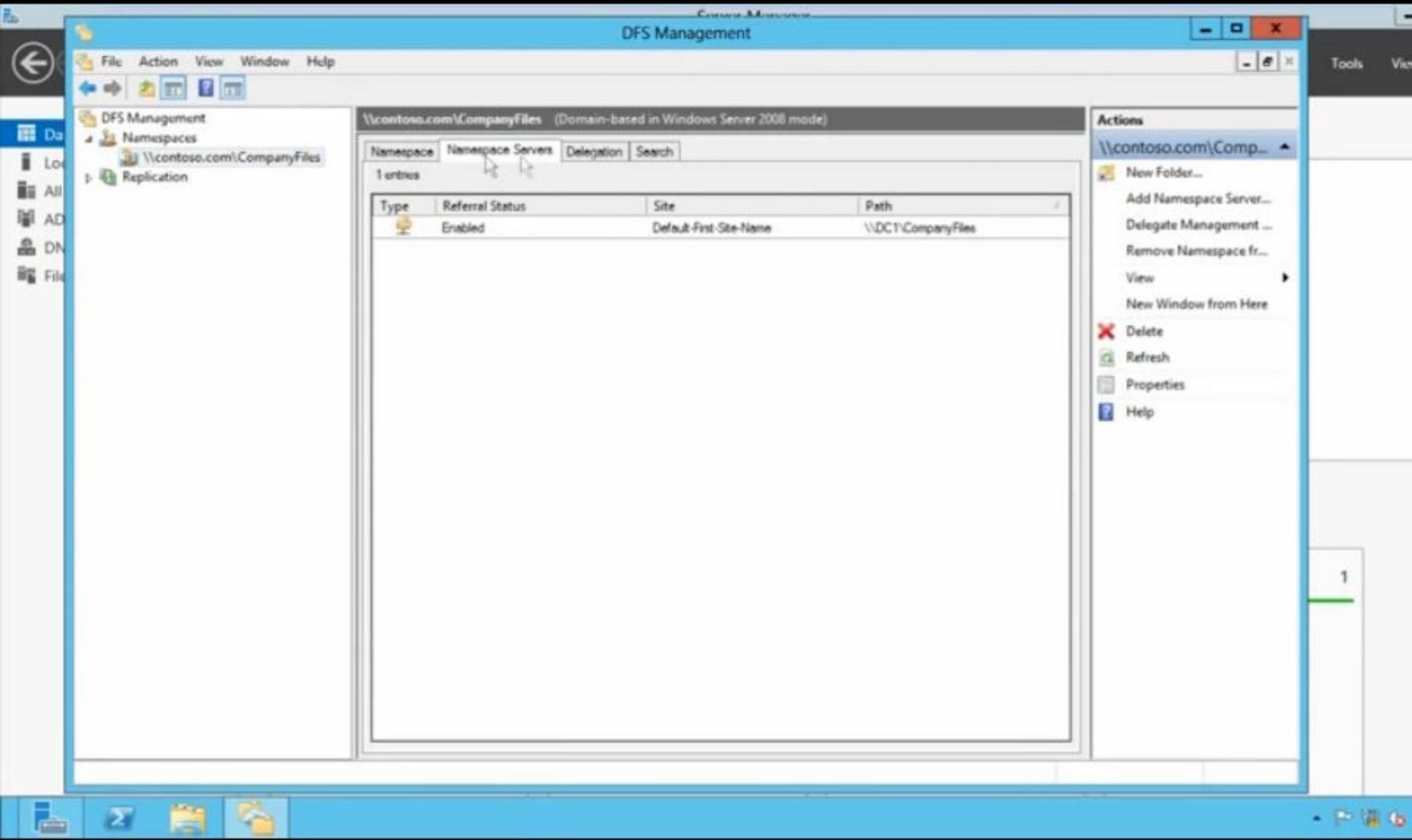












DFS Management

File Action View Window Help

- DFS Management
 - Namespaces
 - \\contoso.com\CompanyFiles
 - Replication

\\contoso.com\CompanyFiles (Domain-based in Windows Server 2008 mode)

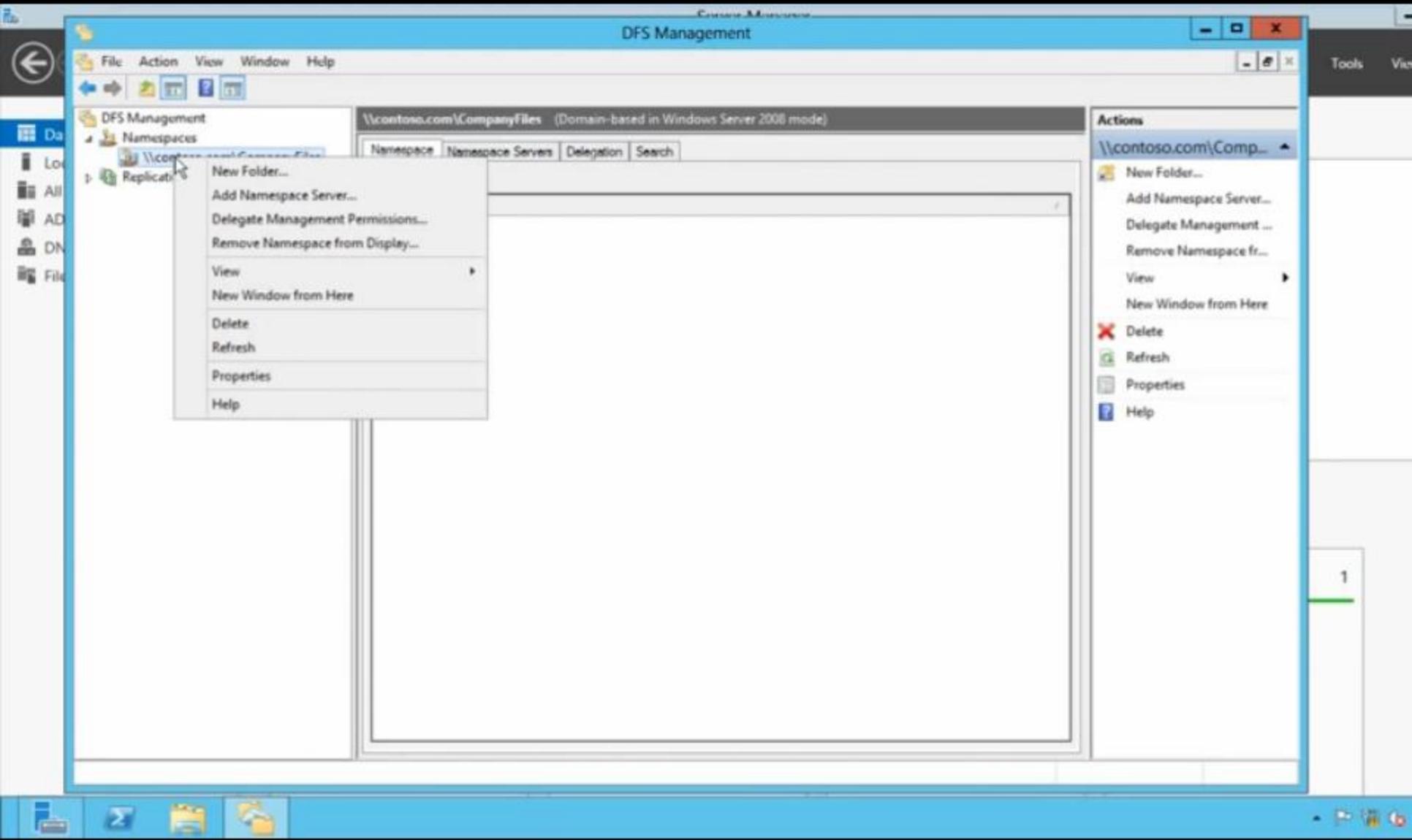
Namespace Namespace Servers Delegation Search

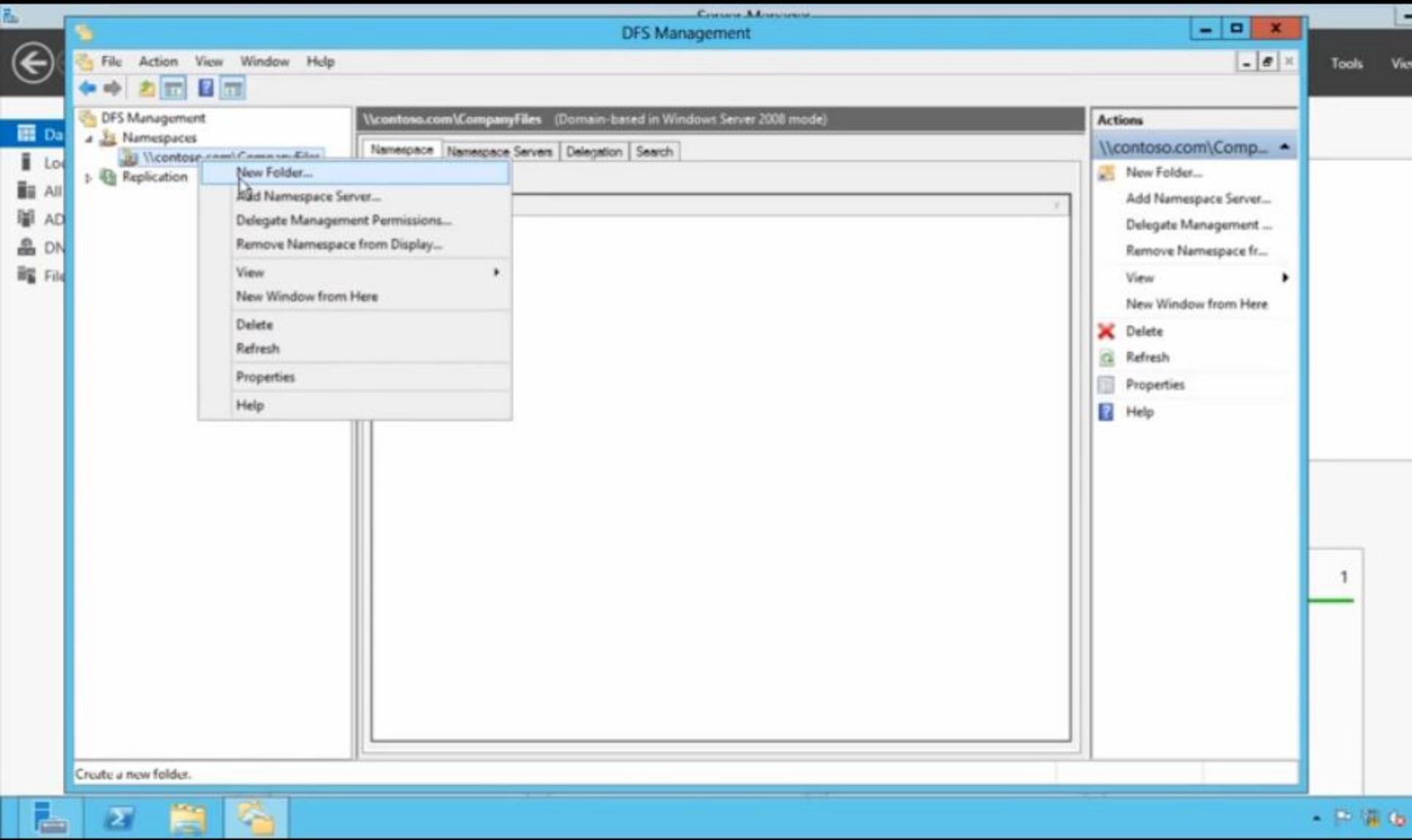
3 entries

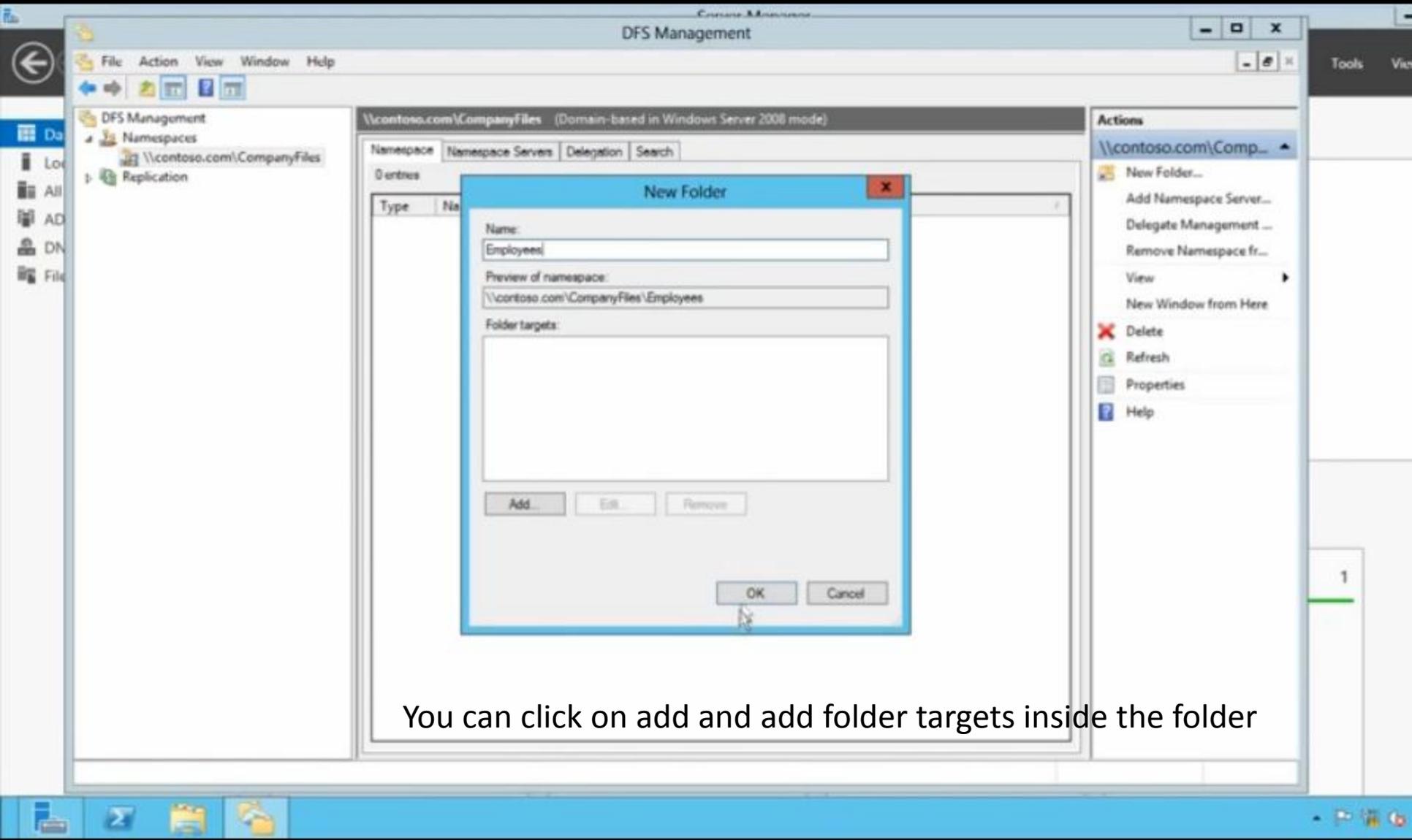
User or Group	How Permission Is Granted
CONTOSO\Domain Admins	Explicit
CONTOSO\Enterprise Admins	Inherited
NT AUTHORITY\SYSTEM	Explicit

Actions

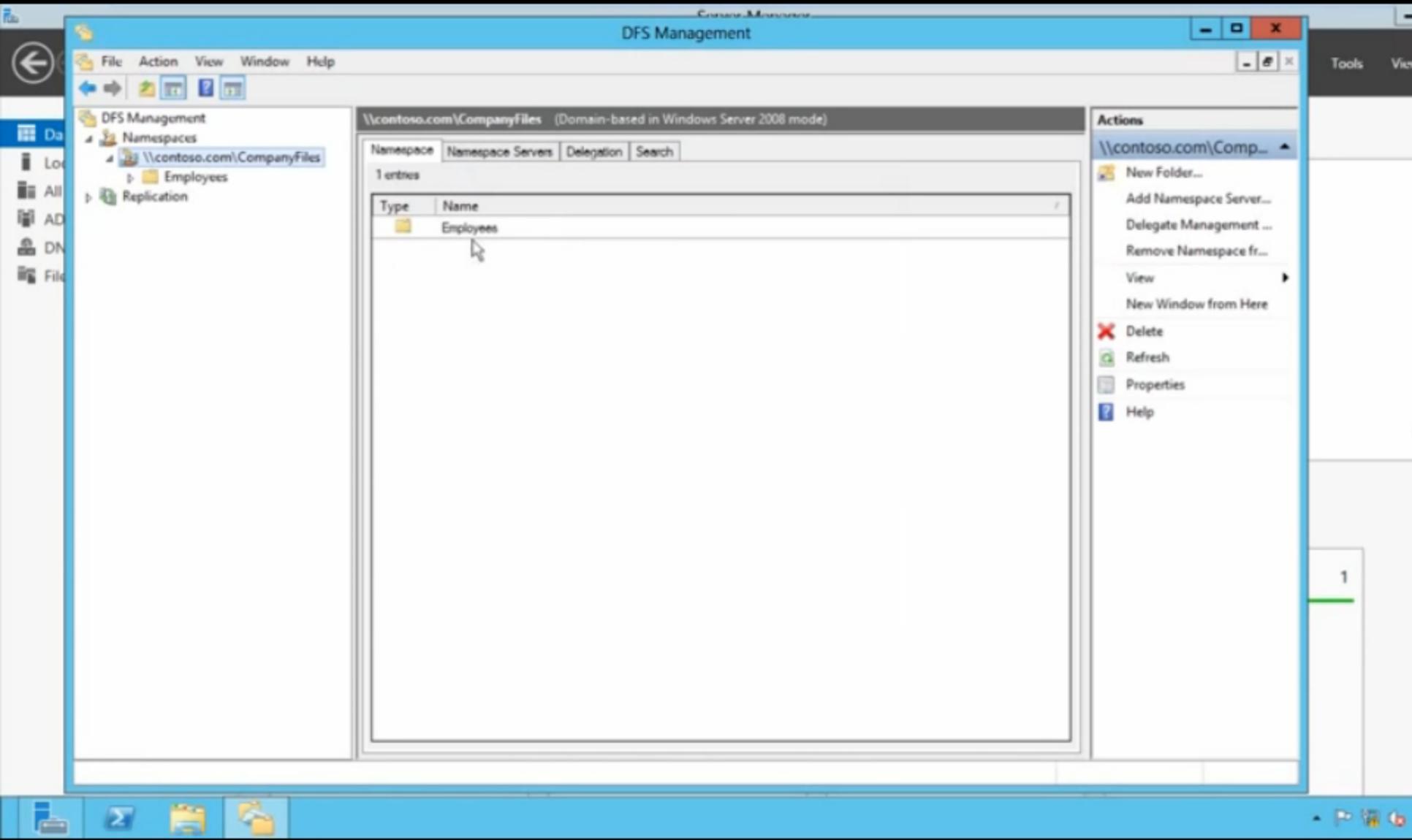
- \\contoso.com\Comp...
- New Folder...
- Add Namespace Server...
- Delegate Management ...
- Remove Namespace fr...
- View
- New Window from Here
- Delete
- Refresh
- Properties
- Help

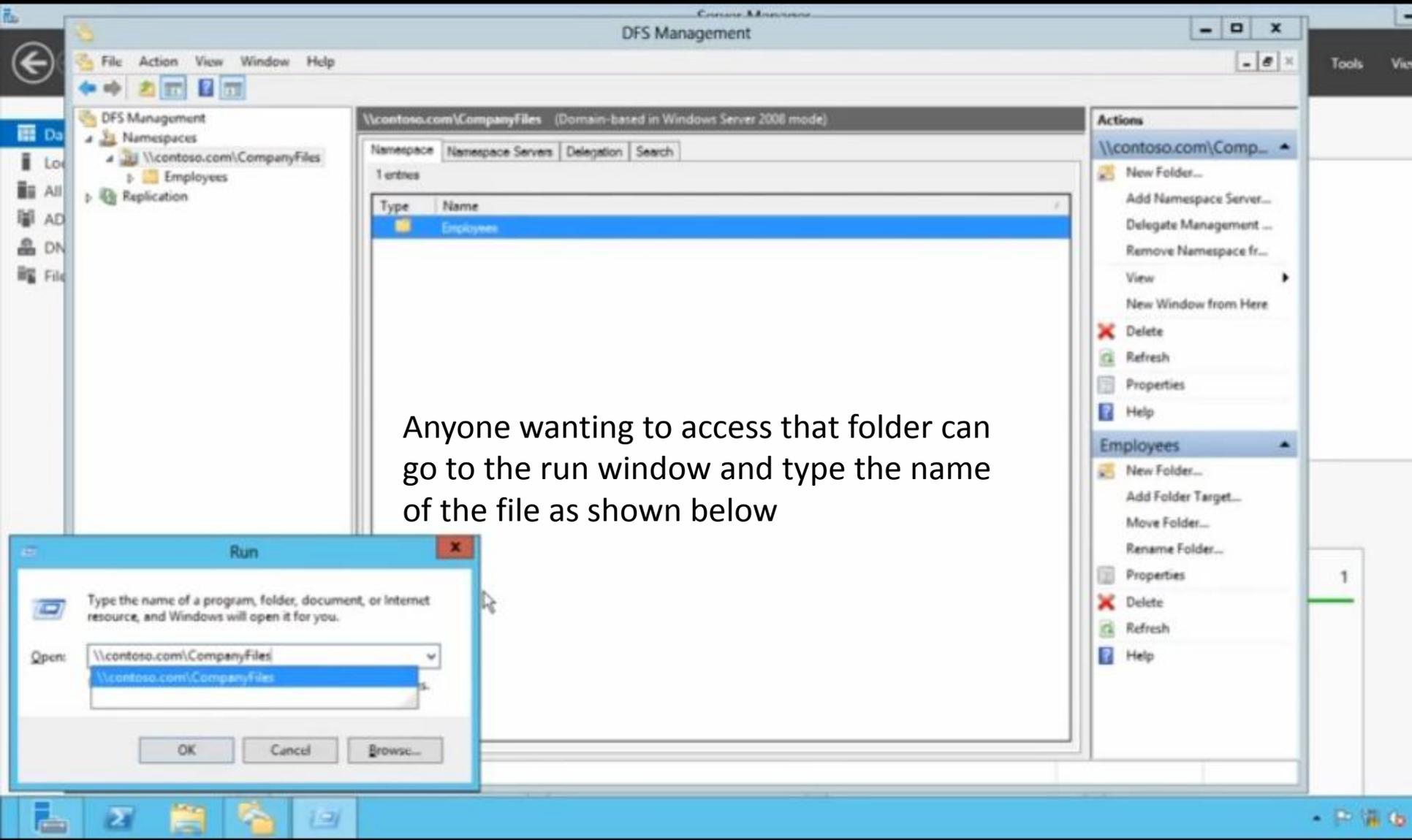




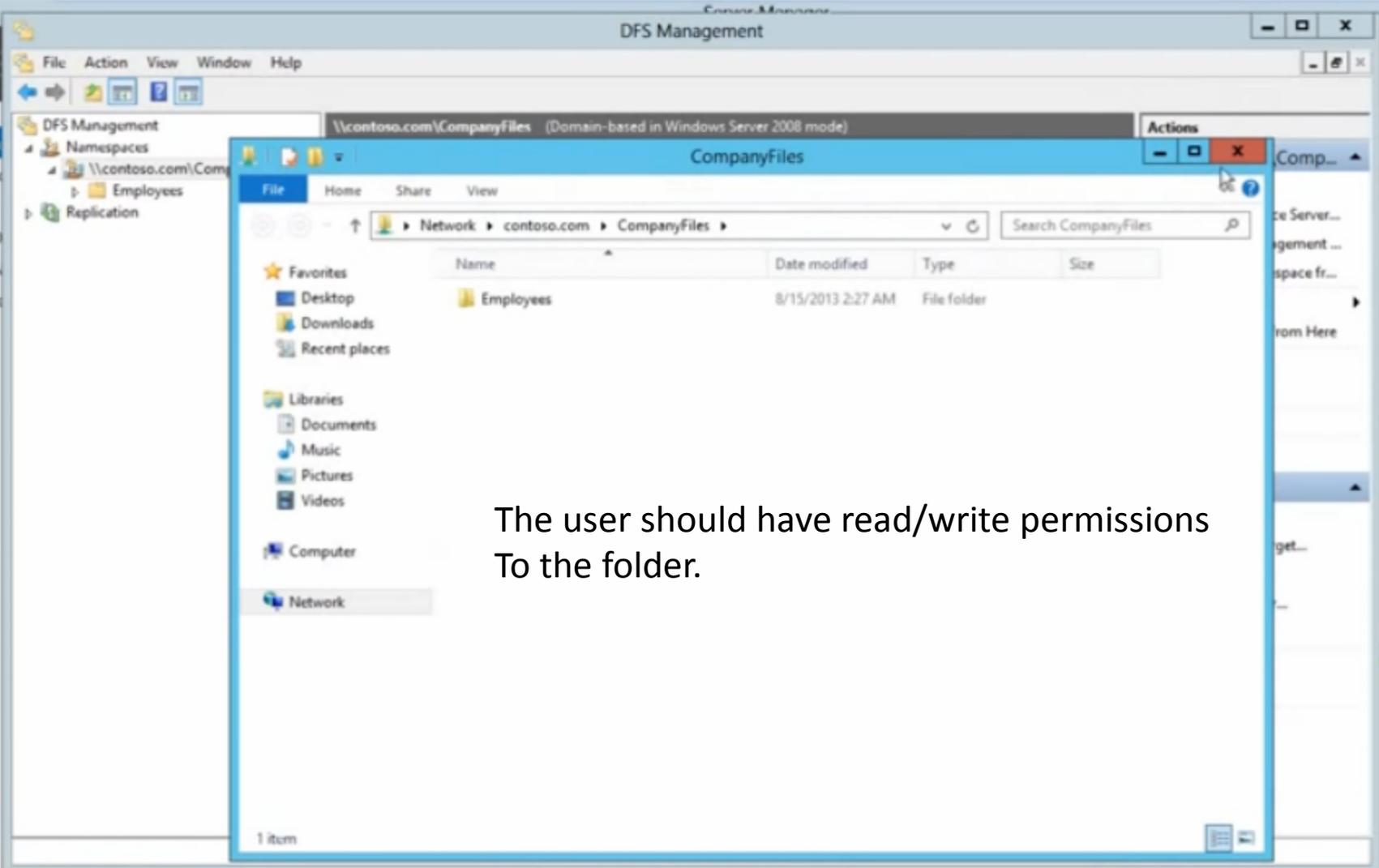


You can click on add and add folder targets inside the folder





Anyone wanting to access that folder can go to the run window and type the name of the file as shown below



The user should have read/write permissions
To the folder.

REPLICATION

The files on DC1 ARE NOW
GOING TO BE REPLICATED TO
DCE

Server Manager

Server Manager ▶ Local Server

Dashboard
Local Server
All Servers
File and Storage Services ▶

PROPERTIES

For DC2

Computer name	DC2	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Not configured
		Last checked for updates	Never
Windows Firewall	Public On	Windows Error Reporting	Off
Remote management	Enabled	Customer Experience Improvement Program	Not participating
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC-08:00) Pacific Time (US & Canada)
Ethernet	192.168.0.2, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2012 Datacenter	Processors	Intel(R) Core(TM) i5-2430M CPU @ 2.40GHz
Hardware information	VMware, Inc. VMware Virtual Platform	Installed memory (RAM)	1 GB
		Total disk space	29.66 GB

EVENTS

All events | 17 total

Filter [] [] [] []

Server Name	ID	Severity	Source	Log	Date and Time
DC2	1014	Warning	Microsoft-Windows-DNS Client Events	System	8/15/2013 2:21:08 AM
DC2	8198	Error	Microsoft-Windows-Security-SPP	Application	8/15/2013 2:18:32 AM
DC2	1014	Warning	Microsoft-Windows-DNS Client Events	System	8/15/2013 2:06:06 AM

The screenshot displays the Windows Server 2012 Server Manager interface. The main window is titled "Server Manager" and shows the "Local Server" properties for a domain controller named "DC2". The properties are organized into two columns. The left column lists various system settings, and the right column lists update and hardware information. A "Run" dialog box is open in the foreground, showing the path "\\contoso.com\companyfiles" entered in the "Open:" field. Below the path, it states "This task will be created with administrative privileges." and provides "OK", "Cancel", and "Browse..." buttons. In the background, the "Event Viewer" window is partially visible, showing a list of events with columns for "Source", "Log", and "Date and Time".

Property	Value	Property	Value
Computer name	DC2	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Not configured
		Last checked for updates	Never
Windows Firewall	Public On	Windows Error Reporting	Off
Remote management	Enabled	Customer Experience Improvement Program	Not participating
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC-08:00) Pacific Time (US & Canada)
Ethernet	192.168.0.2, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2012 Datacenter	Processors	Intel(R) Core(TM) i5-2430M CPU @ 2.40GHz
Hardware information	VMware, Inc. VMware Virtual Platform	Installed memory (RAM)	1 GB
		Total disk space	29.66 GB

Source	Log	Date and Time
Microsoft-Windows-DNS Client Events	System	8/15/2013 2:21:08 AM
Microsoft-Windows-Security-SPP	Application	8/15/2013 2:18:32 AM
Microsoft-Windows-DNS Client Events	System	8/15/2013 2:06:06 AM

The screenshot shows the Windows Server 2012 Server Manager interface. The main window displays the 'PROPERTIES For DC2' for the local server. A 'Windows Security' dialog box is overlaid on the left, prompting for a network password to connect to 'contoso.com'. The dialog includes fields for 'User name' and 'Password', a 'Domain: DC2' label, and a 'Remember my credentials' checkbox. 'OK' and 'Cancel' buttons are at the bottom.

Server Manager - Local Server

PROPERTIES For DC2

Computer name	DC2	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Not configured
		Last checked for updates	Never
Windows Firewall	Public: On	Windows Error Reporting	Off
Remote management	Enabled	Customer Experience Improvement Program	Not participating
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC-08:00) Pacific Time (US & Canada)
Ethernet	192.168.0.2, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2012 Datacenter VMware, Inc. VMware Virtual Platform	Processors	Intel(R) Core(TM) i5-2430M CPU @ 2.40GHz
		Installed memory (RAM)	1 GB
		Total disk space	29.66 GB

Windows Security

Enter network password
Enter your password to connect to: contoso.com

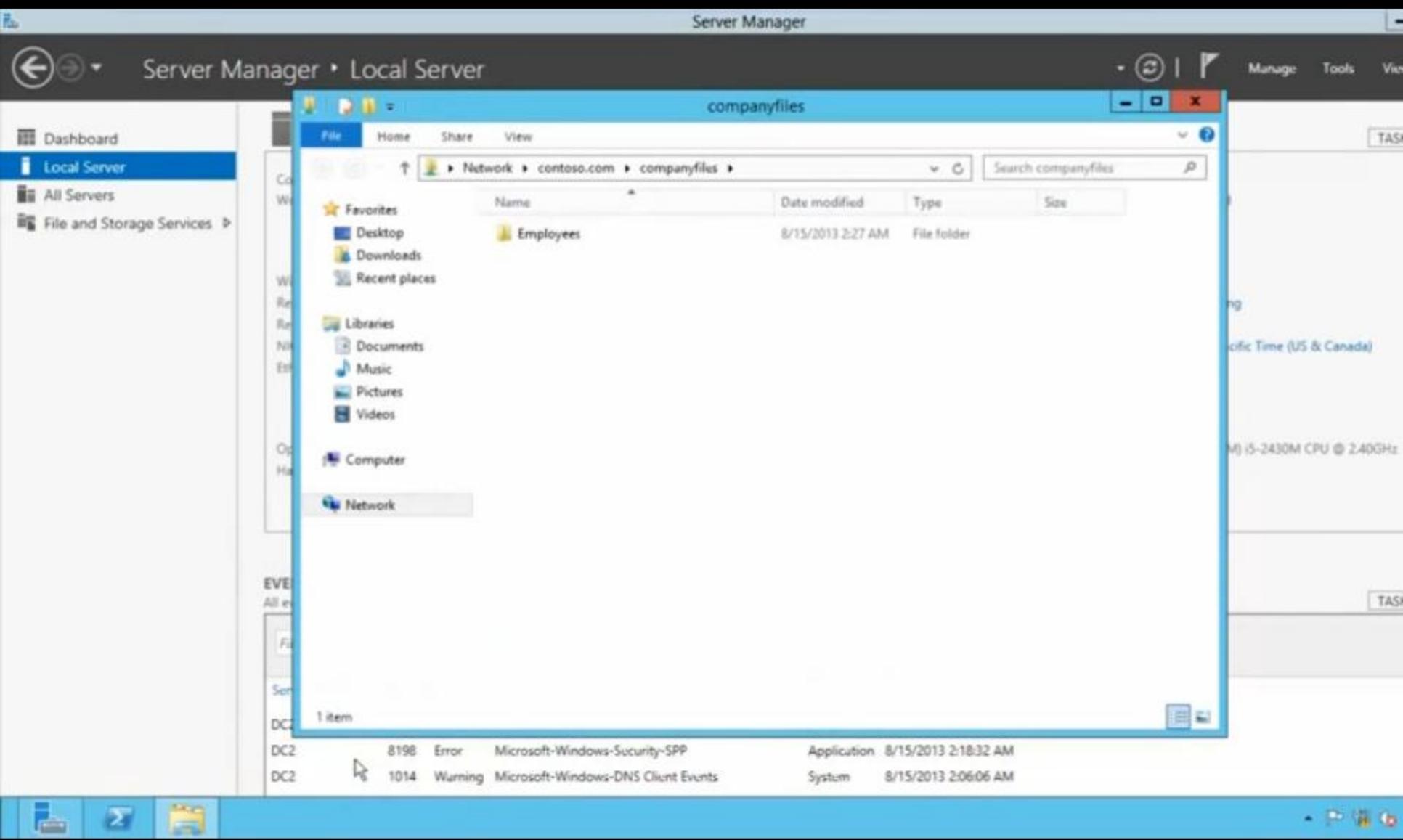
User name: _____
Password: _____

Domain: DC2
 Remember my credentials

OK Cancel

Source Log Date and Time

Microsoft-Windows-DNS Client Events	System	8/15/2013 2:21:08 AM
Microsoft-Windows-Security-SPP	Application	8/15/2013 2:18:32 AM
Microsoft-Windows-DNS Client Events	System	8/15/2013 2:06:06 AM



Server Manager

Server Manager ▶ Local Server

PROPERTIES
For DC2

Computer name	DC2	Last installed updates	Never
Workgroup	WORKGROUP	Windows Update	Not configured
		Last checked for updates	Never
Windows Firewall	Public On	Windows Error Reporting	Off
Remote management	Enabled	Customer Experience Improvement Program	Not participating
Remote Desktop	Disabled	IE Enhanced Security Configuration	On
NIC Teaming	Disabled	Time zone	(UTC-08:00) Pacific Time (US & Canada)
Ethernet	192.168.0.2, IPv6 enabled	Product ID	Not activated
Operating system version	Microsoft Windows Server 2012 Datacenter	Processors	Intel(R) Core(TM) i5-3430M CPU @ 2.40GHz
Hardware information	VMware, Inc. VMware Virtual Platform	Installed memory (RAM)	1 GB
		Total disk space	29.66 GB

Since we are going to make DC2 a replication partner we need to add the replication role here

EVENTS

Filter

Server Name	ID	Severity	Source	Log	Date and Time
DC2	1014	Warning	Microsoft-Windows-DNS Client Events	System	8/15/2013 2:21:08 AM
DC2	8198	Error	Microsoft-Windows-Security-SPP	Application	8/15/2013 2:18:32 AM
DC2	1014	Warning	Microsoft-Windows-DNS Client Events	System	8/15/2013 2:06:06 AM

Server Manager

Server Manager ▸ Dashboard

Dashboard

- Local Server
- All Servers
- File and Storage Services ▸

WELCOME TO SERVER MANAGER

1 Configure this local server

2 [Add roles and features](#)

3 Add other servers to manage

4 Create a server group

QUICK START

WHAT'S NEW

LEARN MORE

ROLES AND SERVER GROUPS

Roles: 1 | Server groups: 1 | Servers total: 1

File and Storage Services	Local Server	All Servers
1	1	1
Manageability	Manageability	Manageability
Events	Events	Events
Performance	Services	Services
BPA results	Performance	Performance
	BPA results	BPA results

WELCOME TO SERVER MANAGER

Add Roles and Features Wizard

DESTINATION SERVER: DC2

Select installation type

- Before you begin
- Installation type**
- Server Selection
- Server Roles
- Features
- Confirmation
- Results

Select the installation type. You can install roles and features on a starting physical computer or virtual machine, or on an offline virtual hard disk (VHDX) of your organization, such as sharing documents, or hosting a website.

- Role-based or feature-based installation**
To configure a single server by adding roles, role services, and features.
Start the Remove Roles and Features Wizard
- Remote Desktop Services installation**
Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.
 - The administrator account has a strong password
 - Network settings, such as static IP addresses, are configured
 - The most current security updates from Windows Update are installed

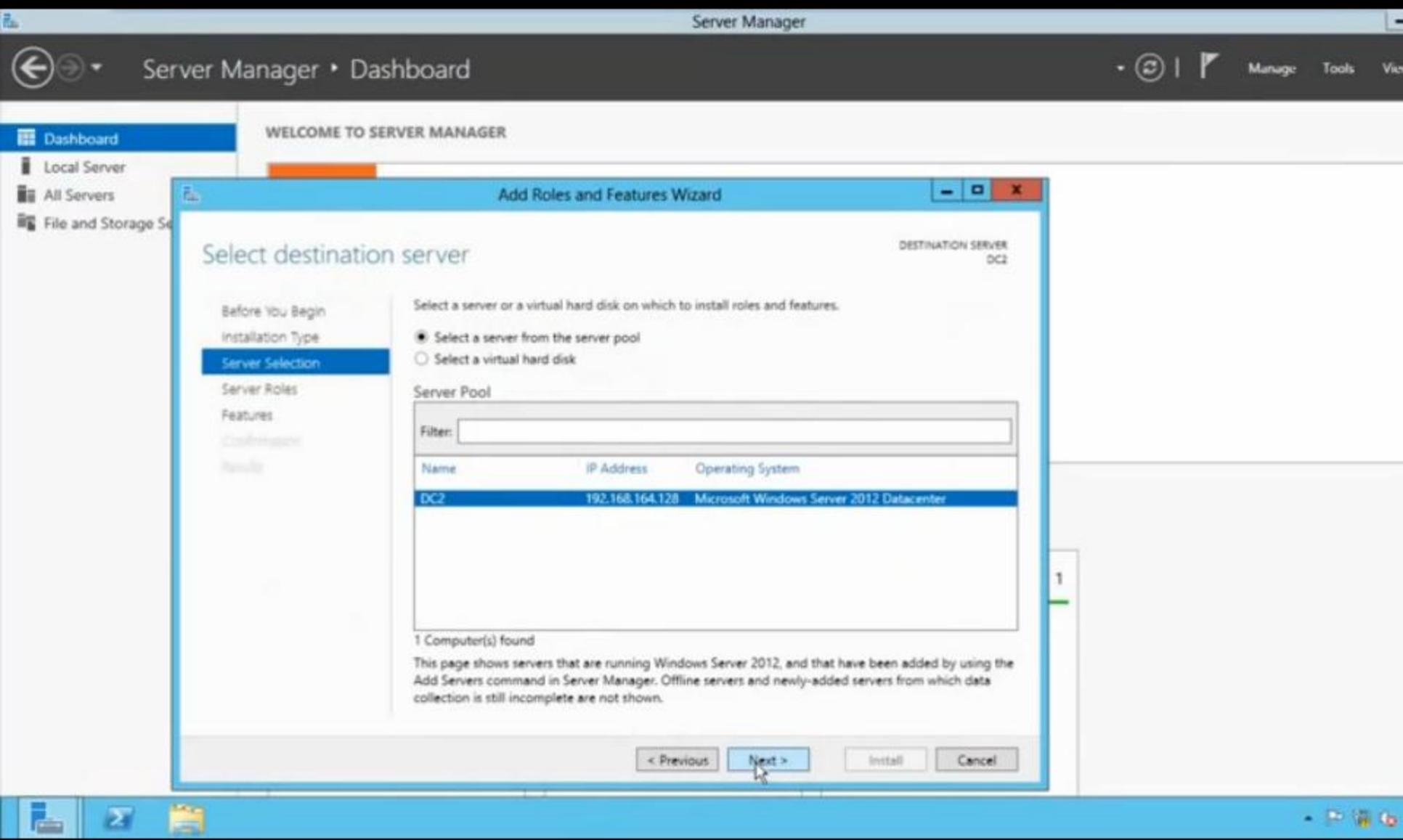
If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again.

To continue, click Next.

Skip this page by default

< Previous **Next >** Install Cancel

1



WELCOME TO SERVER MANAGER

Add Roles and Features Wizard

DESTINATION SERVER: DC2

Select server roles

Select one or more roles to install on the selected server.

Roles	Description
<input type="checkbox"/> Active Directory Rights Management Services	
<input type="checkbox"/> Application Server	
<input type="checkbox"/> DHCP Server	
<input type="checkbox"/> DNS Server	
<input type="checkbox"/> Fax Server	
<input checked="" type="checkbox"/> File And Storage Services (Installed)	
<input type="checkbox"/> File and iSCSI Services	
<input type="checkbox"/> File Server	
<input type="checkbox"/> BranchCache for Network Files	
<input type="checkbox"/> Data Deduplication	
<input type="checkbox"/> DFS Namespaces	
<input checked="" type="checkbox"/> DFS Replication	DFS Replication is a multimaster replication engine that enables you to synchronize folders on multiple servers across local or wide area network (WAN) network connections. It uses the Remote Differential Compression (RDC) protocol to update only the portions of files that have changed since the last replication. DFS Replication can be used in conjunction with DFS Namespaces, or by itself.
<input type="checkbox"/> File Server Resource Manager	
<input type="checkbox"/> File Server VSS Agent Service	

< Previous Next > Install Cancel

1

WELCOME TO SERVER MANAGER

Add Roles and Features Wizard

Select server roles

DESTINATION SERVER: DC2

Add Roles and Features Wizard

Add features that are required for DFS Replication?

You cannot install DFS Replication unless the following role services or features are also installed.

- File And Storage Services
 - File and iSCSI Services
 - File Server
- Remote Server Administration Tools
 - Role Administration Tools
 - File Services Tools
 - [Tools] DFS Management Tools

Include management tools (if applicable)

< Previous Next > Install Cancel

DFS Replication is a multimaster replication engine that enables you to synchronize folders on multiple servers across local or wide area (WAN) network connections. It uses the Remote Differential Compression (RDC) technology to update only the portions of files that have changed since the last replication. DFS Replication can be used in conjunction with DFS namespaces, or by itself.

WELCOME TO SERVER MANAGER

Add Roles and Features Wizard

Select server roles

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results

Select one or more roles to install on the selected server.

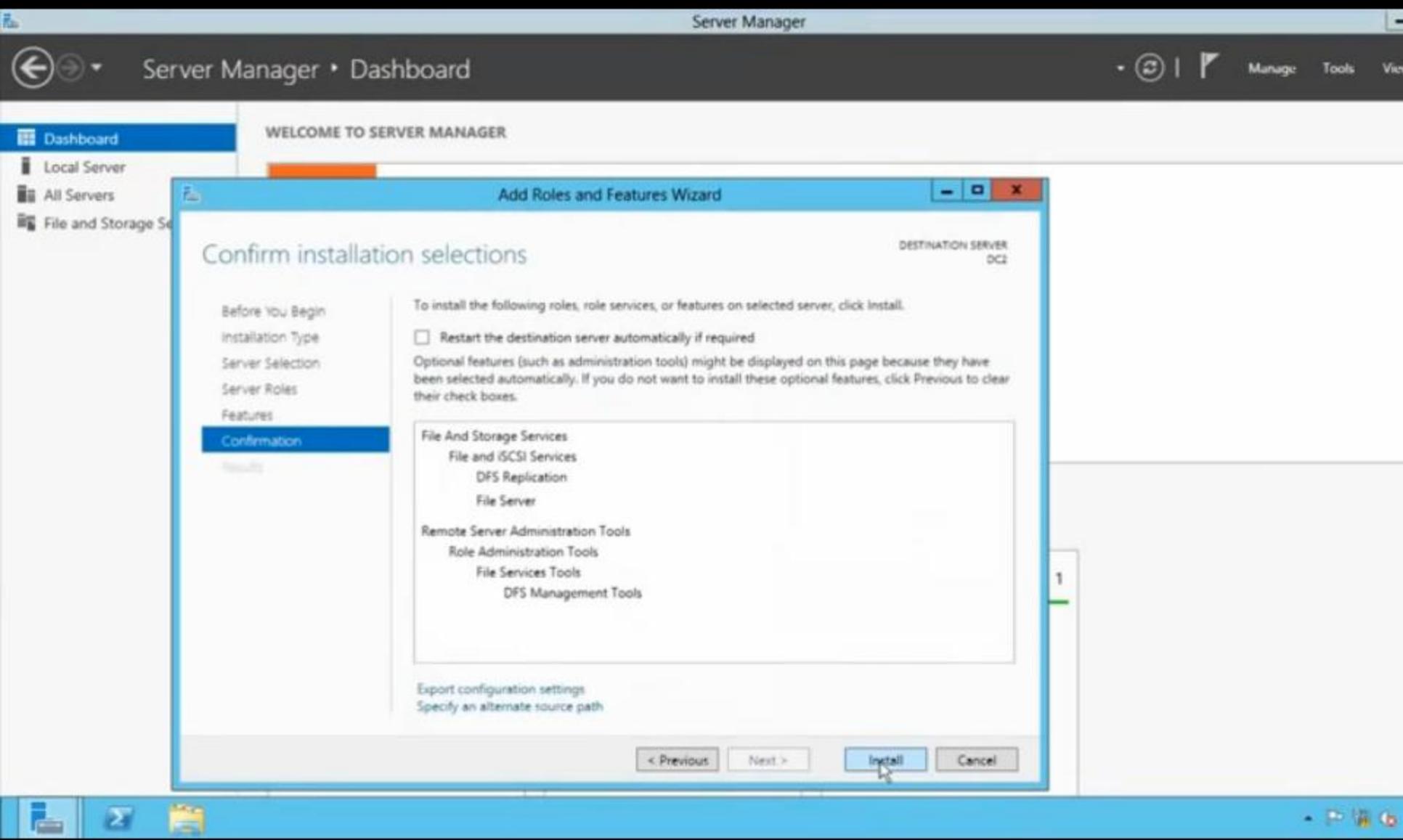
Roles	Description
<input type="checkbox"/> Active Directory Rights Management Services	
<input type="checkbox"/> Application Server	
<input type="checkbox"/> DHCP Server	
<input type="checkbox"/> DNS Server	
<input type="checkbox"/> Fax Server	
<input checked="" type="checkbox"/> File And Storage Services (Installed)	
<input checked="" type="checkbox"/> File and iSCSI Services	
<input checked="" type="checkbox"/> File Server	
<input type="checkbox"/> BranchCache for Network Files	
<input type="checkbox"/> Data Deduplication	
<input type="checkbox"/> DFS Namespaces	
<input checked="" type="checkbox"/> DFS Replication	
<input type="checkbox"/> File Server Resource Manager	
<input type="checkbox"/> File Server VSS Agent Service	

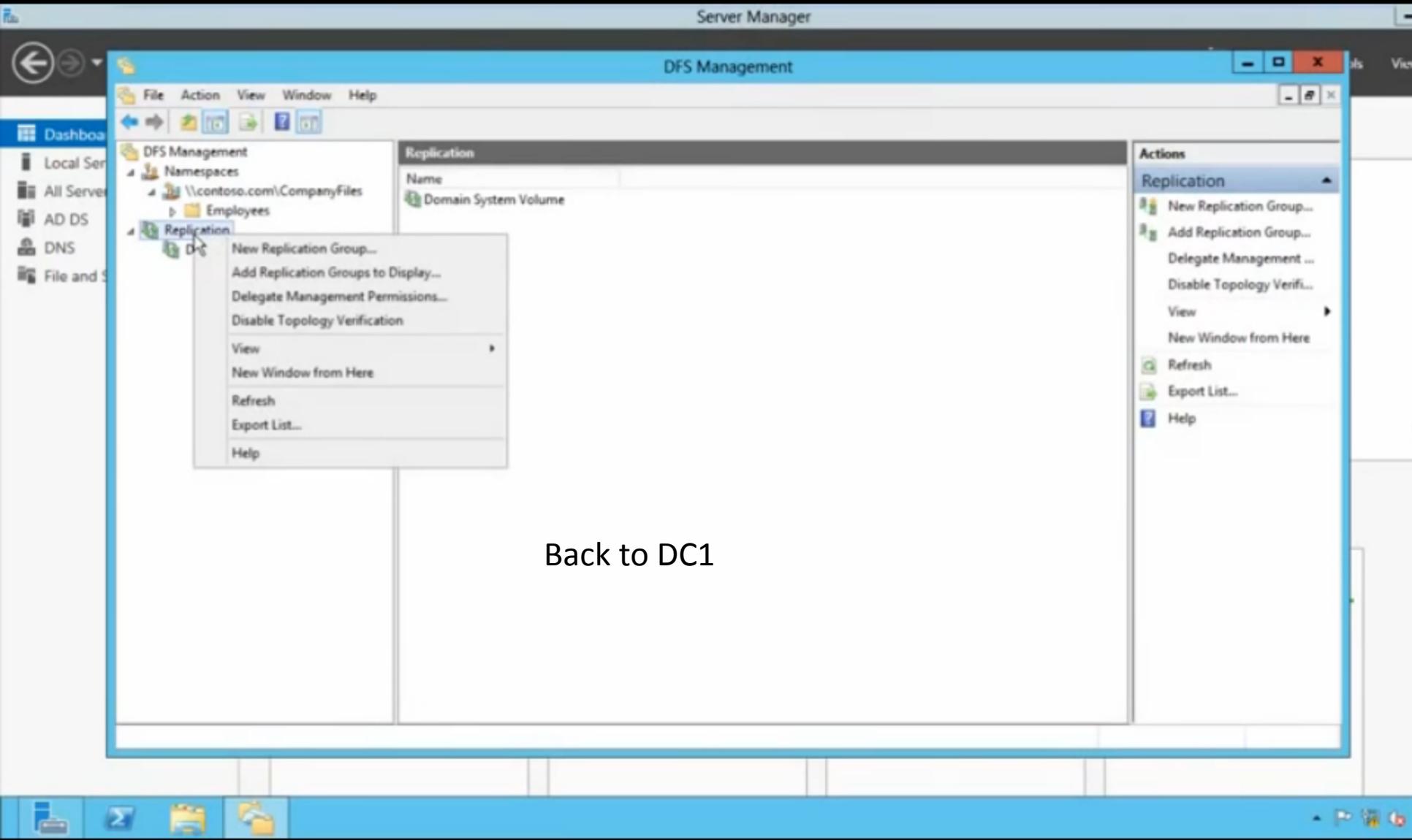
DFS Replication is a multimaster replication engine that enables you to synchronize folders on multiple servers across local or wide area network (WAN) network connections. It uses the Remote Differential Compression (RDC) protocol to update only the portions of files that have changed since the last replication. DFS Replication can be used in conjunction with DFS Namespaces, or by itself.

< Previous **Next >** Install Cancel

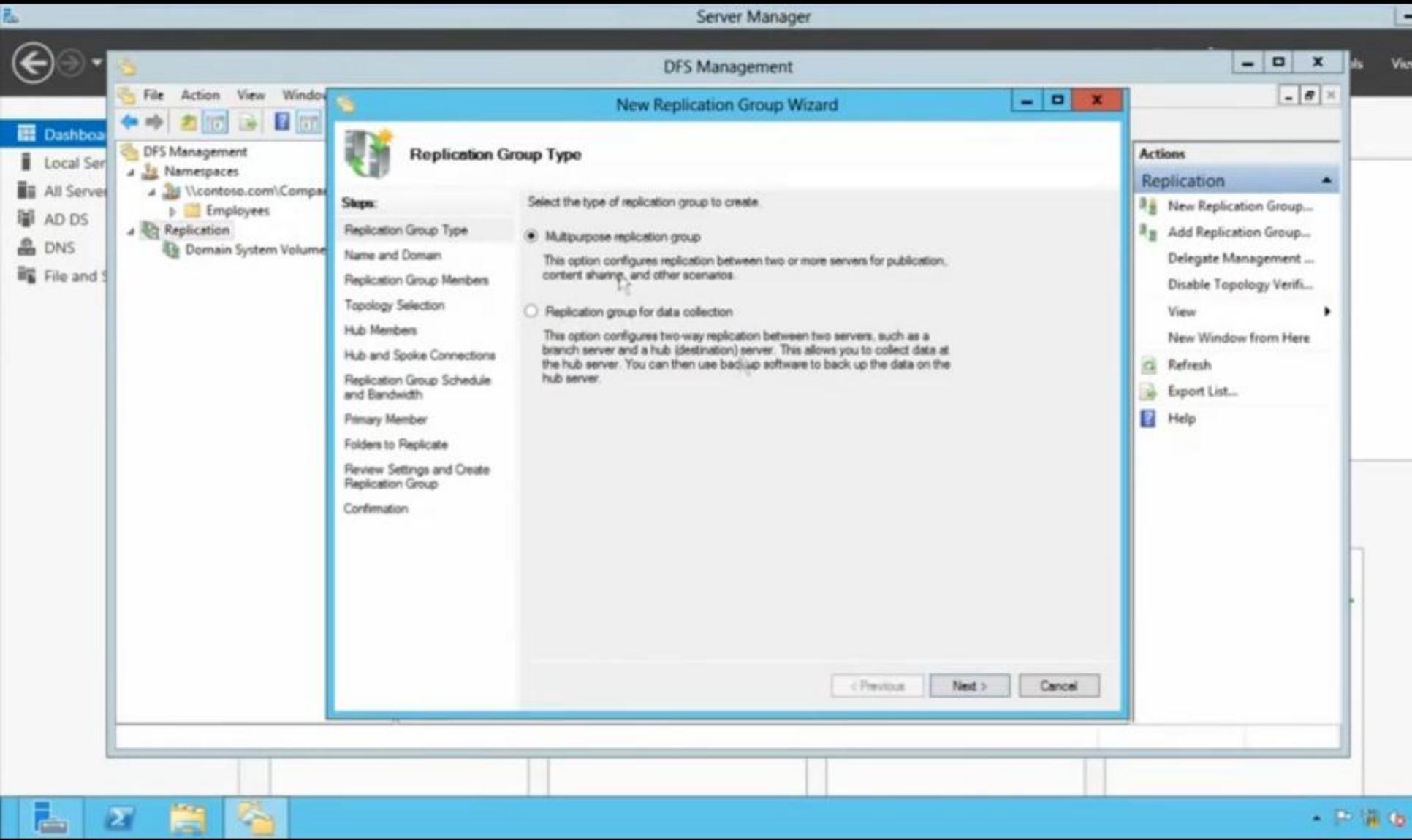
DC2 must also be part of the Domain

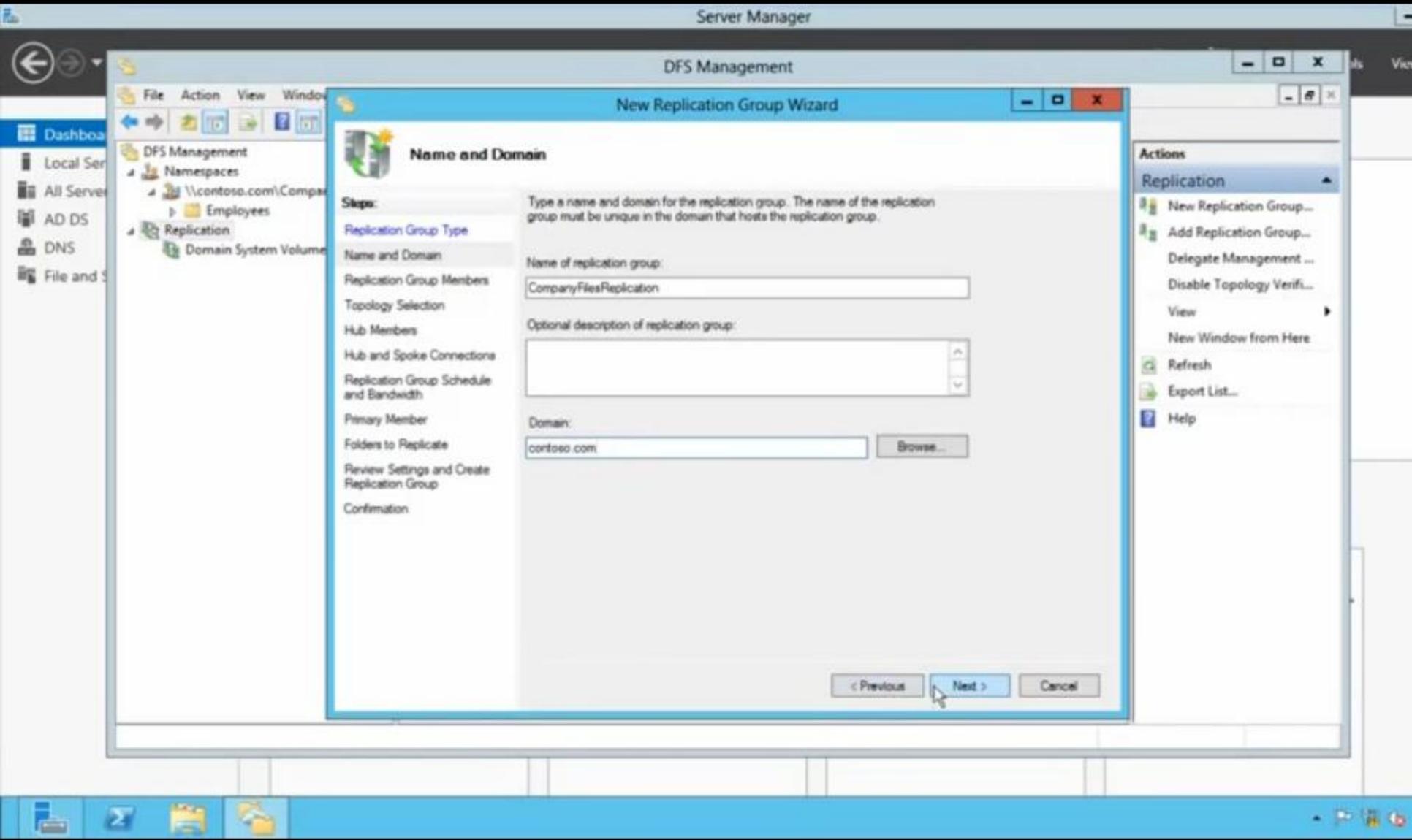
The DFS namespace also has to be installed

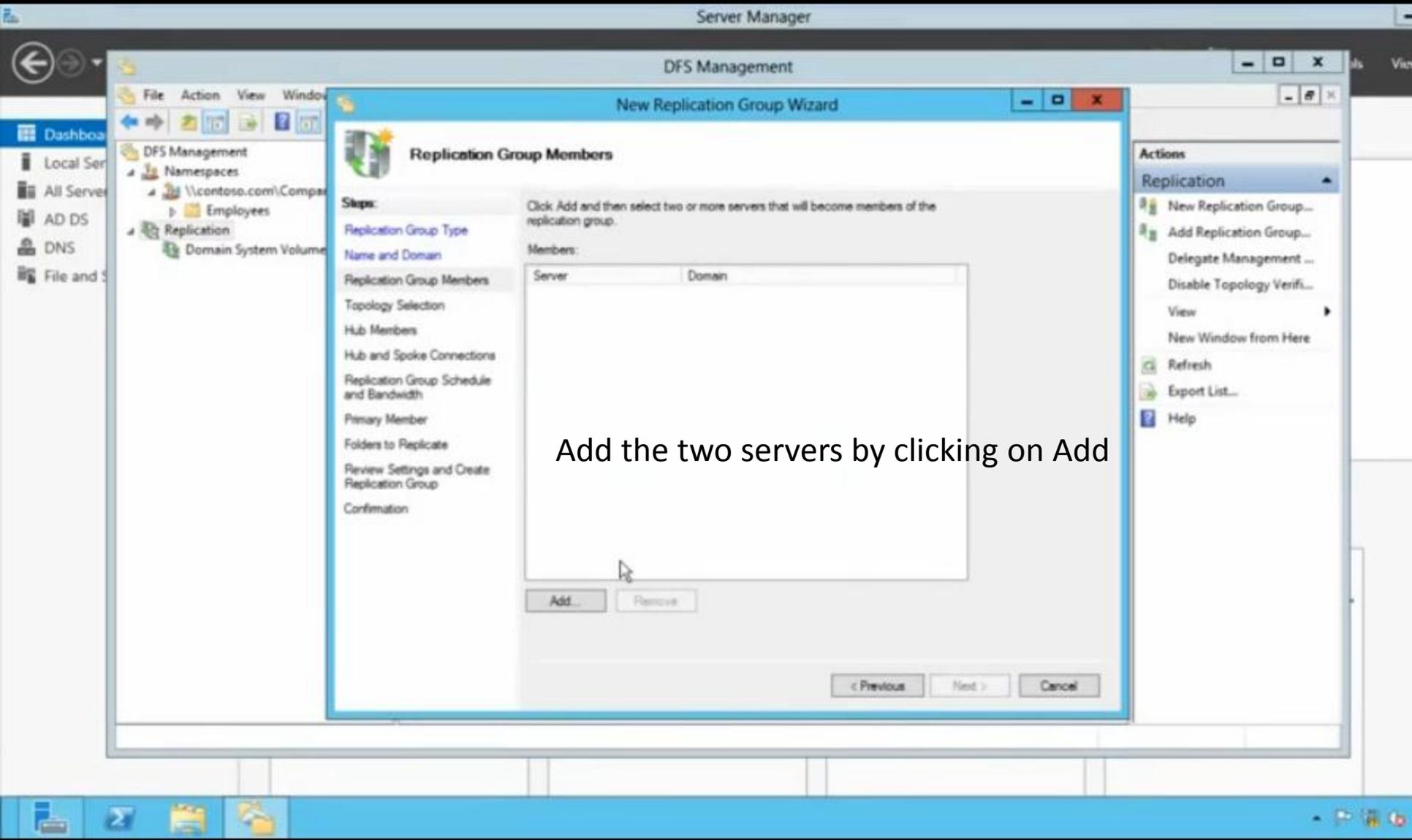




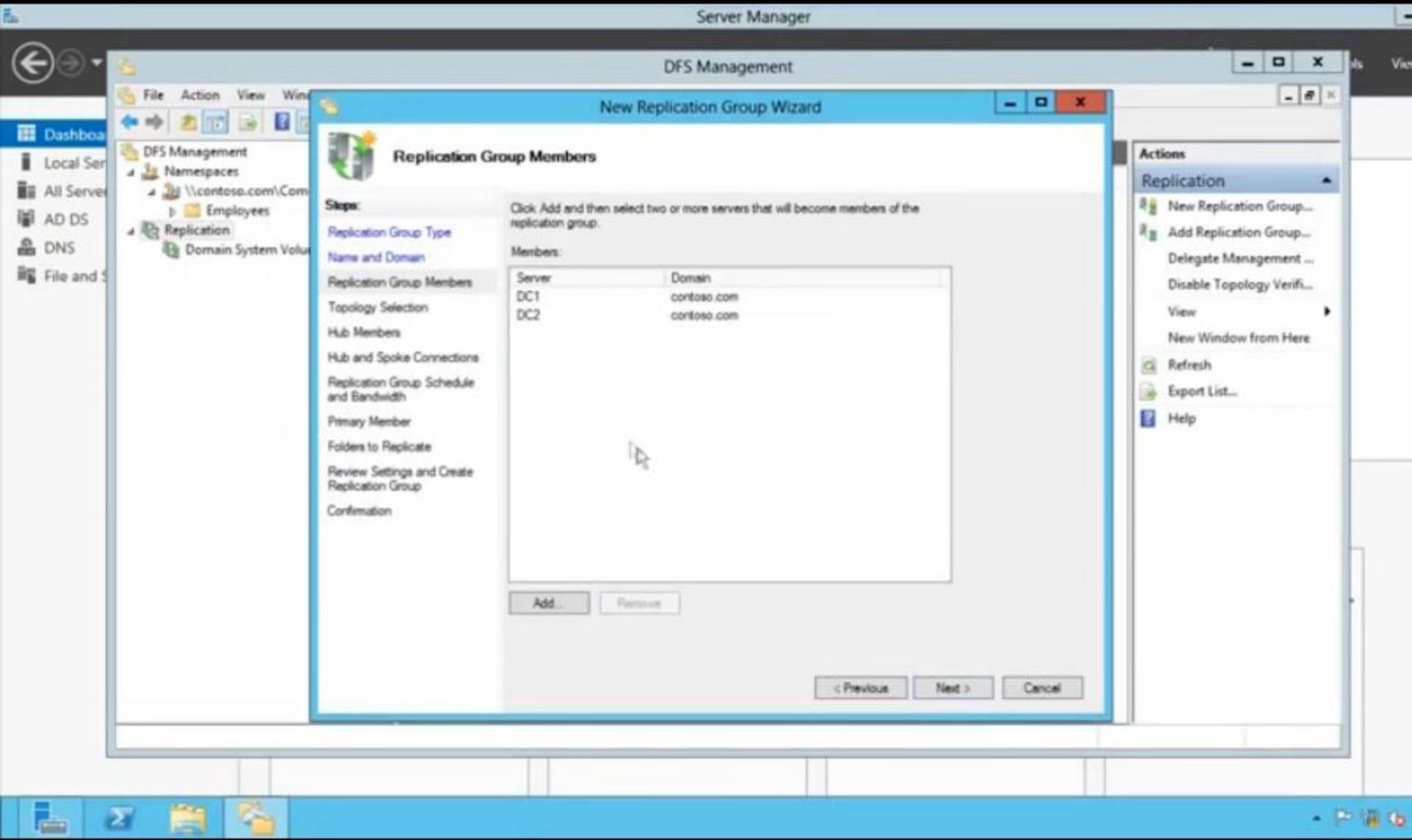
Back to DC1







Add the two servers by clicking on Add



Server Manager

DFS Management

New Replication Group Wizard

Topology Selection

Steps:

- Replication Group Type
- Name and Domain
- Replication Group Members
- Topology Selection**
- Replication Group Schedule and Bandwidth
- Primary Member
- Folders to Replicate
- Review Settings and Create Replication Group
- Confirmation

Select a topology of connections among members of the replication group.

- Hub and spoke
This topology requires three or more members in the replication group. In this topology, spoke members are connected to one or two hub members. This topology works well in publication scenarios where data originates from the hub member and replicates out to the spoke members.

- Full mesh
In this topology, each member replicates with all other members of the replication group. This topology works well when there are ten or fewer members in the replication group.

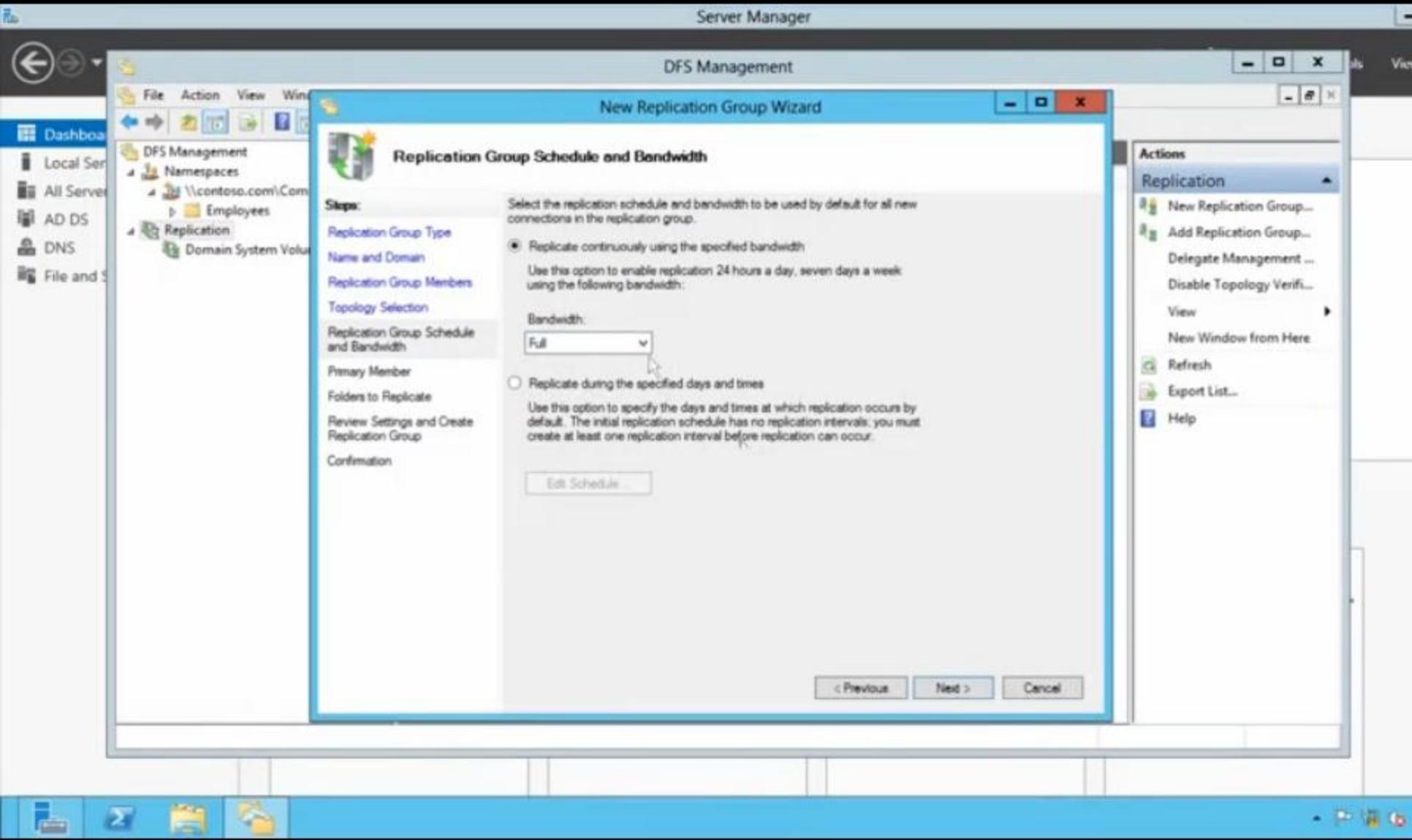
- No topology
Select this option if you want to create a custom topology after you finish this wizard. No replication will take place until you create the custom topology.

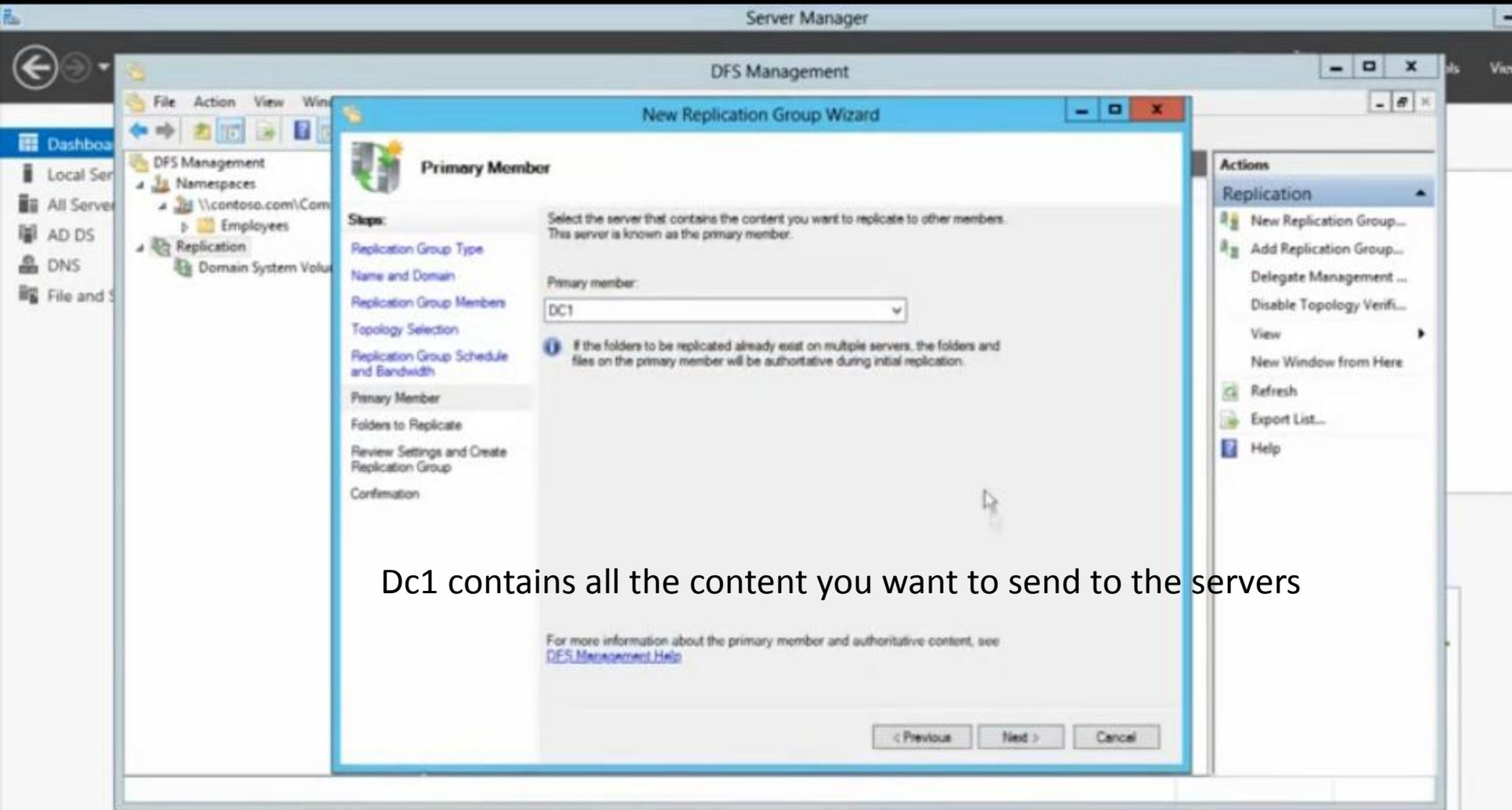
< Previous Next > Cancel

Actions

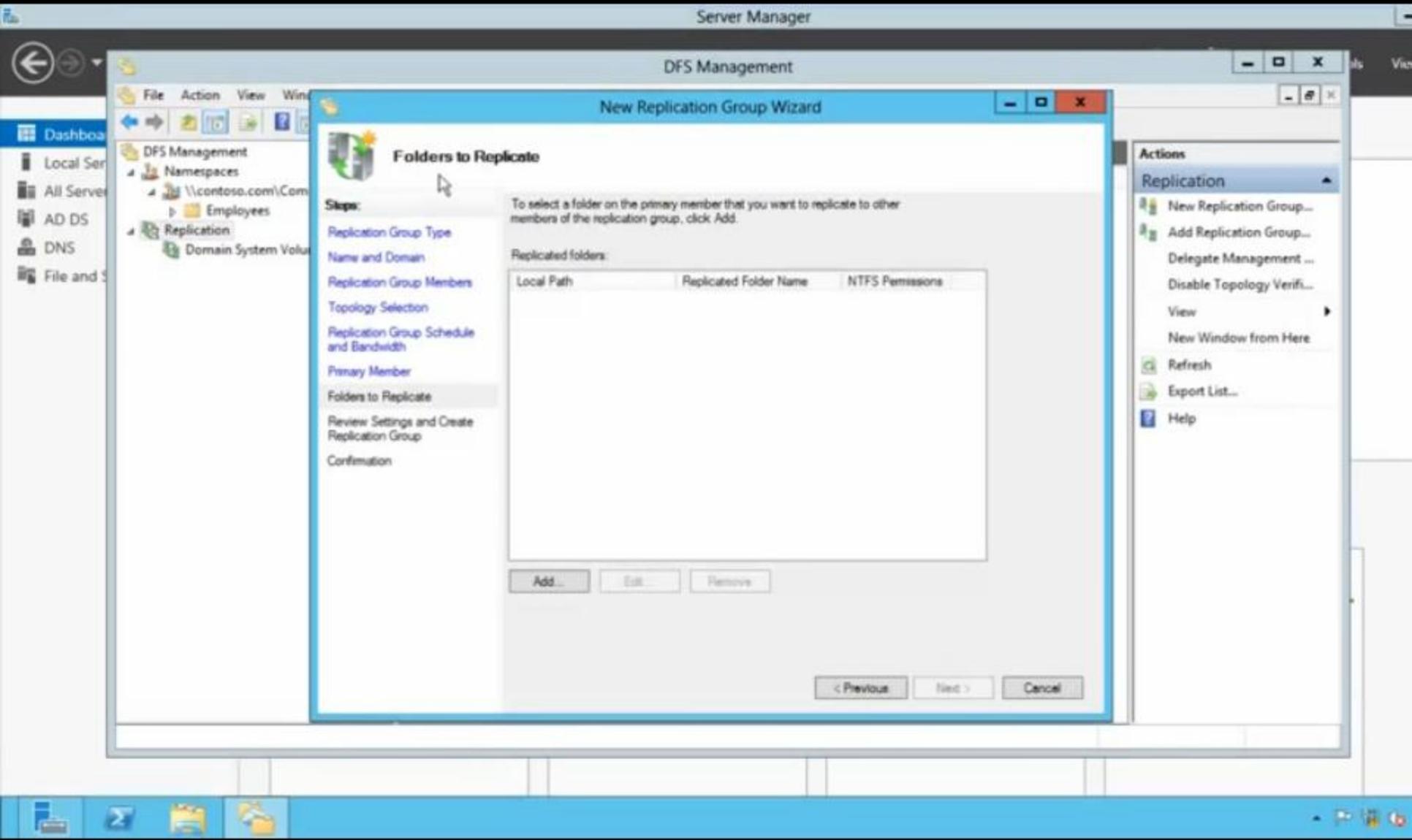
- Replication
- New Replication Group...
- Add Replication Group...
- Delegate Management ...
- Disable Topology Verifi...
- View
- New Window from Here
- Refresh
- Export List...
- Help

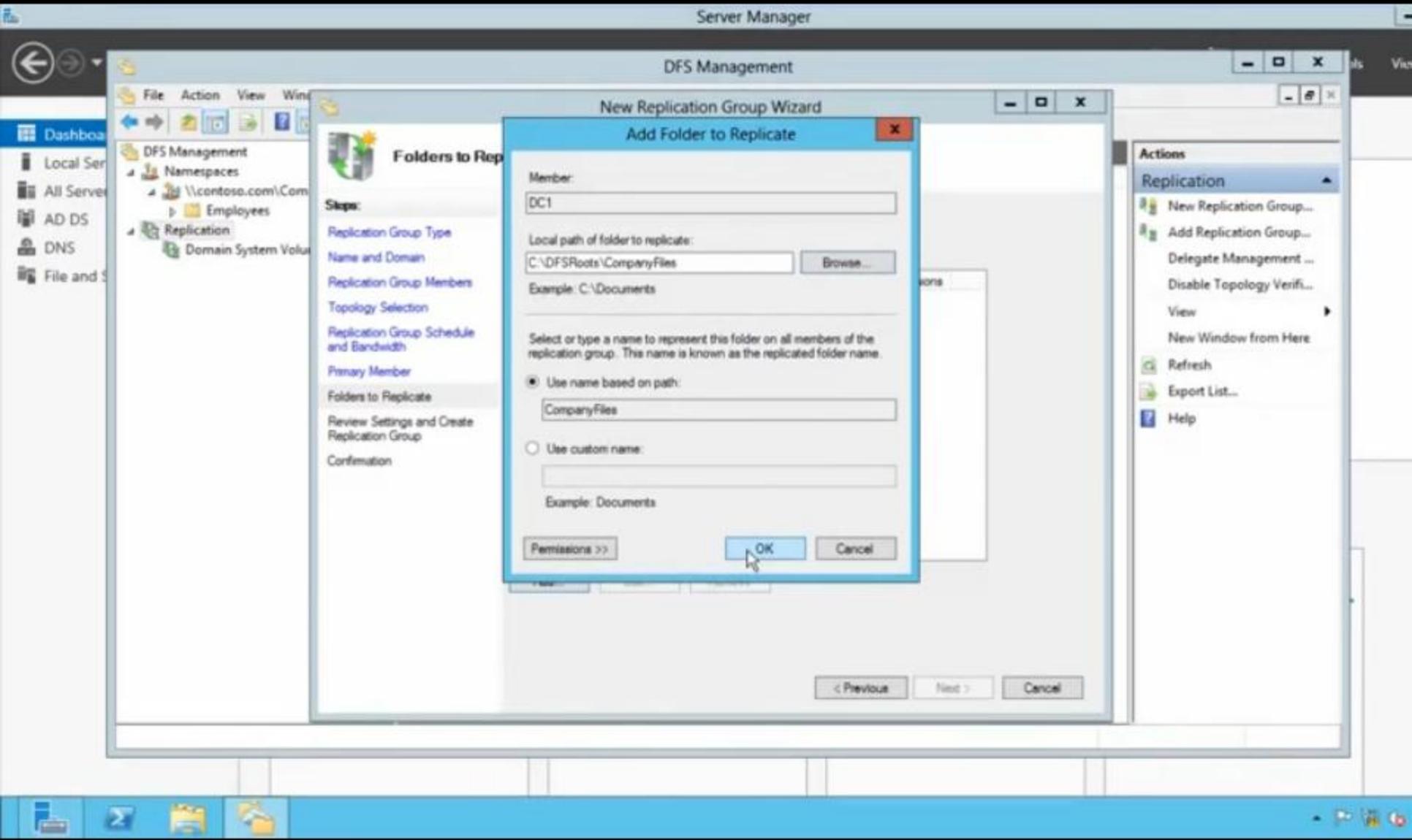
In the full mesh topology both servers can Replicate to each other

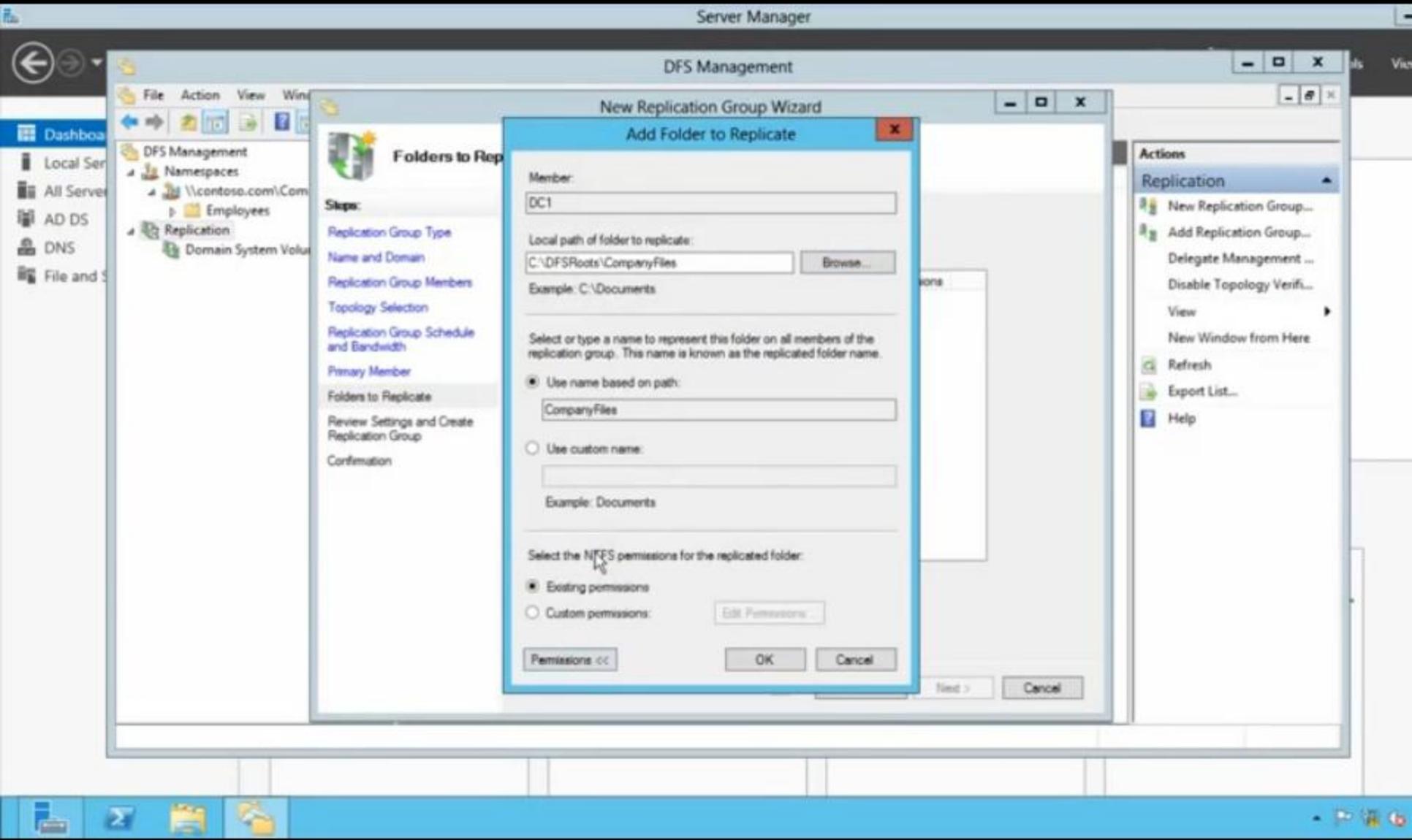


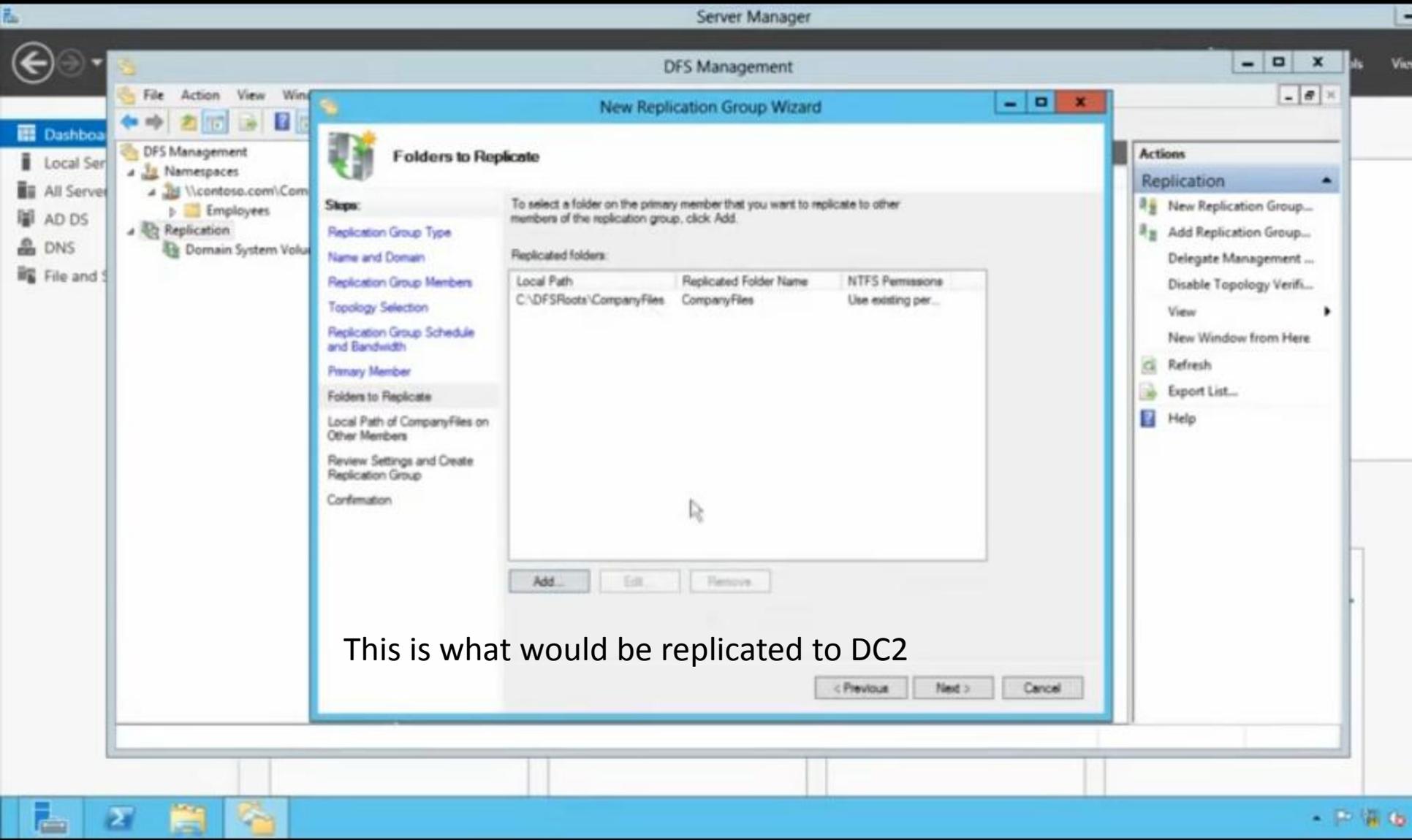


Dc1 contains all the content you want to send to the servers

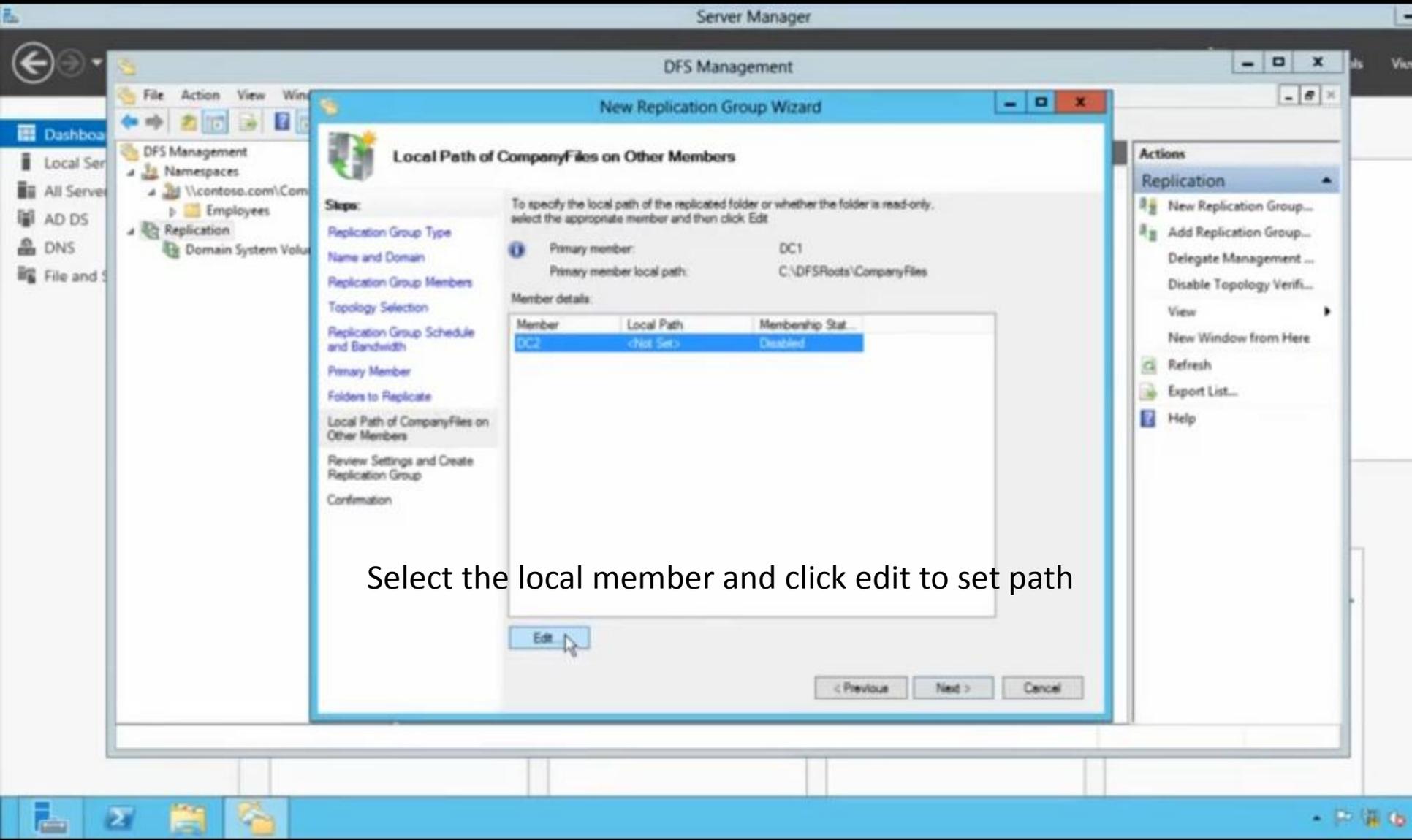




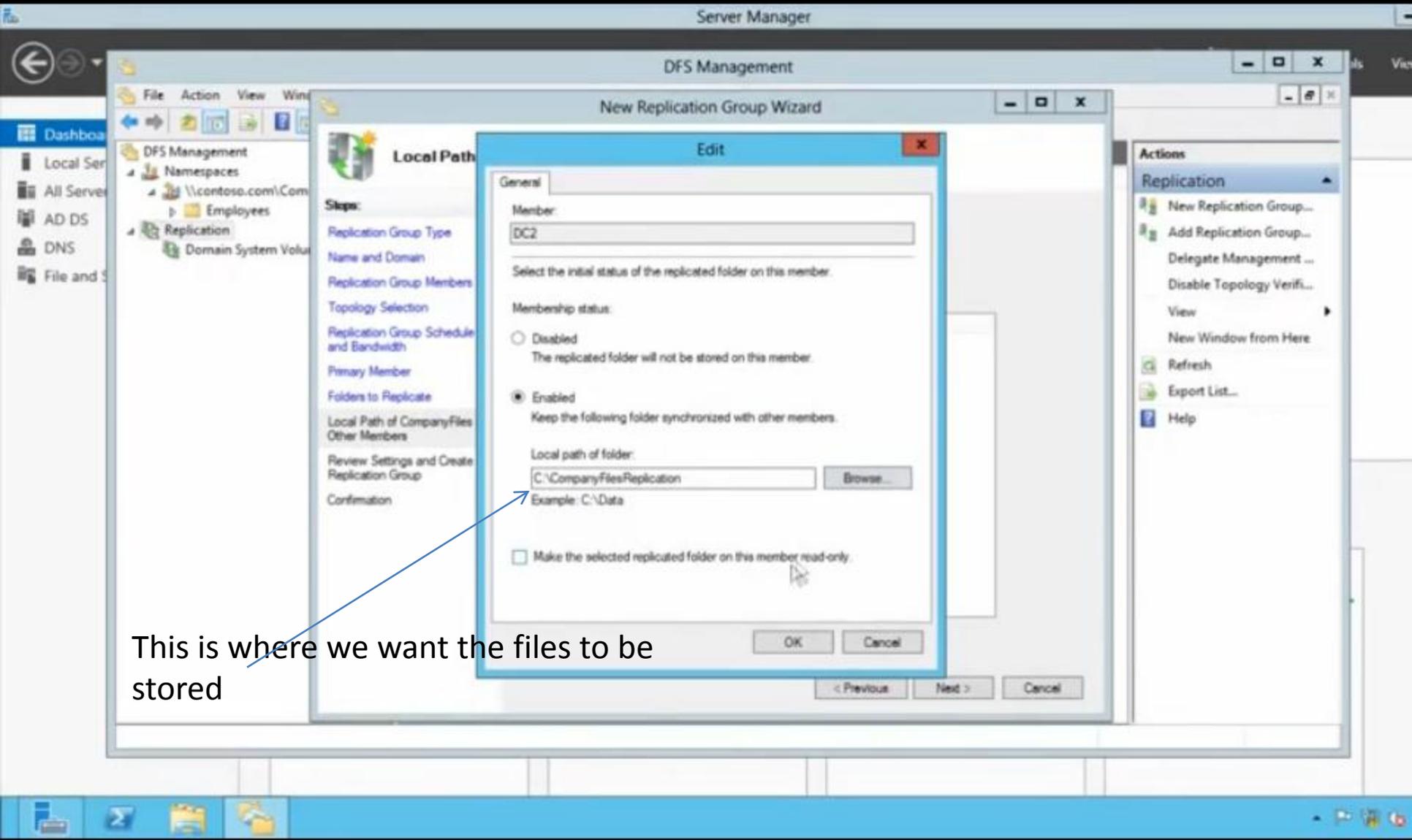




This is what would be replicated to DC2



Select the local member and click edit to set path



This is where we want the files to be stored

