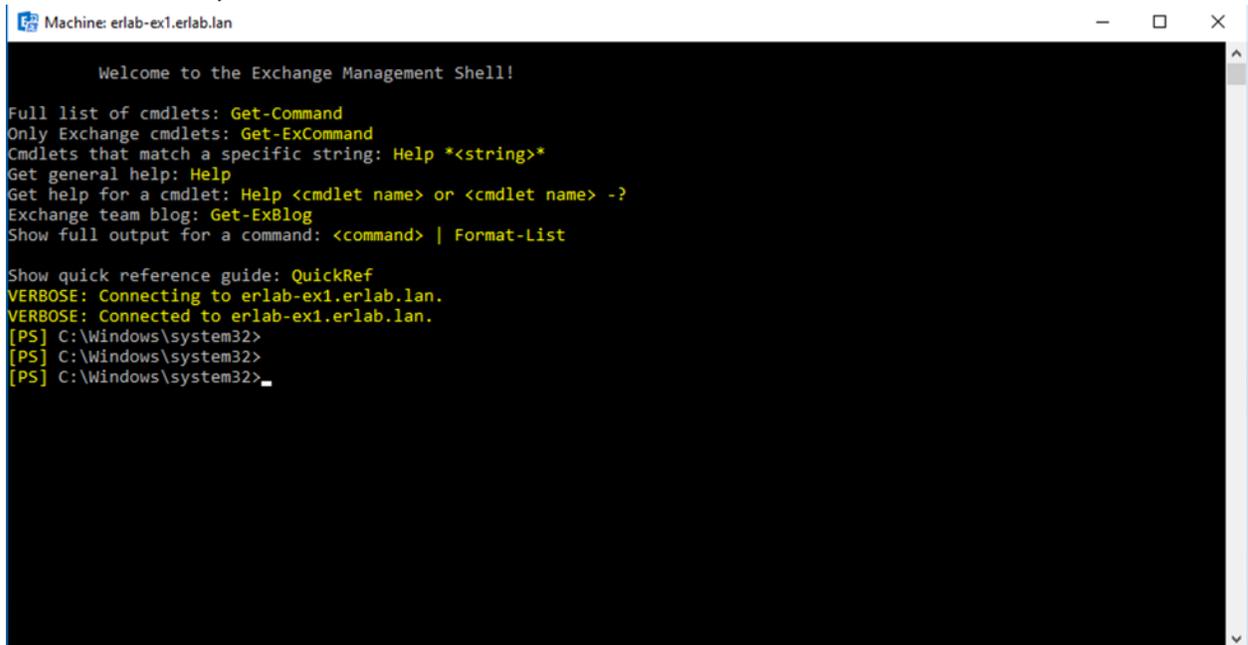


How To: Exchange 2016 Server – Initial Configuration

Rename and move default Databases

When Exchange is installed, it will create a new database on each server. We will keep these, but we want to rename them and move the location of the files.

1. On the Exchange 2016 server, open the Exchange Management Shell (run as Administrator).



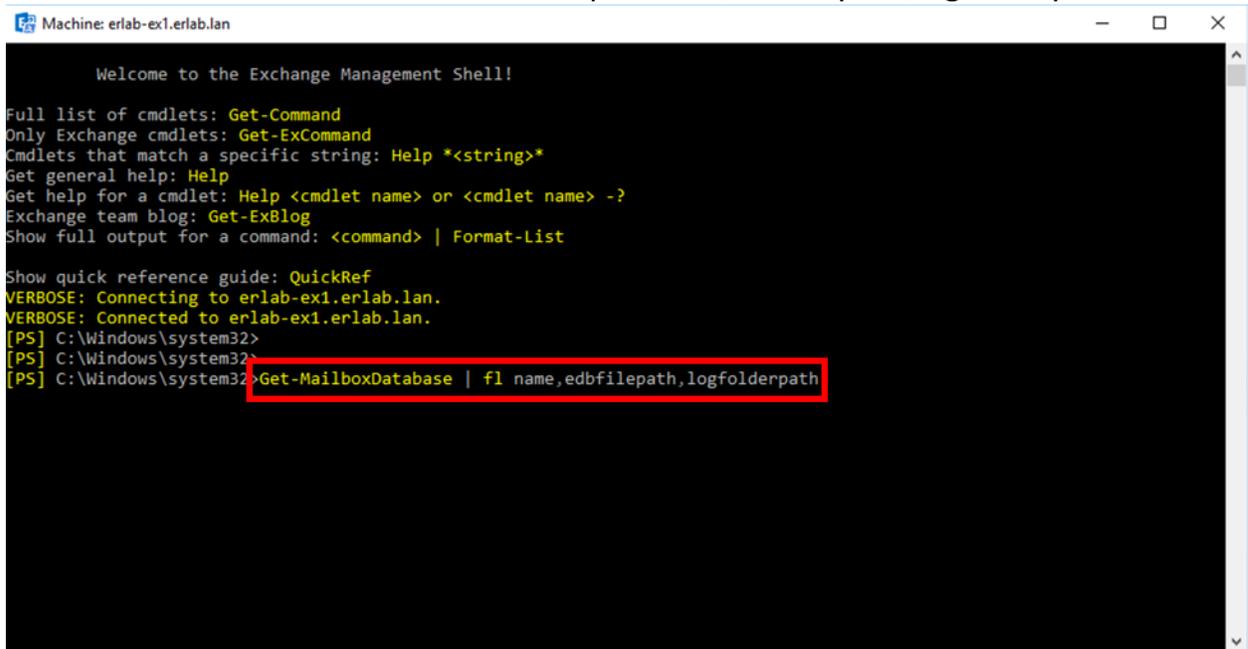
```
Machine: erlab-ex1.erlab.lan

Welcome to the Exchange Management Shell!

Full list of cmdlets: Get-Command
Only Exchange cmdlets: Get-ExCommand
Cmdlets that match a specific string: Help *<string>*
Get general help: Help
Get help for a cmdlet: Help <cmdlet name> or <cmdlet name> -?
Exchange team blog: Get-ExBlog
Show full output for a command: <command> | Format-List

Show quick reference guide: QuickRef
VERBOSE: Connecting to erlab-ex1.erlab.lan.
VERBOSE: Connected to erlab-ex1.erlab.lan.
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
```

2. Get a list of databases along with their path to the edb file and the logs using this command: `Get-MailboxDatabase | fl name,edbfilepath,logfolderpath`



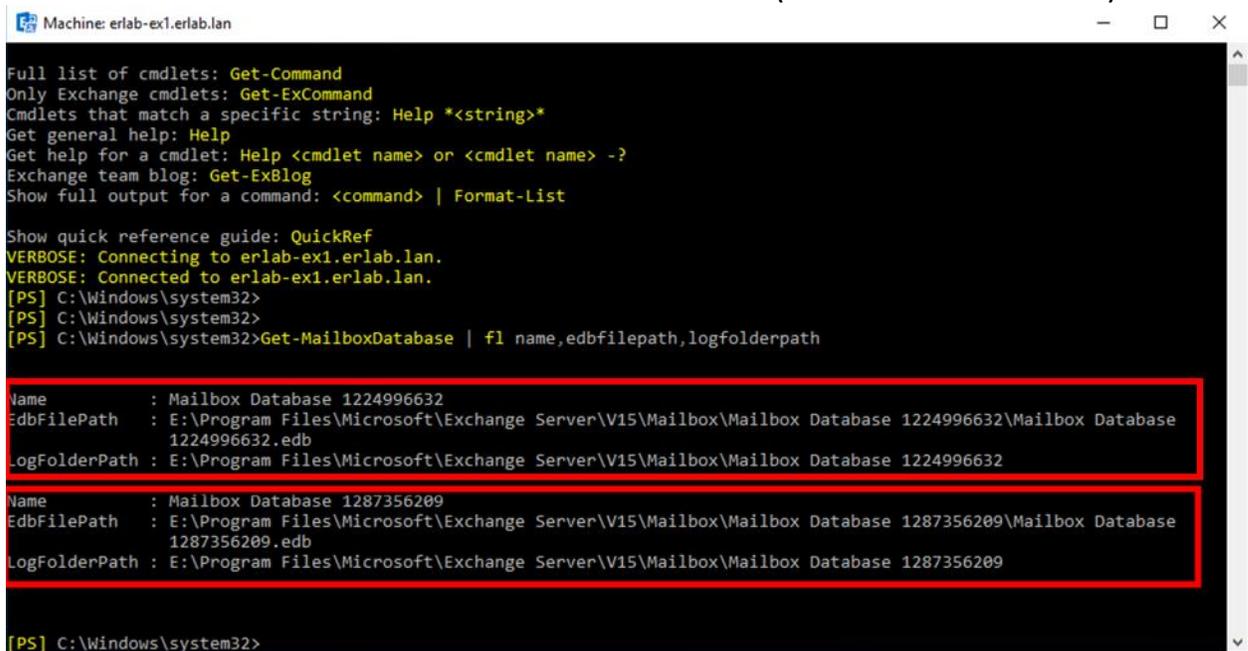
```
Machine: erlab-ex1.erlab.lan

Welcome to the Exchange Management Shell!

Full list of cmdlets: Get-Command
Only Exchange cmdlets: Get-ExCommand
Cmdlets that match a specific string: Help *<string>*
Get general help: Help
Get help for a cmdlet: Help <cmdlet name> or <cmdlet name> -?
Exchange team blog: Get-ExBlog
Show full output for a command: <command> | Format-List

Show quick reference guide: QuickRef
VERBOSE: Connecting to erlab-ex1.erlab.lan.
VERBOSE: Connected to erlab-ex1.erlab.lan.
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath
```

3. You can see here we have two different databases (one from each server).



```
Machine: erlab-ex1.erlab.lan

Full list of cmdlets: Get-Command
Only Exchange cmdlets: Get-ExCommand
Cmdlets that match a specific string: Help *<string>*
Get general help: Help
Get help for a cmdlet: Help <cmdlet name> or <cmdlet name> -?
Exchange team blog: Get-ExBlog
Show full output for a command: <command> | Format-List

Show quick reference guide: QuickRef
VERBOSE: Connecting to erlab-ex1.erlab.lan.
VERBOSE: Connected to erlab-ex1.erlab.lan.
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath

Name           : Mailbox Database 1224996632
EdbFilePath     : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632\Mailbox Database
                  1224996632.edb
LogFolderPath   : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632

Name           : Mailbox Database 1287356209
EdbFilePath     : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
                  1287356209.edb
LogFolderPath   : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>
```

4. Now let's use the following command to rename the databases. You will run this command twice, but make sure to adjust the command for the second run. Command: `Set-MailboxDatabase "Mailbox Database 1224996632" -`

Name "EXDB01"

```
Machine: erlab-ex1.erlab.lan

Full list of cmdlets: Get-Command
Only Exchange cmdlets: Get-ExCommand
Cmdlets that match a specific string: Help *<string>*
Get general help: Help
Get help for a cmdlet: Help <cmdlet name> or <cmdlet name> -?
Exchange team blog: Get-ExBlog
Show full output for a command: <command> | Format-List

Show quick reference guide: QuickRef
VERBOSE: Connecting to erlab-ex1.erlab.lan.
VERBOSE: Connected to erlab-ex1.erlab.lan.
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath

Name           : Mailbox Database 1224996632
EdbFilePath    : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632\Mailbox Database
                1224996632.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632

Name           : Mailbox Database 1287356209
EdbFilePath    : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
                1287356209.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1224996632" -Name "EXDB01"
```

5. If we re-run the command "Get-MailboxDatabase | fl name,edbfilepath,logfolderpath" again we will see that the names of the databases have been changed.

```
Machine: erlab-ex1.erlab.lan

1224996632.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632

Name           : Mailbox Database 1287356209
EdbFilePath    : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
                1287356209.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1224996632" -Name "EXDB01"
[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1287356209" -Name "EXDB02"
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath

Name           : EXDB01
EdbFilePath    : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632\Mailbox Database
                1224996632.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632

Name           : EXDB02
EdbFilePath    : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
                1287356209.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>
```

6. Now we will move the location of the database and the log folder using this command: Move-DatabasePath exdb01 -edbfilepath

M:\DBs\EXDB01\EXDB01.edb -LogFolderPath L:\Logs\EXDB01

```
Machine: erlab-ex1.erlab.lan
1224996632.edb
LogFolderPath : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632
Name          : Mailbox Database 1287356209
EdbFilePath   : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
1287356209.edb
LogFolderPath : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1224996632" -Name "EXDB01"
[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1287356209" -Name "EXDB02"
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath

Name          : EXDB01
EdbFilePath   : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632\Mailbox Database
1224996632.edb
LogFolderPath : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632

Name          : EXDB02
EdbFilePath   : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
1287356209.edb
LogFolderPath : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>Move-DatabasePath exdb01 -EdbFilePath M:\DBs\EXDB01\EXDB01.edb -LogFolderPath L:\Logs\EXDB01
```

7. You will be asked to Confirm the change, press ENTER.

```
Machine: erlab-ex1.erlab.lan
1287356209.edb
LogFolderPath : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1224996632" -Name "EXDB01"
[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1287356209" -Name "EXDB02"
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath

Name          : EXDB01
EdbFilePath   : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632\Mailbox Database
1224996632.edb
LogFolderPath : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632

Name          : EXDB02
EdbFilePath   : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
1287356209.edb
LogFolderPath : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>Move-DatabasePath exdb01 -EdbFilePath M:\DBs\EXDB01\EXDB01.edb -LogFolderPath L:\Logs\EXDB01

Confirm
Are you sure you want to perform this action?
Moving database path "exdb01".
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"):
```

8. You will be asked to Confirm again to temporarily dismount the database, press ENTER.

```
Machine: erlab-ex1.erlab.lan
[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1224996632" -Name "EXDB01"
[PS] C:\Windows\system32>Set-MailboxDatabase "Mailbox Database 1287356209" -Name "EXDB02"
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath

Name           : EXDB01
EdbFilePath    : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632\Mailbox Database
                1224996632.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1224996632

Name           : EXDB02
EdbFilePath    : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209\Mailbox Database
                1287356209.edb
LogFolderPath  : E:\Program Files\Microsoft\Exchange Server\V15\Mailbox\Mailbox Database 1287356209

[PS] C:\Windows\system32>Move-DatabasePath exdb01 -EdbFilePath M:\DBs\EXDB01\EXDB01.edb -LogFolderPath L:\Logs\EXDB01

Confirm
Are you sure you want to perform this action?
Moving database path "exdb01".
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"):

Confirm
To perform the move operation, database "exdb01" must be temporarily dismounted, which will make it inaccessible to all
users. Do you want to continue?
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"):
```

9. In order to move the second database, you will need to repeat steps 6 – 8 on your other Exchange server.

10. Once done, run “Get-MailboxDatabase | fl name,edbfilepath,logfolderpath” again to verify the information is updated.

```
Machine: erlab-ex2.erlab.lan
[PS] C:\Windows\system32>Move-DatabasePath exdb02 -EdbFilePath M:\DBs\EXDB02\EXDB02.edb -LogFolderPath L:\Logs\EXDB02

Confirm
Are you sure you want to perform this action?
Moving database path "exdb02".
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"):

Confirm
To perform the move operation, database "exdb02" must be temporarily dismounted, which will make it inaccessible to all
users. Do you want to continue?
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"):

[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name,edbfilepath,logfolderpath

Name           : EXDB01
EdbFilePath    : M:\DBs\EXDB01\EXDB01.edb
LogFolderPath  : L:\Logs\EXDB01

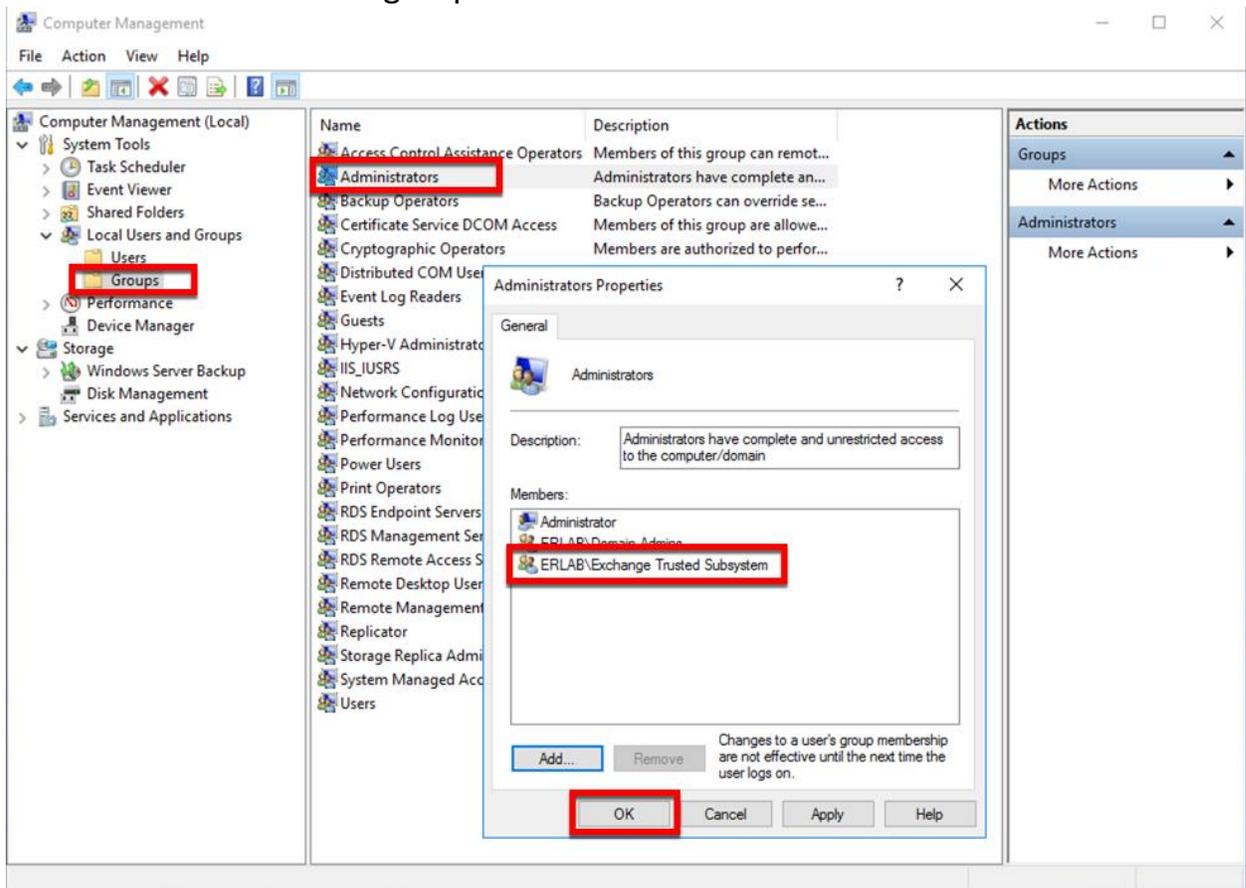
Name           : EXDB02
EdbFilePath    : M:\DBs\EXDB02\EXDB02.edb
LogFolderPath  : L:\Logs\EXDB02

[PS] C:\Windows\system32>
```

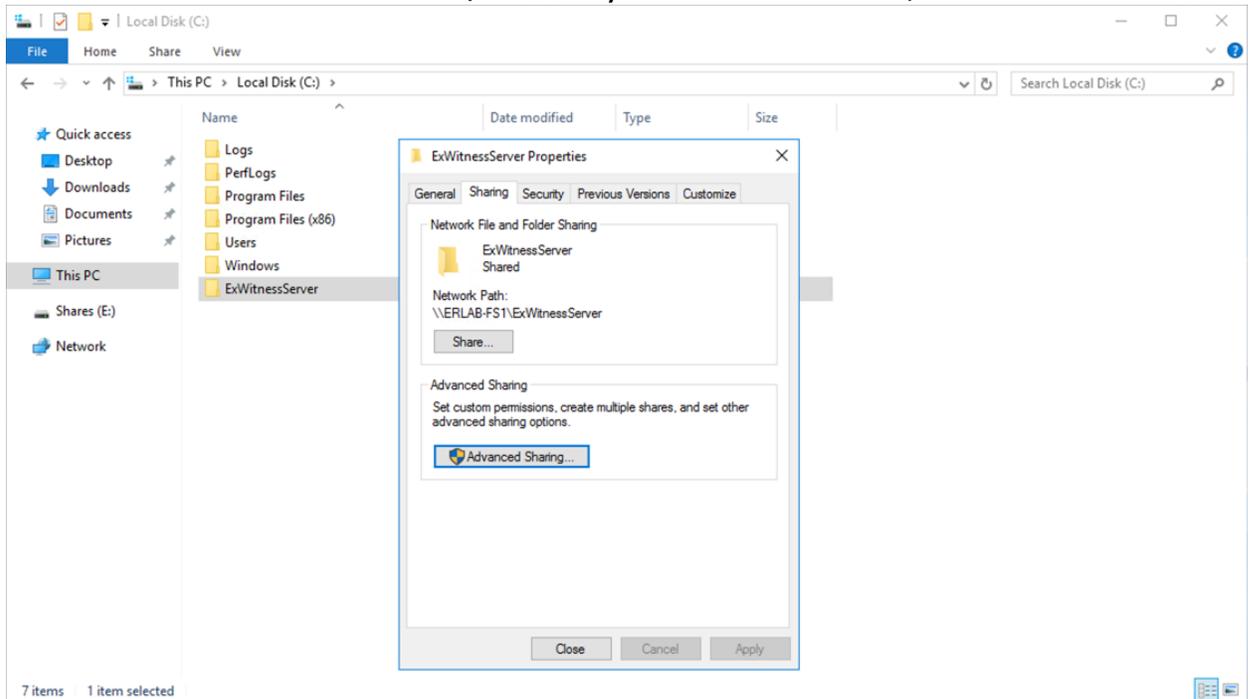
Configure DAG

We will now configure our Database Availability Group (DAG) to replicate the databases across the Exchange servers. Before we go through the process we will need to prep a server to be a “Witness Server”. In this lab I will be using one of my File Servers.

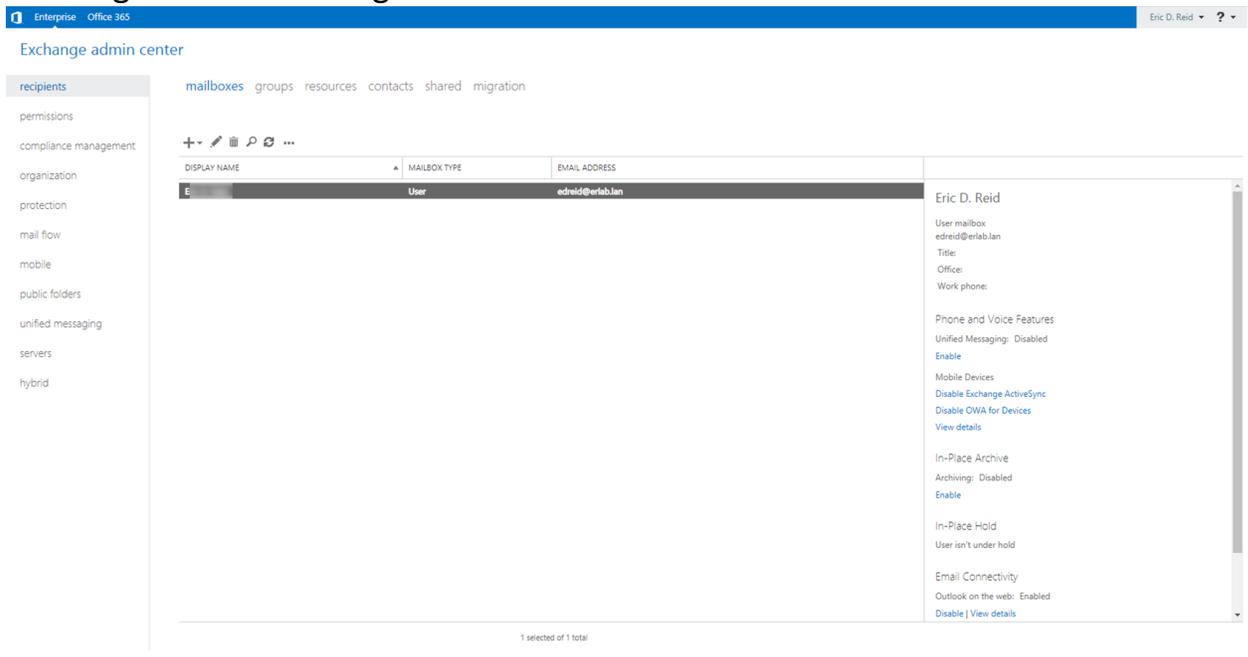
1. Login to your Witness Server, and add the “Exchange Trusted Subsystem” to the Local Administrators group.



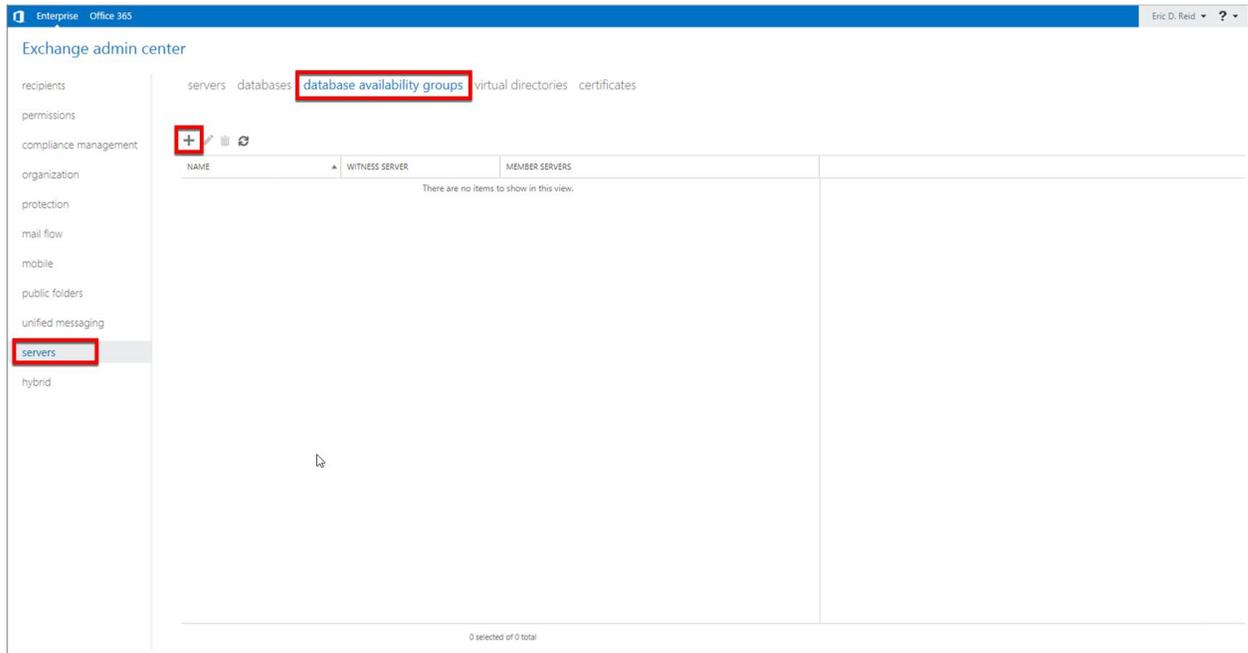
2. Create a new Folder off the C:\ drive of your Witness Server, and share it.



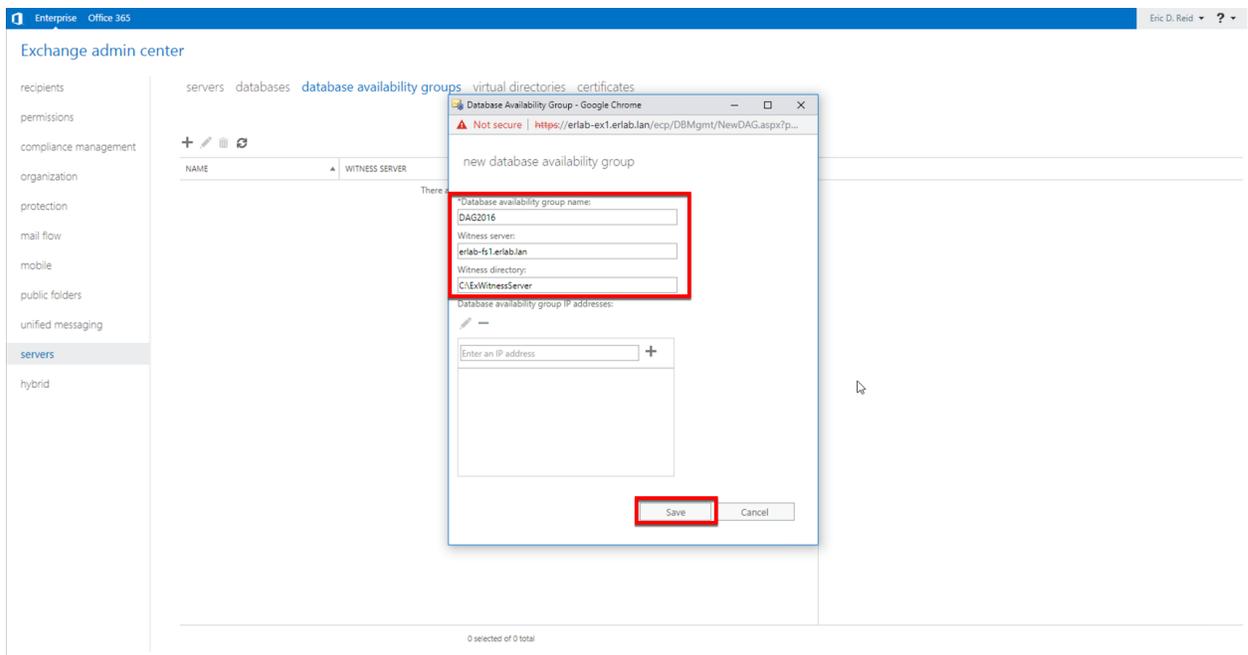
3. Now login to the Exchange Admin Center.



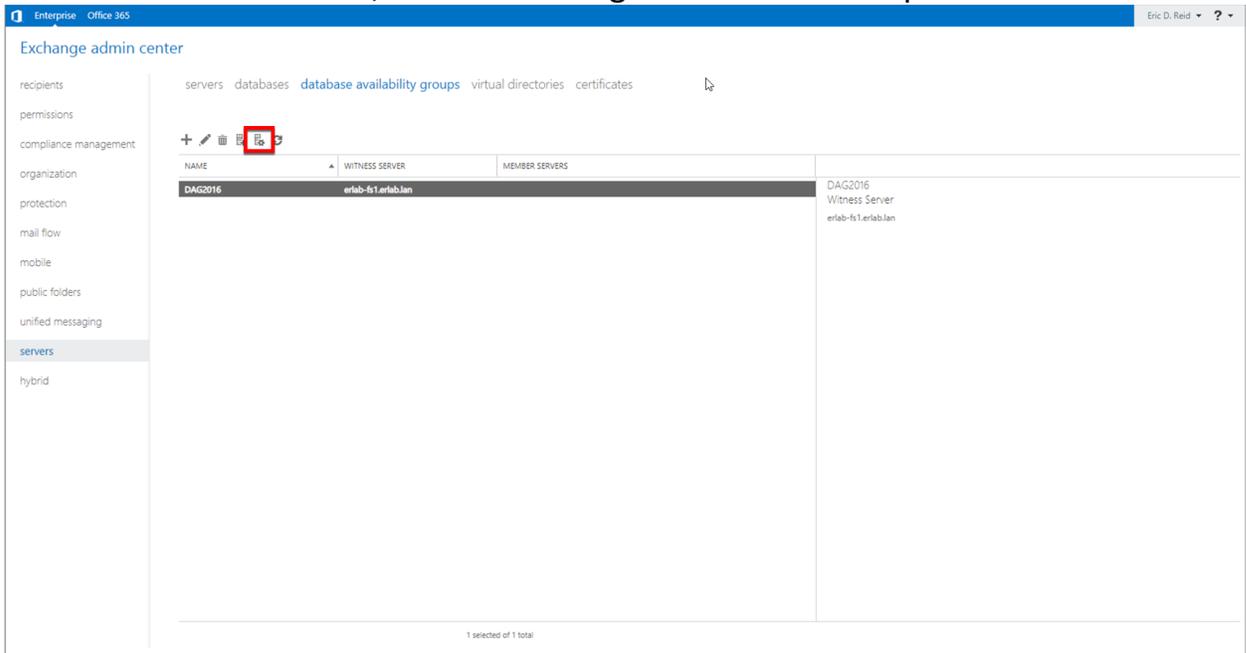
4. Click Servers, Database Availability Groups and then click the Plus button to create a new DAG.



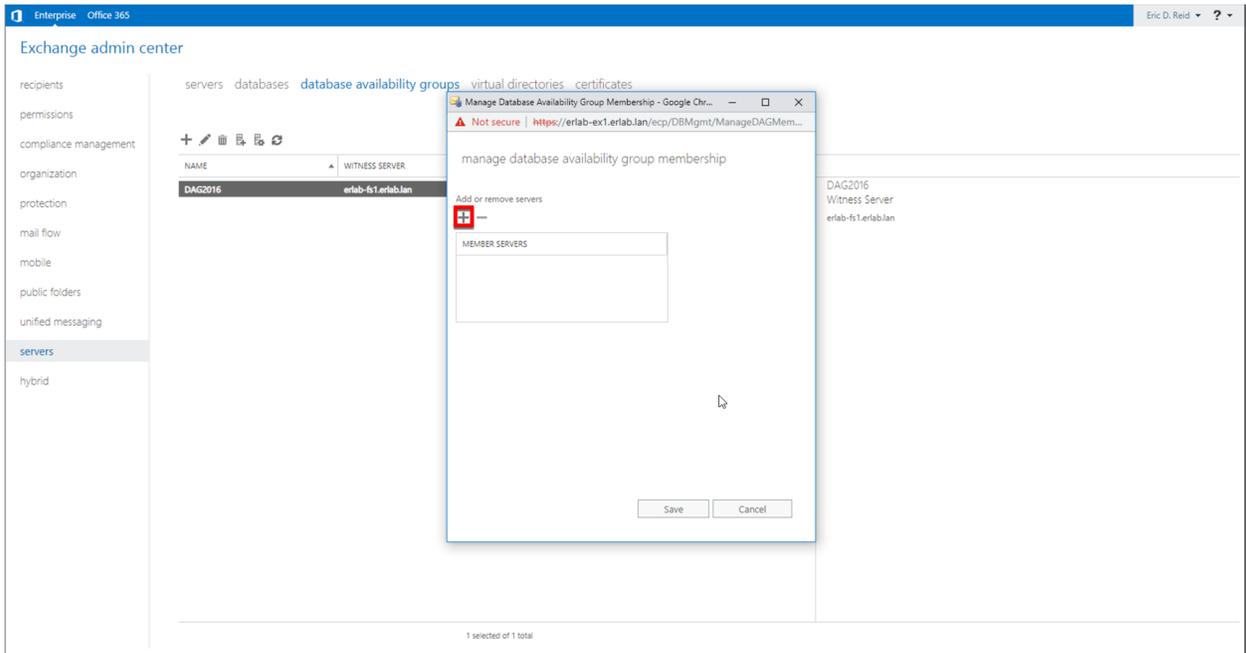
5. Enter the name of the DAG, the FQDN of the witness server, and the directory on the witness server we created earlier. Click Save.



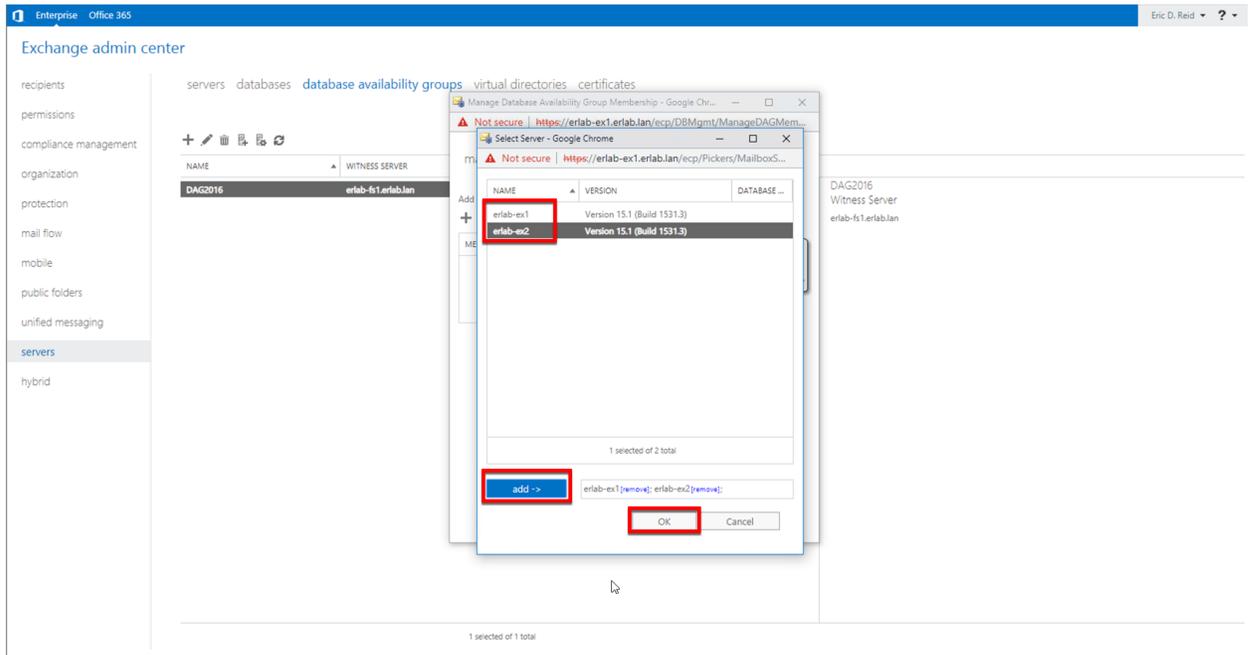
6. Once the DAG is created, click the Manage DAG Membership icon.



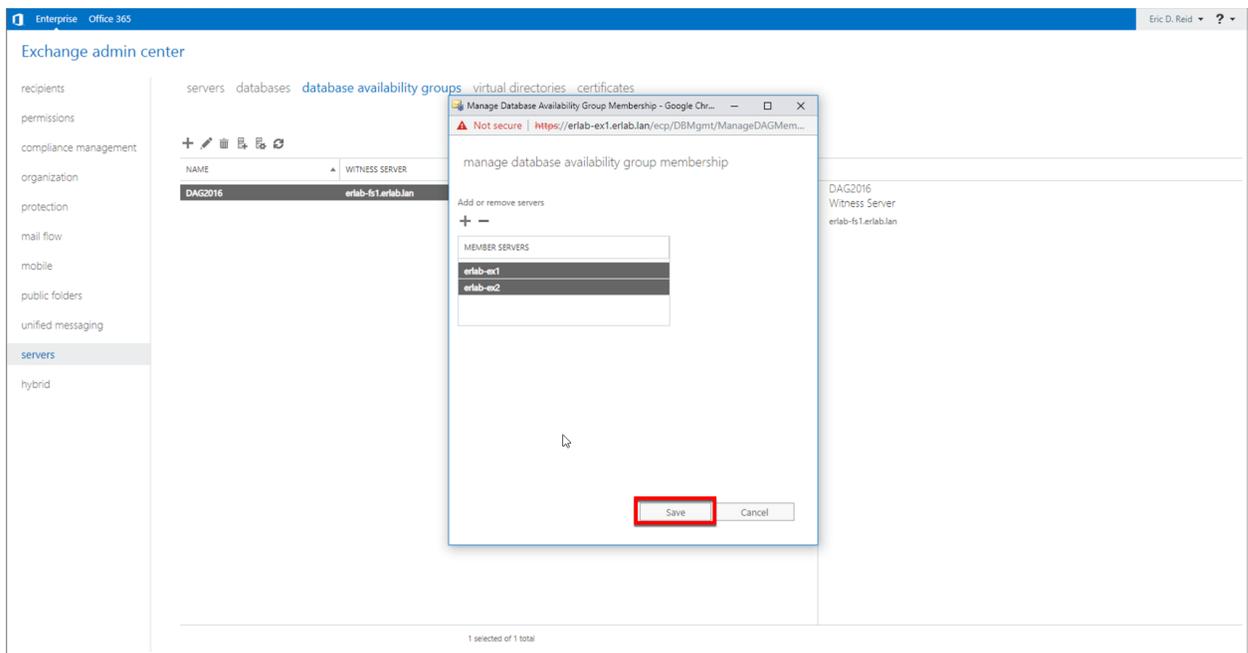
7. Click the Plus button.



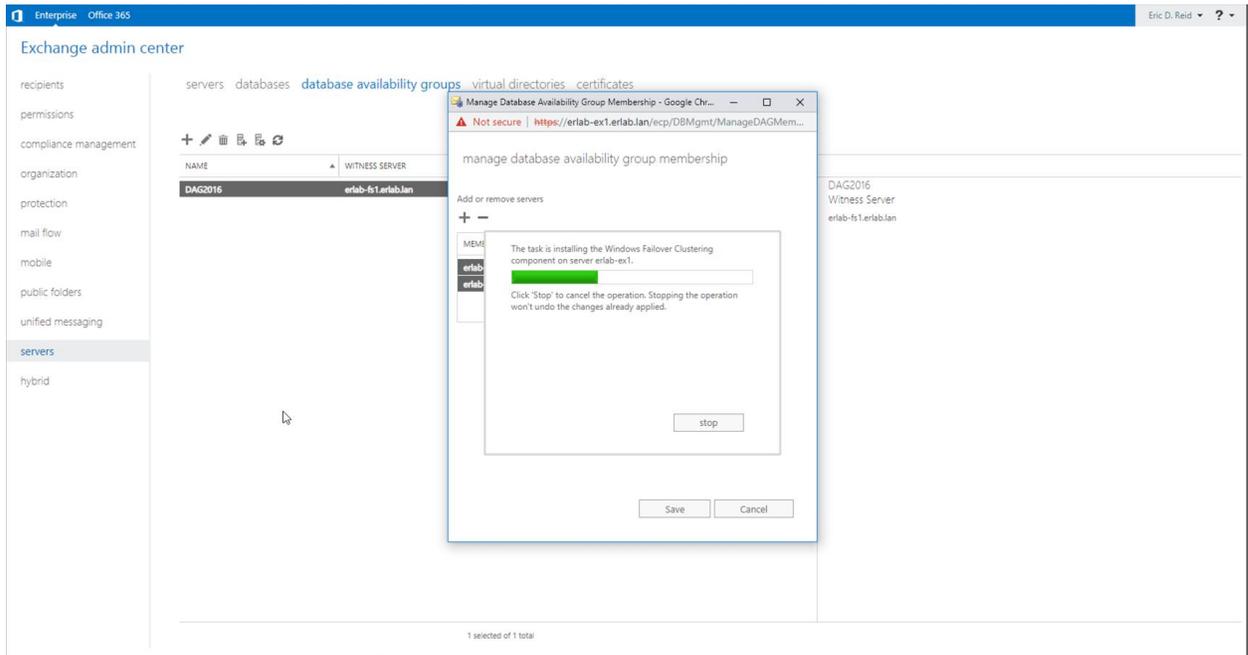
8. Select each server and click the Add button. Once all servers have been added, click the OK button.



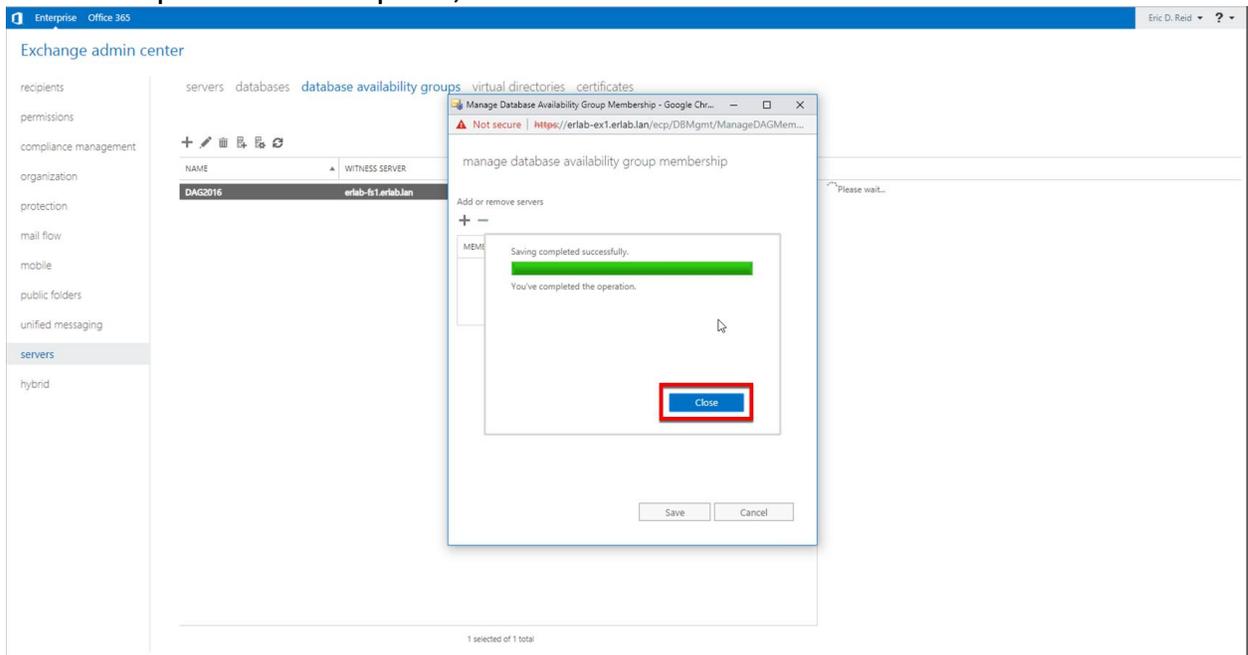
9. Click the Save button.



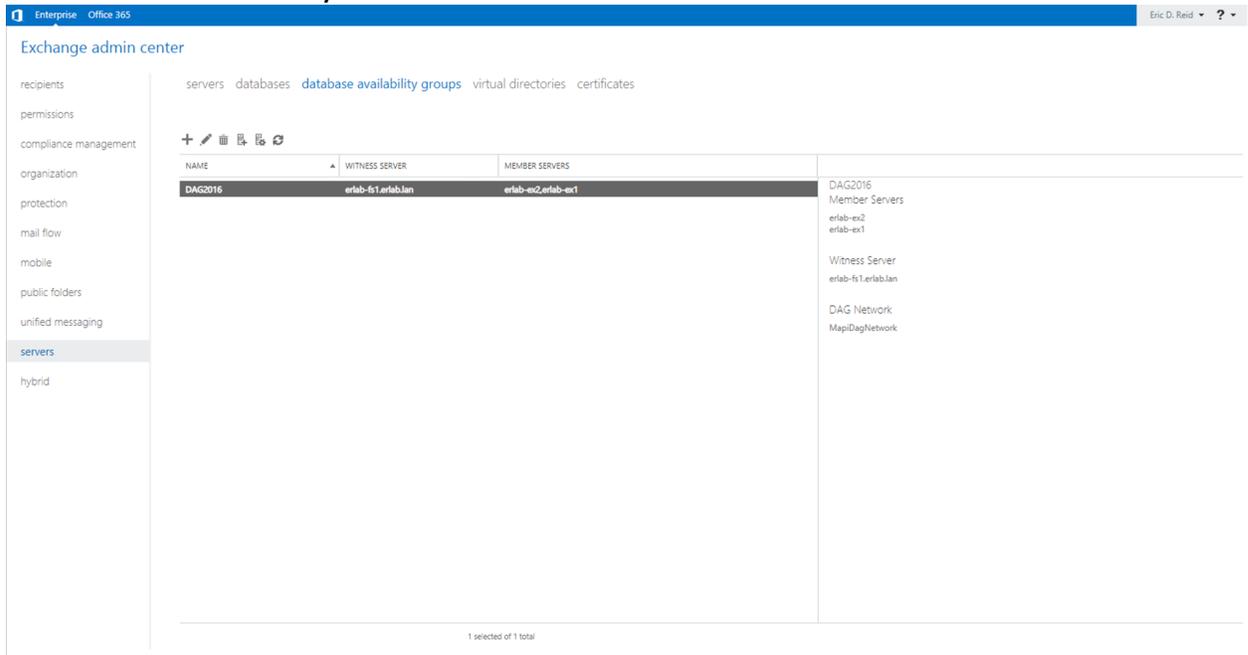
10. The Windows Failover Clustering services will be configured on each Exchange server. This could take a few minutes.



11. Once this process is complete, click Close.



12. The new DAG is ready to be used.



The screenshot shows the Exchange Admin Center interface. The left-hand navigation pane is visible, with 'servers' selected. The main content area shows the 'database availability groups' tab. A table displays the configuration for a DAG named 'DAG2016'. The table has columns for 'NAME', 'WITNESS SERVER', and 'MEMBER SERVERS'. The 'DAG2016' row shows the witness server as 'erlab-fs1.erlab.lan' and member servers as 'erlab-ex2,erlab-ex1'. To the right of the table, the DAG details are listed: 'DAG2016', 'Member Servers' (erlab-ex2, erlab-ex1), 'Witness Server' (erlab-fs1.erlab.lan), and 'DAG Network' (MapIDagNetwork). At the bottom, it indicates '1 selected of 1 total'.

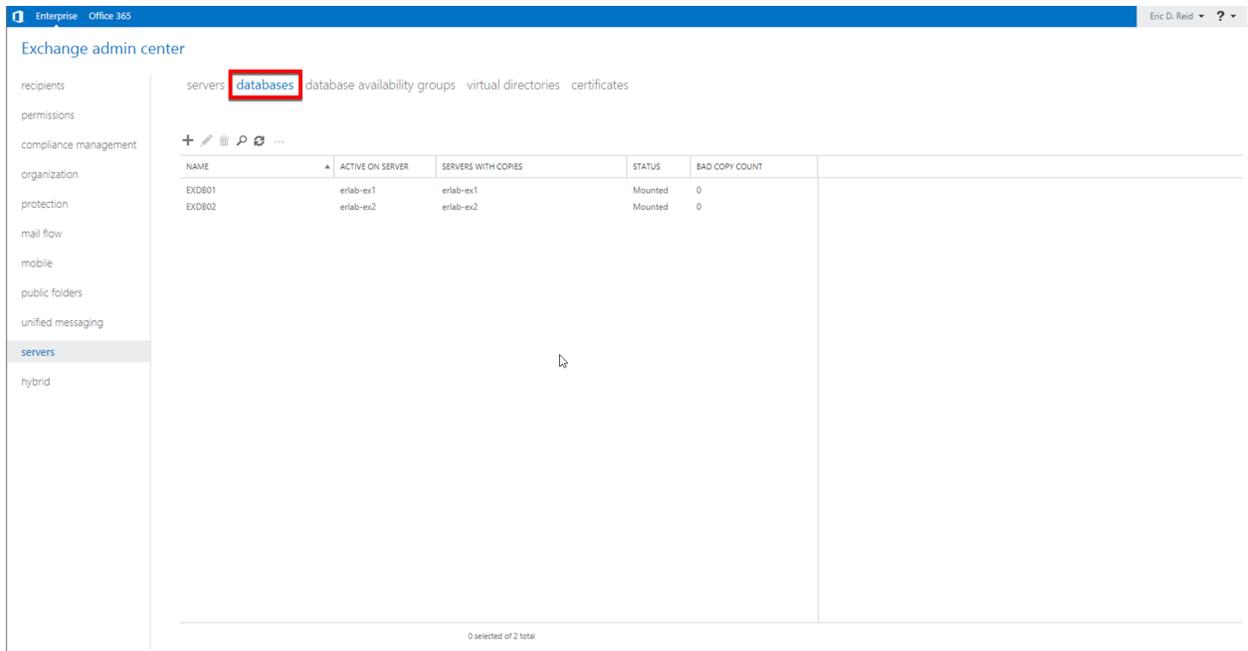
NAME	WITNESS SERVER	MEMBER SERVERS
DAG2016	erlab-fs1.erlab.lan	erlab-ex2,erlab-ex1

DAG2016
Member Servers
erlab-ex2
erlab-ex1
Witness Server
erlab-fs1.erlab.lan
DAG Network
MapIDagNetwork

1 selected of 1 total

Add our existing databases to the DAG

1. Click on the Databases tab.

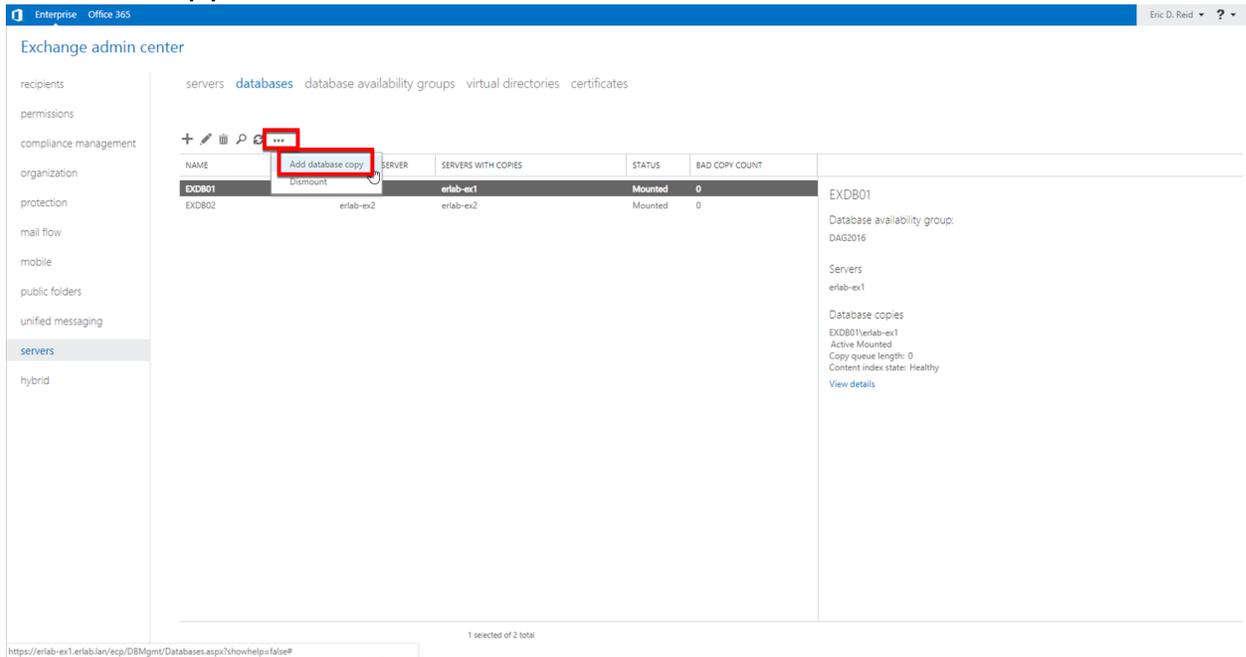


The screenshot shows the Exchange Admin Center interface with the 'databases' tab selected. The left-hand navigation pane is visible, with 'servers' selected. The main content area shows a table of databases. The table has columns for 'NAME', 'ACTIVE ON SERVER', 'SERVERS WITH COPIES', 'STATUS', and 'BAD COPY COUNT'. Two databases are listed: 'EXDB01' and 'EXDB02'. The 'databases' tab label is highlighted with a red box. At the bottom, it indicates '0 selected of 2 total'.

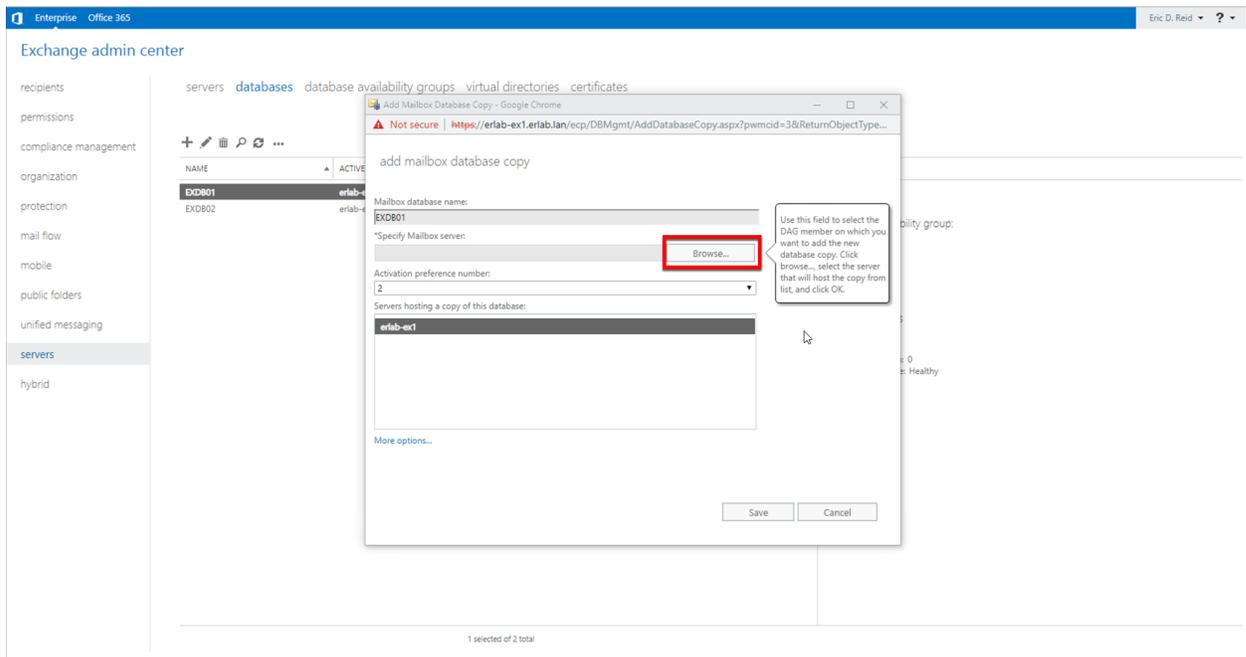
NAME	ACTIVE ON SERVER	SERVERS WITH COPIES	STATUS	BAD COPY COUNT
EXDB01	erlab-ex1	erlab-ex1	Mounted	0
EXDB02	erlab-ex2	erlab-ex2	Mounted	0

0 selected of 2 total

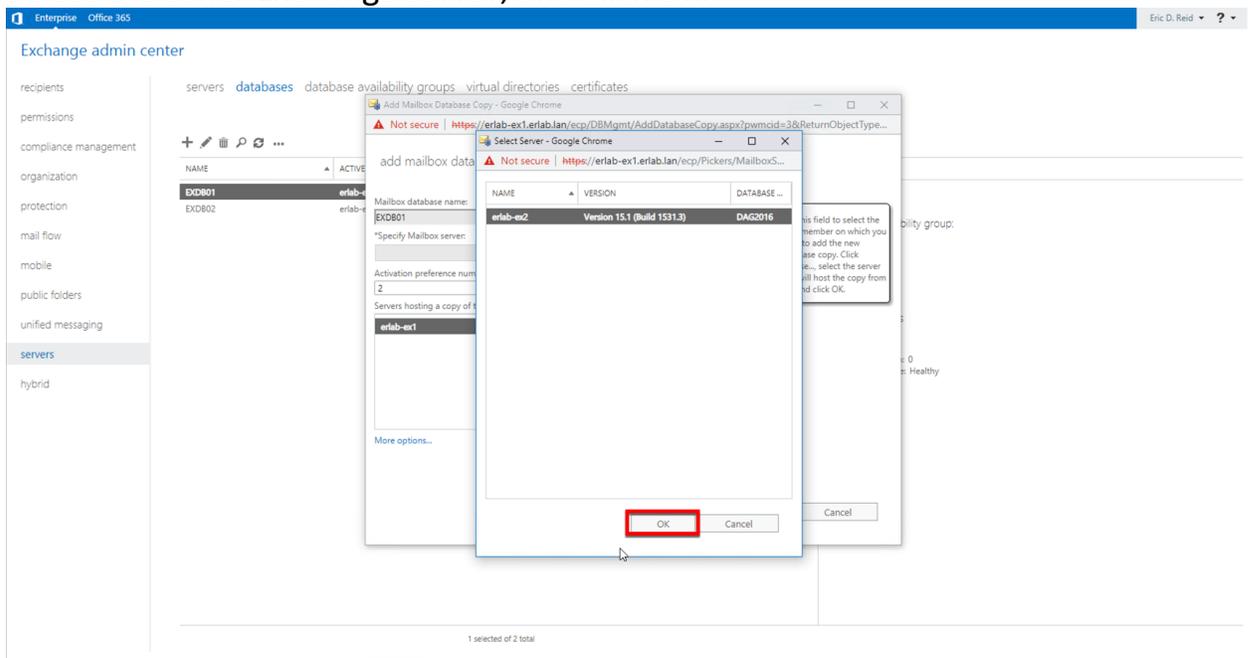
2. Select one of the databases, then click the More button (...), and click on "Add database copy".



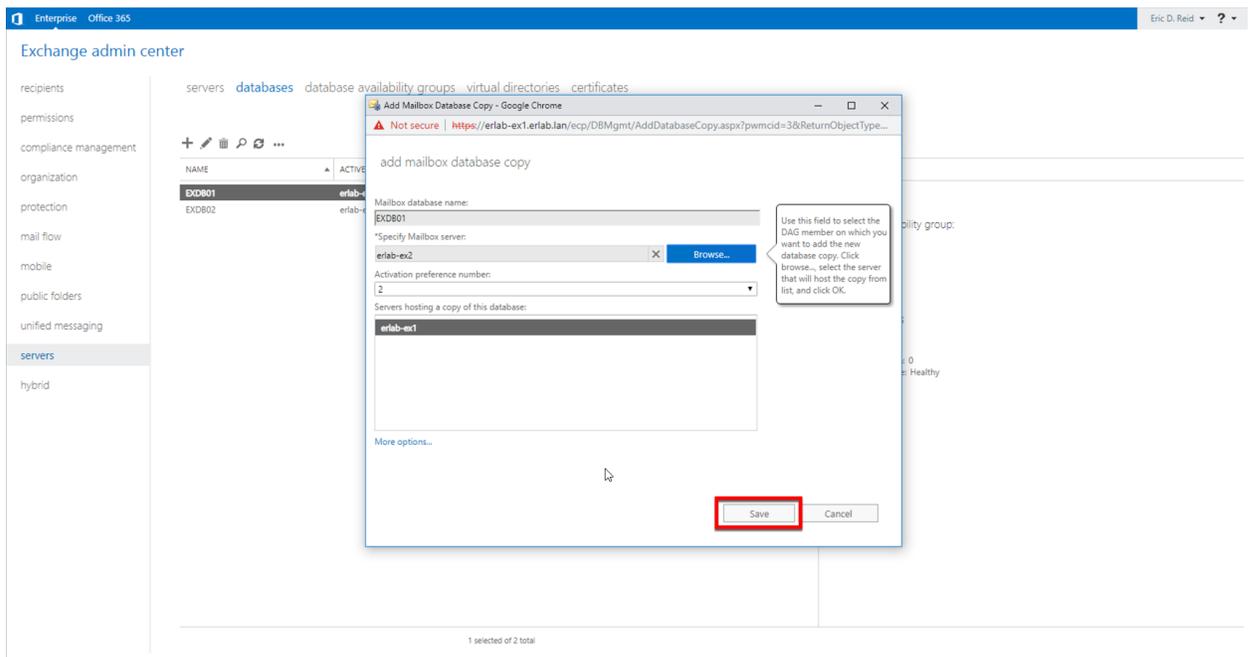
3. Click the Browse button.



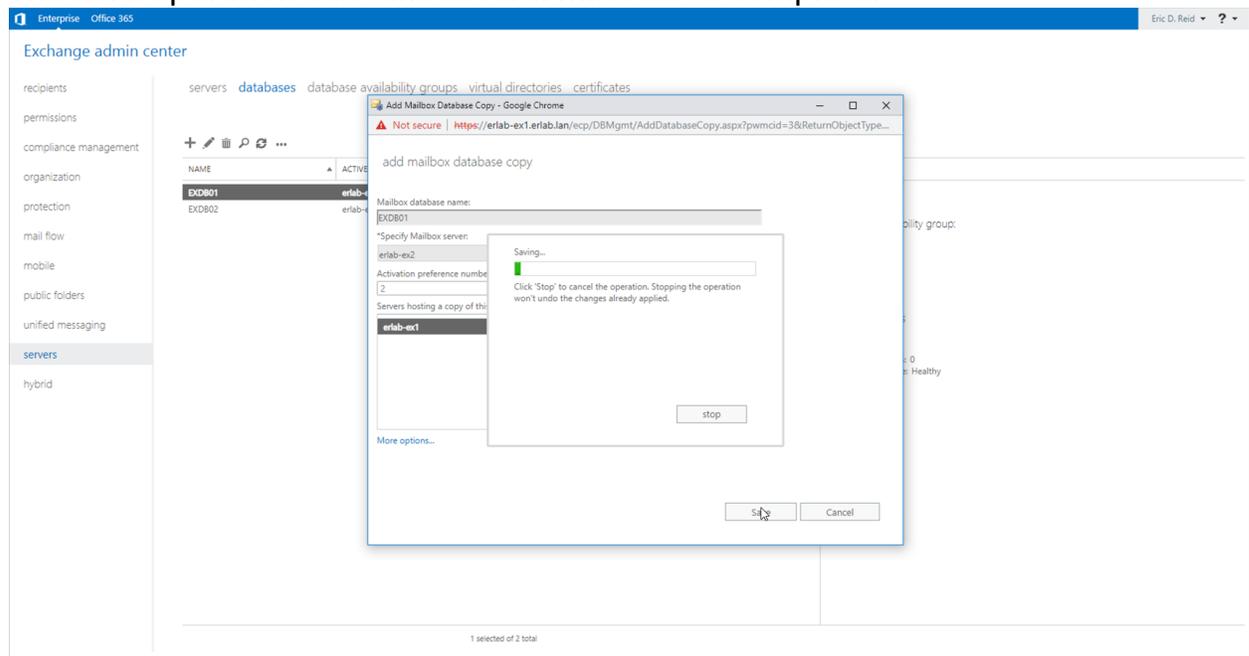
4. Select the other Exchange server, and click OK.



5. Click the Save button.



6. The save operation can take several minutes to complete.



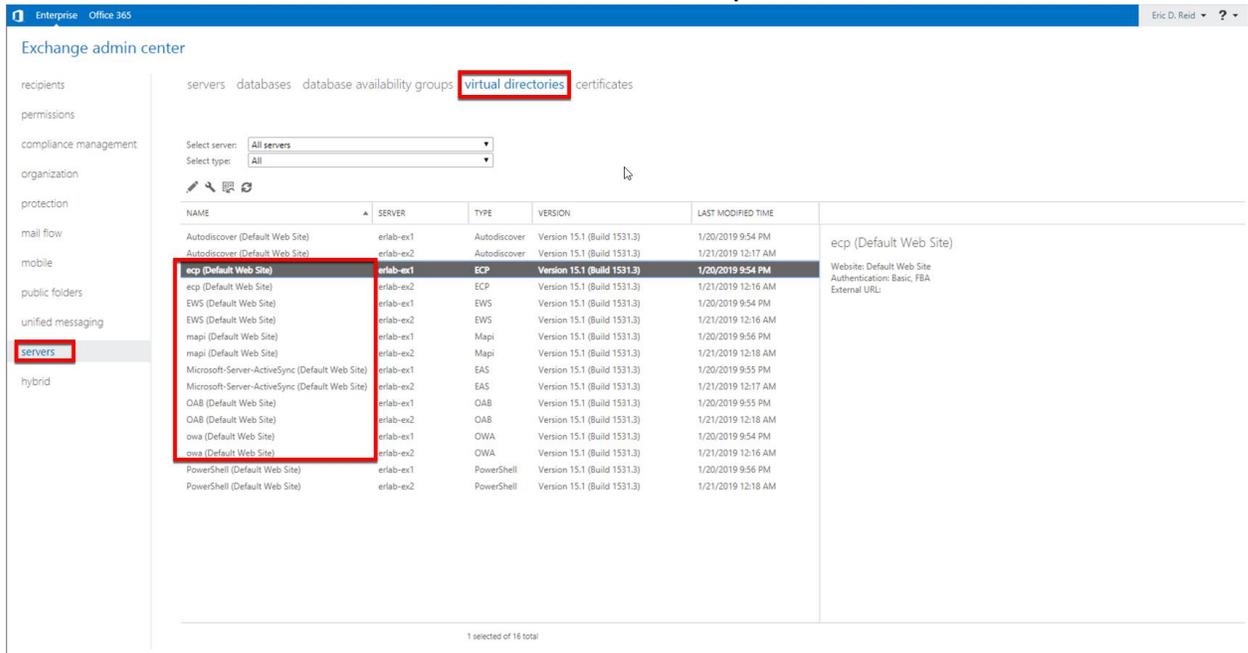
7. Once done, repeat the steps in this section for any other databases you have.

Change Virtual Directories

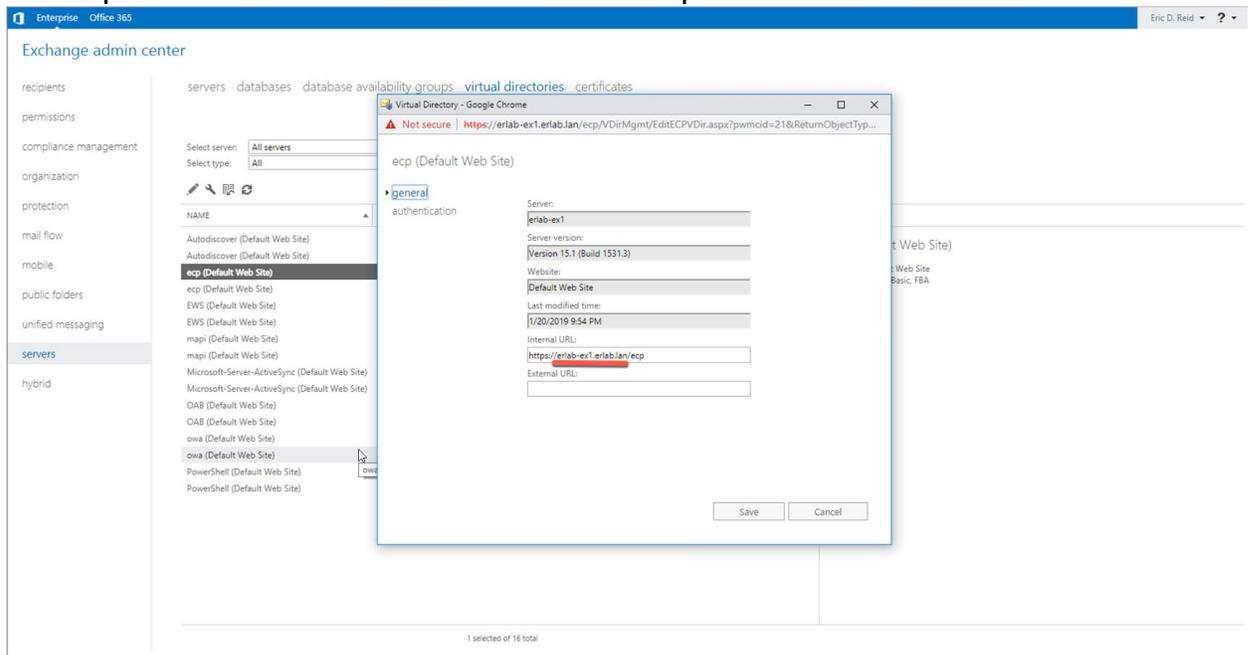
Since we have multiple Exchange servers we want to change the Internal and External URLs for the following Exchange virtual directories: ECP, EWS, MAPI, ActiveSync, OAB, OWA, and AutoDiscover (done via Exchange Management Shell).

We will be replacing the server name in the URLs with the following:
mail.domain.com/... (make sure not to change anything other than the server name).

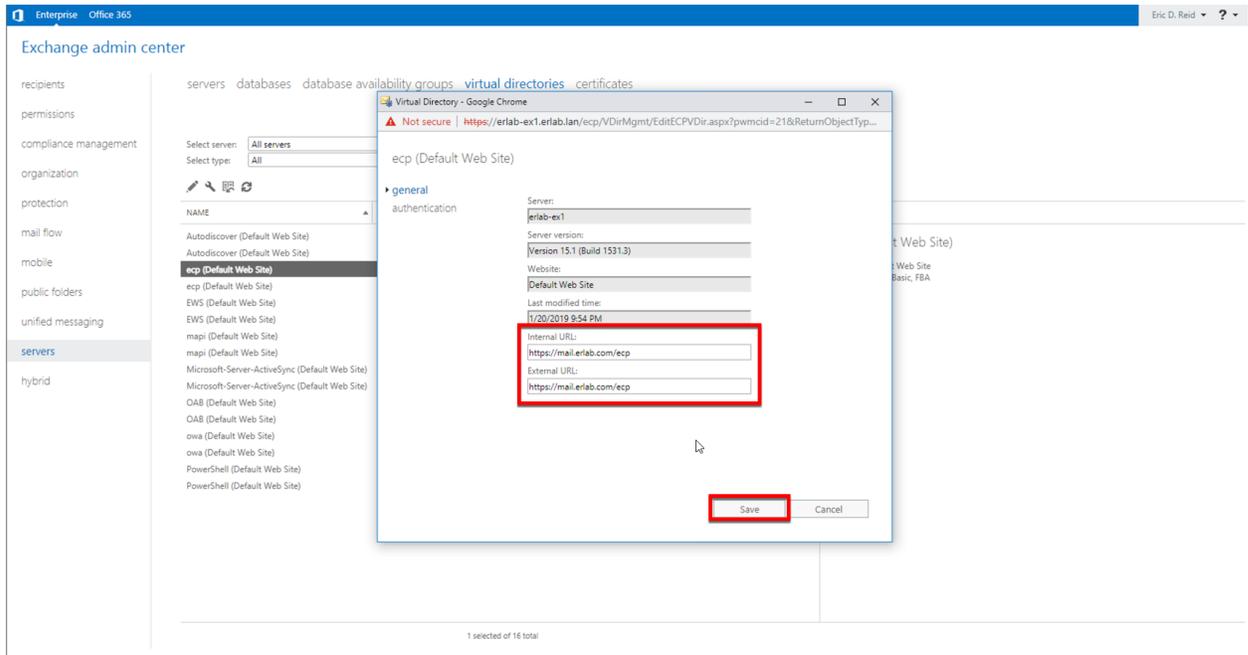
1. Click on Servers then Virtual Directories. Then edit each of the highlighted entries below. I'll show the first one as an example.



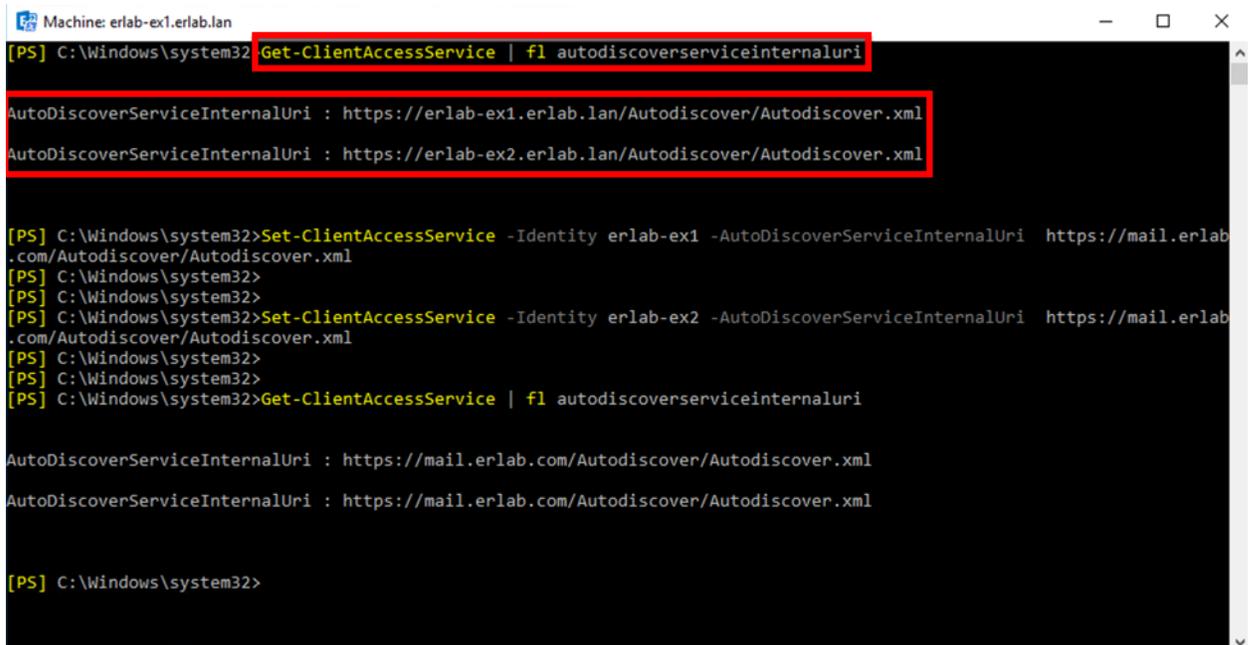
2. In the picture below we want to remove the part of the URL that is underlined.



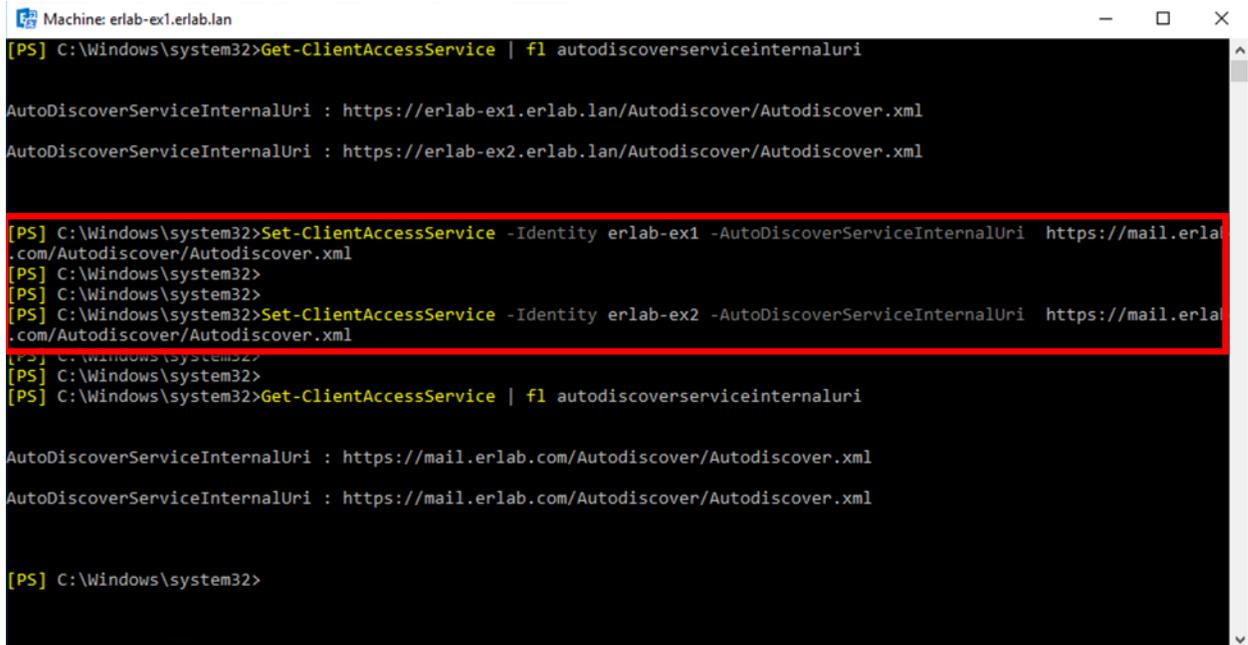
3. Enter the same URL for the Internal and External URLs. Then click Save.



4. Once those are done, open Exchange Management Shell and enter the following command and review the output: `Get-ClientAccessService | fl autodiscover\serviceinternaluri`



- Next, use the following command to set the URL for both servers. Command: `Set-ClientAccessService -Identity servername -AutoDiscoverServiceInternalUri https://fqdn-you-use/Autodiscover/Autodiscover.xml`

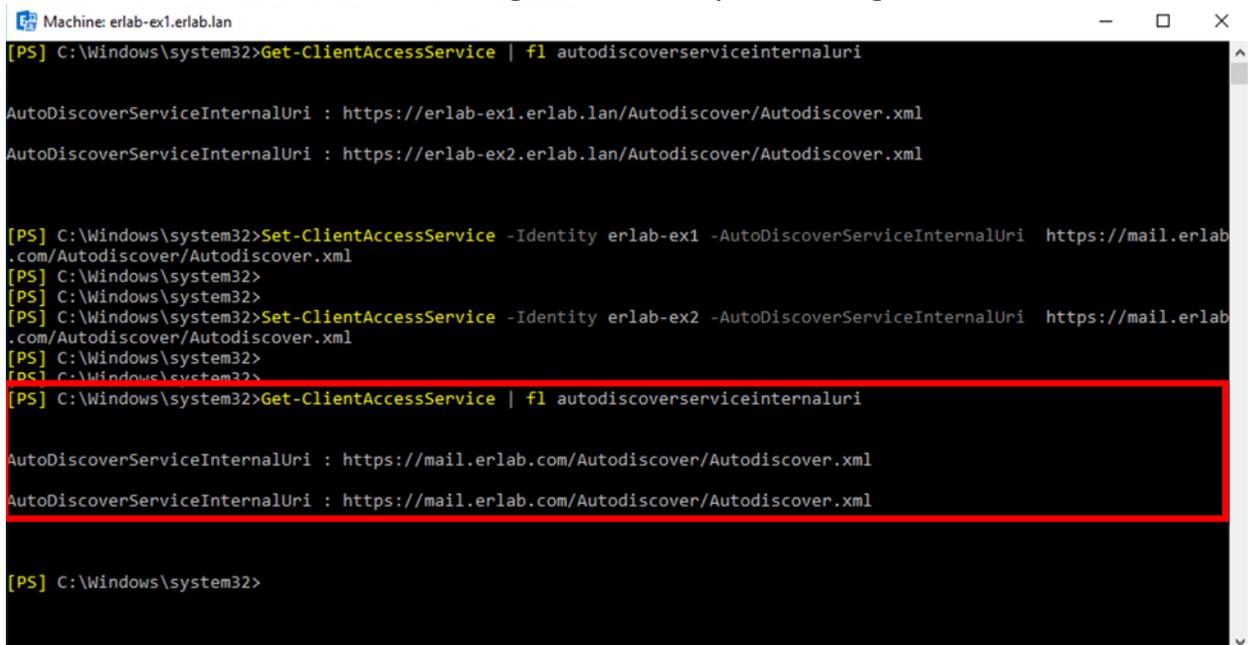


```
Machine: erlab-ex1.erlab.lan
[PS] C:\Windows\system32>Get-ClientAccessService | fl autodiscoverServiceInternalUri
AutoDiscoverServiceInternalUri : https://erlab-ex1.erlab.lan/Autodiscover/Autodiscover.xml
AutoDiscoverServiceInternalUri : https://erlab-ex2.erlab.lan/Autodiscover/Autodiscover.xml

[PS] C:\Windows\system32>Set-ClientAccessService -Identity erlab-ex1 -AutoDiscoverServiceInternalUri https://mail.erlab.com/Autodiscover/Autodiscover.xml
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Set-ClientAccessService -Identity erlab-ex2 -AutoDiscoverServiceInternalUri https://mail.erlab.com/Autodiscover/Autodiscover.xml
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-ClientAccessService | fl autodiscoverServiceInternalUri
AutoDiscoverServiceInternalUri : https://mail.erlab.com/Autodiscover/Autodiscover.xml
AutoDiscoverServiceInternalUri : https://mail.erlab.com/Autodiscover/Autodiscover.xml

[PS] C:\Windows\system32>
```

- Once you have done that for all your services, run “`Get-ClientAccessService | fl autodiscoverServiceInternalUri`” again and verify the changes.



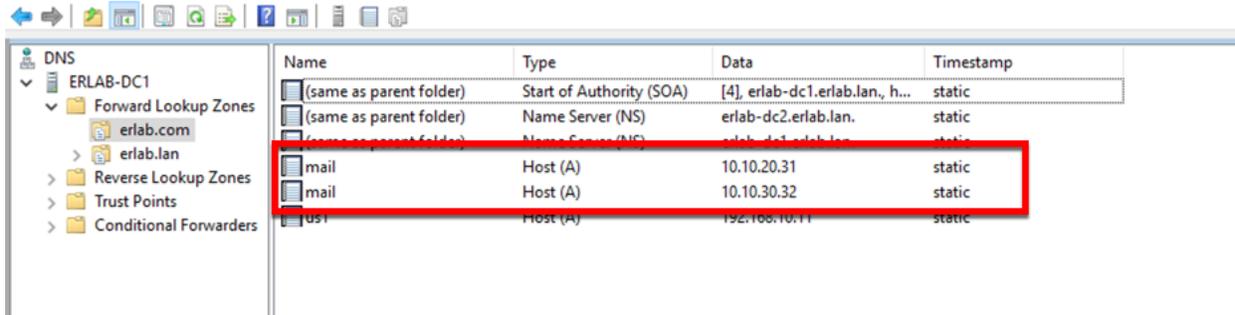
```
Machine: erlab-ex1.erlab.lan
[PS] C:\Windows\system32>Get-ClientAccessService | fl autodiscoverServiceInternalUri
AutoDiscoverServiceInternalUri : https://erlab-ex1.erlab.lan/Autodiscover/Autodiscover.xml
AutoDiscoverServiceInternalUri : https://erlab-ex2.erlab.lan/Autodiscover/Autodiscover.xml

[PS] C:\Windows\system32>Set-ClientAccessService -Identity erlab-ex1 -AutoDiscoverServiceInternalUri https://mail.erlab.com/Autodiscover/Autodiscover.xml
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Set-ClientAccessService -Identity erlab-ex2 -AutoDiscoverServiceInternalUri https://mail.erlab.com/Autodiscover/Autodiscover.xml
[PS] C:\Windows\system32>
[PS] C:\Windows\system32>Get-ClientAccessService | fl autodiscoverServiceInternalUri
AutoDiscoverServiceInternalUri : https://mail.erlab.com/Autodiscover/Autodiscover.xml
AutoDiscoverServiceInternalUri : https://mail.erlab.com/Autodiscover/Autodiscover.xml

[PS] C:\Windows\system32>
```

DNS Round Robin

Normally, you put your CAS servers behind a load balancer, but for my lab I'm just going to use DNS to Round Robin between the servers. I may come back later and add some kind of load balancer. In order to do the round robin with DNS, you just need to open DNS and add the same "A record" for each server. Just change the IP Address on each record.



Name	Type	Data	Timestamp
(same as parent folder)	Start of Authority (SOA)	[4], erlab-dc1.erlab.lan, h...	static
(same as parent folder)	Name Server (NS)	erlab-dc2.erlab.lan.	static
(same as parent folder)	Name Server (NS)	erlab-dc1.erlab.lan.	static
mail	Host (A)	10.10.20.31	static
mail	Host (A)	10.10.30.32	static
us1	Host (A)	192.168.10.11	static