Windows Server 2008: Configuring Distributed File Systems (DFS)

- By Dave Lawlor
- August 7, 2008

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Operating System(s):
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In my article on Installing Distributed File Systems, I discussed what DFS was and the benefits it could provide to an organization. If you have not read it or need a review please check out that article before proceeding.

Back already? Good, let's move on!

There are two parts we will be configuring in this article the first will be **DFS NameSpace** and then we will move on to the **DFS Replication**.

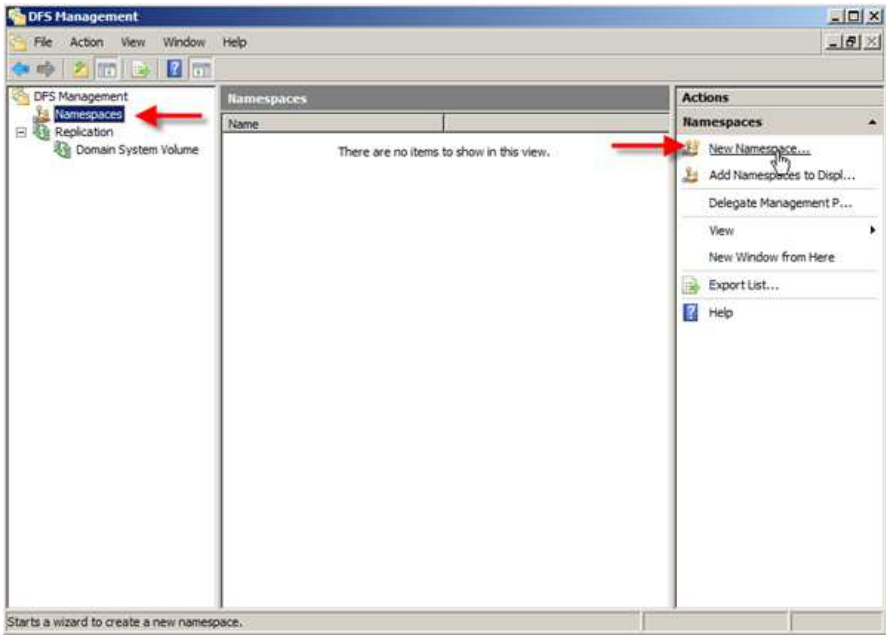
Configure DFS NameSpace on Windows Server 2008

The DFS NameSpace will be the client facing aspect of DFS and what really makes life easier for the end users. Having a common namespace across your enterprise for the users to share files will cut down on support calls and make collaboration on documents a breeze.

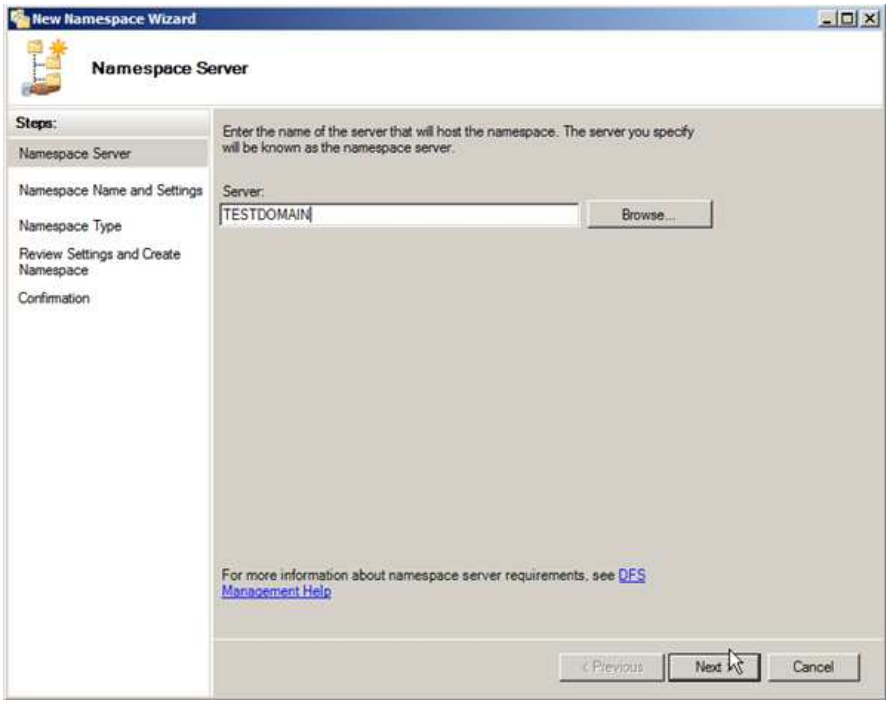
Let's go ahead and configure a DFS Namespace through the DFS Management MMC Snap-In.

1. Open DFS Management Snap-in.

2. In the left pane click on **Namespaces** and then in the right column click **New Namespace…**

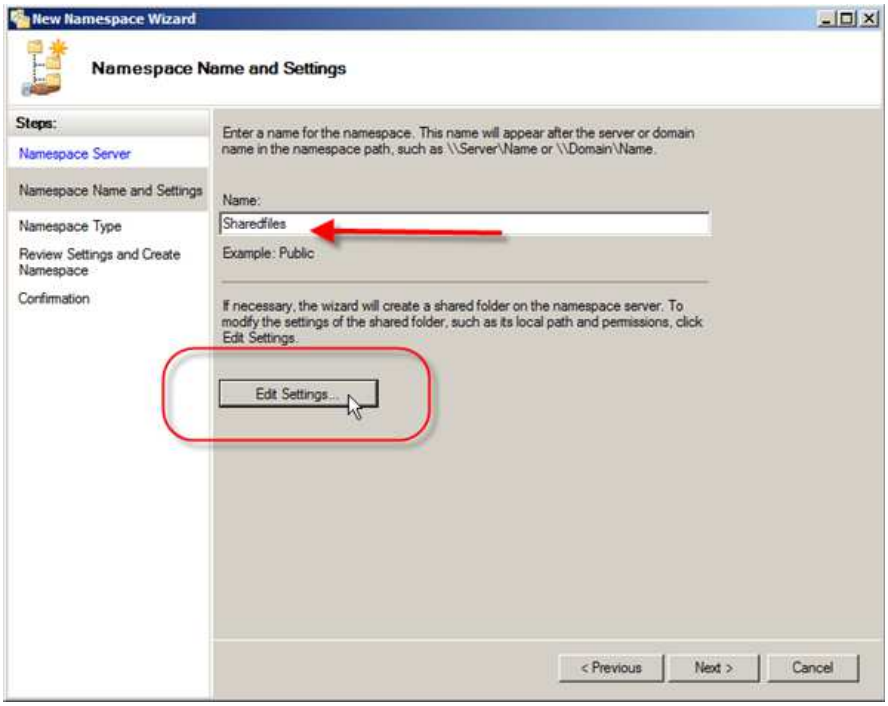


3. In the **New Namespace Wizard**, the first thing it wants to see is your server that will host the Namespace. In this case it will be the domain controller that I installed DFS on, so let's go ahead and enter that name in **TESTDOMAIN** and then click **Next**.



4. The next window is **Namespace Name and Settings**, and it is asking for the name of the namespace. Depending on if this is a standalone install or a domain, this is the name that will be after the server or domain name. In this case I am going to type the namespace **Sharedfiles**.

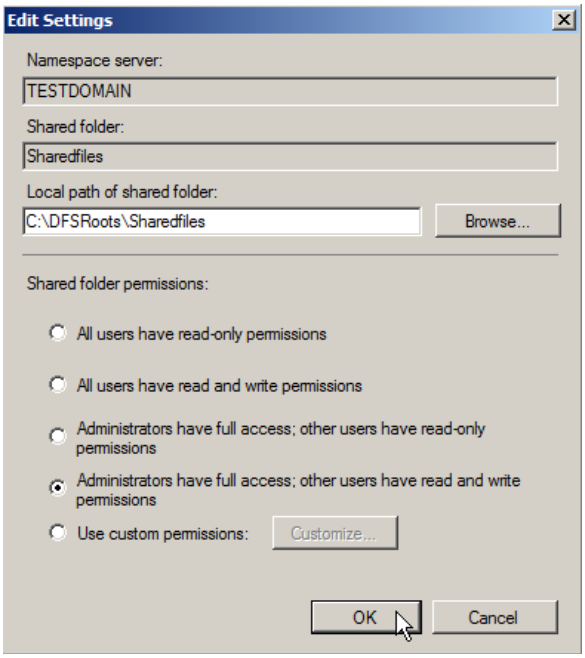
Notice when you type in the name the **Edit Settings** button becomes live. This is because the wizard will create the shared folder. You can modify the settings it uses at this time by clicking **Edit Settings**.



5. You can now edit the following settings:

Local path of share folder
Shared folder permissions

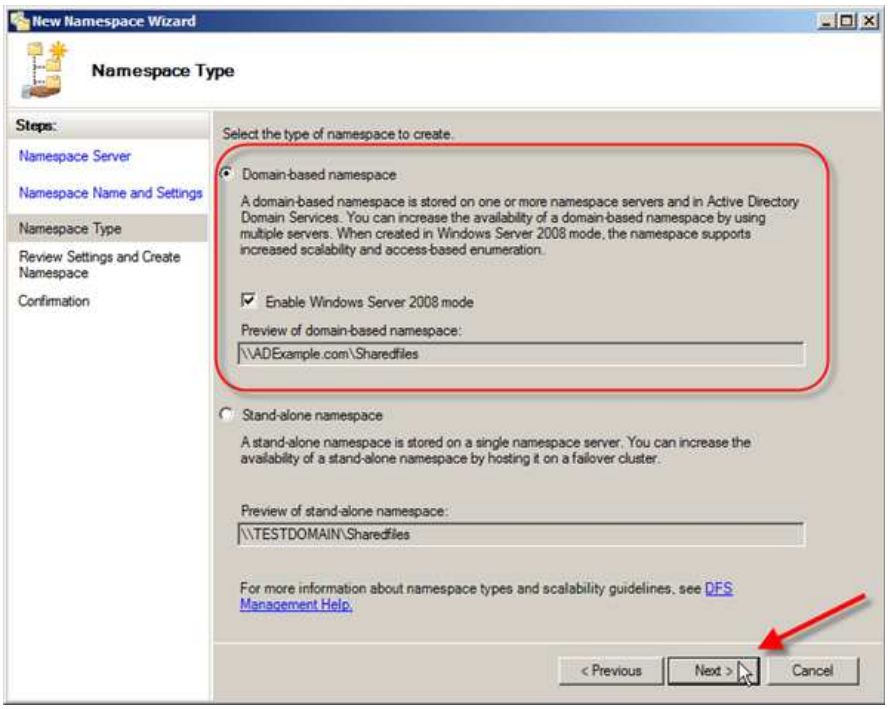
I am going to go with **Administrators have full access; Other users have read and write permissions**. If you select **Custom** you can choose specific groups and users and give them specific rights. Click **Ok** when you are done choosing permissions, then click **Next**.



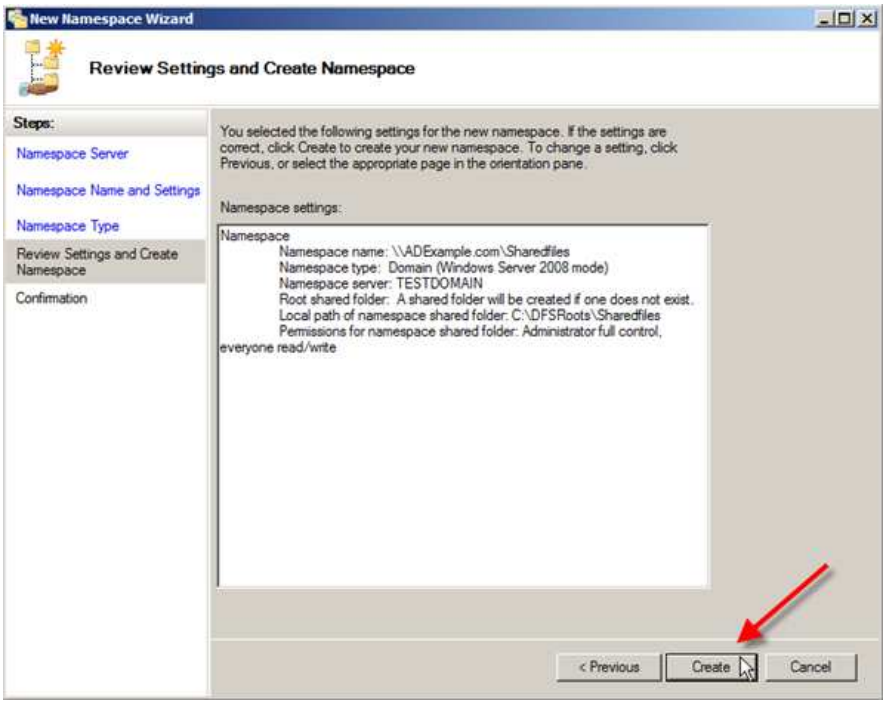
6. Next comes the Namespace Type, there are two choices: **Domain-based namespace** or **Stand-alone namespace**. There are some big difference between the two so let's take a quick look at them now:

- **Domain-based namespace** – Stored on one or more servers and in Active Directory Domain Services. Increased scalability and access-based enumeration when used in Server 2008 mode.
- **Stand-alone namespace** – It is stored only on a single namespace server, for redundancy you have to use a failover cluster.

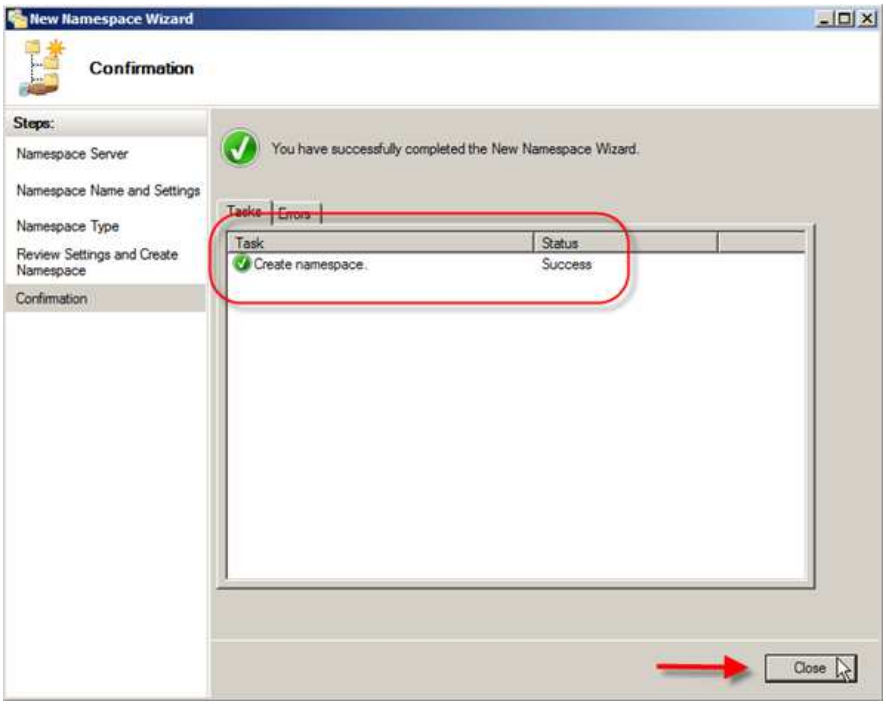
I am going to go with **Domain-based namespace in Windows Server 2008 mode** and you can see the preview is going to be **\\ADExample.com\Sharedfiles**, once your choice is made click on **Next**.



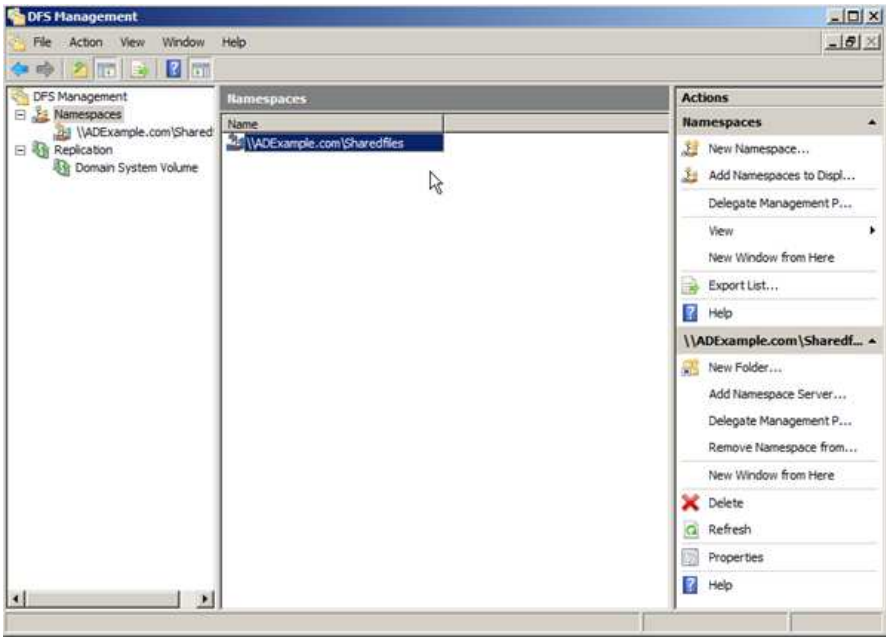
7. The next screen lets you review the choices you just made, if they are correct go ahead and click **Create**.



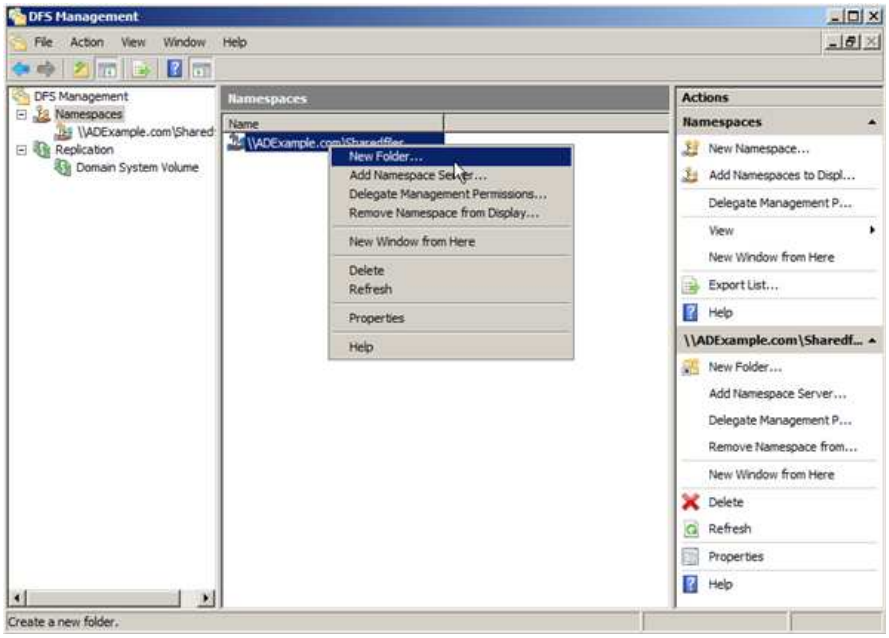
8. Next you will see a screen telling you that the namespace is being created. After a few minutes you should see the status of **Success**, and then click **Ok**.



9. Now in DFS Management Snap-in you can see the Namespace we just created.



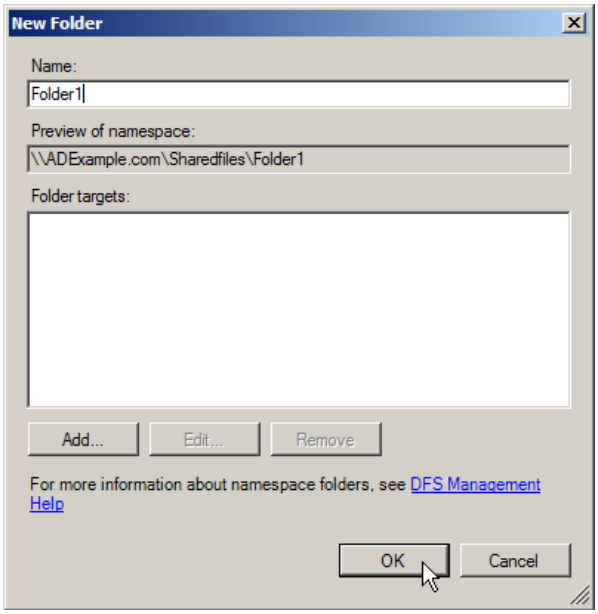
10. Let's go ahead and quickly create a folder. Right click on the namespace and click **New Folder**.



11. Now type the name of the folder you want. In this case I am going to be very original and type **Folder1**, but hopefully you will use something more descriptive when the time comes.

Below the Name field you will see a space that shows you a preview of the Namespace with this new folder. Also under that you will see **Folder Targets**. This allows you to point this folder at a shared folder already on your network.

That way you don't have to migrate files over, but be warned; if you setup these target folders there is no replication, so if that share goes down for any reason users will not be able to access that data. Go ahead and click **Ok**.



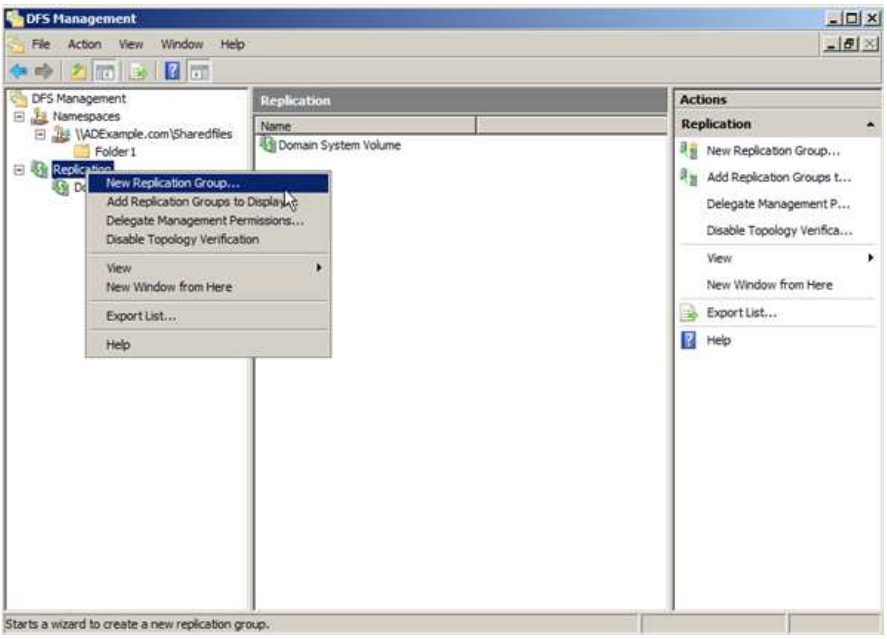
12 You will now see in the DFS Management Snap-in **Folder1** under the namespace we just created.

Configure DFS Replication on Windows Server 2008

Ok now that we have a Namespace configured and we have placed a folder in that namespace let's setup replication with another server in the domain to make sure that users can always get their data and we don't get any complaints!

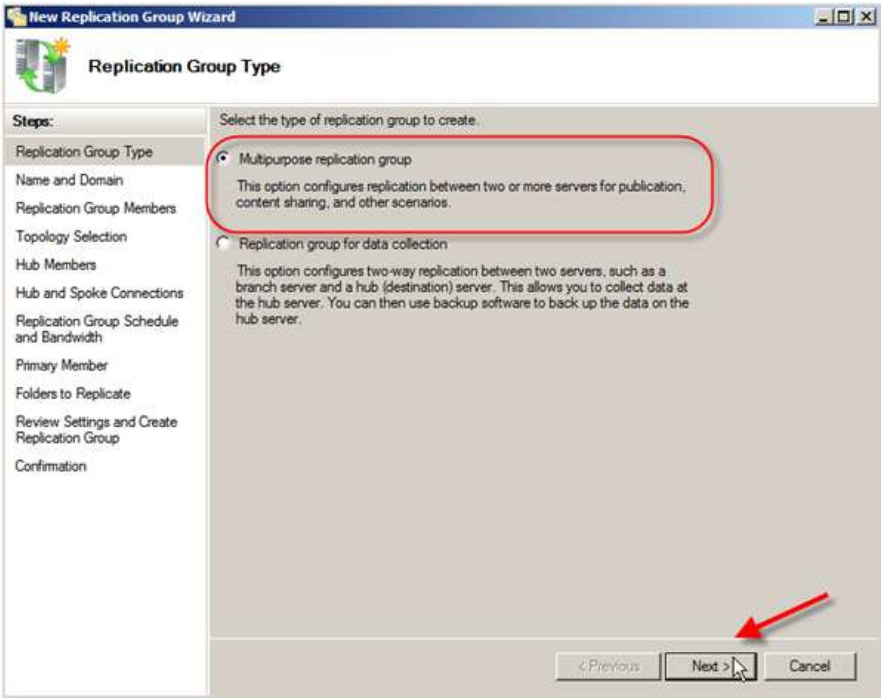
1. Open DFS Management Snap-in.

2. In the left pane go ahead and right click on **Replication** and then left click on **New Replication Group**.

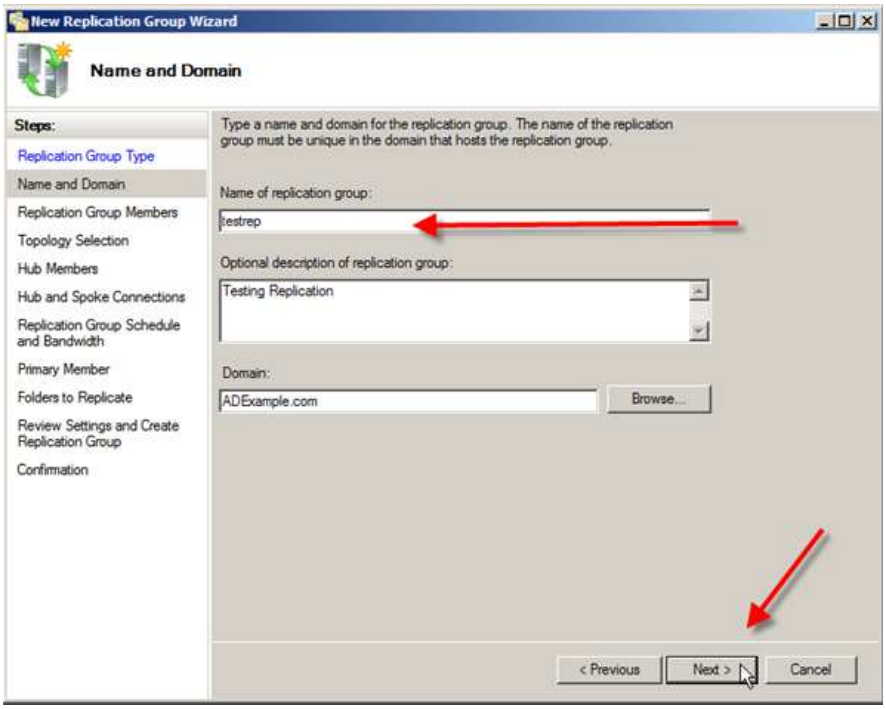


3. Your first choice is: if you want a **Multipurpose replication group** or **Replication group for data collection**.

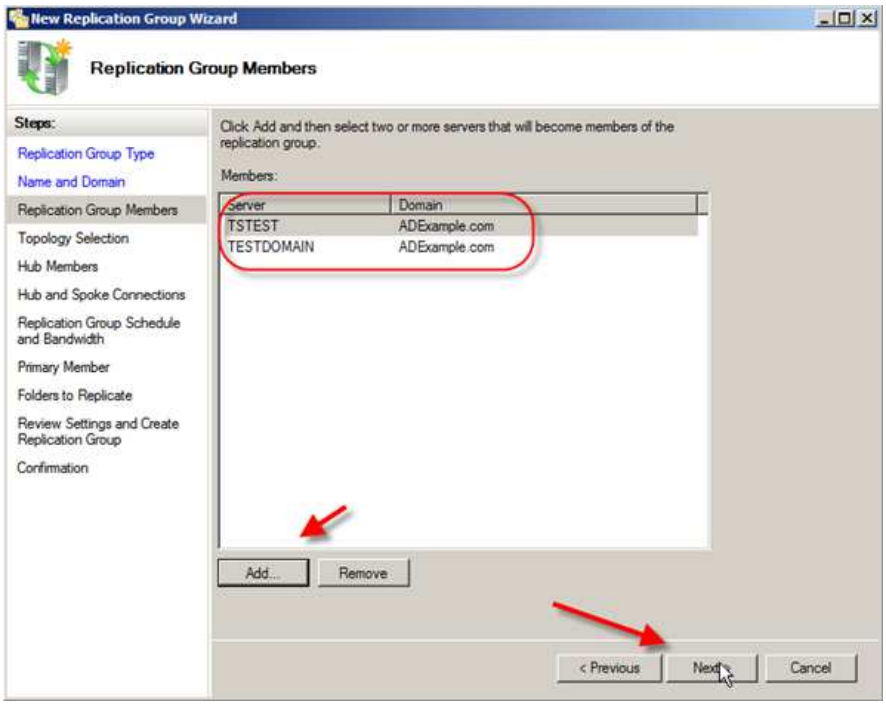
In most cases you will want the Multipurpose replication group, but in some cases where you wanted to grab data from a remote server and bring it to a centralized backup server the group collection would help. In our case we are going to use **Multipurpose replication group**, and click **Next**.



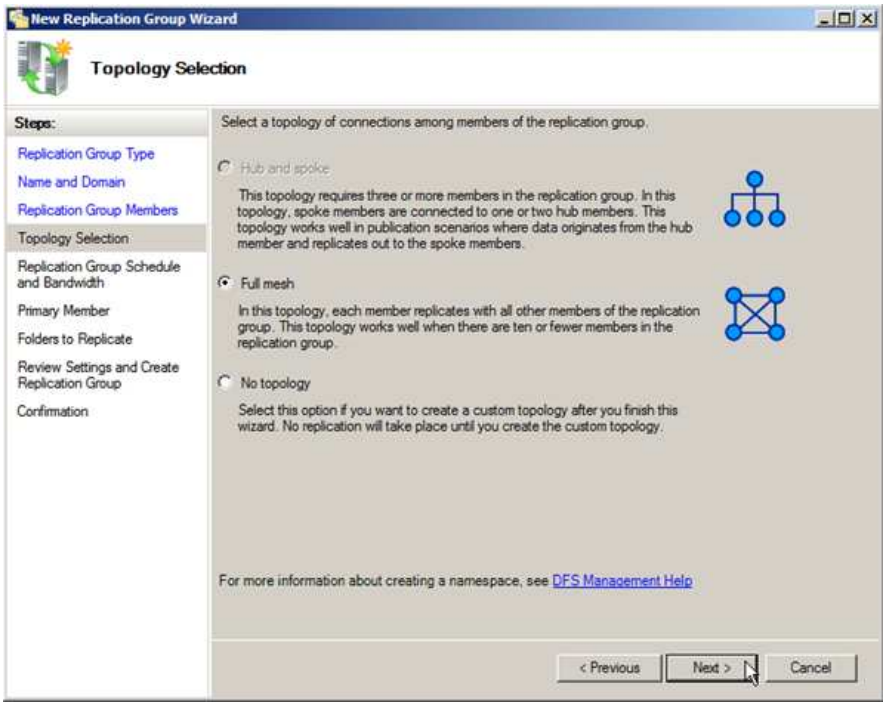
4. Next we are going to set the name of the replication group; the only limit is that the group must be unique for the domain it servers. In our case let's use **testrep** for the group name. After typing it in click **Next**.



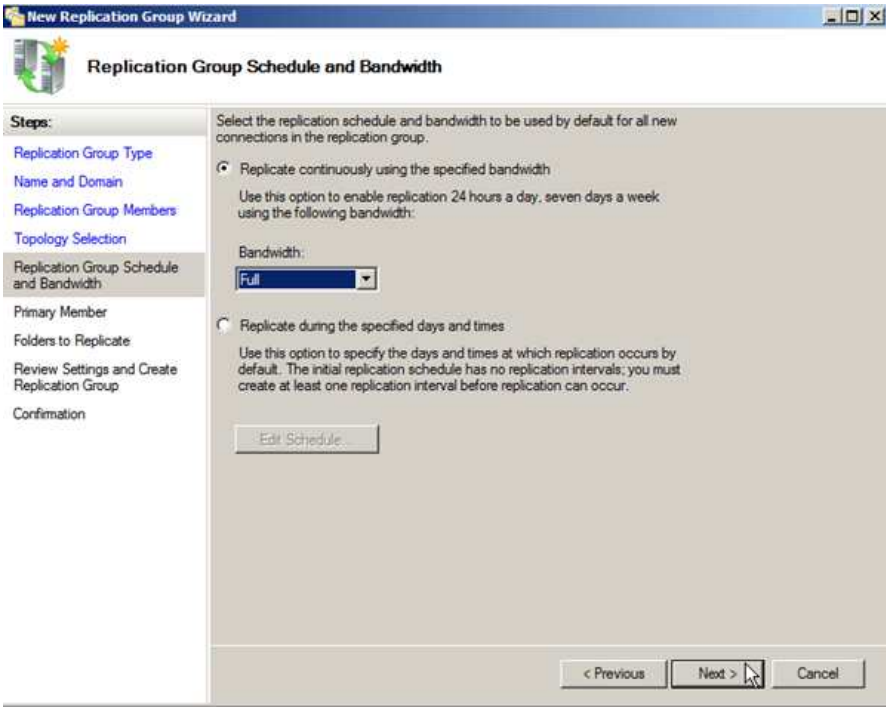
5. Next we are going to add the group members. Click **Add** and enter the name of the servers that are going to be members of this group. In my case it is going to be **TSTest** and **TESTDOMAIN**; after they are entered click **Next**.



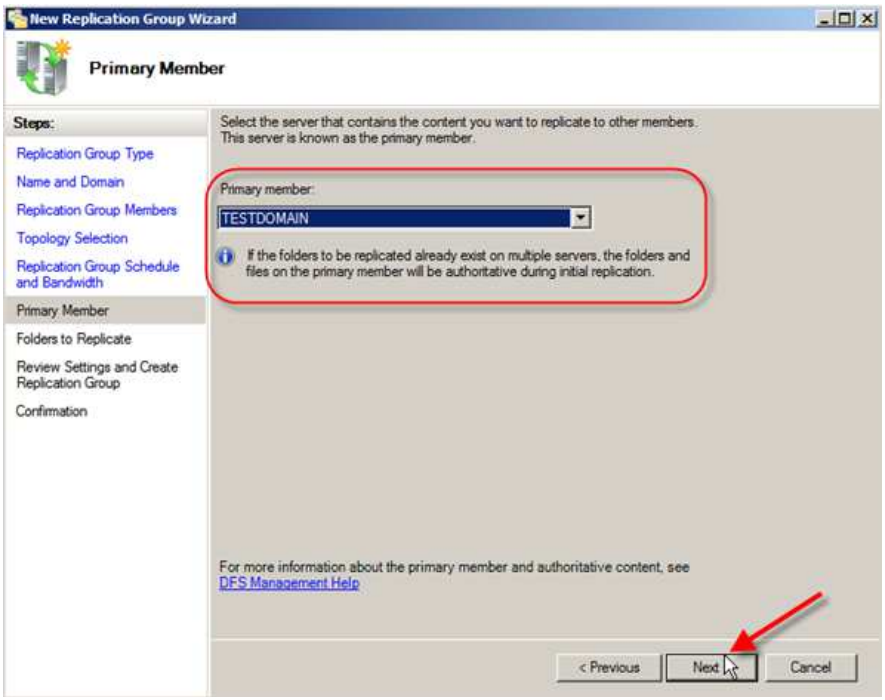
6. In the next page we are going to choose the Topology for the group. Since we only have two servers we will be defaulted to **Full Mesh** which will work in this example. On this page you will also see an explanation of the other topologies if you need them. Click **Next**.



7. Replication Schedule is next on the list to configure. There are A LOT of option here for every bandwidth budget and the ability to limit it to certain days and times. I am going to leave the default since we are just in my virtual lab, but you may need different settings based on your server locations and connections. Once set, click **Next**.



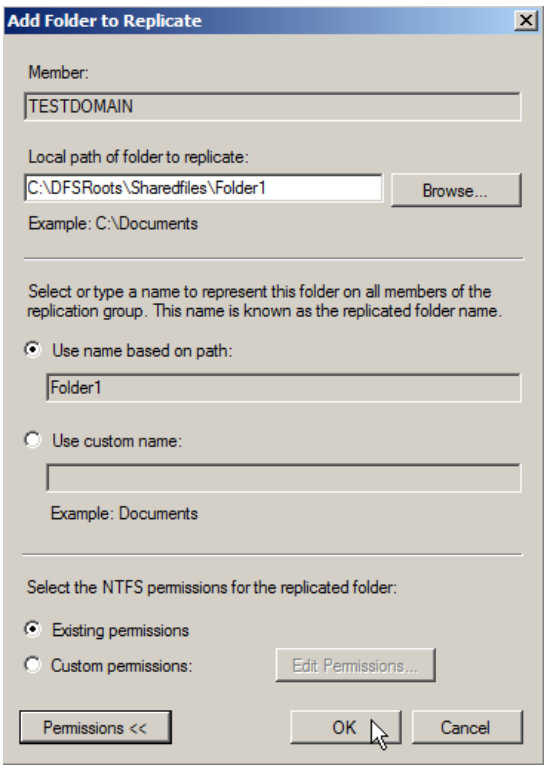
8. Primary member is now the next thing to be set. This is to set the authoritative member for the **INITIAL** replication. In our case we will use **TESTDOMAIN**, and then click **Next**.

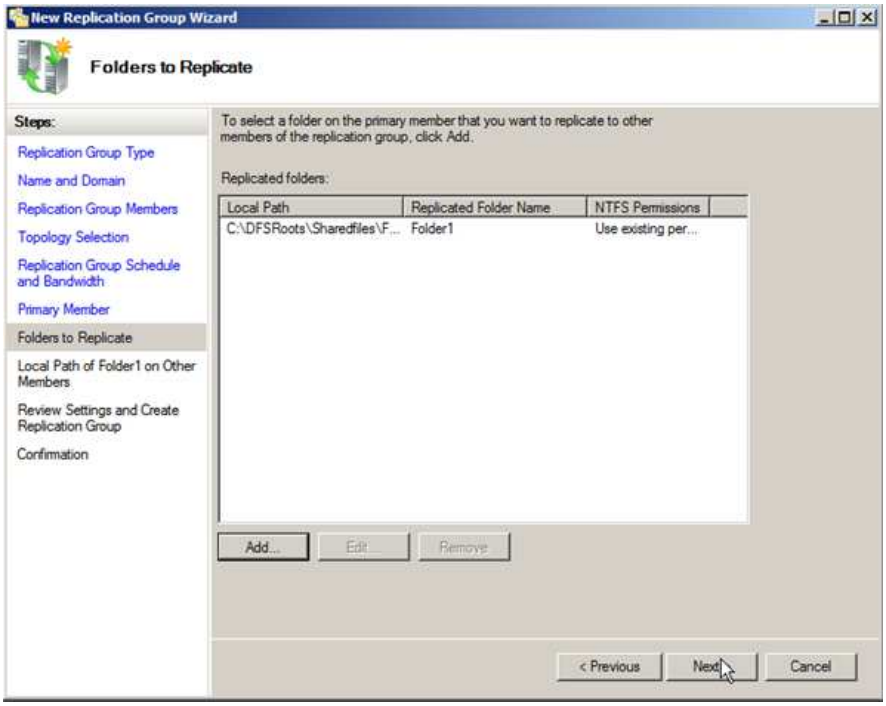


9. Now we can setup the folders we want to replicate to the other server.

Click **Add** and you will be prompted for the folders information. In this case I am going to choose to replicate the folder we used in the last example **Folder1**. Note that you can always change permissions on the replication target by selecting **Custom Permissions**, or you can leave them as is by leaving it at **Existing Permissions**.

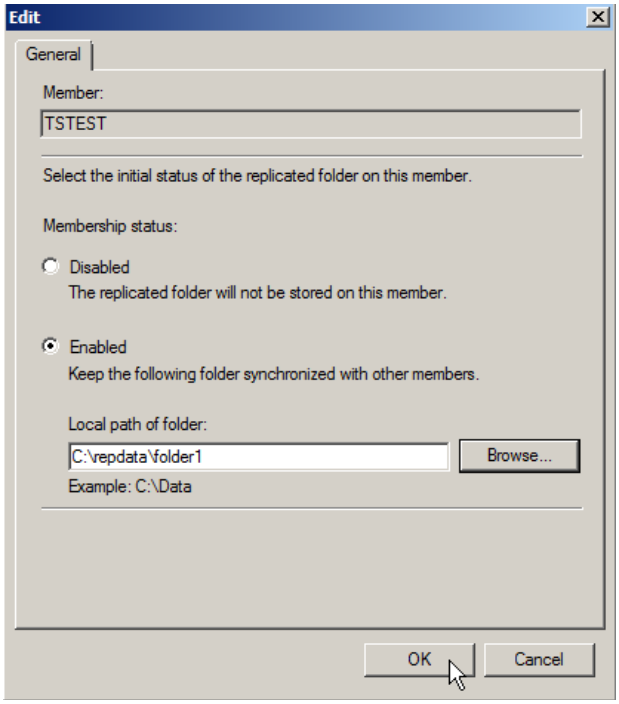
I am going to enter all the info, click **Ok** and then click **Next** as that is the only folder I am replicating.

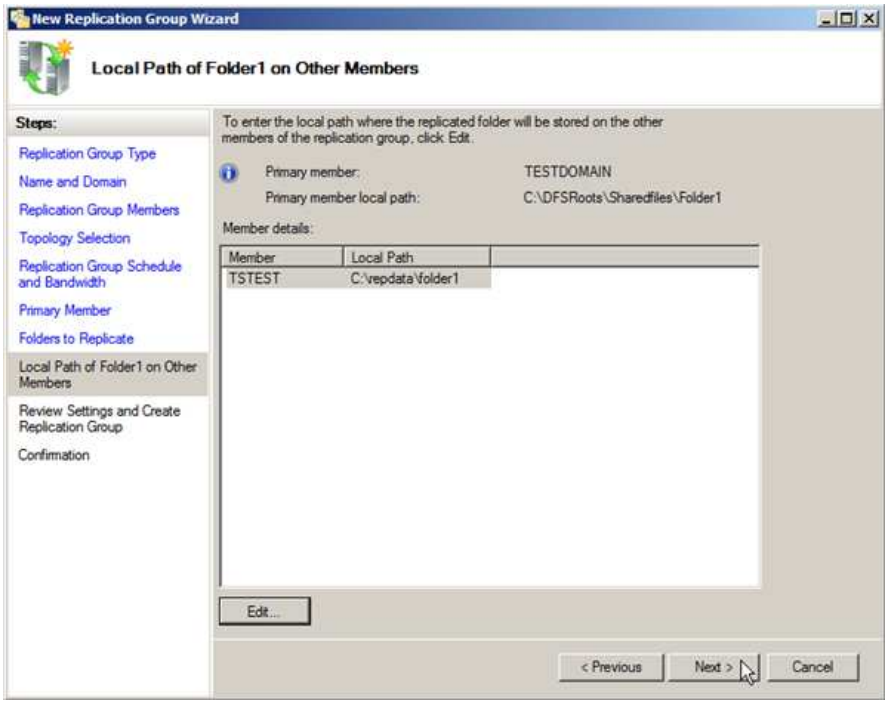




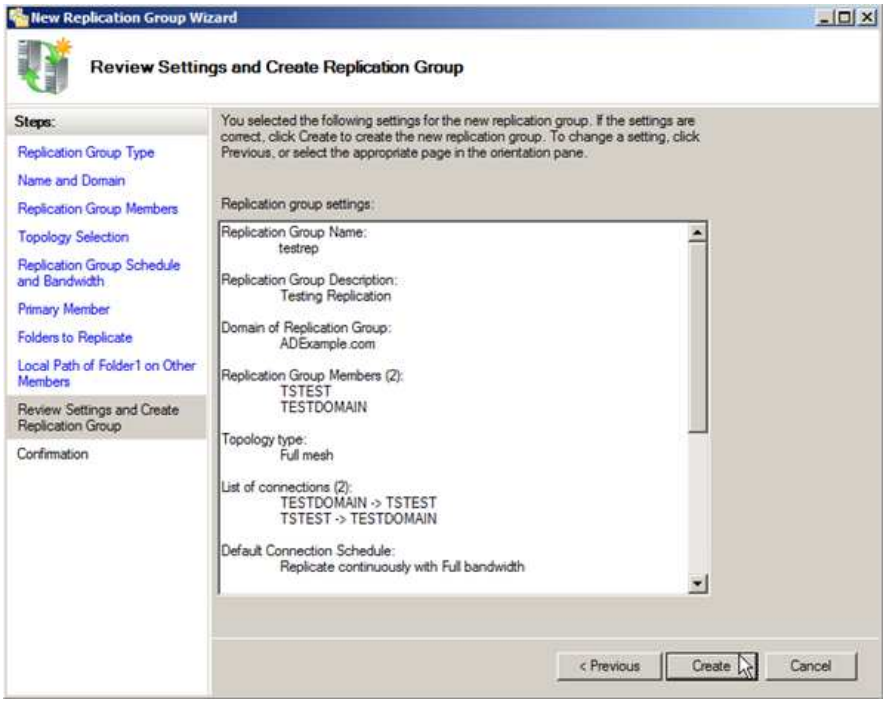
10. Next you must set the local path for the replicated folder on the other server. It is by default disabled, so highlight the partner server and click **Edit**. Select **Enable** and then browse and you can navigate to a folder you have already created or create one in the desired location.

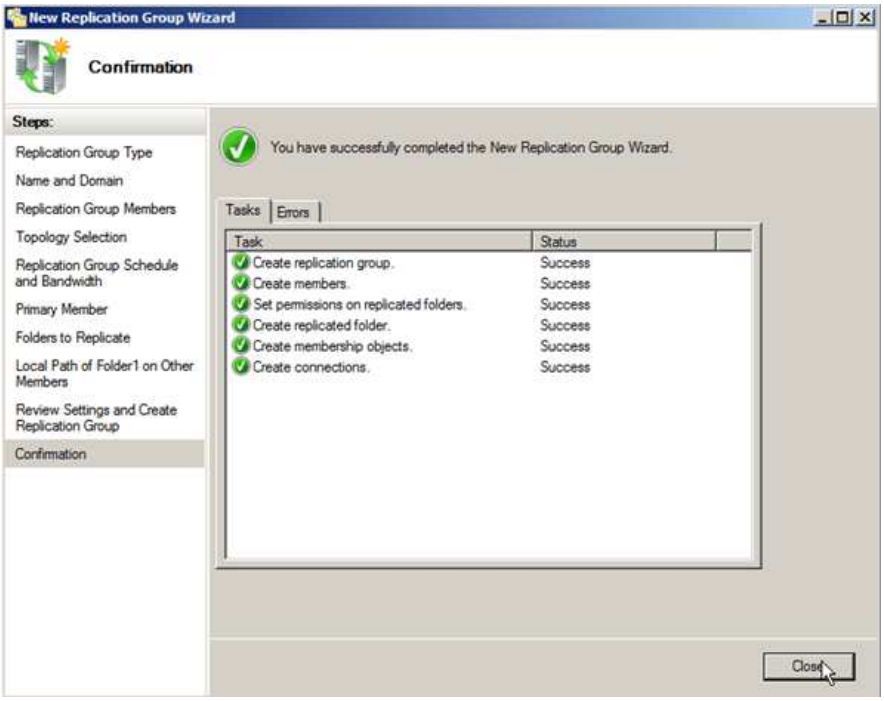
After you're done you can click **Ok**, and if that is your only partner server click **Next**.





11. Next you can review your settings and then click **Create**; after a few seconds you should go to a Confirmation page where you will see a success messages for each step. After review click **Close**.

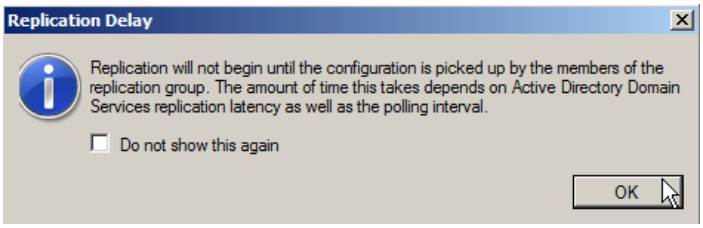




12. After that you will see a popup window telling you:

"Replication will not begin until the configuration is picked up by the members of the replication group. The amount of time this takes depends on Active Directory Domain Services replication latency as well as the polling interval".

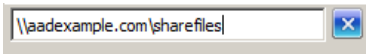
Basically the meaning of this is that if you specified remote servers in different sites, you will have to wait until Active Directory replicates the data out with their next sync. Click **Ok** to get passed this.



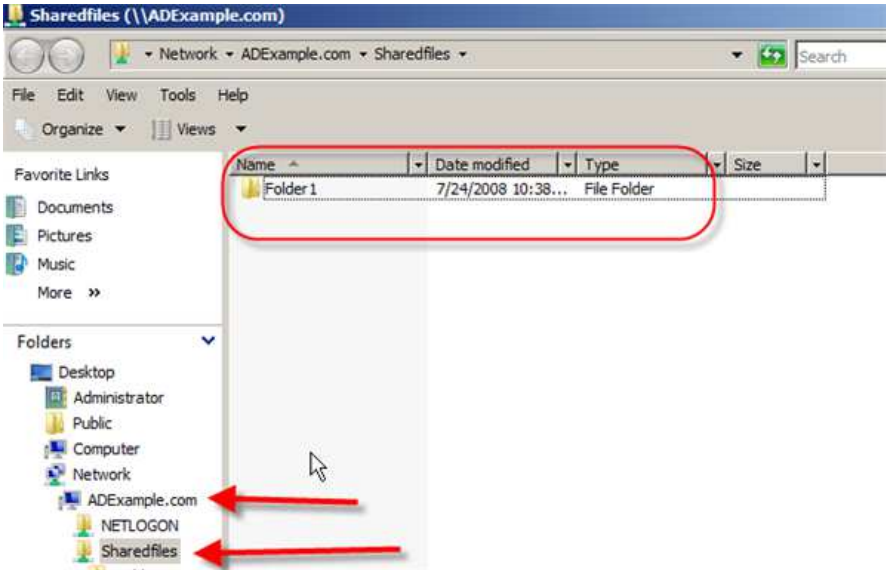
Now that we have configured the namespace and setup replication let's take a look at how it would be used by our ever grateful end users.

1. Click start.

2. Type in the domain and namespace, in our case it was **\\ADExample.com\Sharedfiles** and hit **Enter**.



3. You should get an explorer window with the **Folder1** in the center pane.



Remember this has been the very basic structure of DFS and depending on your need and environment you can create very robust namespaces and replication.

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About the Author

Dave Lawlor (MCTS, MCP, A+) has been working in the IT field since leaving the U.S. Army in 1996. Working his way up from printer hardware repair to running a corporate datacenter for a multinational corporation, Dave has seen many environments throughout the years. Focusing on web sites and search engine optimization the last few years, with the release of Server 2008 it has renewed his passion for the Wintel platform and server technologies. David also runs Windows-Server-Training.com where he posts free videos and walk-throughs for a variety of server technologies. David currently works as a freelance technical consultant and writer for a variety of companies in the Chicago area.

Author's Website: http://www.DaveLawlor.com

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4 comments and trackbacks for “Windows Server 2008: Configuring Distributed File Systems (DFS)”

Comments

1. 
Posted by Ron Opp on September 19, 2008, 12:00 pm

How would you get the ADExample.com\sharedfiles to stay? So the user does not have to run this every time they need access.

2. 

Posted by big on March 18, 2011, 3:17 am

Very good howto, but I've a doubt on step 11 "Configure DFS NameSpace" you've created a folder, I did too and I called folder1 in the same time, I also added two folder target, the first is on server1\shareA and the second is server2\shareB (there aren't any errors) but when I Try to access with my computer to \\my.mamespace.com\share\folder1 I only see the contents of server1\shareA.
The permissions are ok if I remove server1\shareA folder, I could see server2\shareB.
I'm not interested to replication now.
I don't know if it is my fault, or I'm not understood well Microsoft documentation

3. *Posted by Kervin on March 26, 2011, 10:56 am*

   Thanks. It worked perfectly !!!

4. *Posted by Trey on June 6, 2012, 7:15 am*

   Replication isn't working. I keep getting this error: The replicated folder has an invalid path. I get this error on the Server I am replicating to. I have tried repointing the local path on that server but the same error comes back.

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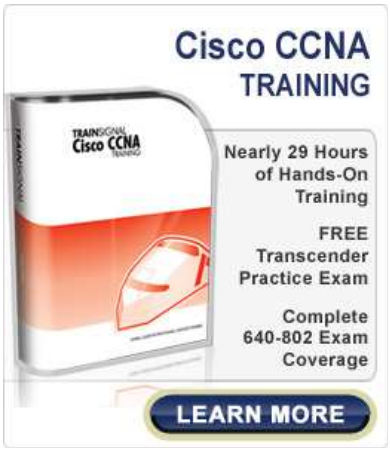
  - 
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