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2TINA

Server OS Essentials

Windows Server

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1. Installatie primary server

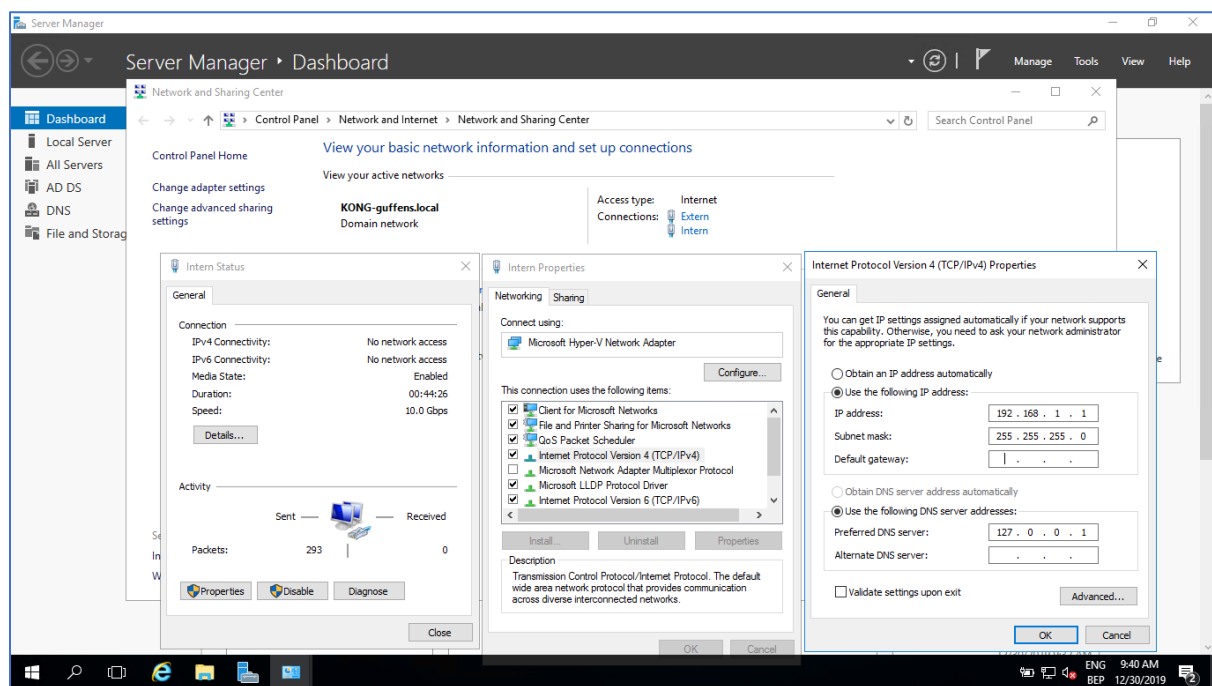
Voor je begint, voorzie een nieuw geïnstalleerde Windows server 2016 met bureaubladervaring (desktop experience). Voorzie ook 2 netwerkkaarten, één voor het interne netwerk en één voor het internet.

1.1 IP Instellingen

Om te voorkomen dat andere toestellen op het netwerk de server niet meer kunnen vinden moet de server een **statisch ip** hebben. Stel dit in zoals in het voorbeeld.

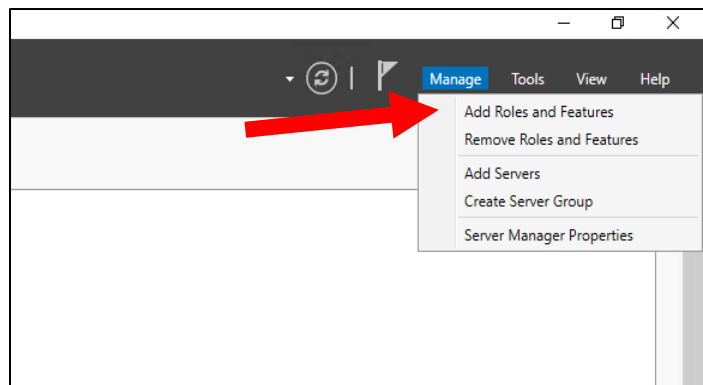
De server is ook een **DNS** server, om deze te benutten moeten we het loopback adres invullen bij **Preferred DNS server**.

1. Ga naar **Network and Sharing Center**
2. Klik op de adapter van het gewenste netwerk (meestal **Ethernet**)
3. Klik op **Properties**
4. Selecteer **Internet Protocol Version 4 (TCP/IPv4)** (zorg dat dit aangevinkt blijft)
5. Klik op **Properties**
6. Vul een **Vast IP** in
7. Vul **127.0.0.1** in bij de **Preferred DNS server**
8. Klik op **OK**



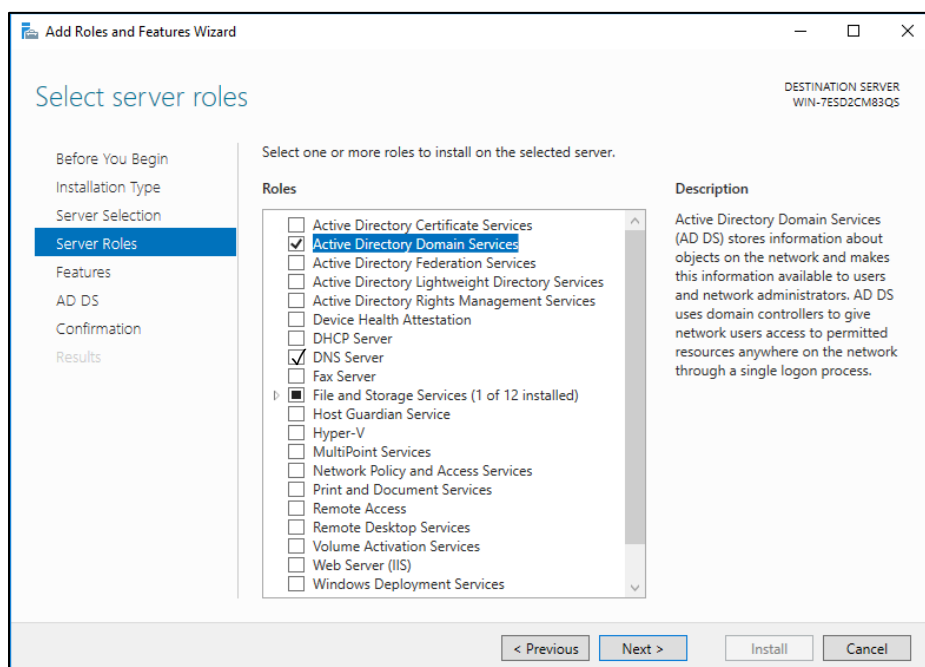
1.2 Active Directory & DNS installeren

1. Ga naar de **Server Manager**
2. Klik rechts bovenaan op **Manage**
3. Klik op **Add Roles and Features**



Er opent een wizard.

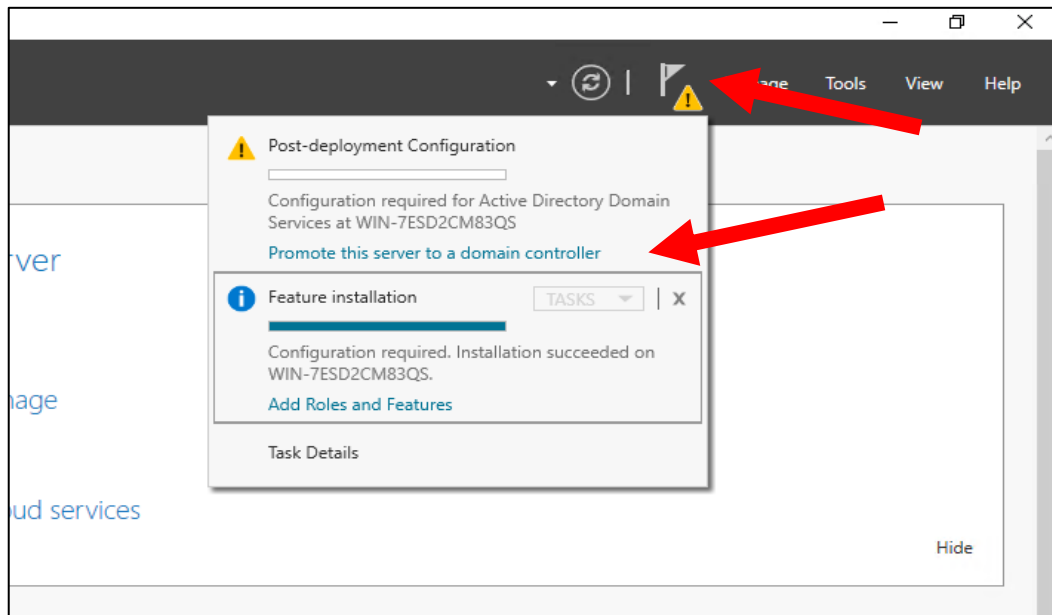
1. Laat alle standaard waarden staan en klik **3 keer** op **Next**
2. Selecteer **Active Directory Domain Services**
3. Er opent een nieuwe pop-up, klik op **Add Features**
4. Selecteer **DNS**
5. Er opent opnieuw een pop-up, klik op **Add Features**
6. Klik **3 keer** op **Next**
7. Klik op **Install**



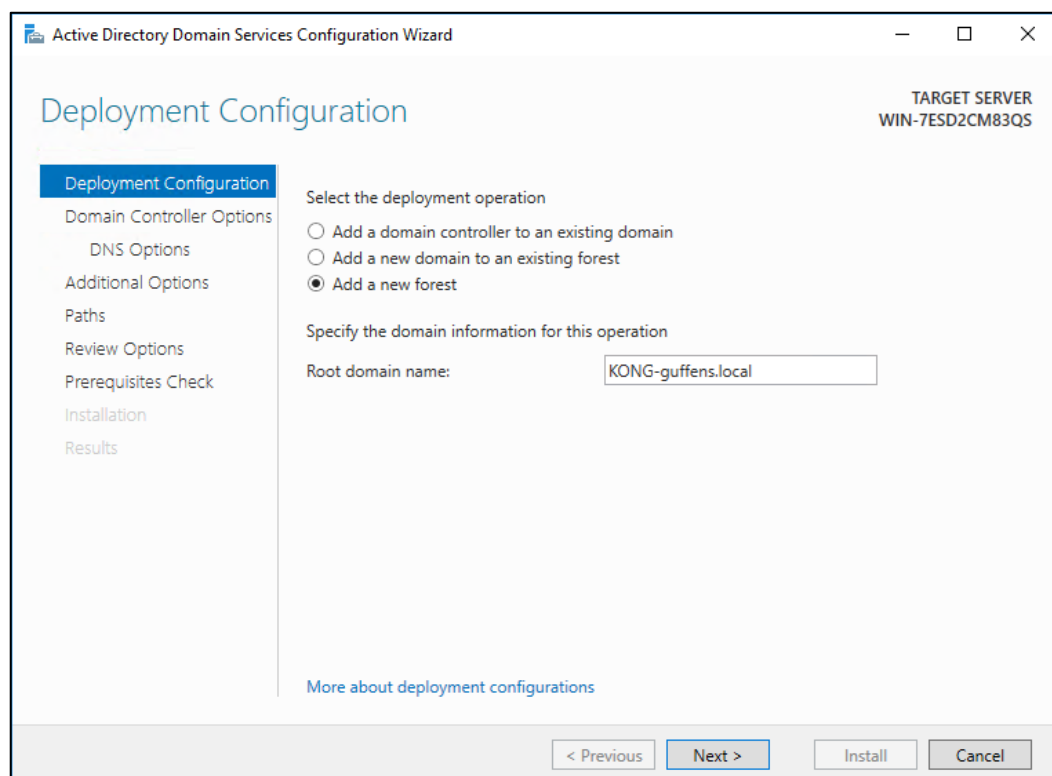
1.3 Domein aanmaken

Wanneer de installatie van **Active Directory** voltooid is kun je verder gaan.

1. Klik in de **Server Manager** op de vlag met het gele uitroepteken
2. Klik op **Promote this server to a domain controller**



Selecteer **Add a new forest** en vul de naam van je domein in. Klik daarna op **Next**.



Kies een wachtwoord voor **Directory Services Restore Mode** en vul dit in. Klik daarna op **4 keer** op **Next**.

The screenshot shows the 'Active Directory Domain Services Configuration Wizard' window. The title bar includes the Microsoft logo and the text 'Active Directory Domain Services Configuration Wizard'. The window has a standard Windows interface with minimize, maximize, and close buttons. The main content area is titled 'Domain Controller Options'. On the left, there is a navigation pane with the following items: 'Deployment Configuration', 'Domain Controller Options' (which is selected and highlighted in blue), 'DNS Options', 'Additional Options', 'Paths', 'Review Options', 'Prerequisites Check', 'Installation', and 'Results'. The main area contains the following sections: 'Select functional level of the new forest and root domain' with two dropdown menus, both set to 'Windows Server 2016'; 'Specify domain controller capabilities' with three checkboxes: 'Domain Name System (DNS) server' (checked), 'Global Catalog (GC)' (checked), and 'Read only domain controller (RODC)' (unchecked); and 'Type the Directory Services Restore Mode (DSRM) password' with two password fields labeled 'Password:' and 'Confirm password:', both containing masked characters (dots). At the bottom right of the main area, there is a link that says 'More about domain controller options'. At the bottom of the window, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'.

Kijk alles goed na in het overzicht, klik op **Next** en daarna op **Install**.
Na de installatie **herstart** de server automatisch.

The screenshot shows the 'Active Directory Domain Services Configuration Wizard' window at the 'Prerequisites Check' step. The title bar and window controls are the same as in the previous screenshot. The navigation pane on the left now has 'Prerequisites Check' selected and highlighted in blue. The main content area has a title 'Prerequisites Check'. At the top, there is a green checkmark icon and a message: 'All prerequisite checks passed successfully. Click 'Install' to begin installation.' with a 'Show more' link and a close button (X). Below this, there is a section titled 'Prerequisites need to be validated before Active Directory Domain Services is installed on this computer' with a 'Rerun prerequisites check' link. A 'View results' link is also present. A scrollable list of warnings is shown, starting with: 'Windows Server 2016 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions. For more information about this setting, see Knowledge Base article 942564 (http://go.microsoft.com/fwlink/?LinkId=104751).'. Another warning states: 'This computer has at least one physical network adapter that does not have static IP address(es) assigned to its IP Properties. If both IPv4 and IPv6 are enabled for a network adapter, both IPv4 and IPv6 static IP addresses should be assigned to both IPv4 and IPv6 Properties of the physical network adapter. Such static IP address(es) assignment should be done to all the physical network adapters for reliable Domain Name System...'. A final warning says: 'If you click Install, the server automatically reboots at the end of the promotion operation.' At the bottom of the main area, there is a link that says 'More about prerequisites'. At the bottom of the window, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'.

2. Installatie secondary server

De secondary server moet ook een nieuw geïnstalleerde Windows server 2016 met bureaubladervaring (desktop experience) zijn.

2.1 IP Instellingen

Net zoals bij de primary server moeten we nog een aantal IP instellingen aanpassen. Ook de secondary server heeft een **vast IP adres** nodig en heeft als **DNS server** het IP van de **primary server** nodig anders kan de secondary server het domein van de primary server niet vinden. Als **Alternate DNS server** vullen we **127.0.0.1** in die verwijst naar de DNS server op deze machine.

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 1 . 2

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: 192 . 168 . 1 . 1

Alternate DNS server: 127 . 0 . 0 . 1

☐ Validate settings upon exit

Advanced...

OK Cancel

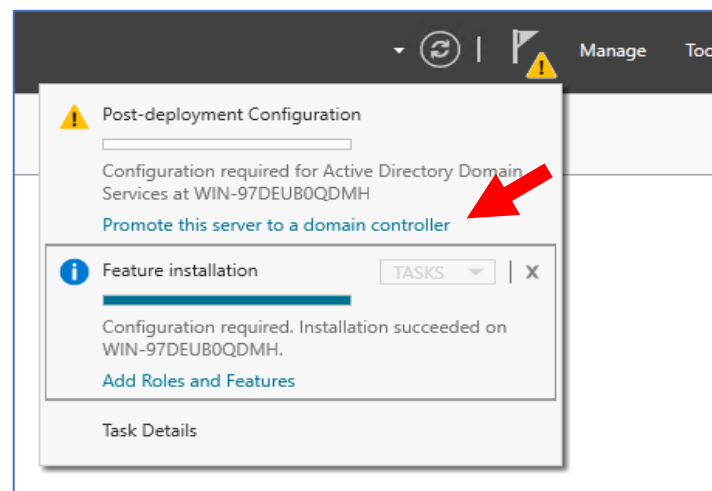
2.2 Active Directory & DNS Installeren

Op dezelfde manier als bij de primary server gaan we **Active Directory** en **DNS** installeren op de secondary server.

2.3 Domein controller maken

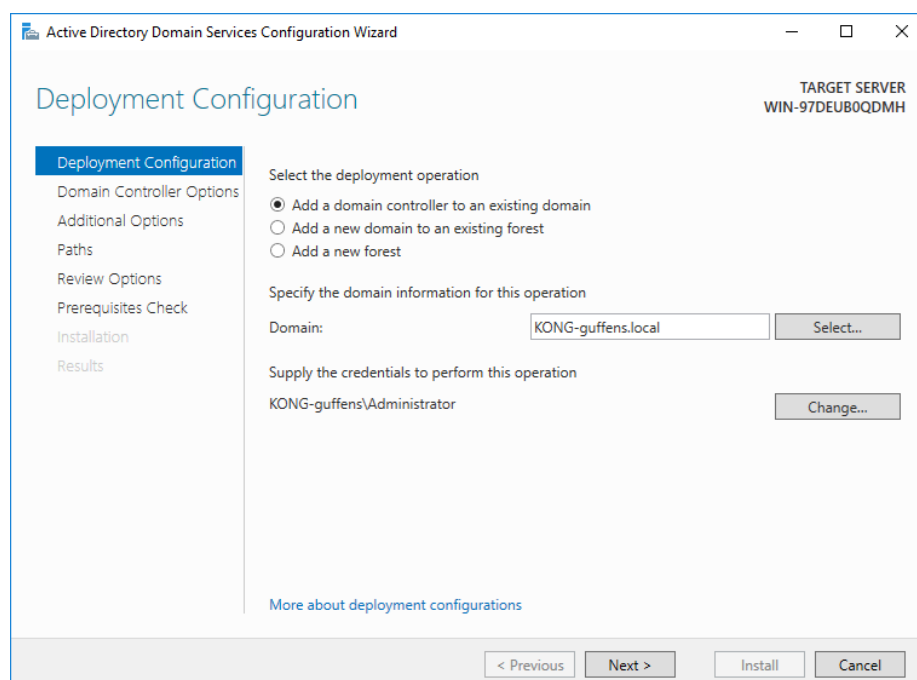
Na de installatie van Active Directory gaan we hier een domein controller van maken.

1. Ga naar **Server Manager**
2. Klik op de vlag rechts bovenaan
3. Klik op **Promote this server to a domain controller**



We gaan deze server toevoegen aan het bestaande domein.

1. Selecteer **Add a domain controller to an existing domain.**
2. Vul het domein in
3. Klik op **Select**
4. Vul de credentials van het **Administrator** account van de **Primary Server** in, mogelijks moet je **KONG-guffens\Administrator** als gebruikersnaam invullen
5. Klik **Next**



Laat de standaard opties staan en vul weer een **DSRM** wachtwoord in. Klik daarna op **2 keer** op **Next**.

The screenshot shows the 'Active Directory Domain Services Configuration Wizard' window. The title bar includes the Microsoft logo and the text 'Active Directory Domain Services Configuration Wizard'. The window has standard Windows window controls (minimize, maximize, close) in the top right corner. The main content area is titled 'Domain Controller Options'. On the left, there is a navigation pane with the following items: 'Deployment Configuration', 'Domain Controller Options' (which is highlighted with a blue background), 'DNS Options', 'Additional Options', 'Paths', 'Review Options', 'Prerequisites Check', 'Installation', and 'Results'. The main area on the right is titled 'Specify domain controller capabilities and site information'. It contains three checkboxes: 'Domain Name System (DNS) server' (checked), 'Global Catalog (GC)' (checked), and 'Read only domain controller (RODC)' (unchecked). Below these is a 'Site name:' label followed by a dropdown menu showing 'Default-First-Site-Name'. Further down is a section titled 'Type the Directory Services Restore Mode (DSRM) password'. It contains two password input fields: 'Password:' and 'Confirm password:', both filled with dots. At the bottom of the main area is a link that says 'More about domain controller options'. At the very bottom of the window, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

Bij **Additional Options** kunnen we **Replicate from** wijzigen, selecteer de **primary server**. Met deze instelling wordt alles tussen beide servers gesynchroniseerd.

Klik daarna **3 keer** op **Next** en vervolgens op **Install**.

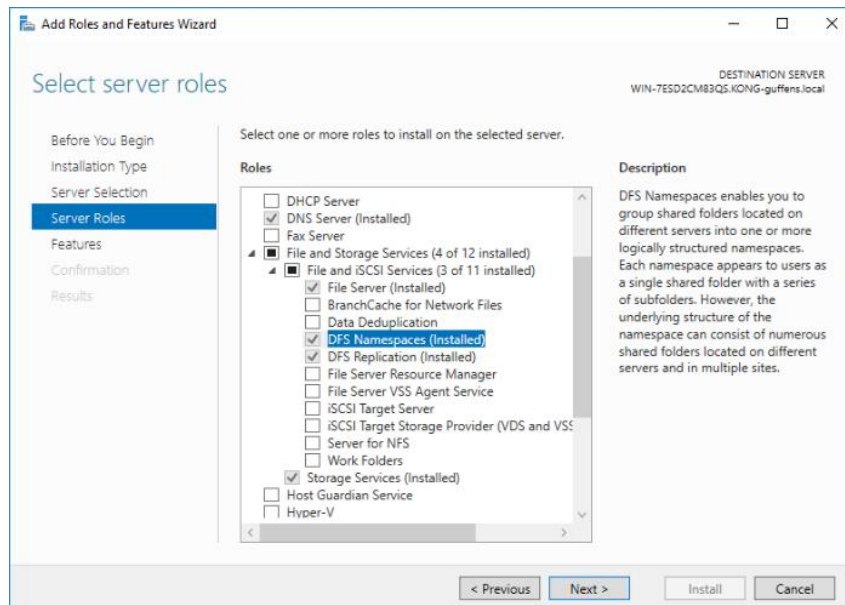
The screenshot shows the 'Active Directory Domain Services Configuration Wizard' window, now on the 'Additional Options' screen. The title bar and window controls are the same. The navigation pane on the left now has 'Additional Options' highlighted with a blue background. The main area is titled 'Additional Options'. It contains two sections. The first is 'Specify Install From Media (IFM) Options' with a checkbox 'Install from media' which is unchecked. The second section is 'Specify additional replication options' with a 'Replicate from:' label followed by a dropdown menu showing 'WIN-7ESD2CM83QS.KONG-guffens.local'. At the bottom of the main area is a link that says 'More about additional options'. At the very bottom of the window, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

Na de installatie **herstart** de server automatisch.

3. DFS

3.1 Installatie

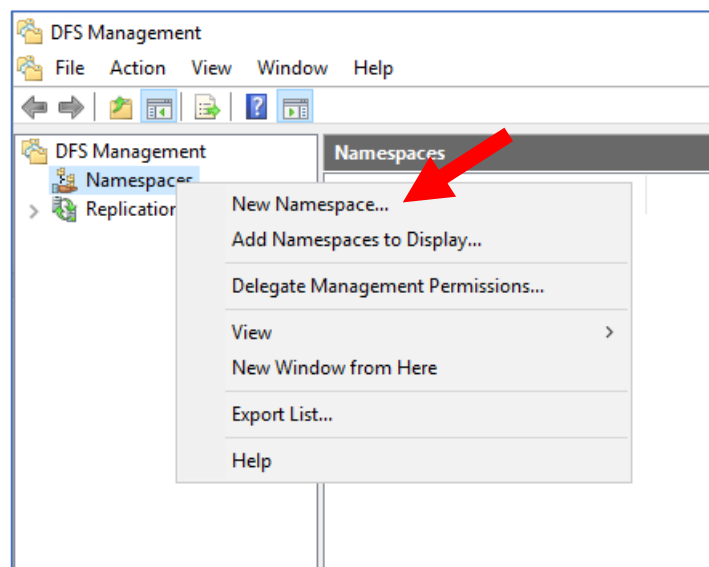
Op dezelfde manier dat we Active Directory hebben geïnstalleerd gaan we nu **DFS Namespaces** en **DFS Replication** installeren. Doe dit voor **beide servers**.



3.2 Namespaces maken

Na de installatie op de **primary server**, ga via de **Server Manager** naar **Tools** en klik op **DFS Management**.

Voeg een nieuwe **Namespace** toe. Rechtermuisknop op **Namespaces** en daarna op **New Namespace...** om de wizard te openen.



Vul de naam van de huidige server in, klik op **Browse** om deze makkelijk te vinden. Klik daarna op **Next**.

The screenshot shows the 'New Namespace Wizard' window with the 'Namespace Server' step selected. The 'Steps' list on the left includes: 'Namespace Server' (selected), 'Namespace Name and Settings', 'Namespace Type', 'Review Settings and Create Namespace', and 'Confirmation'. The main area contains the instruction: 'Enter the name of the server that will host the namespace. The server you specify will be known as the namespace server.' Below this, there is a 'Server:' label, a text box containing 'win-7esd2cm83qs', and a 'Browse...' button.

Vul nu de naam van de namespace in, voor deze fileserver noemen we dit gewoon **Fileserver**.

1. Klik op **Edit Settings**.
2. Vul **C:\Shared\Fileserver** in bij **Local path of shared folder**
3. Selecteer dat admins full access hebben maar andere users read-only (dit passen we later aan)
4. Klik op **OK**
5. Klik op **Next**

The screenshot shows the 'New Namespace Wizard' window at the 'Namespace Name and Settings' step. The 'Steps' list on the left includes: 'Namespace Server', 'Namespace Name and Settings' (selected), 'Namespace Type', 'Review Settings and Create Namespace', and 'Confirmation'. The main area contains the instruction: 'Enter a name for the namespace. This name in the namespace path, such as \\server\name'. Below this, there is a 'Name:' label, a text box containing 'Fileserver', and an 'Example: Public'. A note states: 'If necessary, the wizard will create a shared folder, modify the settings of the shared folder, and create the namespace. Edit Settings.' There is an 'Edit Settings...' button. An 'Edit Settings' dialog box is open over the main window. It contains the following fields: 'Namespace server:' (win-7esd2cm83qs), 'Shared folder:' (Fileserver), and 'Local path of shared folder:' (C:\Shared\Fileserver) with a 'Browse...' button. Below these fields are 'Shared folder permissions:' with five radio button options: 'All users have read-only permissions', 'All users have read and write permissions', 'Administrators have full access; other users have read-only permissions' (selected), 'Administrators have full access; other users have read and write permissions', and 'Use custom permissions:' with a 'Customize...' button. At the bottom of the dialog are 'OK' and 'Cancel' buttons. At the bottom of the wizard window are '< Previous', 'Next >', and 'Cancel' buttons.

Zorg dat **Domain-based namespace** geselecteerd is en klik op **Next**. Daarna op **Create**.

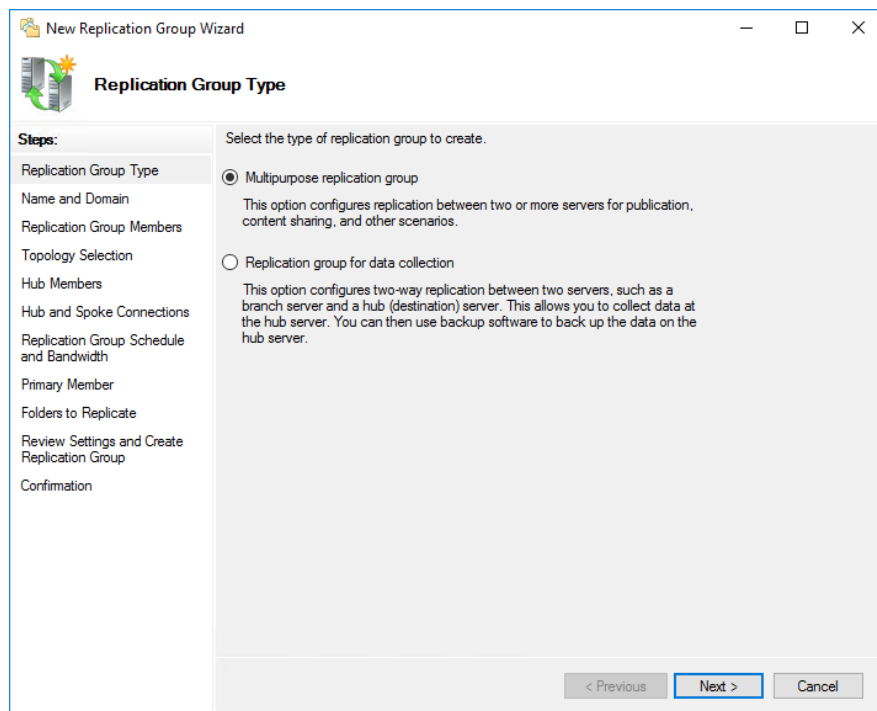
The screenshot shows the 'New Namespace Wizard' window, specifically the 'Namespace Type' step. The window has a title bar with standard Windows controls. On the left, a 'Steps:' pane lists the wizard's stages: 'Namespace Server', 'Namespace Name and Settings', 'Namespace Type' (which is highlighted), 'Review Settings and Create Namespace', and 'Confirmation'. The main area is titled 'Namespace Type' and contains the instruction 'Select the type of namespace to create.' There are two radio button options. The first, 'Domain-based namespace', is selected. Below it, a text box shows the 'Preview of domain-based namespace' as '\\KONG-guffens.local\\Fileserver'. The second option, 'Stand-alone namespace', is unselected. Below it, a text box shows the 'Preview of stand-alone namespace' as '\\win-7esd2cm83qs\\Fileserver'. At the bottom right, there are three buttons: '< Previous', 'Next >' (which is highlighted with a blue border), and 'Cancel'.

Herhaal dit om een namespace voor de Roaming profiles aan te maken.

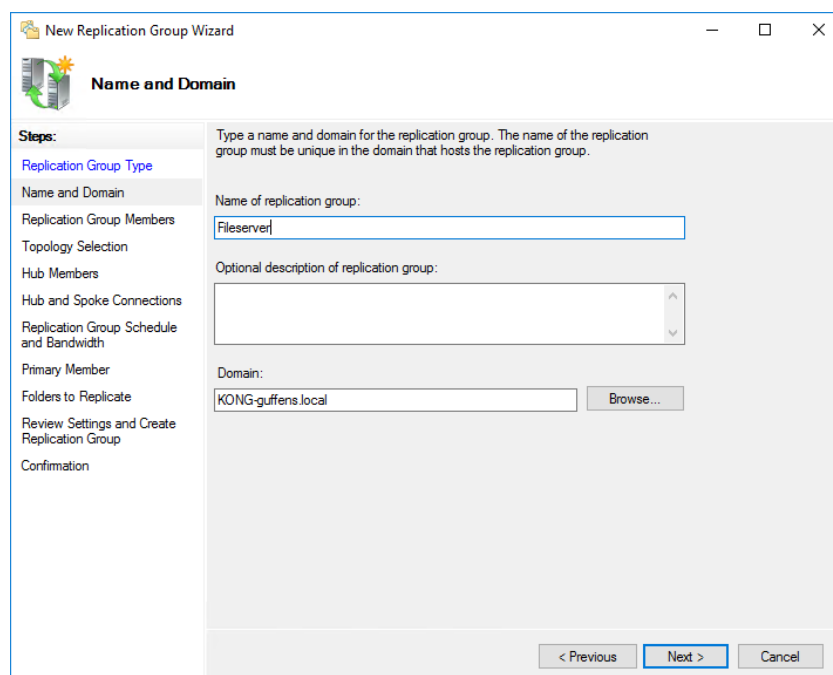
3.3 Replication instellen

Op de **primary server** ga naar **DFS Management** en maak een nieuwe **replication group**.

1. Rechtermuisknop op **Replication**
2. Klik op **New replication group...**
3. Selecteer **Multipurpose replication group**
4. Klik op **Next**



Vul de naam van de replication group in, in het voorbeeld "Fileserver". Klik daarna op **Next**.



Voeg beide servers toe aan de **Replication group members**. Klik daarna op **3 keer** op **Next**.

The screenshot shows the 'New Replication Group Wizard' window, specifically the 'Replication Group Members' step. The left sidebar lists the steps: Replication Group Type, Name and Domain, Replication Group Members (selected), Topology Selection, Hub Members, Hub and Spoke Connections, Replication Group Schedule and Bandwidth, Primary Member, Folders to Replicate, Review Settings and Create Replication Group, and Confirmation. The main area contains instructions: 'Click Add and then select two or more servers that will become members of the replication group.' Below this is a table with two columns: 'Server' and 'Domain'. The table lists two servers: WIN-7ESD2CM83QS and WIN-97DEUB0QDMH, both with the domain KONG-guffens.local. Below the table are 'Add...' and 'Remove' buttons. At the bottom right are '< Previous', 'Next >', and 'Cancel' buttons.

Server	Domain
WIN-7ESD2CM83QS	KONG-guffens.local
WIN-97DEUB0QDMH	KONG-guffens.local

Builde bij **Primary member** de **primary server** aan. Klik vervolgens op **Next**.

The screenshot shows the 'New Replication Group Wizard' window, specifically the 'Primary Member' step. The left sidebar lists the steps: Replication Group Type, Name and Domain, Replication Group Members, Topology Selection, Replication Group Schedule and Bandwidth, Primary Member (selected), Folders to Replicate, Review Settings and Create Replication Group, and Confirmation. The main area contains instructions: 'Select the server that contains the content you want to replicate to other members. This server is known as the primary member.' Below this is a 'Primary member:' label and a dropdown menu showing 'WIN-7ESD2CM83QS'. Below the dropdown is an information icon and a note: 'If the folders to be replicated already exist on multiple servers, the folders and files on the primary member will be authoritative during initial replication.' At the bottom right are '< Previous', 'Next >' (highlighted), and 'Cancel' buttons.

Voeg bij **Folders to Replicate** de folder van de **Fileserver** toe. Klik daarna op **Next**.

The screenshot shows the 'New Replication Group Wizard' window, specifically the 'Folders to Replicate' step. The left sidebar lists the steps: Replication Group Type, Name and Domain, Replication Group Members, Topology Selection, Replication Group Schedule and Bandwidth, Primary Member, Folders to Replicate (selected), Local Path of Fileserver on Other Members, Review Settings and Create Replication Group, and Confirmation. The main area contains instructions: 'To select a folder on the primary member that you want to replicate to other members of the replication group, click Add.' Below this is a table titled 'Replicated folders:' with columns 'Local Path', 'Replicated Folder Name', and 'NTFS Permissions'. The table contains one entry: Local Path: C:\Shared\Fileserver, Replicated Folder Name: Fileserver, NTFS Permissions: Use existing per... Below the table are buttons 'Add...', 'Edit...', and 'Remove'. At the bottom right are buttons '< Previous', 'Next >', and 'Cancel'.

Local Path	Replicated Folder Name	NTFS Permissions
C:\Shared\Fileserver	Fileserver	Use existing per...

Selecteer de locatie van de **Fileserver** op de **secondary server**. Voor gemakkelijheid neem je best hetzelfde path als op de primary server. Klik daarna op **Next** en vervolgens op **Create**.

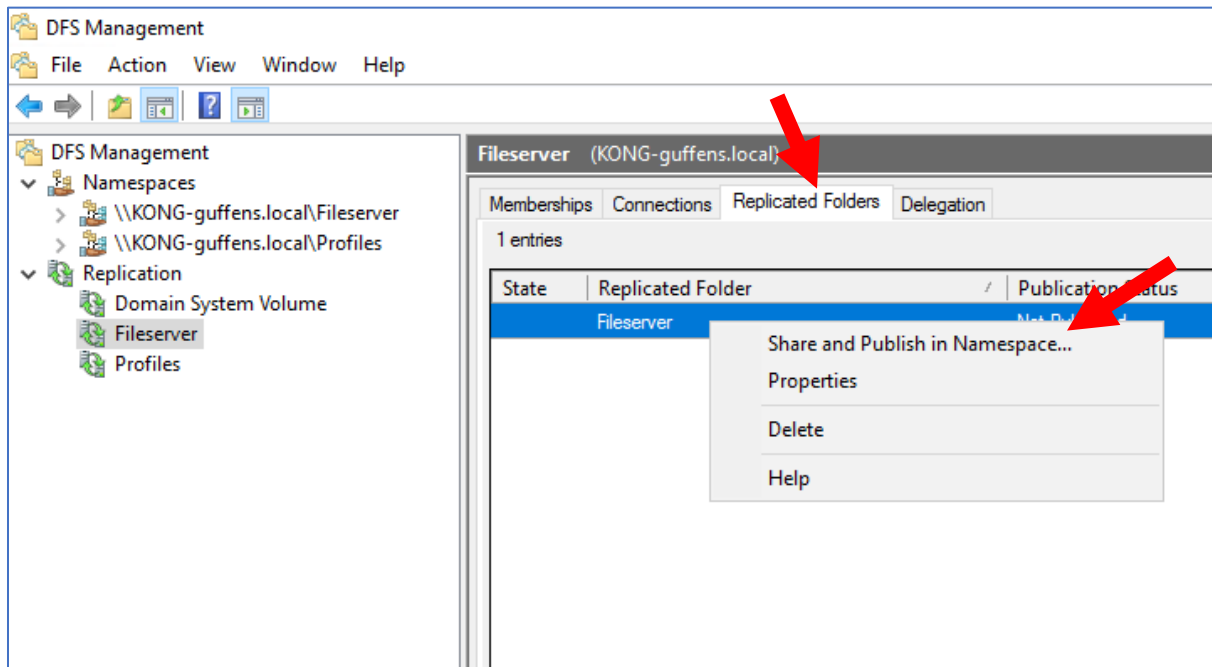
The screenshot shows the 'New Replication Group Wizard' window, specifically the 'Local Path of Fileserver on Other Members' step. The left sidebar lists the steps: Replication Group Type, Name and Domain, Replication Group Members, Topology Selection, Replication Group Schedule and Bandwidth, Primary Member, Folders to Replicate, Local Path of Fileserver on Other Members (selected), Review Settings and Create Replication Group, and Confirmation. The main area contains instructions: 'To specify the local path of the replicated folder or whether the folder is read-only, select the appropriate member and then click Edit'. Below this is information about the primary member: 'Primary member: WIN-7ESD2CM83QS' and 'Primary member local path: C:\Shared\Fileserver'. Below this is a table titled 'Member details:' with columns 'Member', 'Local Path', and 'Membership Stat...'. The table contains one entry: Member: WIN-97DEUB0Q..., Local Path: C:\Shared\Fileserver, Membership Stat...: Enabled. Below the table is an 'Edit...' button. At the bottom right are buttons '< Previous', 'Next >', and 'Cancel'.

Member	Local Path	Membership Stat...
WIN-97DEUB0Q...	C:\Shared\Fileserver	Enabled

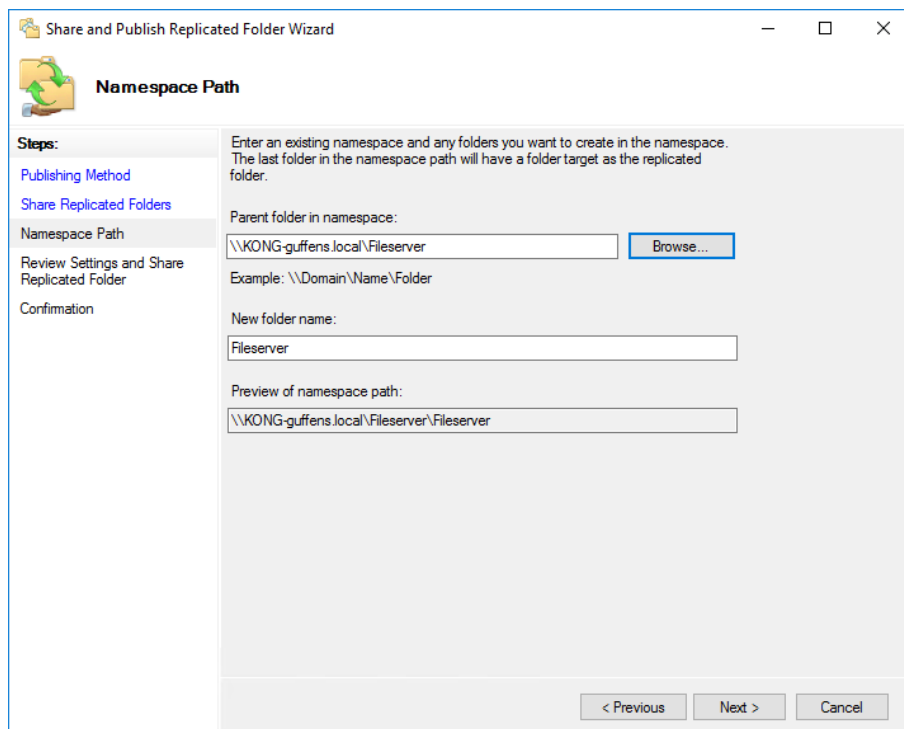
Deelen publiceer de replication in de namespace.

1. Ga naar de **Replicated Folders** tab van de replication (**Fileserver** in het voorbeeld)
2. Rechtermuisknop op de replicated folder
3. Klik op **Share and Publish in Namespace**

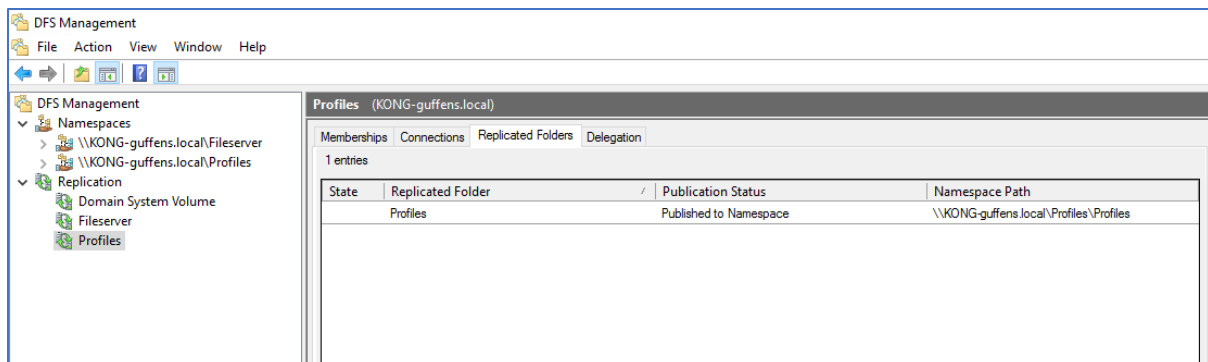
Klik **2 keer** op **Next**.



Bij **Parent folder in namespace** selecteer de juiste namespace (Fileserver in het voorbeeld). Klik op **Next** en vervolgens op **Share**.



Herhaal dit voor de **Roaming profiles**. Maak een replication aan en deel deze in de namespace.

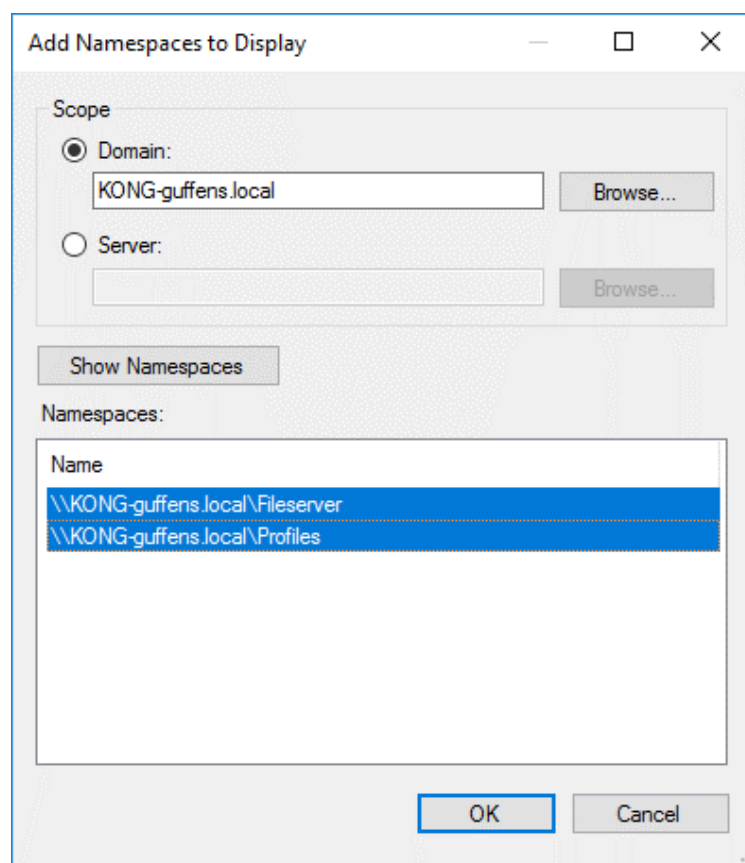


3.4 Secondary server

Na installatie van DFS op **beide** servers en de configuratie op de primary server kunnen we de **configuratie** doen op de **secondary server**.

We gaan de namespace van de **primary server** registreren op de **secondary server**.

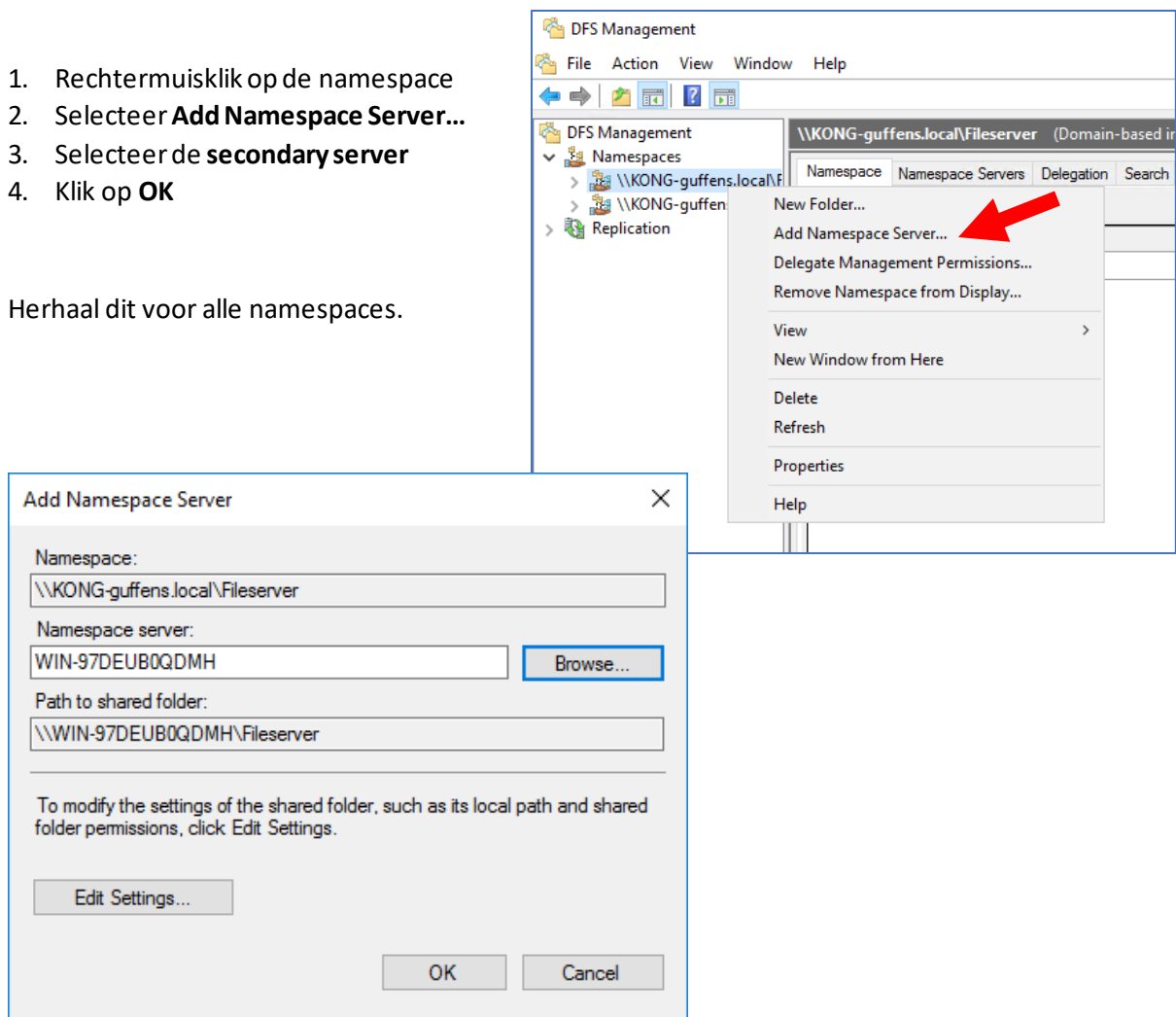
1. Ga naar **DFS Management**
2. Rechtermuisklik op **Namespaces**
3. Klik op **Add Namespaces to Display...**
4. Selecteer beide namespaces
5. Klik op **OK**



Voeg nu **secondary server** toe als **namespace server**.

1. Rechtermuisklik op de namespace
2. Selecteer **Add Namespace Server...**
3. Selecteer de **secondary server**
4. Klik op **OK**

Herhaal dit voor alle namespaces.

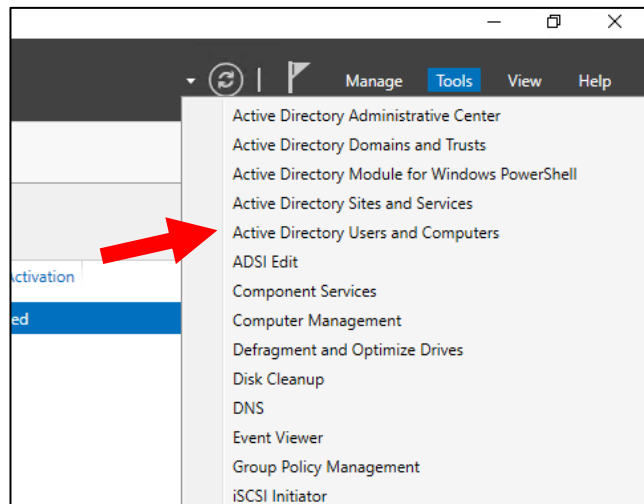


Als alles juist is ingesteld dan worden de fileserver en de roaming profiles gesynchroniseerd en wanneer één server uitvalt is alles nog bereikbaar via de andere server.

4. Users en Computers beheer

Voor het beheer van users en computers moeten we naar **Active Directory Users and Computers** gaan.

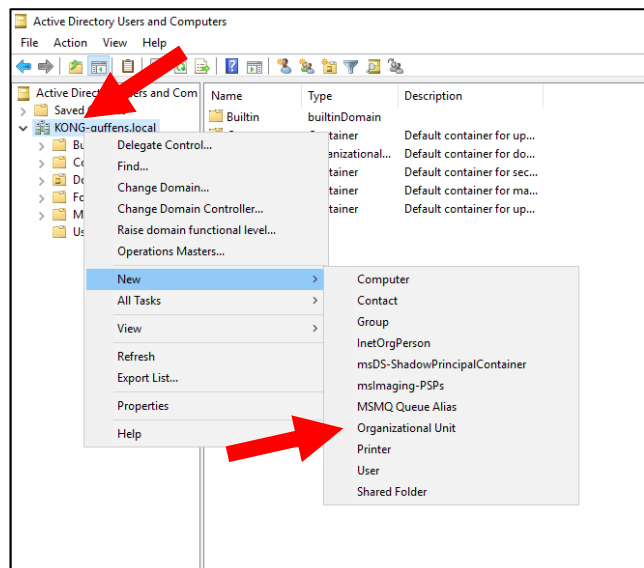
1. Ga naar de **Server Manager**,
2. Klik rechts bovenaan op **Tools**
3. Klik op **Active Directory Users and Computers**



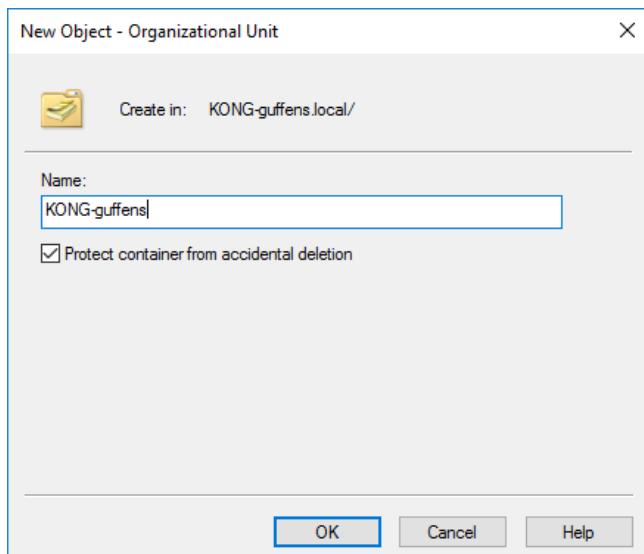
4.1 Organizational Units

Om alle gebruikers beter te beheren gaan we deze organiseren in **Organizational Units**.

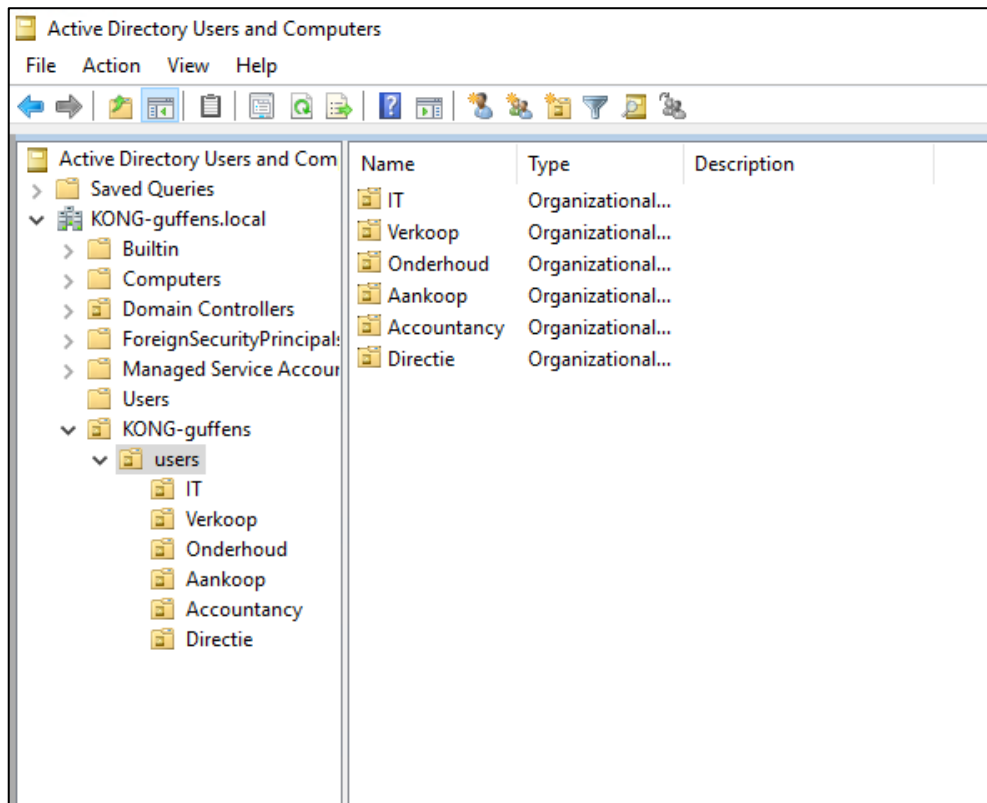
1. Rechtermuisklik op je domein
2. Klik op **New**
3. Klik op **Organizational Unit**



De eerste **Organizational Unit** noemen we naar ons domein. Klik daarna op **OK**.

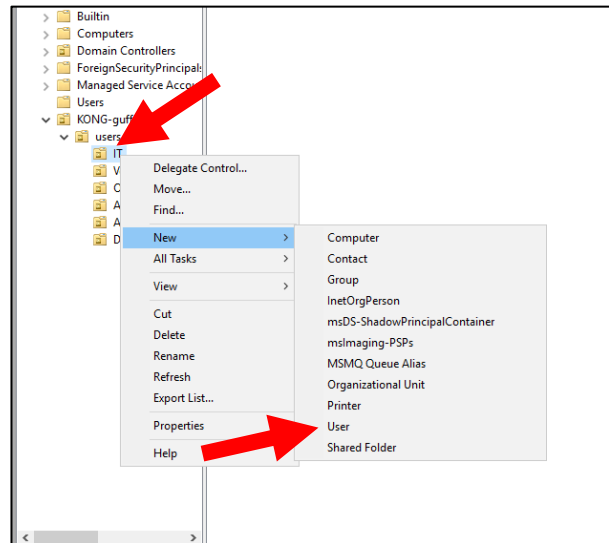


Maak nu de nog een **Organizational Unit** aan om de gebruikers in te groeperen en voor elke afdeling.



4.2 Gebruikers

1. Rechtermuisknop op de **Organizational Unit (OU)** van de gewenste afdeling
2. Klik op **New**
3. Klik op **User**



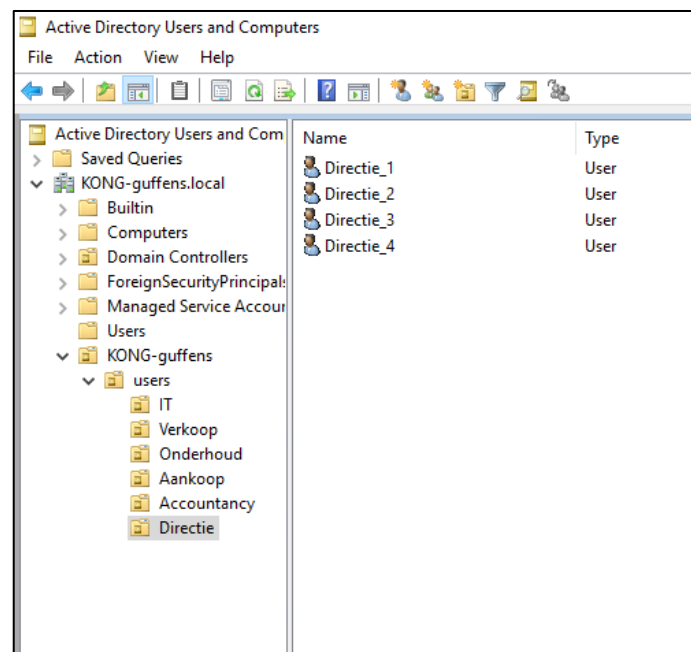
Vul de gegevens van de gebruiker in en klik op **Next**.

A screenshot of the 'New Object - User' dialog box. The title bar says 'New Object - User'. Below the title bar, it says 'Create in: KONG-guffens.local/KONG-guffens/users/IT'. There are several input fields: 'First name:' with 'IT_1', 'Initials:' (empty), 'Last name:' (empty), 'Full name:' with 'IT_1', 'User logon name:' with 'IT_1' and a dropdown menu showing '@KONG-guffens.local', and 'User logon name (pre-Windows 2000):' with 'KONG-GUFFENS\' and 'IT_1'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

1. Geef de gebruiker een standaard wachtwoord
2. Duid de gewenste opties aan
3. Klik op **Next**
4. Klik op **Finish**

A screenshot of the 'New Object - User' dialog box, showing the password and options section. The title bar says 'New Object - User'. Below the title bar, it says 'Create in: KONG-guffens.local/KONG-guffens/users/IT'. There are two password input fields: 'Password:' and 'Confirm password:', both containing masked characters (dots). Below these are four checkboxes: 'User must change password at next logon', 'User cannot change password', 'Password never expires', and 'Account is disabled'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

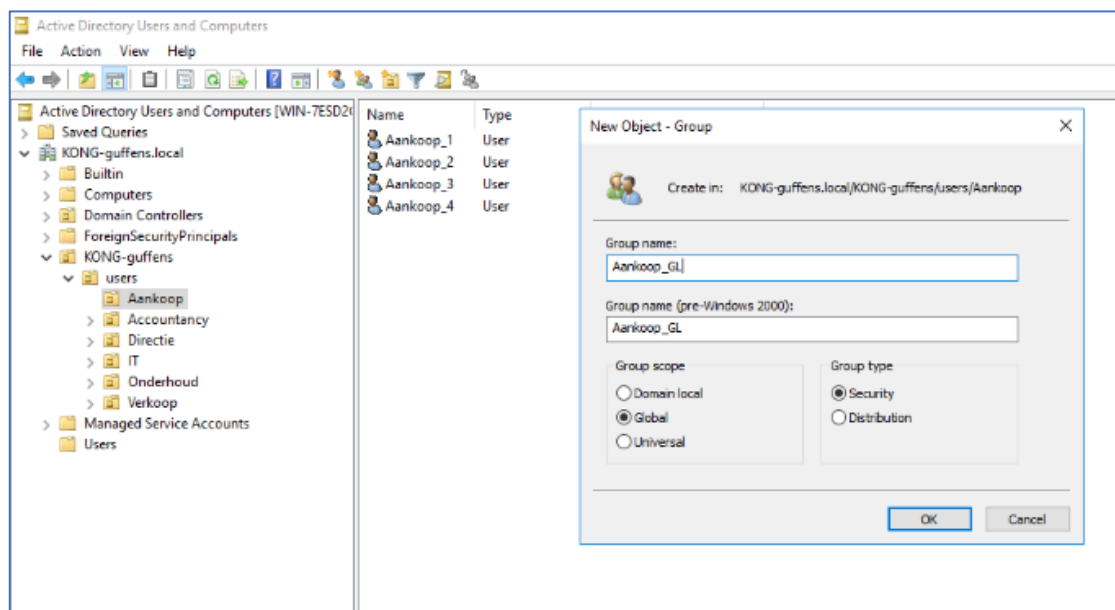
Maak nu alle gewenste gebruikers voor elke afdeling zoals in de afbeelding.



4.3 Groepen

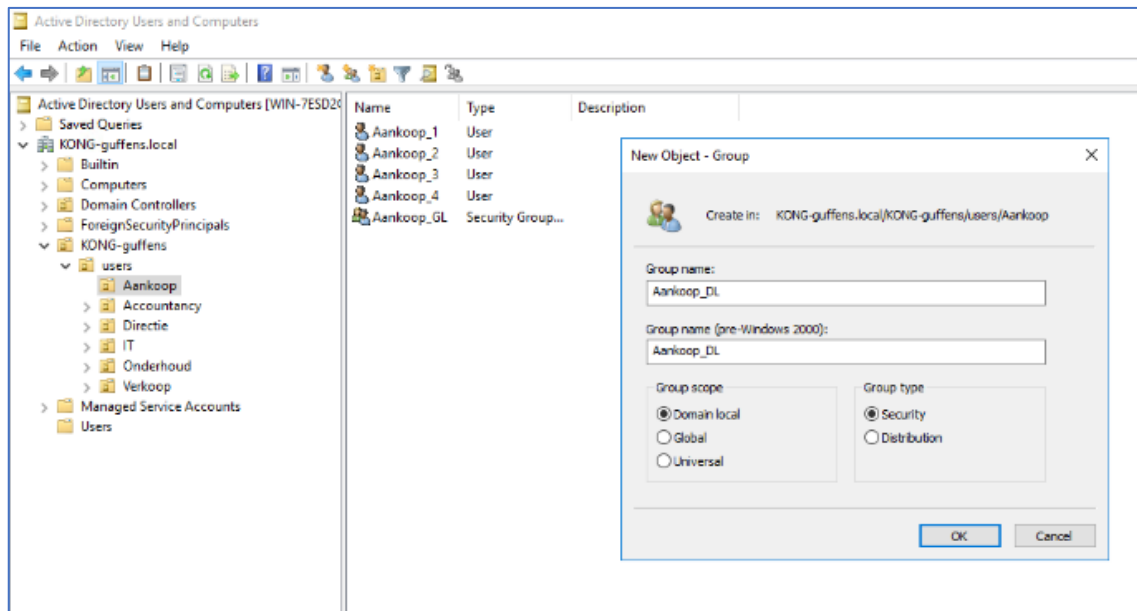
Maak voor elke afdeling een **Globale** groep aan met “_GL” als suffix voor duidelijkheid.

1. Rechtermuisknop op de afdeling
2. Klik op **New**
3. Klik op **Group**
4. Duid **Global** aan onder **Group scope**



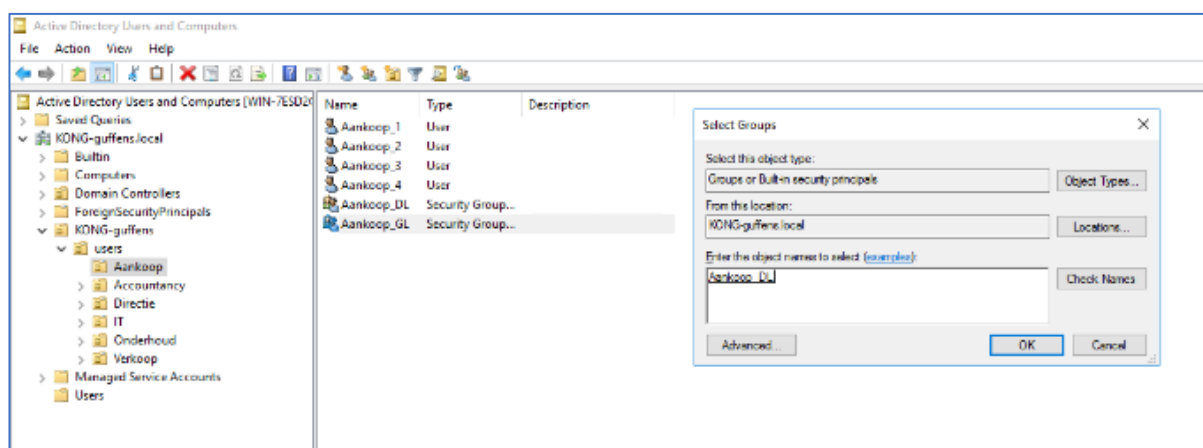
Maak voor elke afdeling een **Domain Local** groep aan met “_DL” als suffix voor duidelijkheid.

1. Rechtermuisknop op de afdeling
2. Klik op **New**
3. Klik op **Group**
4. Duid **Domain local** aan onder **Group scope**.



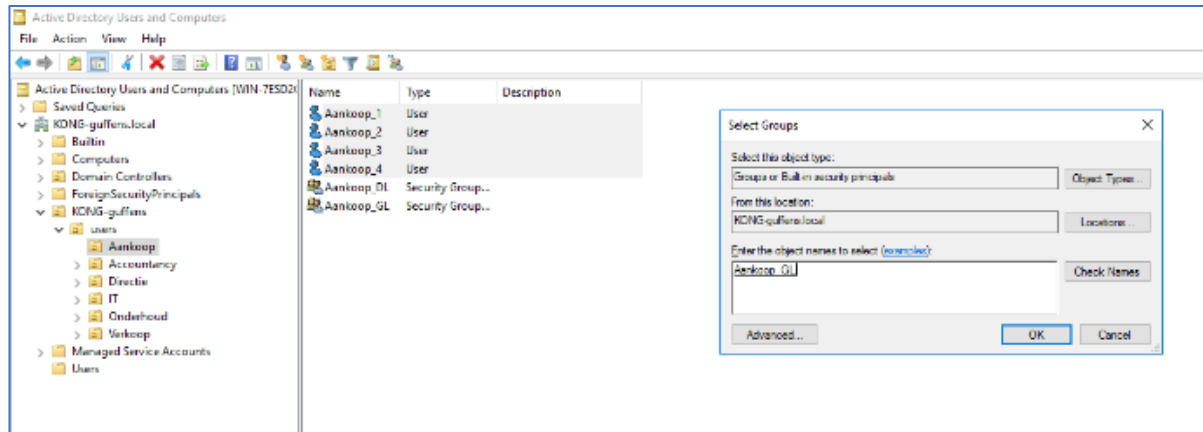
Voeg nu de **Global** groep toe aan de **Domain Local** groep.

1. Rechtermuisknop op de groep
2. Klik op **Add to a group...**
3. Vul de groep naam in
4. Klik op **Check names**
5. Klik op **OK**



Voeg nu alle gebruikers toe aan de **Global** groep. Door de vorige stap behoren deze gebruikers ook automatisch aan de **Domain local** groep.

1. Selecteer alle gebruikers
2. Rechtermuisknop
3. Klik op **Add to a group...**
4. Vul de **Global** groep naam in
5. Klik op **OK**

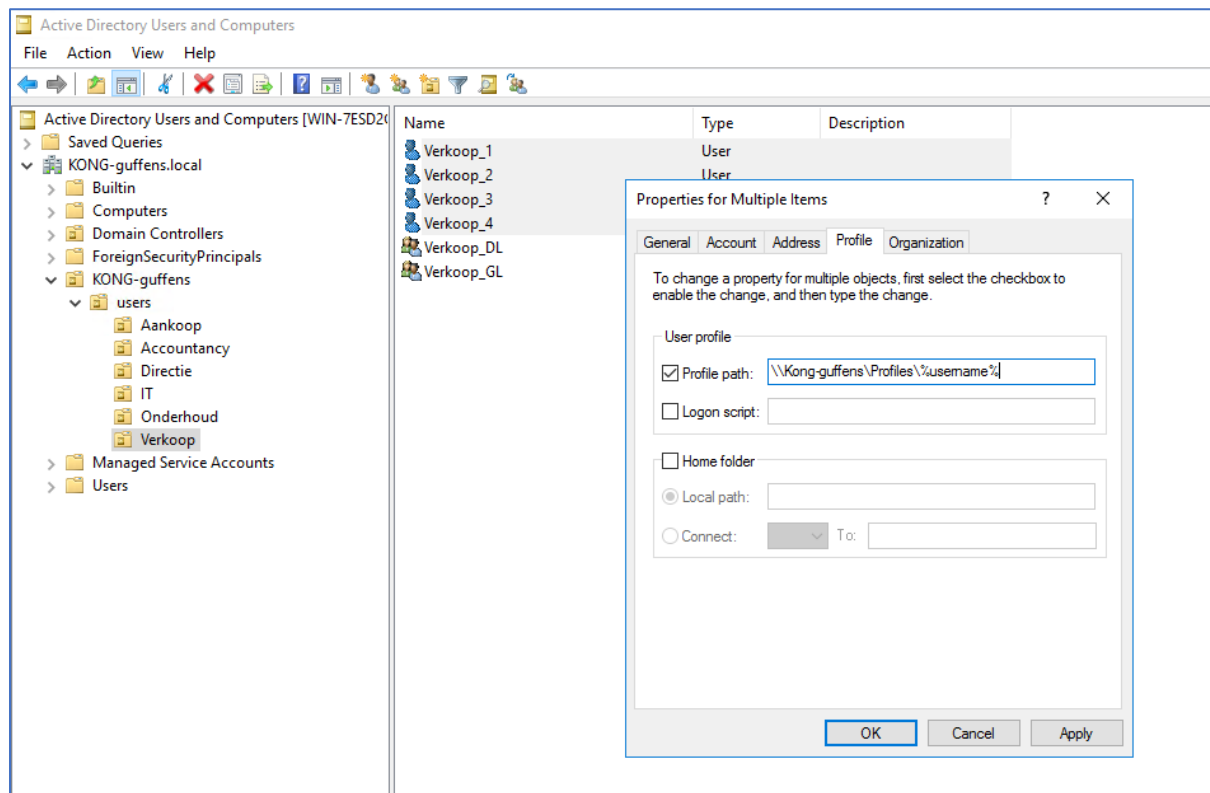


4.4 Roaming profiles instellen

Stel voor elke gebruiker hun **Profile path** aan. Alle profielen worden dan in de gedeelde folder opgeslagen met alle voordelen van redundancy.

1. Selecteer alle gebruikers
2. Rechtermuisknop
3. Klik op **Properties**
4. Ga naar de **Profile** tab
5. Vul het **Network Path** van de shared folder in met **\%username%** achteraan.
\\KONG-guffens\Profiles\%username%

Windows gaat automatisch **%username%** vervangen met de naam van de gebruiker die je aanpast.



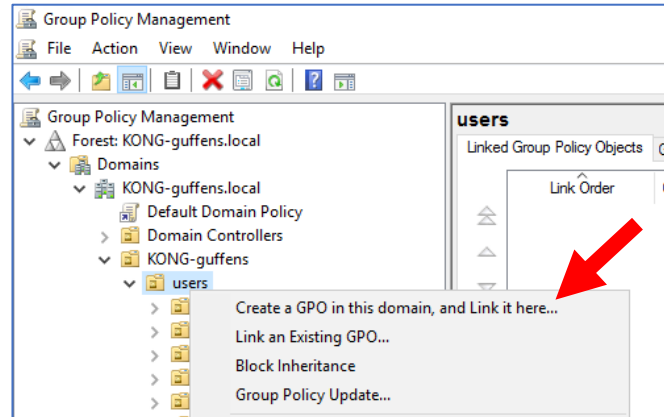
5. Policies

5.1 Persoonlijke folders

Ga naar de **Group Policy Manager** via **Tools** in de **Server Manager**.

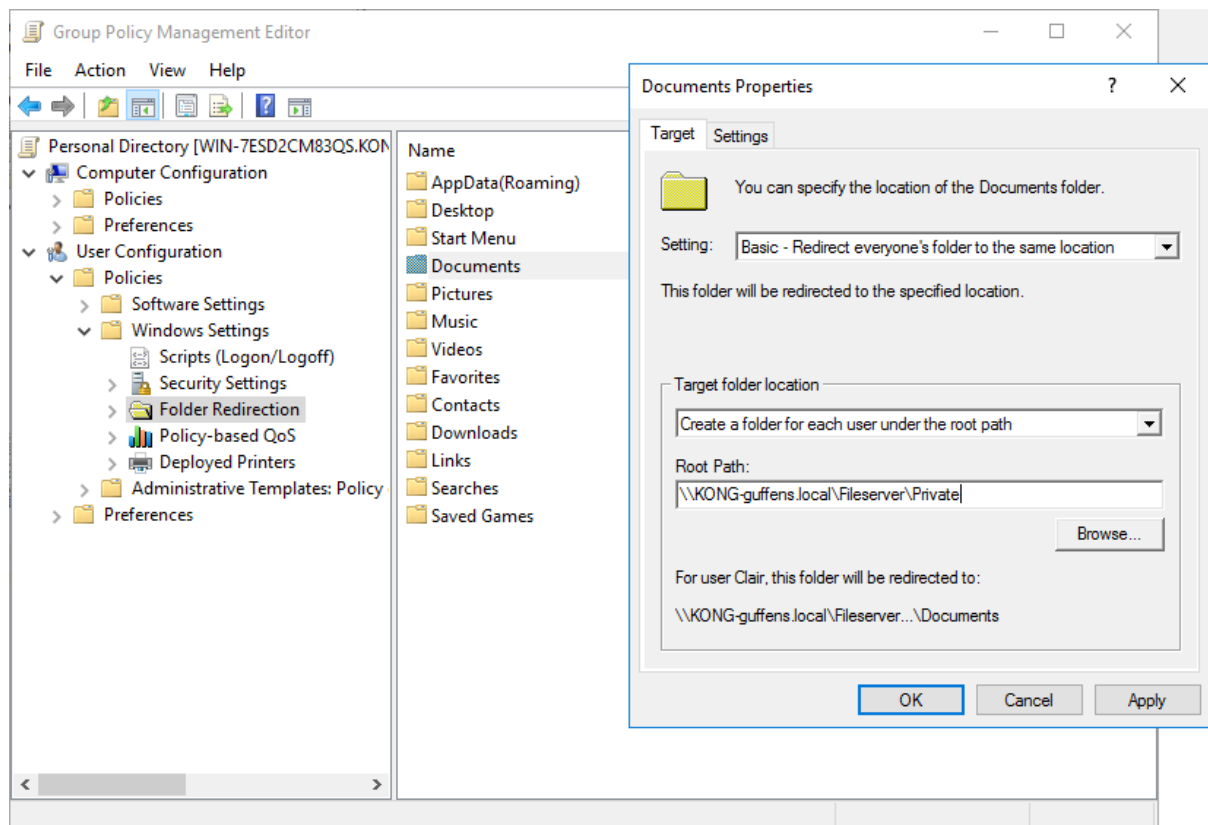
Maak een nieuwe **GPO**

1. Rechtermuisklik op **users** in het domein
2. Klik op **Create a GPO in this domain, and Link it here...**
3. In de wizard, vul een naam in
4. Klik op **OK**



Stel **Folder Redirection** in voor de gewenste mappen.

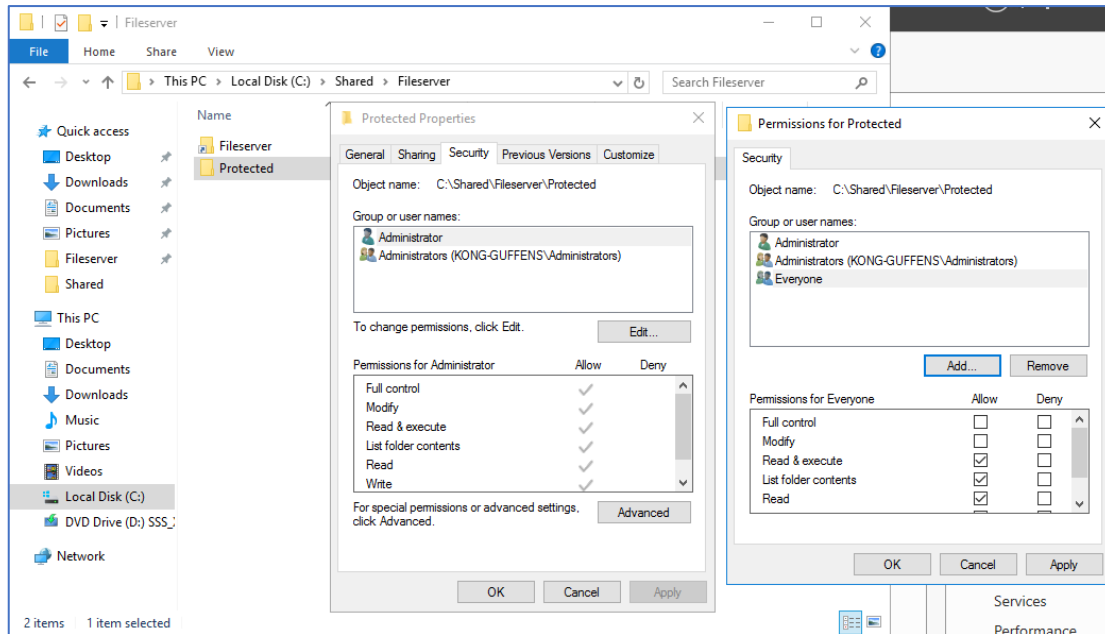
1. Rechtermuisklik op de GPO die je net hebt aangemaakt
2. Klik op **Edit**
3. Rechtermuisklik op de gewenste policy (**Folder Redirection**) onder **User Configuration**
4. Klik op **Edit**
5. Stel het root path in (private folder op de fileserver)
\\KONG-guffens.local\\Fileserver\\Private
6. Klik op **OK**



5.2 Vaste Achtergrond

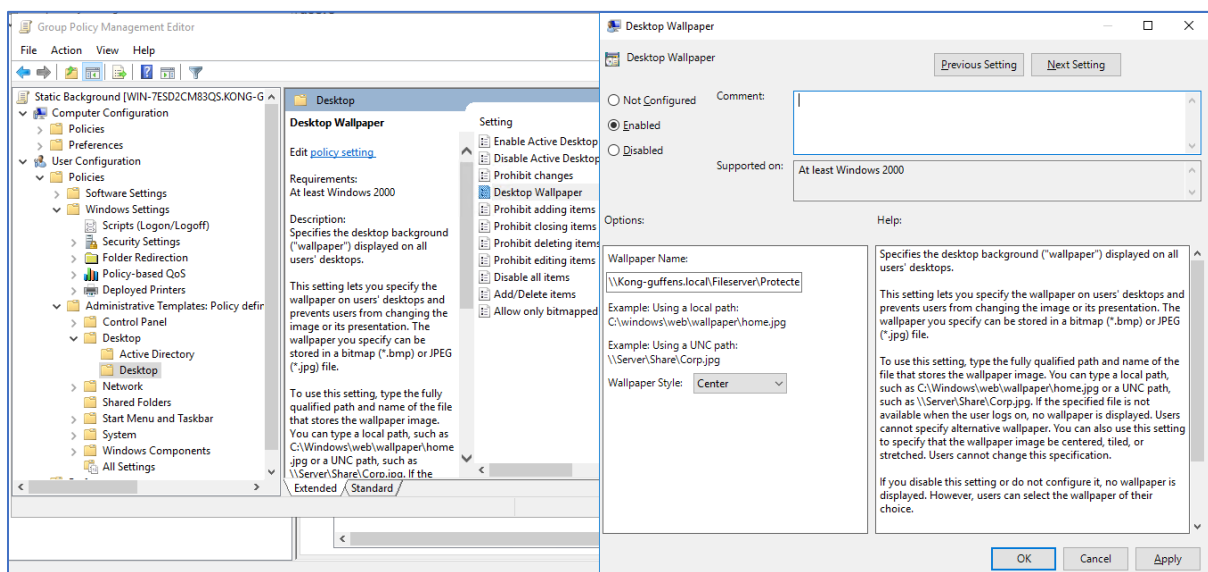
Maak een nieuwe folder in de fileserver genaamd **Protected**. In deze folder heeft iedereen lees en uitvoer rechten heeft maar geen schrijfrechten, m.a.w. een **readonly** folder.

Plaats daarna een achtergrond afbeelding in deze folder.



Maak een nieuwe **GPO** in de **Group Policy Manager** (Zie 5.1.) en stel de **Desktop Wallpaper** policy in voor deze GPO.

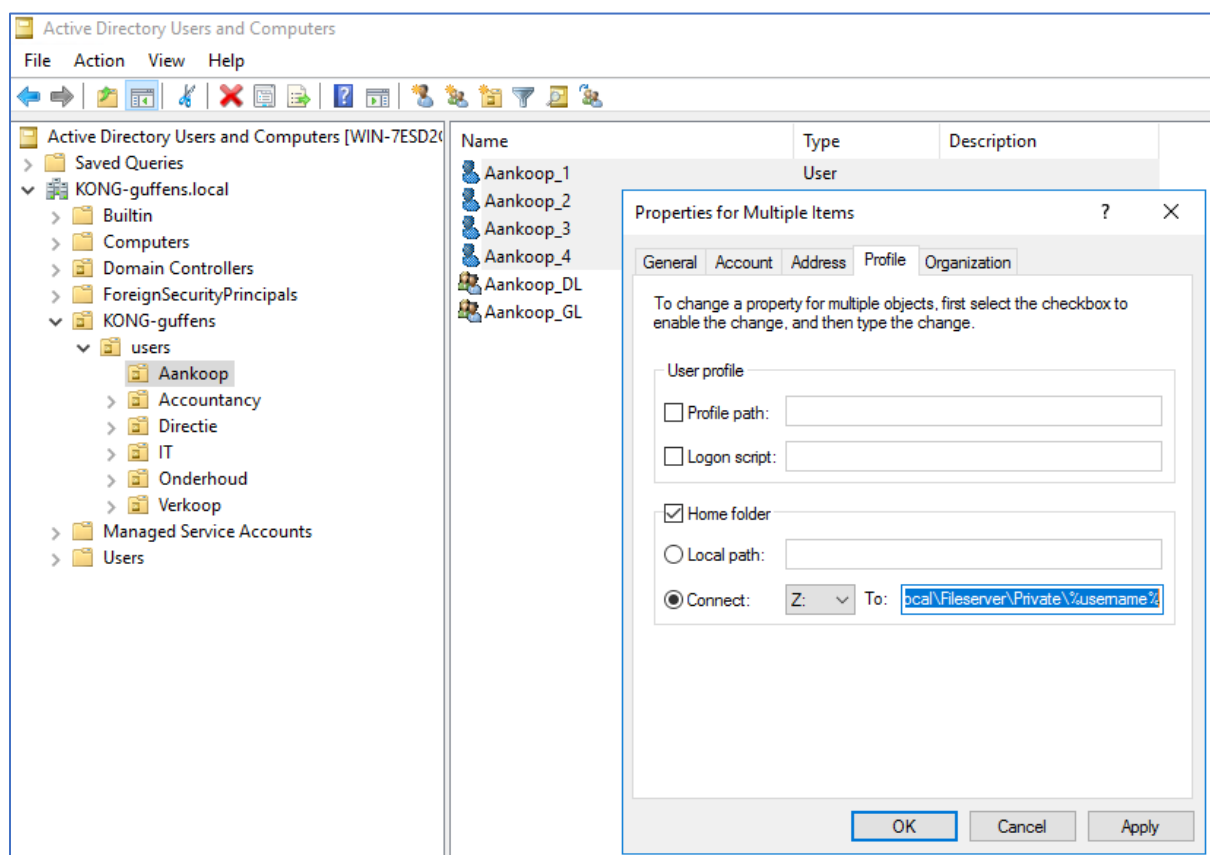
1. Rechtermuisklik op de **Desktop Wallpaper** policy in **User Configuration**
2. Klik op **Edit**
3. Selecteer **Enabled**
4. Vul onder **Options** het path naar de achtergrond in:
\\Kong-guffens.local\Fileserver\Protected\background.png
5. Klik op **OK**



5.3 Persoonlijke folders als Z: schijf

Wanneer je al een persoonlijke folders policy hebt (zie 5.1.), ga naar **Active Directory Users and Computers** en stel de home folder in als Z: drive.

1. Rechtermuisklik op de gewenste user
2. Klik op **Properties**
3. Ga naar de **Profile** tab
4. Duid **Home folder** aan
5. Selecteer **Connect** en de gewenste schijf (Z:)
6. Vul het path van de persoonlijke folder in:
\\KONG-guffens.local\Fileserver\Private\%username%
7. Klik op **OK**

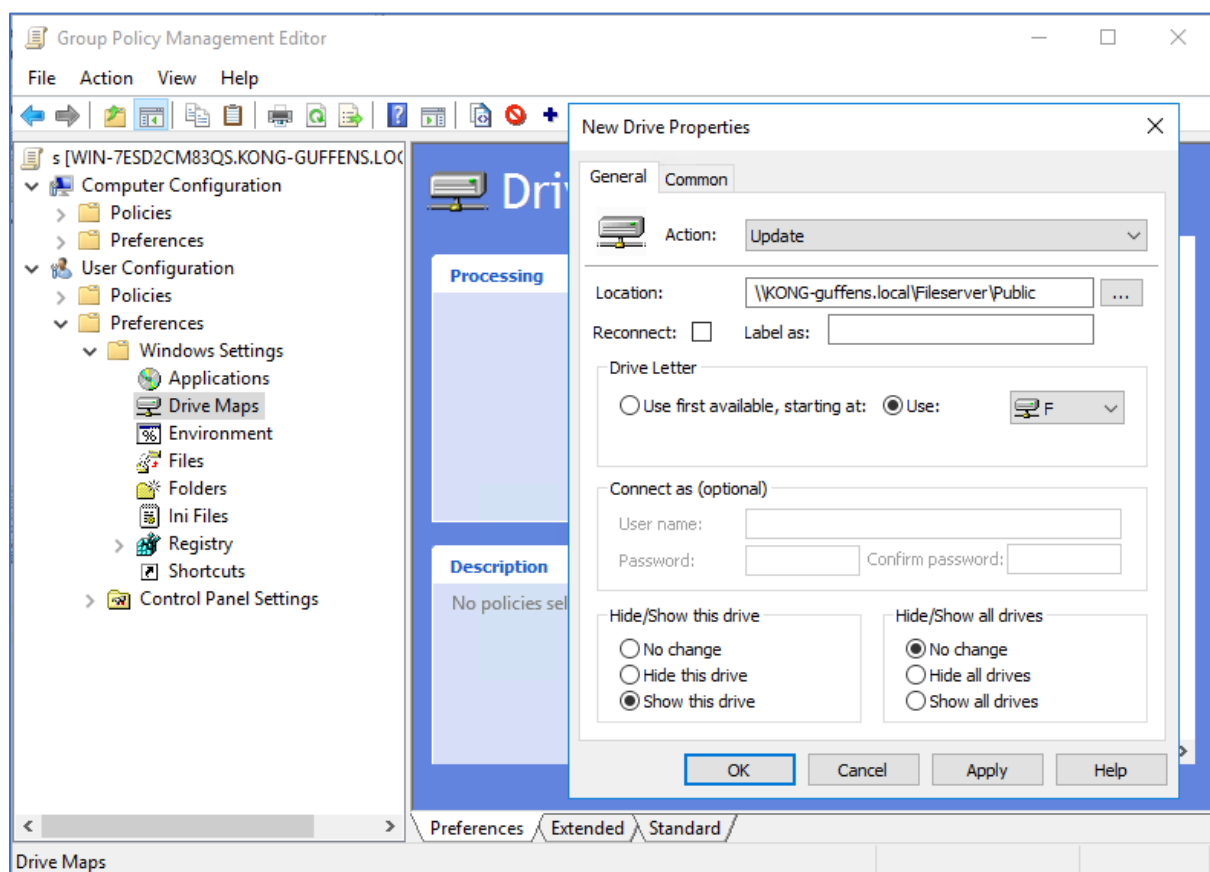


5.4 Fileserver koppelen aan de F: schijf

Maak een **Public** folder aan in de **Fileserver** en zorg dat **iedereen** lees, schrijf en uitvoerrechten heeft.

Maak een nieuwe **GPO** in de **Group Policy Manager** (Zie 5.1.) en stel de **Drive Maps** preference in voor deze GPO.

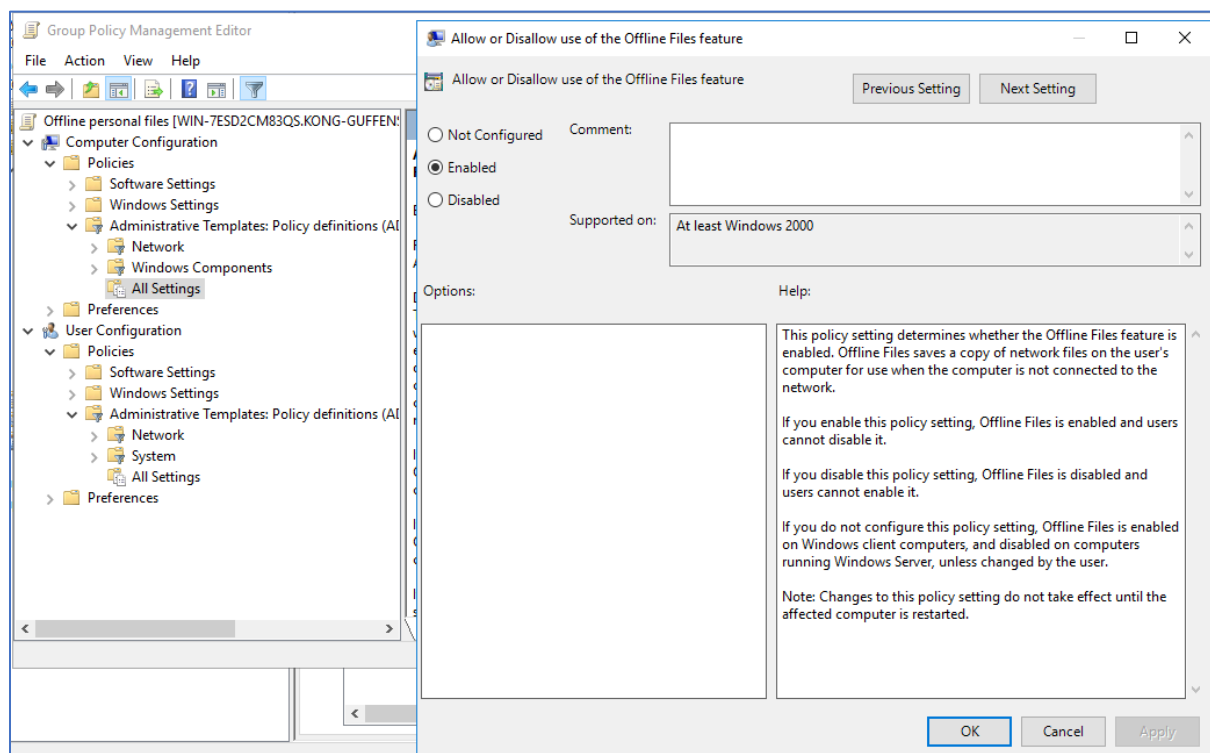
1. Rechtermuisklik op **Drive Maps**
2. Klik op **New > Mapped Drives**
3. Vul het path van de publieke folder op de Fileserver in:
\\KONG-guffens.local\Fileserver\Public
4. Selecteer de **Drive Letter** (F)
5. Bij **Hide/Show this drive** duid **Show this drive** aan
6. Klik op **OK**



5.5 Persoonlijke folders offline synchroniseren

Maak een nieuwe **GPO** in de **Group Policy Manager** (Zie 5.1.) en stel de **Allow or Disallow use of the Offline Files feature** in voor deze GPO. Let op dat deze policy enkel voor computers geldt en dus voor de **Computers** OU moet gemaakt worden.

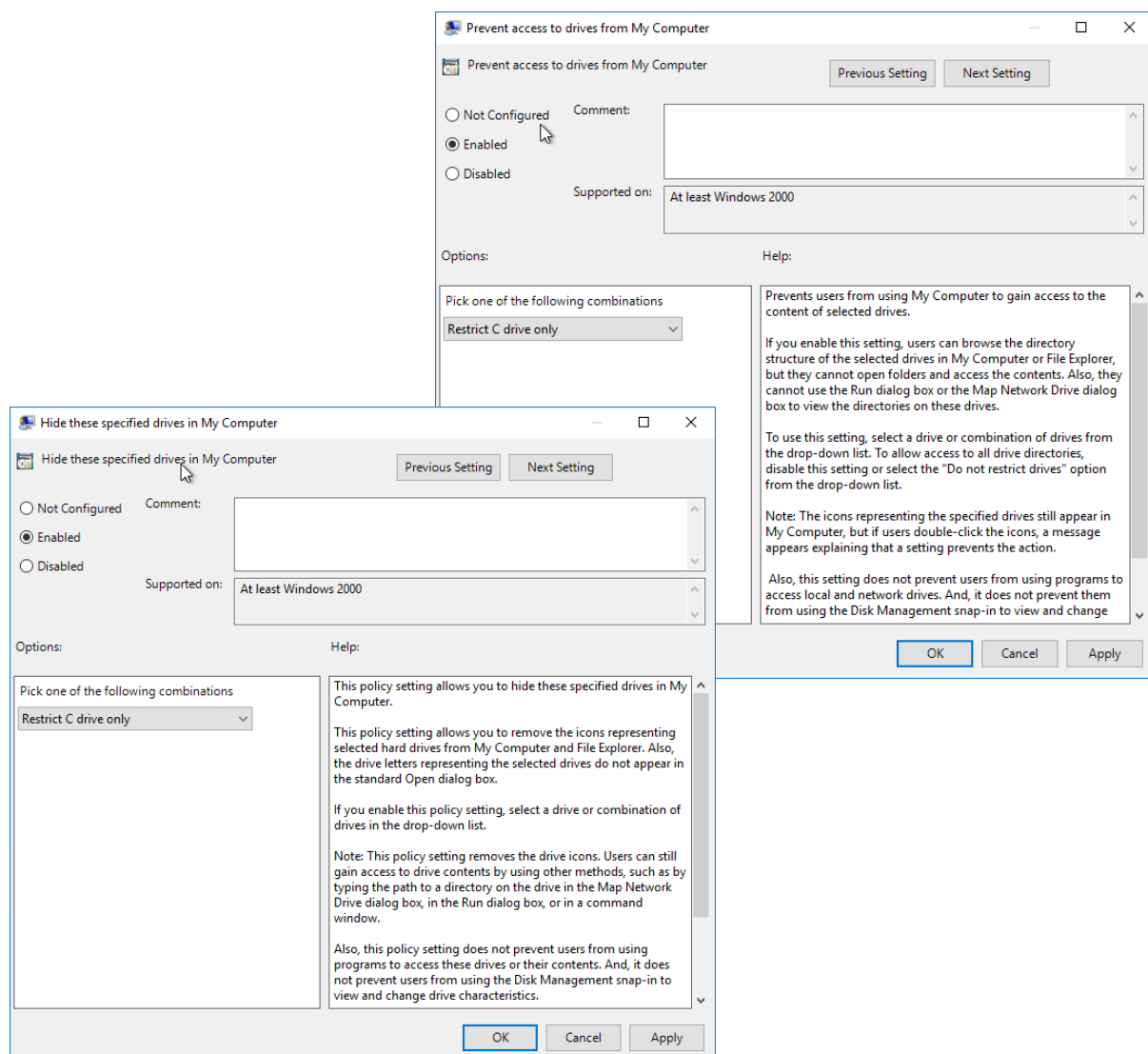
1. Rechtermuisklik op de **Allow or Disallow use of the Offline Files feature** onder **Computer Configuration**
2. Klik op **Edit**
3. Selecteer **Enabled**
4. Klik op **OK**



5.6 Onderhoud krijgt geen toegang tot C: schijf

Maak een nieuwe **GPO** in de **Group Policy Manager** (Zie 5.1.) en stel de **Prevent access to drives from My Computer** en de **Hide these specified drives in My Computer** in voor deze GPO.

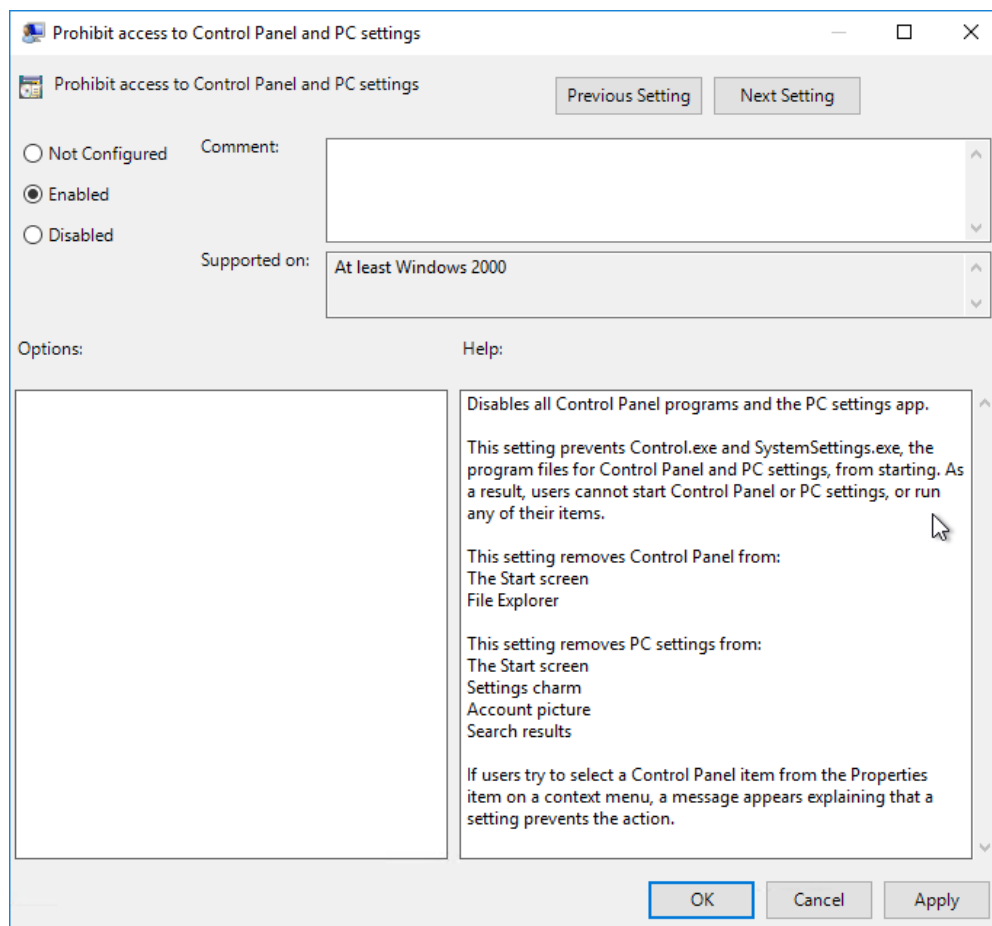
1. Rechtermuisklik op **Prevent access to drives from My Computer** onder **User Configuration**
2. Klik op **Edit**
3. Selecteer **Enabled**
4. Selecteer **Restrict C drive only** onder **Options**
5. Klik op **OK**
6. Rechtermuisklik op **Hide these specified drives in My Computer**
7. Klik op **Edit**
8. Selecteer **Enabled**
9. Selecteer **Restrict C drive only** onder **Options**
10. Klik op **OK**



5.7 Onderhoud krijgt geen toegang tot Configuratieschermb

Maak een nieuwe **GPO** in de **Group Policy Manager** (Zie 5.1.) en stel de **Prohibit access to Control Panel and PC settings** in voor deze GPO.

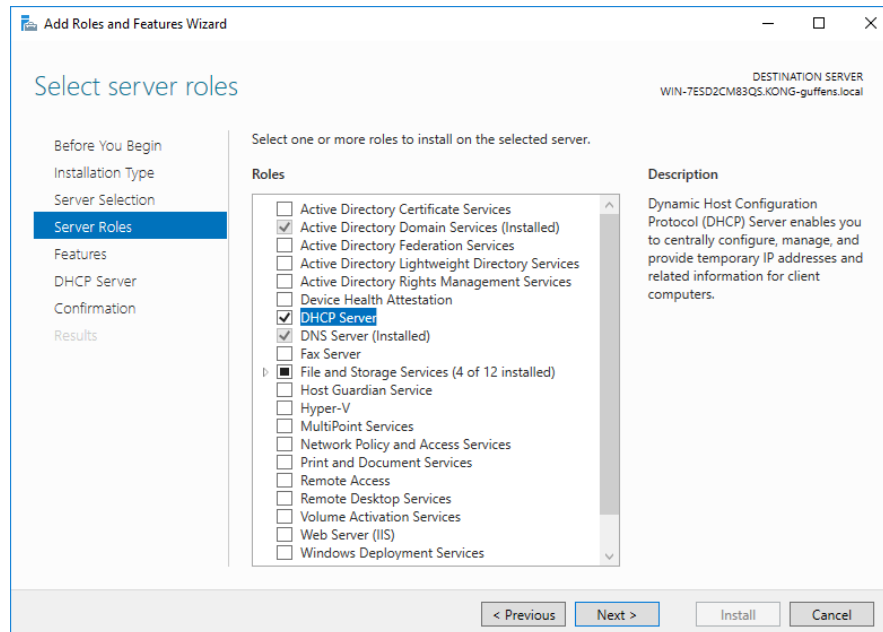
1. Rechtermuisklik op **Prohibit access to Control Panel and PC settings**
2. Klik op **Edit**
3. Selecteer **Enabled**
4. Klik op **OK**



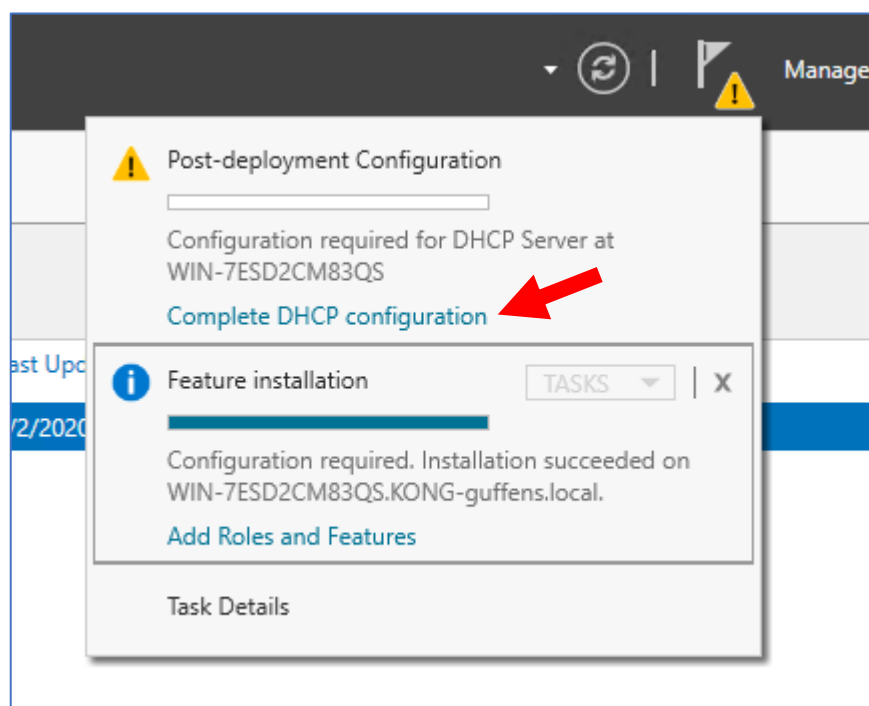
6. DHCP

6.1 Installatie

Installeer **DHCP** op dezelfde manier als we **Active Directory** hebben geïnstalleerd. Doe dit voor **beide** servers.



Klik in de **Server Manager** op de vlag rechts bovenaan en klik op **Complete DHCP configuration**. Laat alle standaardwaarden staan, klik op **Next** en daarna op **Commit**. Doe dit voor **beide** servers.



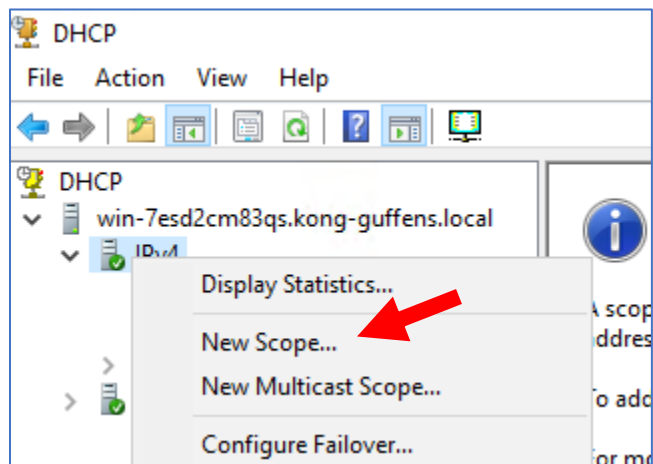
6.2 Scope aanmaken

Voor de **primary server**, ga naar **DHCP** via de **Tools** in de **Server Manager**.

Maak een nieuwe **scope** aan.

1. Rechtermuisklik op **IPv4**
2. Klik op **New Scope...**

Wanneer de wizard opent, klik op **Next**.



Vul bij de **primary server** “Primary DHCP” als naam in. Klik daarna op **Next**.

A screenshot of the 'New Scope Wizard' window, Step 1: 'Scope Name'. The text says: 'You have to provide an identifying scope name. You also have the option of providing a description.' Below, it says: 'Type a name and description for this scope. This information helps you quickly identify how the scope is to be used on your network.' There are two input fields: 'Name:' with the text 'Primary DHCP' and 'Description:' which is empty. At the bottom are buttons for '< Back', 'Next >', and 'Cancel'.

Vul de volledige IP range van het netwerk in:

192.168.1.1 – 192.168.1.254

Het netwerk is 192.168.0.1/24 dus bij **Length** vullen we 24 in.

Klik op **Next**.

A screenshot of the 'New Scope Wizard' window, Step 2: 'IP Address Range'. The text says: 'You define the scope address range by identifying a set of consecutive IP addresses.' Below, there are two sections. The first is 'Configuration settings for DHCP Server' with the instruction 'Enter the range of addresses that the scope distributes.' It has two input fields: 'Start IP address:' with '192 . 168 . 1 . 1' and 'End IP address:' with '192 . 168 . 1 . 254'. The second section is 'Configuration settings that propagate to DHCP Client' with two input fields: 'Length:' with '24' and 'Subnet mask:' with '255 . 255 . 255 . 0'. At the bottom are buttons for '< Back', 'Next >', and 'Cancel'.

Voeg de IPs van de primary en secondary server toe en eventueel ook van andere servers op het netwerk.

192.168.1.1

192.168.1.2

Klik op **Next**.

The screenshot shows the 'New Scope Wizard' window at the 'Add Exclusions and Delay' step. The title bar says 'New Scope Wizard'. The main heading is 'Add Exclusions and Delay'. Below it, a description states: 'Exclusions are addresses or a range of addresses that are not distributed by the server. A delay is the time duration by which the server will delay the transmission of a DHCP OFFER message.' The instructions say: 'Type the IP address range that you want to exclude. If you want to exclude a single address, type an address in Start IP address only.' There are two input fields: 'Start IP address:' and 'End IP address:', each followed by an 'Add' button. Below these is a list box labeled 'Excluded address range:' containing 'Address 192.168.1.1' and 'Address 192.168.1.2', with a 'Remove' button to its right. To the right of the list box is a 'Subnet delay in millisecond:' label and a spinner box set to '0'. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Pas indien gewenst de lease duur aan en klik op **Next** en dan nog eens op **Next**.

Vul het IP adres van de **primary server** in, deze server dient ook als gateway.

192.168.1.1

Klik op **Next**.

The screenshot shows the 'New Scope Wizard' window at the 'Router (Default Gateway)' step. The title bar says 'New Scope Wizard'. The main heading is 'Router (Default Gateway)'. Below it, a description states: 'You can specify the routers, or default gateways, to be distributed by this scope.' The instructions say: 'To add an IP address for a router used by clients, enter the address below.' There is an 'IP address:' label and an input field containing '192.168.1.1'. To the right of the input field are 'Add', 'Remove', 'Up', and 'Down' buttons. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Vul de IP adressen van de primary en secondary server als DNS servers.

192.168.1.1

192.168.1.2

Klik op **3 keer** op **Next** en daarna op **Finish**.

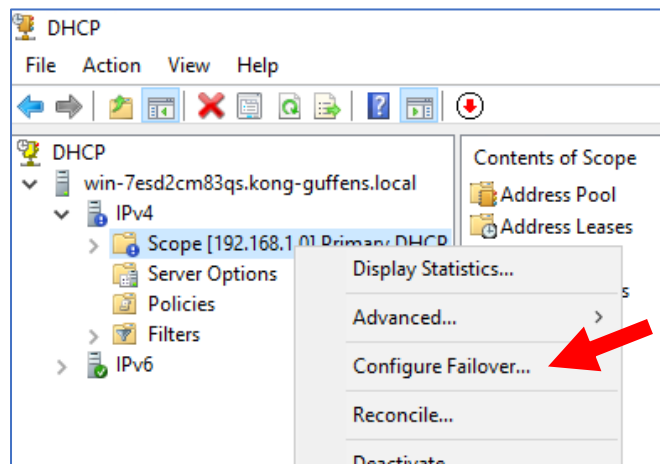
The screenshot shows the 'New Scope Wizard' window at the 'Domain Name and DNS Servers' step. The title bar says 'New Scope Wizard'. The main heading is 'Domain Name and DNS Servers'. Below it, a description states: 'The Domain Name System (DNS) maps and translates domain names used by clients on your network.' The instructions say: 'You can specify the parent domain you want the client computers on your network to use for DNS name resolution.' There is a 'Parent domain:' label and an input field containing 'KONG-guffens.local'. Below this, the instructions say: 'To configure scope clients to use DNS servers on your network, enter the IP addresses for those servers.' There are two input fields: 'Server name:' and 'IP address:'. The 'IP address:' field contains '192.168.1.1' and '192.168.1.2'. To the right of the 'IP address:' field are 'Add', 'Remove', 'Up', and 'Down' buttons. There is also a 'Resolve' button between the 'Server name:' and 'IP address:' fields. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

6.3 Failover configureren

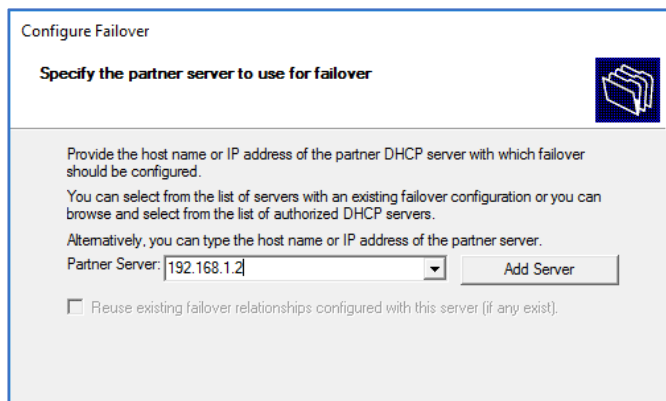
Om te zorgen dat DHCP blijft werken wanneer één server uitvalt en dat de aanvragen worden verdeeld over beide servers gaan we de **Failover** instellen.

1. Rechtermuisknop op de scope
2. Klik op **Configure Failover...**

Wanneer de wizard opent, klik op **Next**.



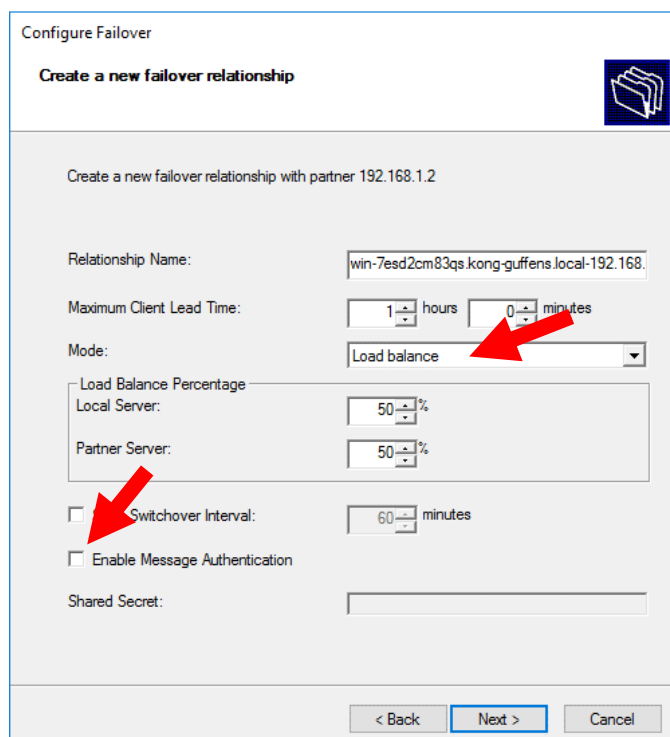
Vul het IP in van de **secondary server**. Klik daarna op **Next**.



We gaan de failover configureren.

1. Selecteer **Load balance** bij **Mode**
2. Uncheck **Enable Message Authentication**
3. Klik op **Next**
4. Klik op **Finish**

DHCP voor beide servers is nu ingesteld met redundancy.



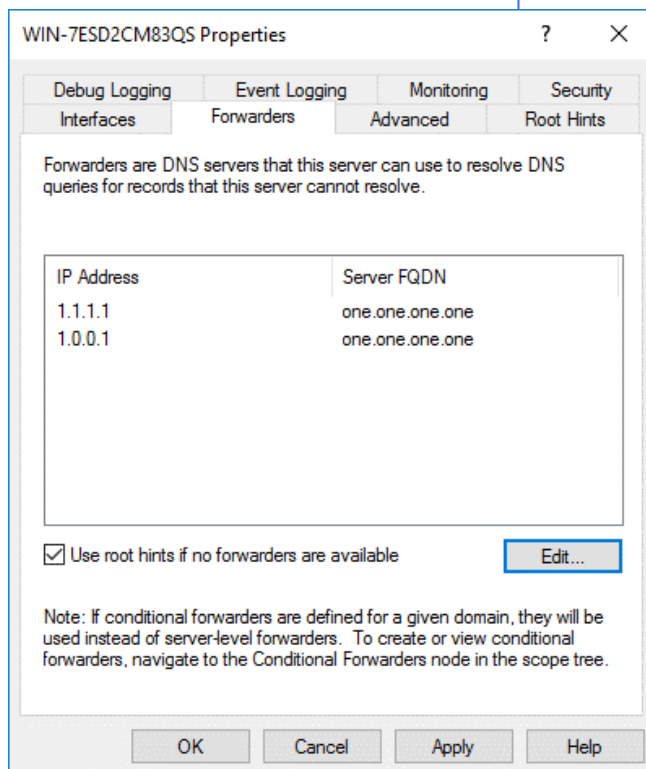
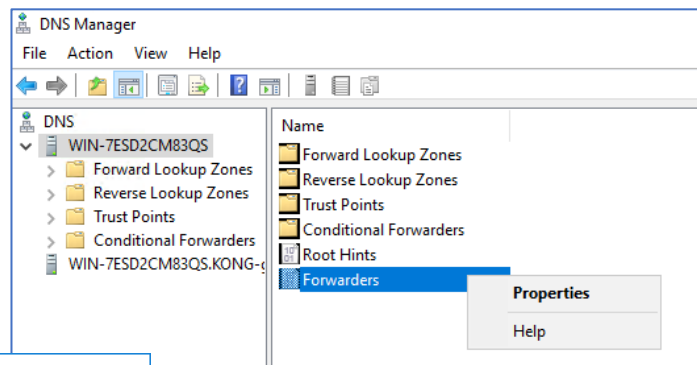
7. DNS

7.1 Forwarders instellen

Bij DHCP hebben we het IP adres van de primary en secondary server opgegeven als **DNS servers**.

We gaan voor deze servers de DNS Forwarders instellen zodat ook publieke domeinen beschikbaar worden.

1. Ga naar **DNS Manager**
2. Klik op de servernaam
3. Rechtermuisklik op **Forwarders**
4. Klik op **Properties**
5. Klik op **Edit**
6. Voeg publieke DNS servers toe

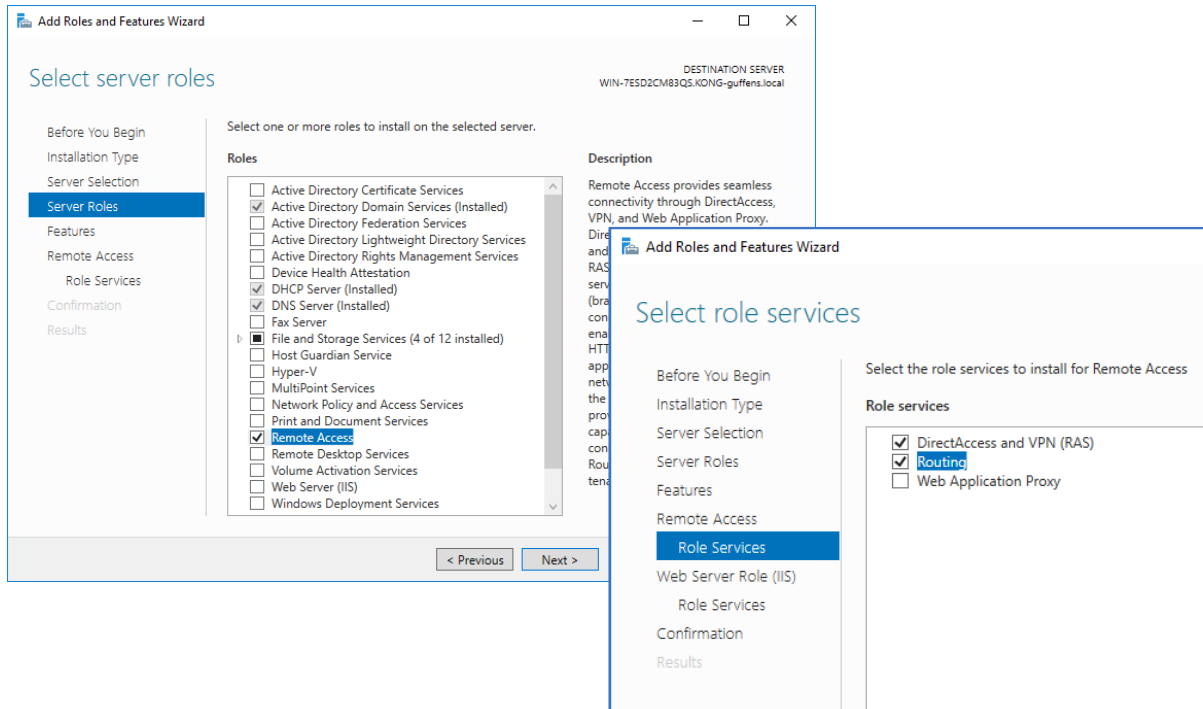


Herhaal dit voor de **secondary server**.

8. VPN

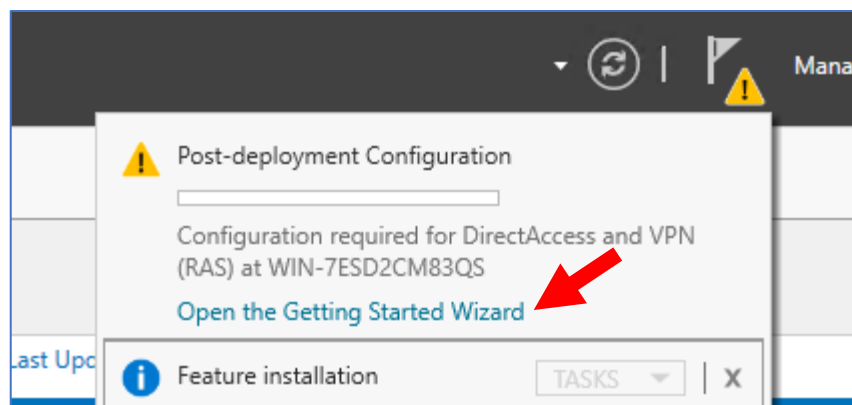
8.1 Installatie

Op dezelfde manier als we **Active Directory** hebben geïnstalleerd gaan we nu **Remote Access** installeren. Duid bij **Role Services** ook **DirectAccess and VPN (RAS)** en **Routing** aan.



8.2 Configuratie

In de **Server Manager** klik op de vlag rechts bovenaan en klik op **Open the Getting Started Wizard**.

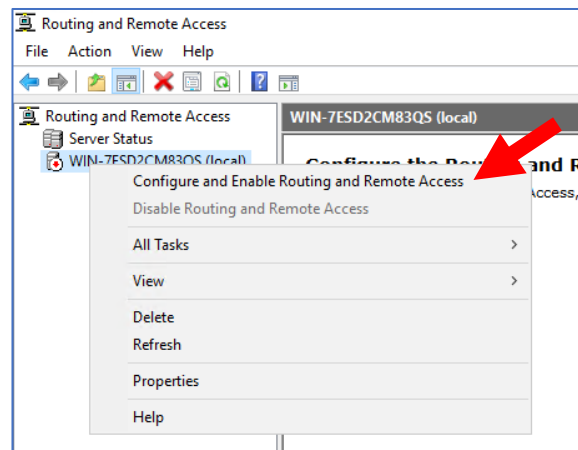


Wanneer de wizard opent, klik op **Deploy VPN Only**.

In **Routing and Remote Access**, configureer de VPN.

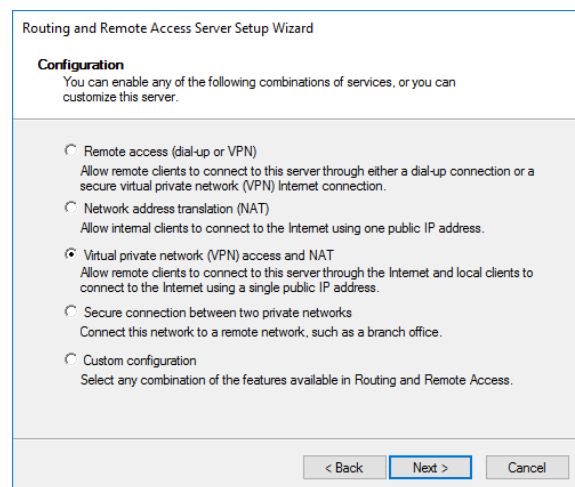
1. Rechtermuisklik op de servernaam
2. Klik op **Configure and Enable Routing and Remote Access**

Wanneer de wizard opent, klik op **Next**.



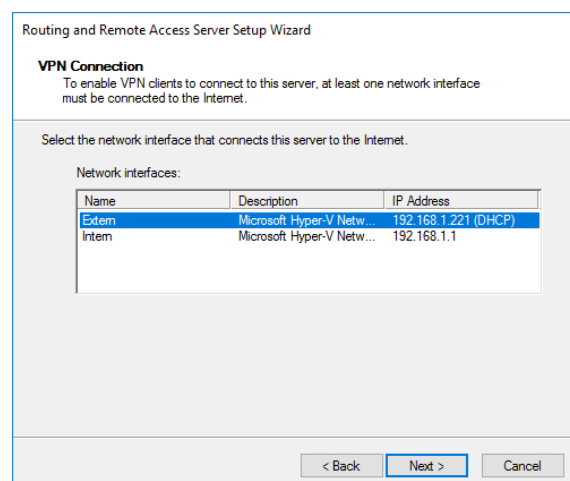
Selecteer **Virtual private network (VPN) access and NAT**.

Klik op **Next**.



Selecteer het netwerk dat verbonden is met het internet.

Klik op **Next**.

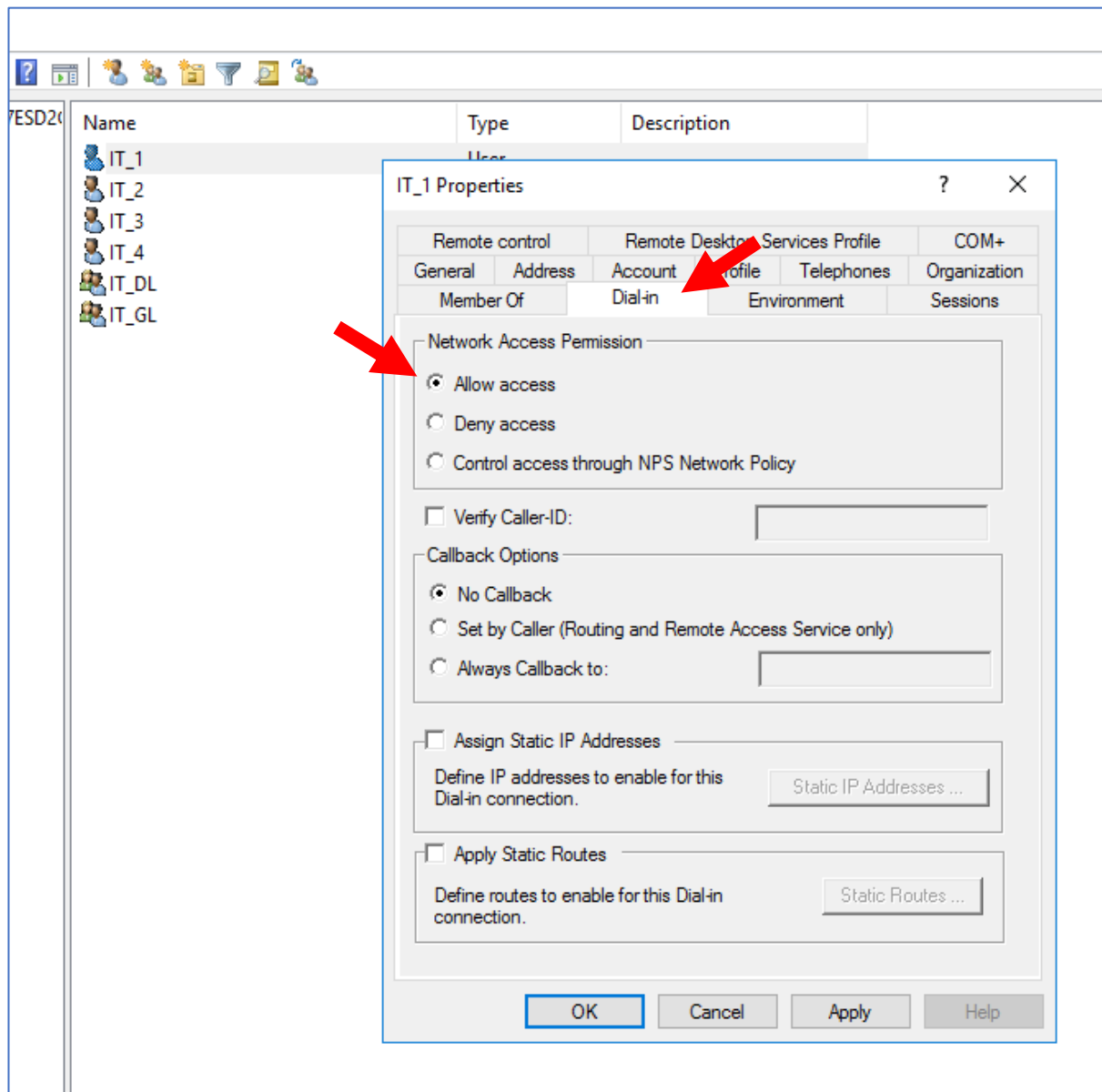


Laat de standaardwaarden staan en klik **2 keer** op **Next** en vervolgens op **Finish**. Er komt een pop-up, klik op **OK**. De VPN is geïnstalleerd.

8.3 VPN Toegang

Ga naar **Active Directory Users and Computers** en geef alle gewenste gebruikers toegang tot VPN.

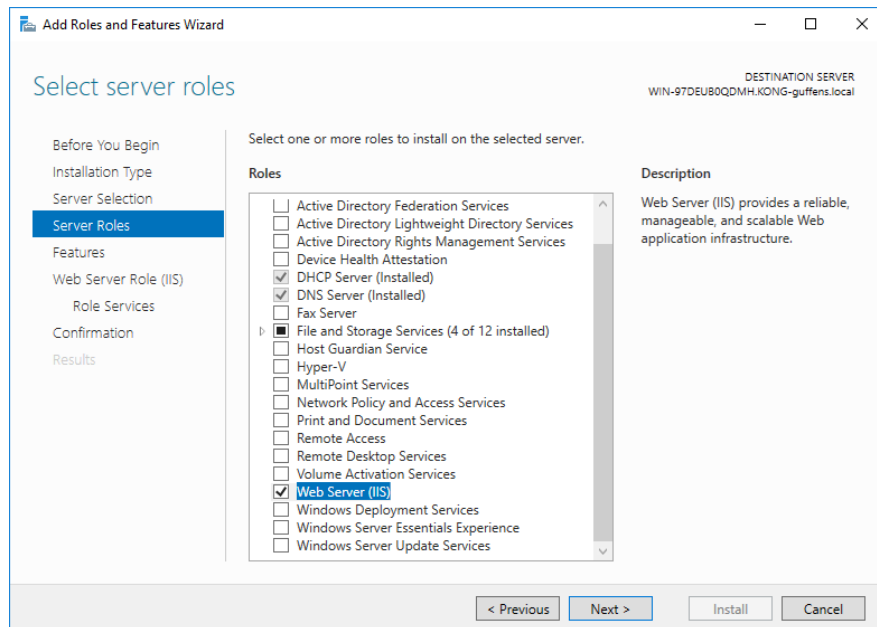
1. Rechtermuisklik op een gebruiker
2. Klik op **Properties**
3. Ga naar de **Dial-in** tab
4. Duid **Allow access** aan
5. Klik op **OK**



9. Webserver

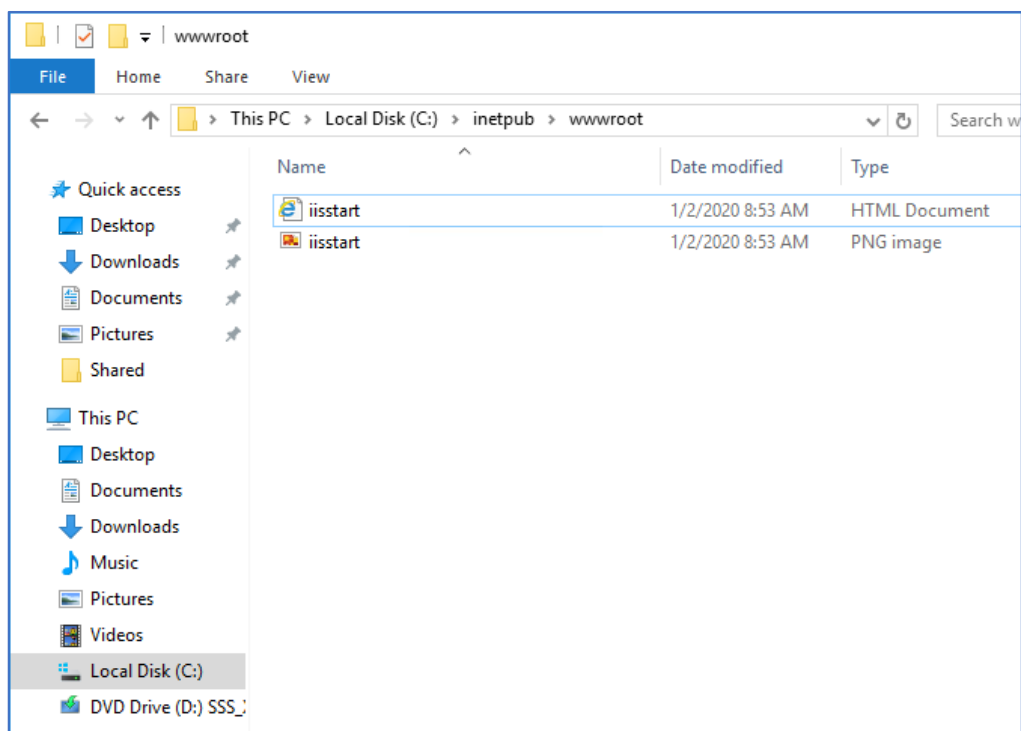
9.1 Installatie

Op dezelfde manier als we **Active Directory** hebben geïnstalleerd gaan we nu **Web Server (IIS)** installeren.



9.2 Website inhoud

De inhoud van de website staat in **C:\inetpub\wwwroot**. Hier kun je de inhoud aanpassen.



9.3 DNS zone maken

Ga naar de **DNS Manager** en voeg een nieuwe forward lookup zone toe.

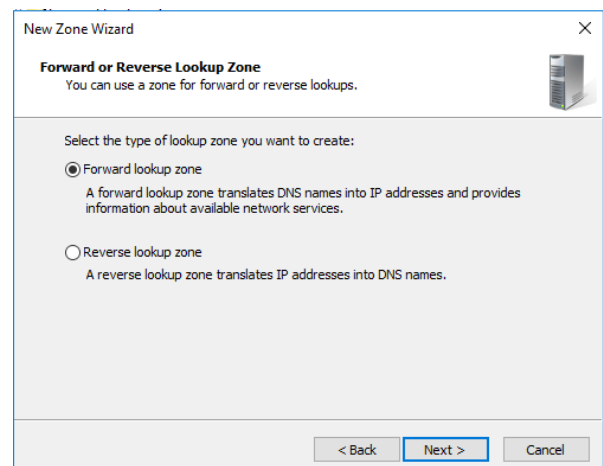
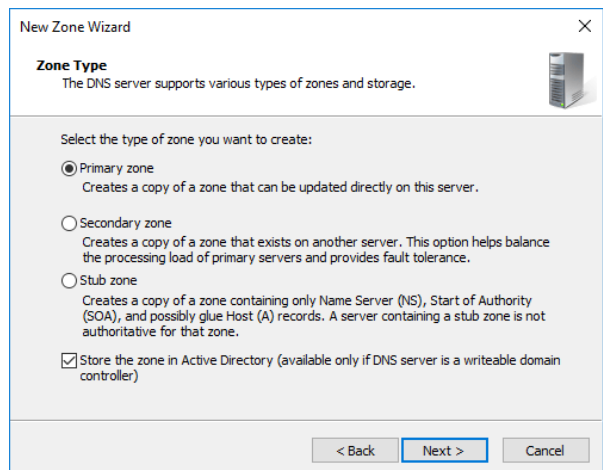
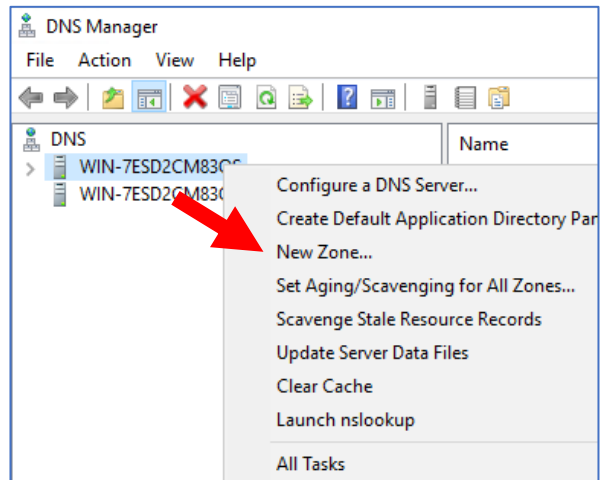
1. Rechtermuisklik op de servernaam
2. Klik op **New Zone...**

Wanneer de wizard opent, klik op **Next**.

Selecteer **Primary Zone** en klik op **Next**.

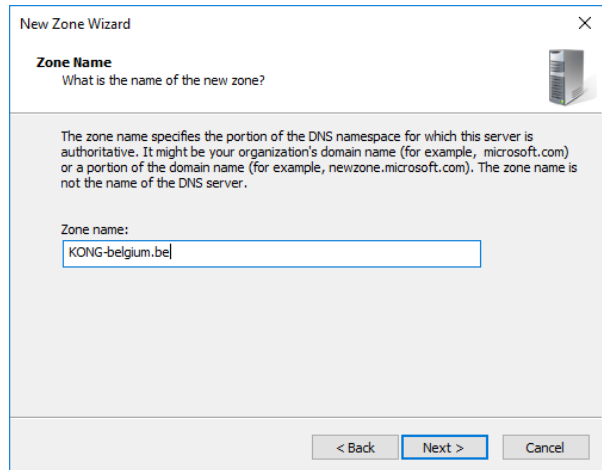
Op het volgende scherm, laat de standaardwaarden staan en klik op **Next**.

Selecteer **Forward lookup zone** en klik op **Next**.



Vul het domein van de website in en klik op **Next**.

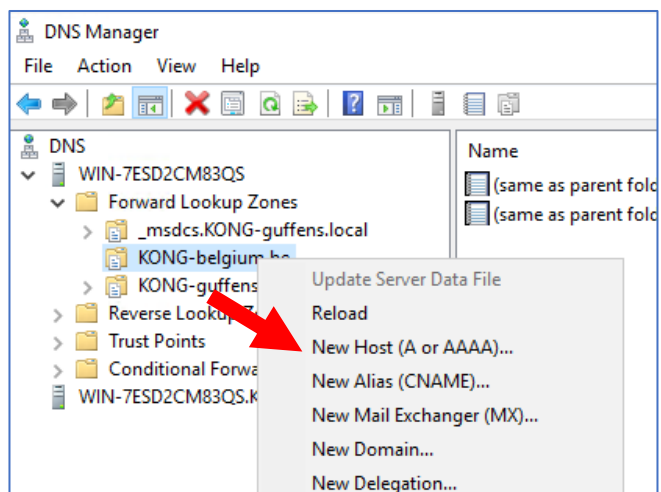
Op het volgende scherm, laat de standaardwaarden staan, klik op **Next** en vervolgens op **Finish**.



The image shows the 'New Zone Wizard' dialog box. The title bar says 'New Zone Wizard'. Below the title bar, there is a section titled 'Zone Name' with the question 'What is the name of the new zone?'. A text box contains 'KONG-belgium.be'. Below this, there is explanatory text: 'The zone name specifies the portion of the DNS namespace for which this server is authoritative. It might be your organization's domain name (for example, microsoft.com) or a portion of the domain name (for example, newzone.microsoft.com). The zone name is not the name of the DNS server.' At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Voeg een nieuwe **Host** toe voor.

1. Rechtermuisklik op het domein
2. Klik op **New Host (A or AAAA)...**

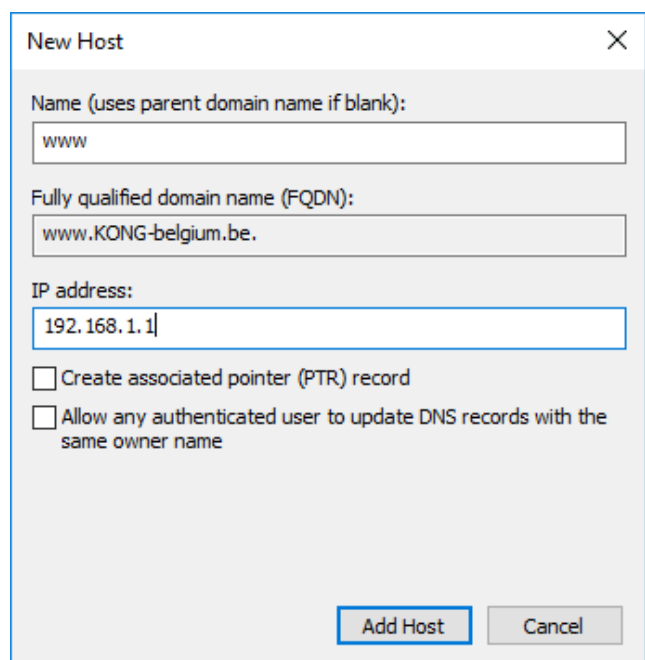


Vul **www** in bij **Name** en het IP adres van de huidige server.

192.168.1.1

Klik op **Add Host**.

De website is nu beschikbaar via de url:
www.KONG-belgium.be



The image shows the 'New Host' dialog box. It has three text boxes: 'Name (uses parent domain name if blank):' with 'www', 'Fully qualified domain name (FQDN):' with 'www.KONG-belgium.be.', and 'IP address:' with '192.168.1.1'. Below these are two checkboxes: 'Create associated pointer (PTR) record' and 'Allow any authenticated user to update DNS records with the same owner name'. At the bottom, there are two buttons: 'Add Host' and 'Cancel'.