

# INSTALLING EXCHANGE 2016

Step by step

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# Intro

In Exchange 2016 CAS role has now been removed, so there is only Mailbox and Edge role left. This guide will focus mostly on Mailbox role, configuration, backup and DNS. Since my resource (Hardware and software) is limited, I will skip DAG but will instead provide a link with a guide at the end of this guide.

## My Lab contains of:

Server name	Role	Internal IP	Disk
DC.domain.local	RootCA, DC, DNS	192.168.0.3	C: 50GB
EX1.domain.local	Mailbox	192.168.0.4	C:75GB D:10GB E:5GB F:7GB

## Checklist before installing Exchange 2016

1. Firewall disabled within domain network
2. Has static IP setup and can ping DC and other servers in the domain
3. Latest windows update
4. Windows is activated
5. Is joined domain
6. Account that is going to install is member of Schema Admins, Enterprise Admins and Organization Management
7. DC (writeable)
8. File share witness server (can't be Exchange server or DC)
9. RootCA
10. DNS

## Hardware Requirements

Processor	Intel X64 or AMD64
Memory	8GB minimum (5GB working in Lab)
Disk space	32GB minimum (Lab setup has 75GB C: drive, 7GB D:(Database) drive, 5GB E:(Log) drive, 6GB F:(Backup for log) drive)

## Operating system requirements

Windows Server 2012 R2 Standard or Datacenter

Windows Server 2012 Standard or Datacenter

# Prerequisites

1. .Net Framework 4.5.2 <http://go.microsoft.com/fwlink/p/?LinkId=518380>
2. Unified Communications Managed API 4.0 Runtime  
<http://go.microsoft.com/fwlink/p/?LinkId=258269>
3. Open Windows PowerShell as administrator and run following command (mailbox role)

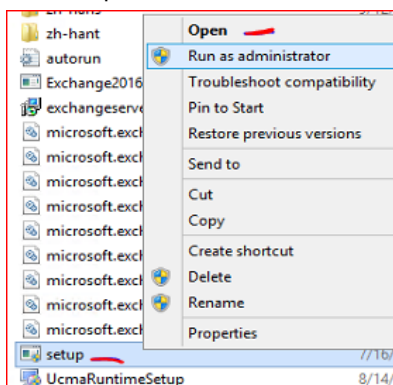
Install-WindowsFeature RSAT-ADDS, AS-HTTP-Activation, Desktop-Experience, NET-Framework-45-Features, RPC-over-HTTP-proxy, RSAT-Clustering, RSAT-Clustering-CmdInterface, RSAT-Clustering-Mgmt, RSAT-Clustering-PowerShell, Web-Mgmt-Console, WAS-Process-Model, Web-Asp-Net45, Web-Basic-Auth, Web-Client-Auth, Web-Digest-Auth, Web-Dir-Browsing, Web-Dyn-Compression, Web-Http-Errors, Web-Http-Logging, Web-Http-Redirect, Web-Http-Tracing, Web-ISAPI-Ext, Web-ISAPI-Filter, Web-Lgcy-Mgmt-Console, Web-Metabase, Web-Mgmt-Console, Web-Mgmt-Service, Web-Net-Ext45, Web-Request-Monitor, Web-Server, Web-Stat-Compression, Web-Static-Content, Web-Windows-Auth, Web-WMI, Windows-Identity-Foundation

Restart and run windows update a couple of times. When there are no more Windows update, we are ready to install.

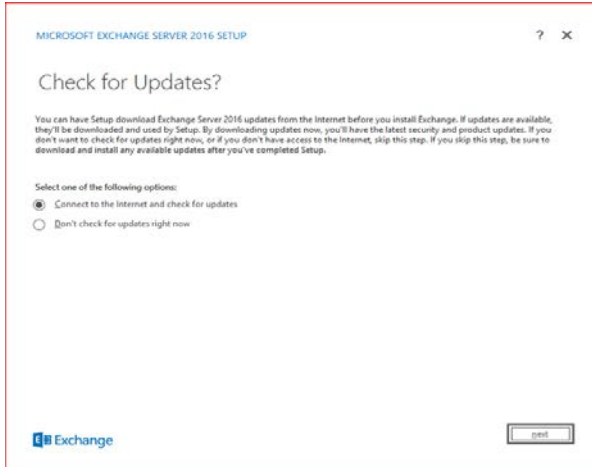


## Download and Install

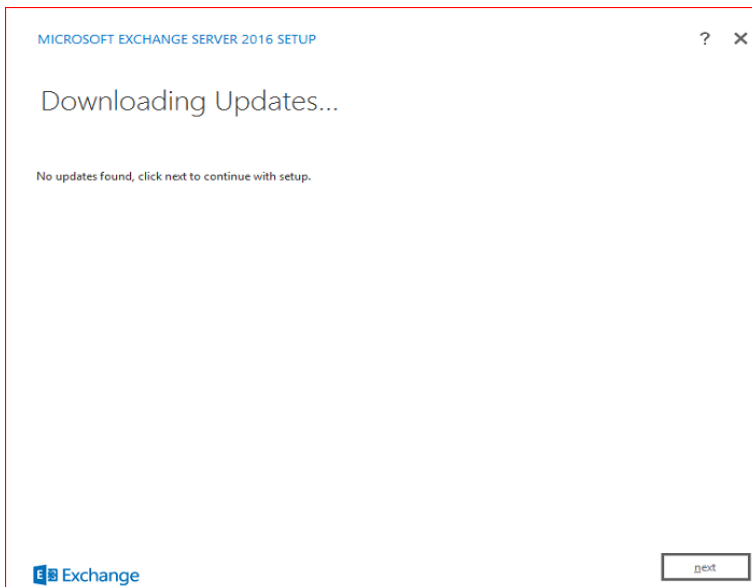
1. Download Exchange server 2016 (preview) and extract it to local drive. I extracted mine to C:\Exchange 2016\  
<https://www.microsoft.com/en-us/download/details.aspx?id=48210>
2. Run setup.exe as administrator



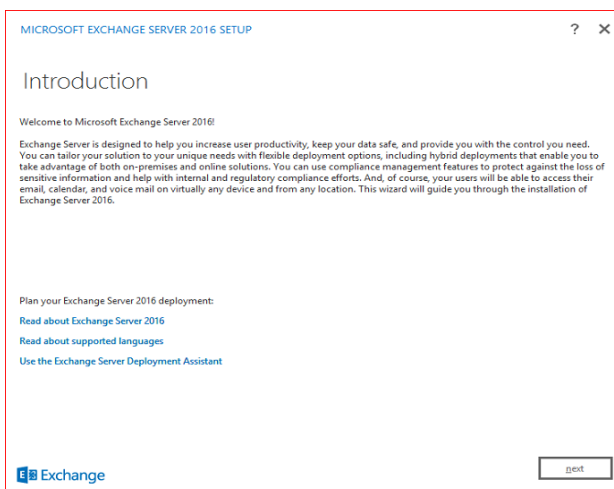
### 3. Chose default and click Next



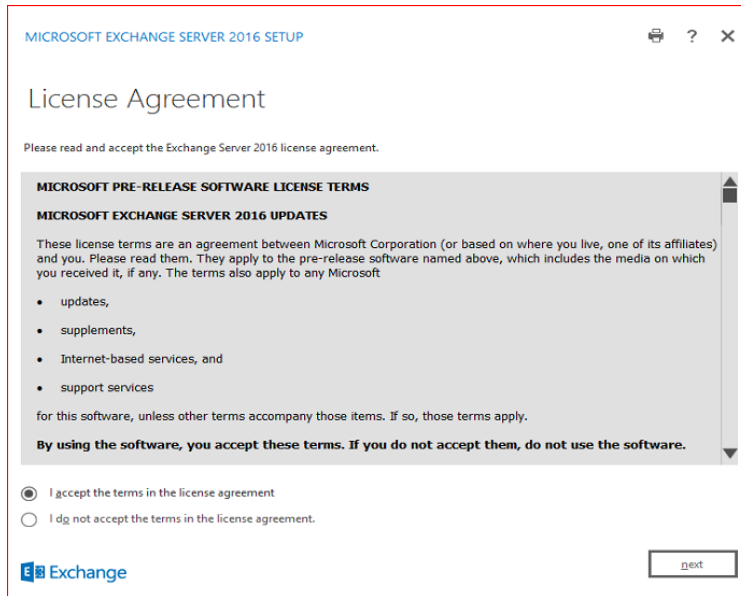
### 4. Click Next



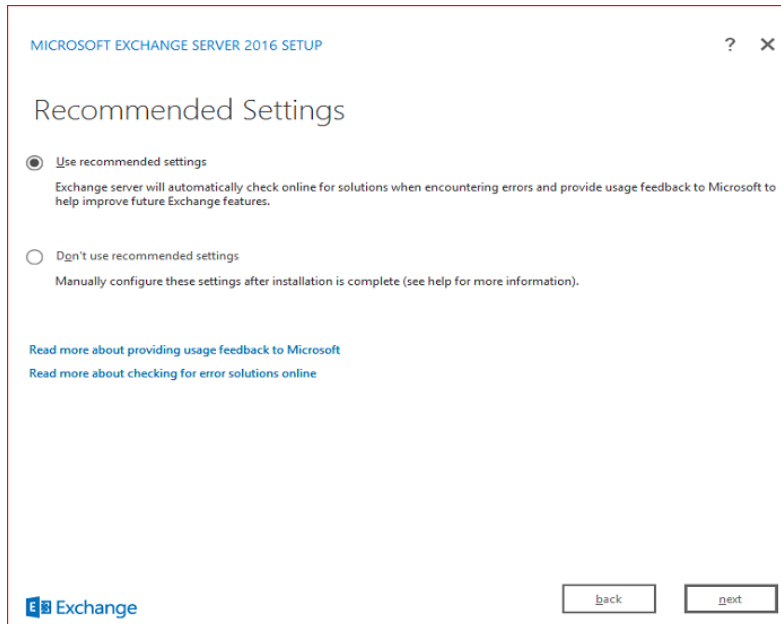
### 5. Click Next



6. Accept License Agreement and click Next

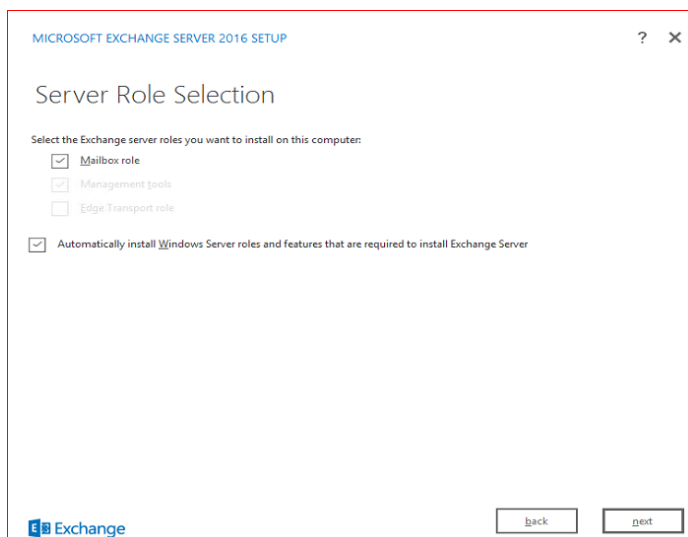


7. Use recommended settings and click next

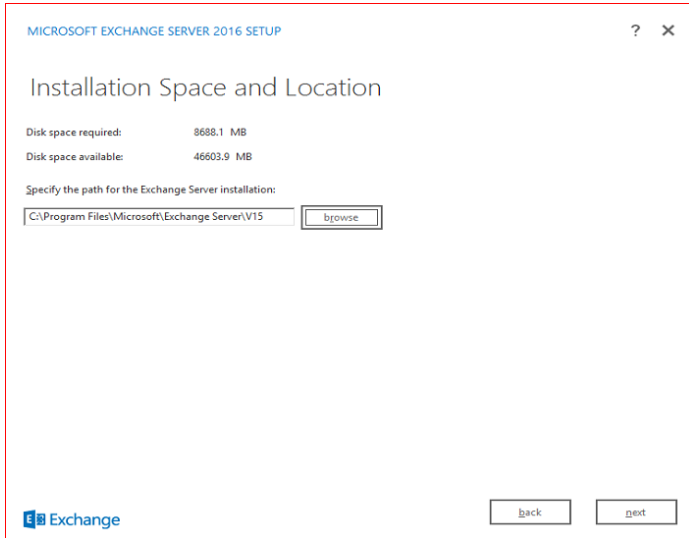


8. Check for Mailbox Role (management tool will be automatically selected) and Automatically install.

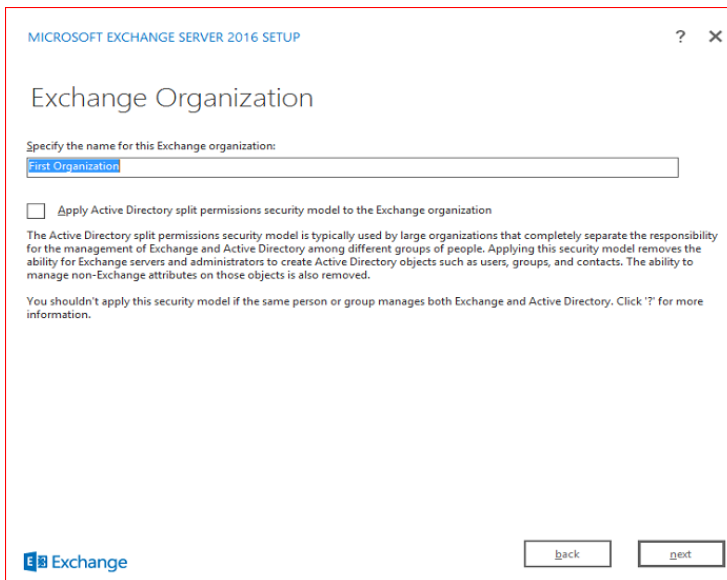
Click Next



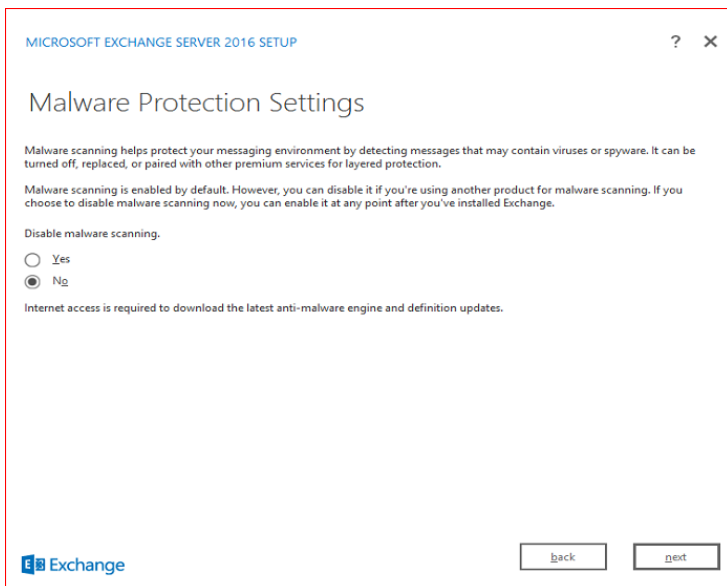
9. Click Next



10. Specify a desired name or leave default and Click Next

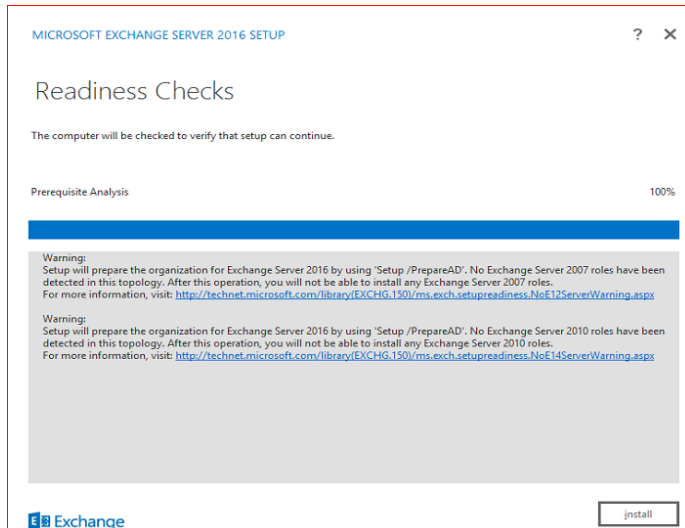


11. Leave default and click Next

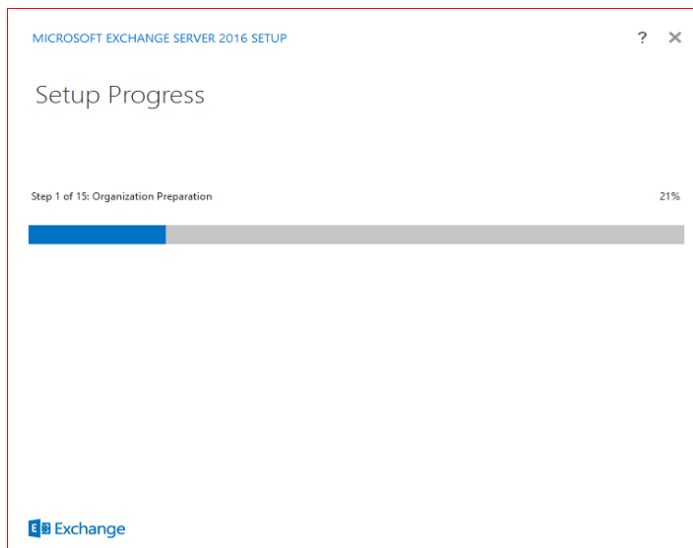




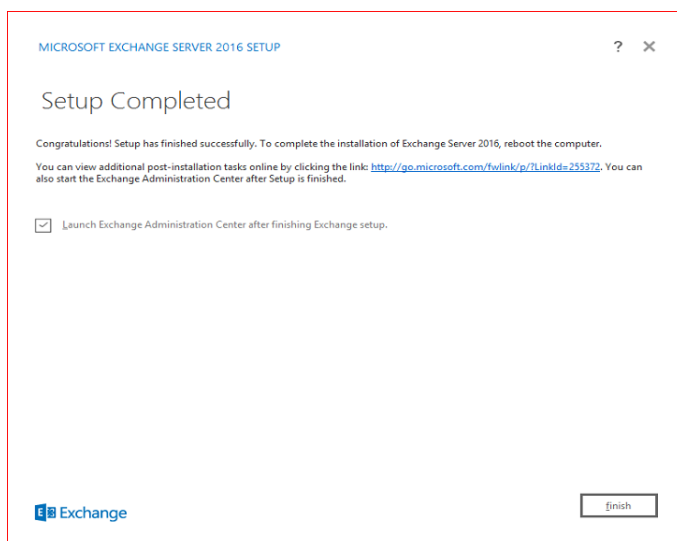
12. Click Install



13. Now installation will prepare your organization (AD, Schema and Domain). This will take a while, depends on your hardware setup. With my setup it took around 1 hour!



14. We are done! Check for Launch ECP and click finish.

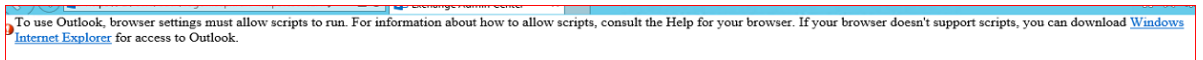


# Configure Exchange Server

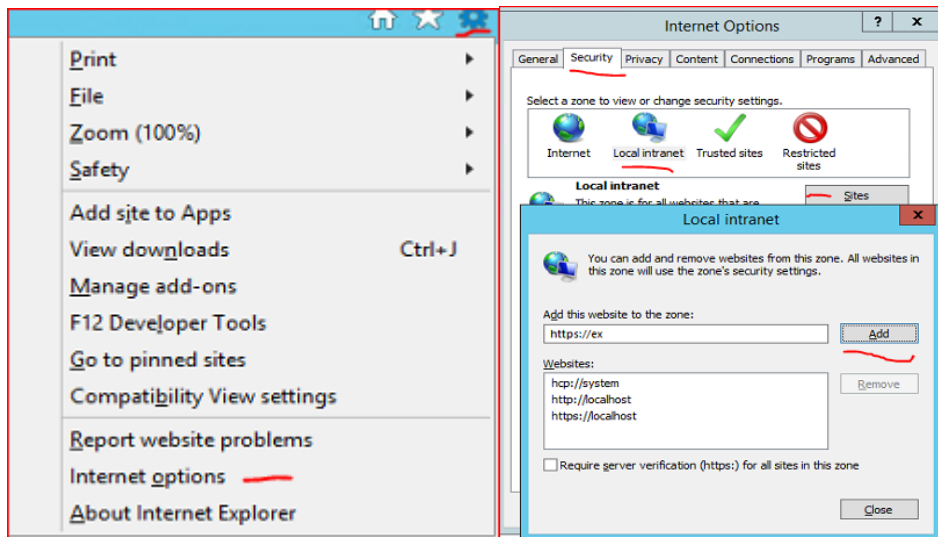
In this chapter, we will configure Virtual Directories, Mapi, create new Database and request a new certificate.

## Configure Virtual Directories

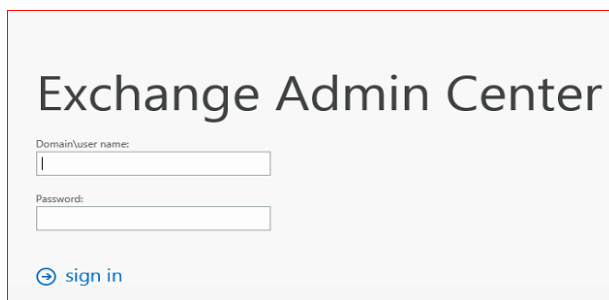
1. When IE starts, we will be greeted by a warning.



Click on tools – internet options – security – Local Intranet – Sites and add it to the zone.  
Close Internet Options and refresh the page.



2. Login with your domain admin user. (Don't worry about slow login, this is normal during first time login).



3. Navigate to Servers and click edit button. In the new window click Outlook Anywhere then add External and Internal hostname (If you want to keep your certificate easy, you can add \*.com as internal and external hostname. If you do so, you should create internal DNS for your .com zone, we will go thru certificate request later on). Click Save to save your changes.

## Exchange admin center

recipients  
permissions  
compliance management  
organization  
protection  
mail flow  
mobile  
public folders  
unified messaging  
**servers**  
hybrid  
tools

### servers



NAME

EX

Exchange Server - Internet Explorer

EX

general

databases and database availability groups

POP3

IMAP4

unified messaging

DNS lookups

transport limits

transport logs

▶ **Outlook Anywhere**

Outlook Anywhere allows your users to connect to their Exchange mailboxes via Outlook. [Learn more](#)

Specify the external host name (for example, contoso.com) that users will use to connect to your organization.

\*Specify the internal host name (for example, contoso.com) that users will use to connect to your organization.

\*Specify the authentication method for external clients to use when connecting to your organization:

Allow SSL offloading

Save Cancel

#### 4. Click on virtual directories – ECP – Edit

## Exchange admin center

recipients  
permissions  
compliance management  
organization  
protection  
mail flow  
mobile  
public folders  
unified messaging  
**servers**  
hybrid  
tools

servers databases database availability groups **virtual directories** certificates

Select server:

Select type:



NAME	SERVER	TYPE	VERSION	LAST MODIFIED TIME
Autodiscover (Default Web Site)	EX	Autodis...	Version 15.1 (Build 225.17)	9/12/2015 3:13 AM
<b>ecp (Default Web Site)</b>	EX	ECP	Version 15.1 (Build 225.17)	9/12/2015 3:12 AM
EWS (Default Web Site)	EX	EWS	Version 15.1 (Build 225.17)	9/12/2015 3:12 AM
Microsoft-Server-ActiveSync (Def...	EX	EAS	Version 15.1 (Build 225.17)	9/12/2015 3:13 AM
OAB (Default Web Site)	EX	OAB	Version 15.1 (Build 225.17)	9/12/2015 3:13 AM
owa (Default Web Site)	EX	OWA	Version 15.1 (Build 225.17)	9/12/2015 3:12 AM
PowerShell (Default Web Site)	EX	PowerS...	Version 15.1 (Build 225.17)	9/12/2015 3:13 AM

In the new window, edit Internal and external url (again both can be \*.com) and save.

ecp (Default Web Site)

▶ **general**  
authentication

Server:

Server version:

Website:

Last modified time:

Internal URL:

External URL:

- Now click twice on EWS, in new window add internal and external url (\*.com on both if you want) then click save. (Ignore error about Internal url cannot be resolved, we will fix it later in DNS guide)

EWS (Default Web Site)

general

authentication

Server:  
EX

Last modified time:  
9/12/2015 3:12 AM

Internal URL:  
https://mail.domain.local/EWS/Exchange.asmx

External URL:  
https://mail.domain.com/EWS/Exchange.asmx

Enable MRS Proxy endpoint

Save

Cancel

- Click twice on Microsoft-Server-ActiveSync and edit Internal and External URL. (Ignore error when click save)

Microsoft-Server-ActiveSync (Default Web Site)

general

authentication

Server:  
EX

Last modified time:  
9/12/2015 3:13 AM

Internal URL:  
https://mail.domain.local/Microsoft-Server-ActiveSync

External URL:  
https://mail.domain.com/Microsoft-Server-ActiveSync

Save

Cancel

- Click twice on OAB and edit Internal and External Url, then click save.

OAB (Default Web Site)

Server:  
EX

Last modified time:  
9/12/2015 3:13 AM

Polling interval (minutes):  
480

Internal URL:  
https://mail.domain.local/OAB  
This Internal URL refers to the URL from which Outlook clients inside the corporate network can access this virtual directory.

External URL:  
https://mail.domain.com/OAB  
This External URL refers to the URL from which Outlook clients outside the corporate network can access this virtual directory.

Save

Cancel

- Click twice on OWA and edit Internal and External Url, then click save.

owa (Default Web Site)

general

- authentication
- features
- file access

Server: EX

Server version: Version 15.1 (Build 225.17)

Website: Default Web Site

Outlook Web App version: Exchange2013

Last modified time: 9/12/2015 3:12 AM

Internal URL: https://mail.domain.local/owa

External URL: https://mail.domain.com/owa

Save Cancel

- PowerShell virtual directory can be left as default

## Configure Certificate

- Click on Certificate and plus sign to create new certificate request

[Exchange admin center](#)

recipients servers databases database availability groups virtual directories **certificates**

permissions

compliance management

organization

protection

mail flow

mobile

public folders

unified messaging

**servers**

hybrid

tools

Select server: Exchange Server

+ ✎ 🗑️ ↺ ⋮

NAME	STATUS	EXPIRES ON
Microsoft Exchange Server Auth Certificate	Valid	8/16/2020
Microsoft Exchange	Valid	9/12/2020
WMSVC	Valid	9/9/2025

2. Click Next (Requires that you have Root CA installed in your domain)

new Exchange certificate

This wizard will create a new certificate or a certificate request file.

You can either create a self-signed certificate or request a certificate from a certification authority. [Learn more...](#)

- Create a request for a certificate from a certification authority
- Create a self-signed certificate

Next

Cancel

3. Give Certificate a name (it can be any of your choice)

new Exchange certificate

\*Friendly name for this certificate:

Exchange 2016 Certificate

Back

Next

Cancel

4. Leave default and click Next

new Exchange certificate

Request a wildcard certificate. A wildcard certificate can be used to secure all sub-domains under your root domain with a single certificate. [Learn more](#)

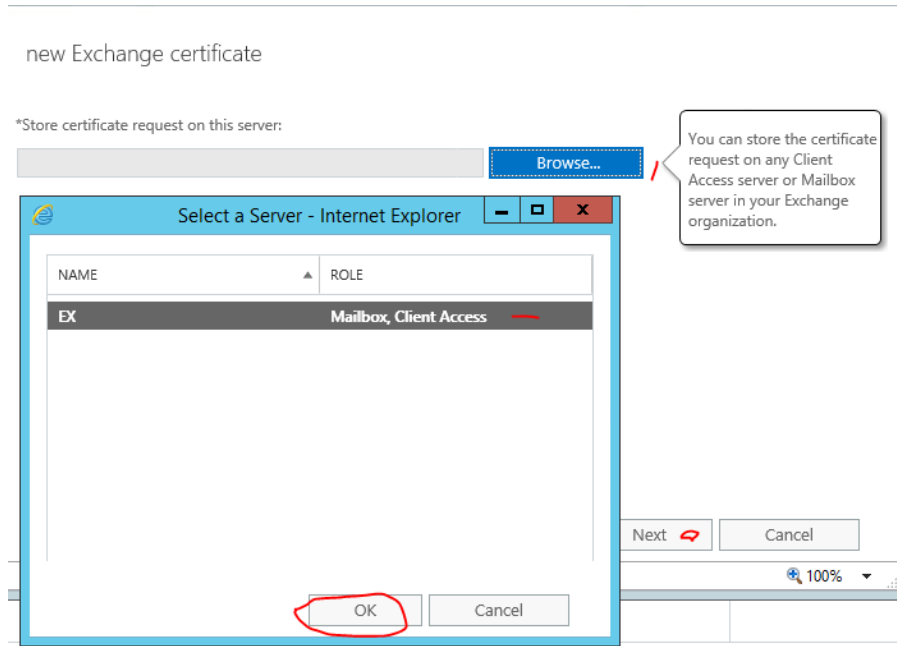
\*Root domain:

Back

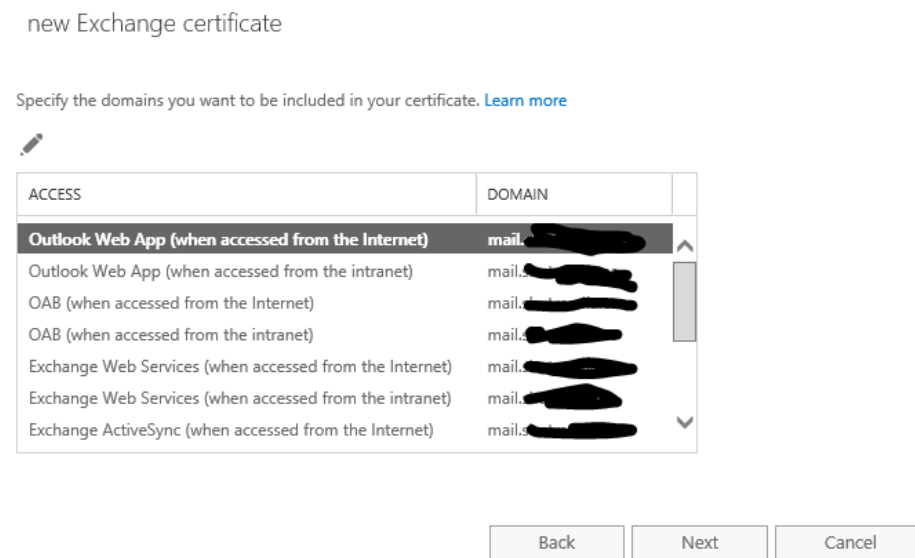
Next

Cancel

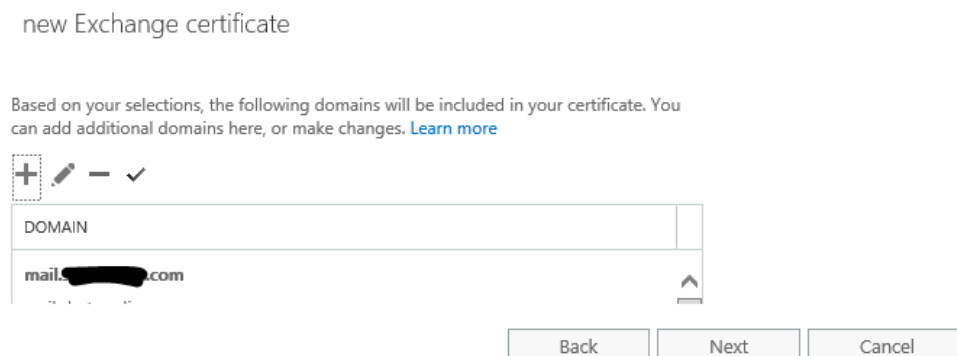
- Click browse, choose server you wish to store the certificate and click OK then Next



- In this window it will automatically add names we have configured in Virtual Directories earlier. Click next.



- If you have multiple domains, you will have to add autodiscover.domain.com and autodiscover.domain.local for each of your domains (last part is not needed if you have configured Virtual directories to use \*.com). Mail.domain.com does not need to be added if you use same url for OWA. Click Next



## 8. Enter required fields and click Next

new Exchange certificate

Specify information about your organization. This is required by the certification authority.

[Learn more](#)

\*Organization name:

\*Department name:

\*City/Locality:

\*State/Province:

\*Country/Region name:

**Error**

This field is required.

Back

Next

Cancel

9. Enter path to a share to store the certificate. In my case I just created a folder named Share under C:\ on my Exchange server. Then shared the folder with path [\\EX1\Share](#). Click Finish.

new Exchange certificate

\*Save the certificate request to the following file (example:

\\myservername\share\mycertrequest.REQ):

You'll need to submit the contents of the file you entered to a certification authority.

After you receive the certificate file from the certification authority, you'll need to click Complete in the Information pane to install it on your Exchange server. [Learn more](#)

Back

Finish

Cancel

10. Navigate to the folder where the certificate was stored, right click the file and open it with Notepad. CTRL+A and CTRL+C to select all and copy the content

The screenshot shows a Windows File Explorer window with the address bar set to 'This PC > Local Disk (C:) > Share'. A file named 'ex2016.req' is selected in the main pane. The file's properties are shown as: Date modified: 9/12/2015 3:47 PM, Type: REQ File, Size: 3 KB. A Notepad window titled 'ex2016.req - Notepad' is open, displaying the following text:

```
File Edit Format View Help
dlwVtYw5nbySub4IZbH1uY2Rpc2NvdmVyLmlyYX1vbi5uaW5qYYIRc21wLnNodXRt
ZWRpYS5jb22CEHNpcC51bHV1bWVuZ28ubm+CEHNpcC5jcmF5b24ubmLuamGCFGFj
Y2Vzcy5zaHV0bWVkaWUy29tghZjc3d1YmFwcC5zaHV0bWVkaWUy29tghdzY2h1
ZHVzZXIuc2h1dG11ZG1hLmNvbYIYTH1uY3d1YmV4dC5zaHV0bWVkaWUy29tghNh
ZG1pb15zaHV0bWVkaWUy29tghNpbmRyYS5zaHV0bWVkaWUy29tghFwa2kuc2h1
dG11ZG1hLmNvbYIRd2FjLnNodXRtZWRpYS5jb22CEXZwb15zaHV0bWVkaWUy29t
ghJibG9nLnNodXRtZWRpYS5jb22CEWJsb2cuYmxc1ZW1hbmdvLm5vghFibG9nLmly
YX1vbi5uaW5qYTAMBgNVHRMBAF8EAJAAMB0GA1UdDgQWBBT4KUzyGmmBZDYcaTta
vAZ2Q67DgTANBqkqhk.iG9w0BAQFAAOAQEAndAxwJw1pkLB01PkP5qfJG+U105J
XH/Kiy1ZEKos+L0T27QrQ0tjb2wdS7agOK+q1ooMczBchIuVq+a4U04cGc06gB9
H+BX0K7x0wvoeNmXX9gA7VuHIKTBnEP5eykg20tdUDnUiFMAVZGqRY3bCQv0ezGM
gkoicyCkb2oaIi6LP9wEwPzCaw690qIuqfgn23omR6+0gx0Z2tZ80aXeZSTycd1F
g1xvZF852t2JEh3/PCNMQ3B0j6qW9ApR98yZm37X05G1LRRZ6pwYhnaUpw2Jo4PC
43PSsEcCLQZ+wIGC19coVBxoM/5fIFsbdvcM/z1iDndyMQfW8wBzFnzCow==
-----END NEW CERTIFICATE REQUEST-----
```



11. Open IE and enter url for certificate request. In my case I have installed CA on my DC, so url is <http://DC/certsrv> ( if its not in local intranet zone, be sure to add it before entering url or request will fail). Click on Request a certificate

### Welcome

---

Use this Web site to request a certificate for your Web browser, e-mail sign and encrypt messages, and, depending upon the type of certificat

You can also use this Web site to download a certificate authority (CA)

For more information about Active Directory Certificate Services, see ,

#### Select a task:

- [Request a certificate](#)
- [View the status of a pending certificate request](#)
- [Download a CA certificate, certificate chain, or CRL](#)

12. Click advanced certificate request

### Request a Certificate

---

Select the certificate type:

[User Certificate](#)

Or, submit an [advanced certificate request](#).

13. Click Submit a certificate request by using a ..

### Advanced Certificate Request

---

The policy of the CA determines the types of certific

[Create and submit a request to this CA.](#)

[Submit a certificate request by using a base-64.](#)

14. Paste in the content we copied earlier, choose webserver and click submit

#### Saved Request:

Base-64-encoded  
certificate request  
(CMC or  
PKCS #10 or  
PKCS #7):

```
-----BEGIN NEW CERTIFICATE REQUEST-----  
MIIGtzCCBZ8CAQAwcjEbMBkGA1UEAwwSbWFpbcC5z,  
VQQLDAtJbnRlcm5hbCBJVDESMBAGA1UECgwJU2h1,  
c2xvMQ0wCwYDVQQIDARPc2xvMQswCQYDVQQGEwJO,  
BQADggEPADCCAQoCggEBAK07FN7L1bP5YtutYnjK,  
WKhzuW0qJ3sMB1V4vdhiiLoPqAWJh6gGVedt1ctM
```

#### Certificate Template:

Web Server

#### Additional Attributes:

Attributes:

Submit >

- Click download certificate and save it on same share we stored the certificate request earlier.

### Certificate Issued

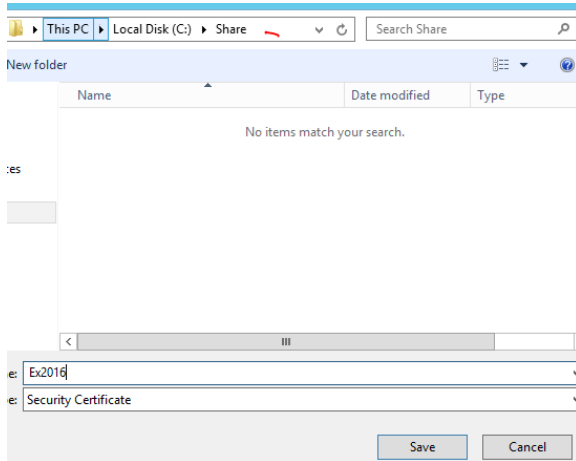
The certificate you requested was issued to you.

DER encoded or  Base 64 encoded



[Download certificate](#)

[Download certificate chain](#)



- Navigate back to ECP – Servers – Certificate. Mark the pending request and click complete.

### Exchange admin center

NAME	STATUS	EXPIRES ON
Exchange 2016 Certificate	Pending request	9/12/2016
Microsoft Exchange Server Auth Certificate	Valid	8/16/2020
Microsoft Exchange	Valid	9/12/2020
WMSVC	Valid	9/9/2025

- Enter path to filename and click OK (In my case its \\ex1\share\Ex2016.cer)

complete pending request

This will import the certificate file that you received from the certification authority. After it's imported, you can assign this certificate to various Exchange services. [Learn more](#)

\*File to import from (example: \\server\folder\MyCertificate.CER):

\\ex\share\ex2016.cer

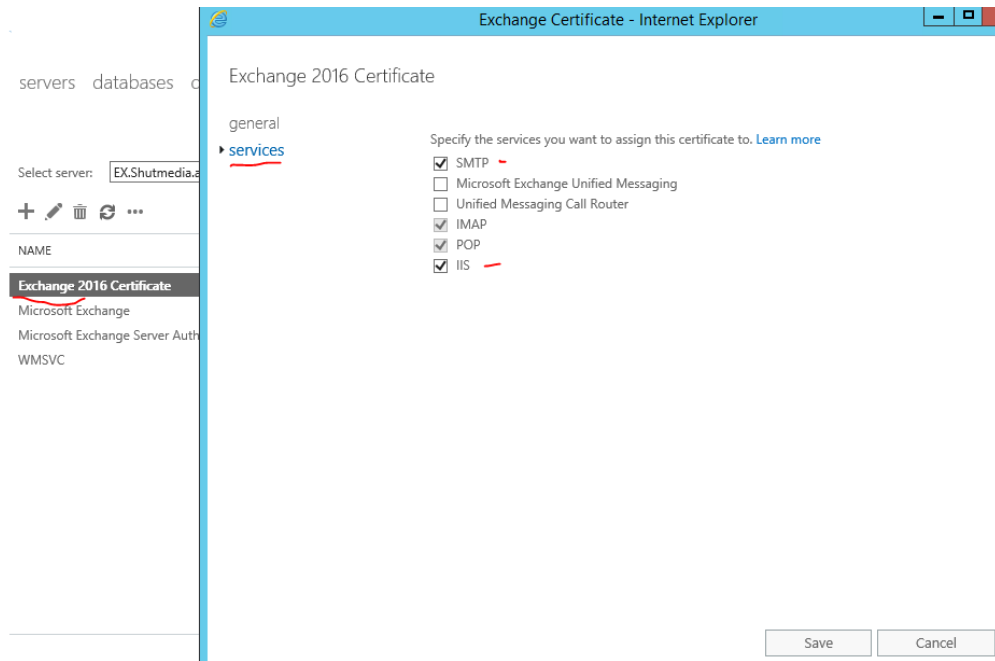
OK Cancel

Certificate will now have a valid state

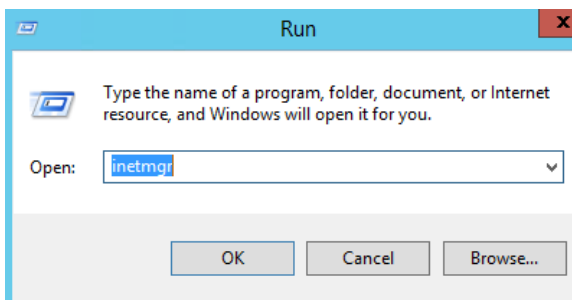
+ ✎ 🗑️ ↻ ⋮

NAME	STATUS	EXPIRES ON
Exchange 2016 Certificate	Valid	9/11/2017

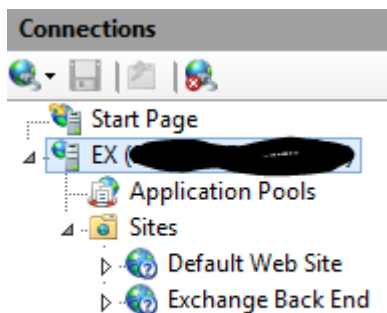
18. Click twice on the new Certificate – services and thick for SMTP and IIS then click save. Click Yes to confirm.



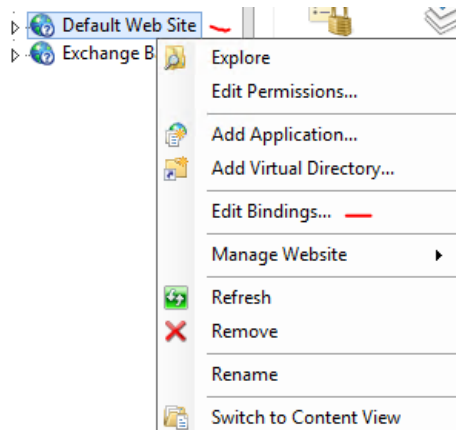
19. Open run (Windows +R) and type inetmgr then click ok to open IIS management



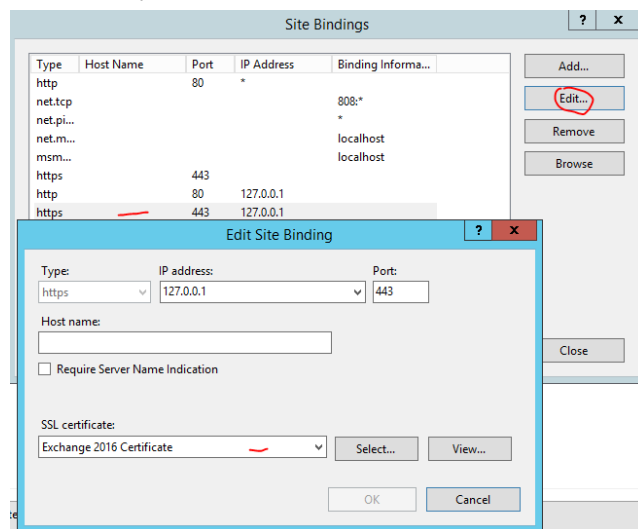
20. Expand your server – sites



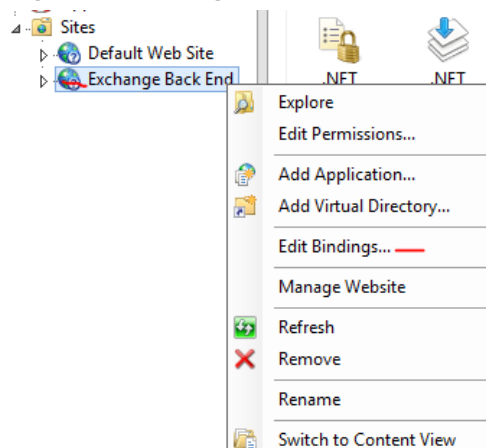
21. Right click Default Web Site – Edit Bindings



22. Click on https and click edit, confirm that the correct certificate is chosen.

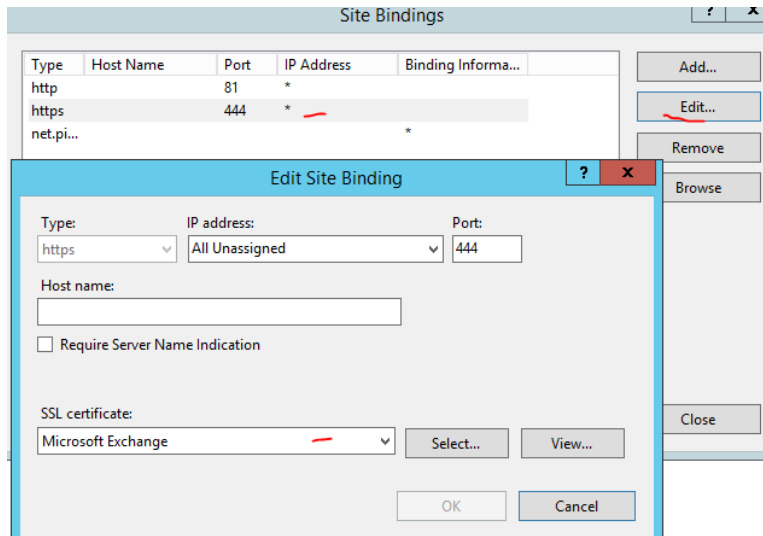


23. Right click Exchange Backend and chose edit bindings.



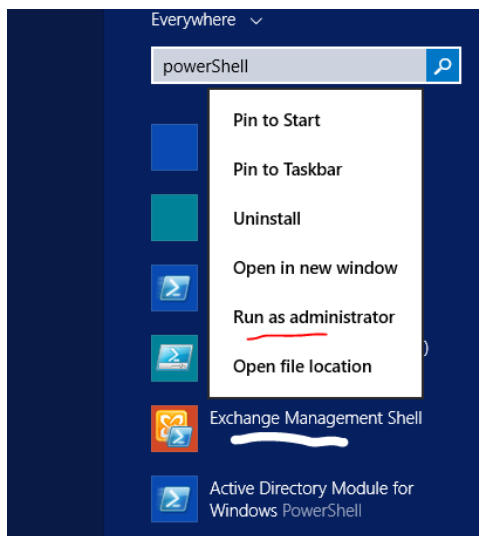
Mark https and click Edit. Here default certificate should be ok, but if you experience any certificate issue, then it can be change to the same as default website (Exchange 2016 certificate. When all is

confirmed close IIS manager.



## Configure MAPI

1. Search for PowerShell, then right click Exchange Management Shell and run as administrator



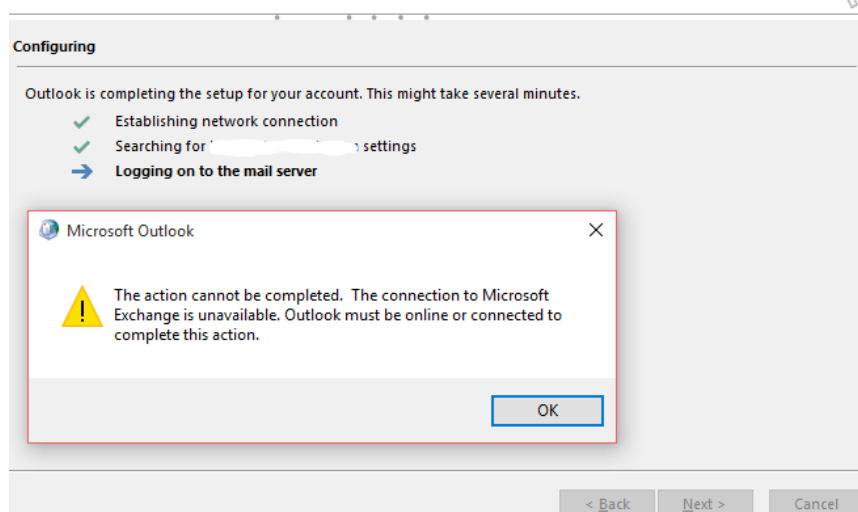
2. Type **Get-mapivirtualdirectory |fl internalurl, identity** and hit enter

InternalUrl : <https://ex.domain.local/mapi>

Identity : EX1\mapi (Default Web Site)

By default internalurl will be named <https://EX1.domain.local/mapi> and identity will be EX1\mapi Default website (where EX1 is name of your Exchange server). By default, this is not added during certificate request, so then your users will have issue creating profile in Outlook. This error might show up:

Searching for your mail server settings...



As you can see, it passes autodiscover, but fails to login to the mail server. Since Outlook now connects thru MAPI it will look for the mapi virtual directory. If default name is not in your certificate, it will fail to connect. To correct this issue run this command:  
Set-mapivirtuallibrary –identity “Ex\mapi (Default Web Site)” –internalurl <https://mail.domain.com/mapi>

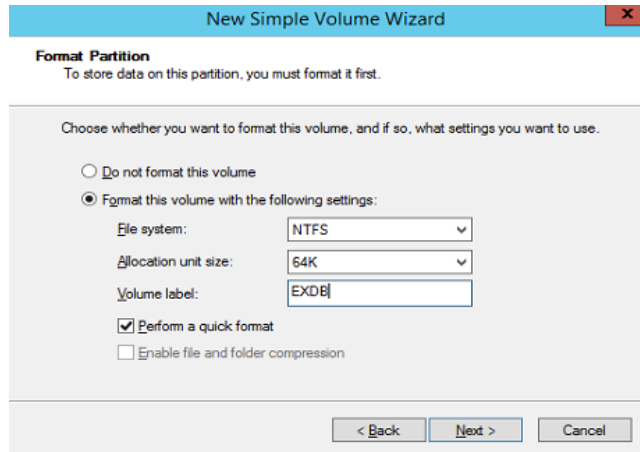
## Create new mailbox database

You can skip this part if you want to keep the default database, which can be found under C:\Program Files\Microsoft\Exchange Server\V15\Mailbox\. Since the name is long and will be time consuming in the future (entering the long name), I like to create a new database and delete default one.

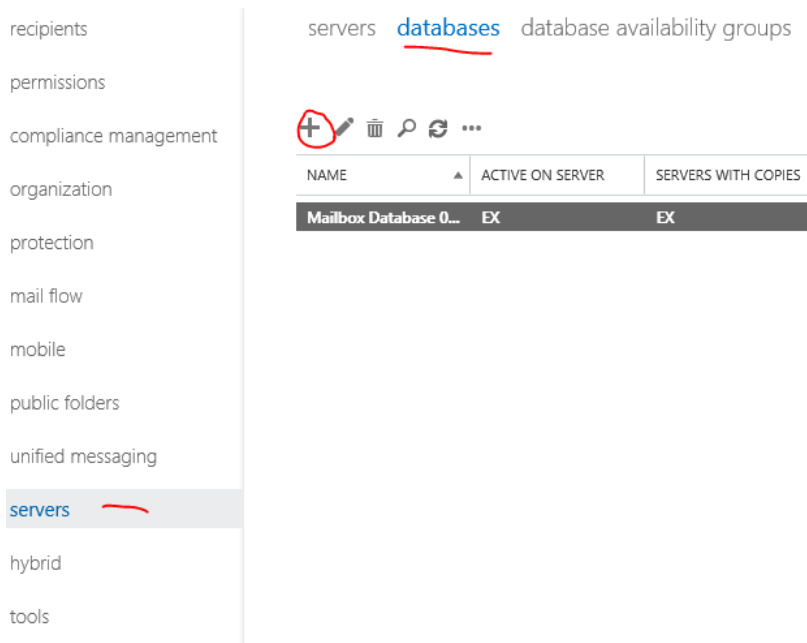
I have created three partitions on my Exchange server, since I like to separate Log and database disk and have a backup disk to clean up log files.

Name	Drive	Size and format
EXDB	D:	10 GB, Allocation unit size 64K
EXLOG	E:	5 GB, Allocation unit size 64K
EXBACKUP	F:	7 GB, default allocation unit size

When format the drive in Disk management.



1. Navigate to ECP – Servers – Database and click + sign to create new database  
[Exchange admin center](#)



2. Fill in required fields and click save (Click ok for the warning about restarting Information store service)

new database

\*Mailbox database

\*Server

Database file path:

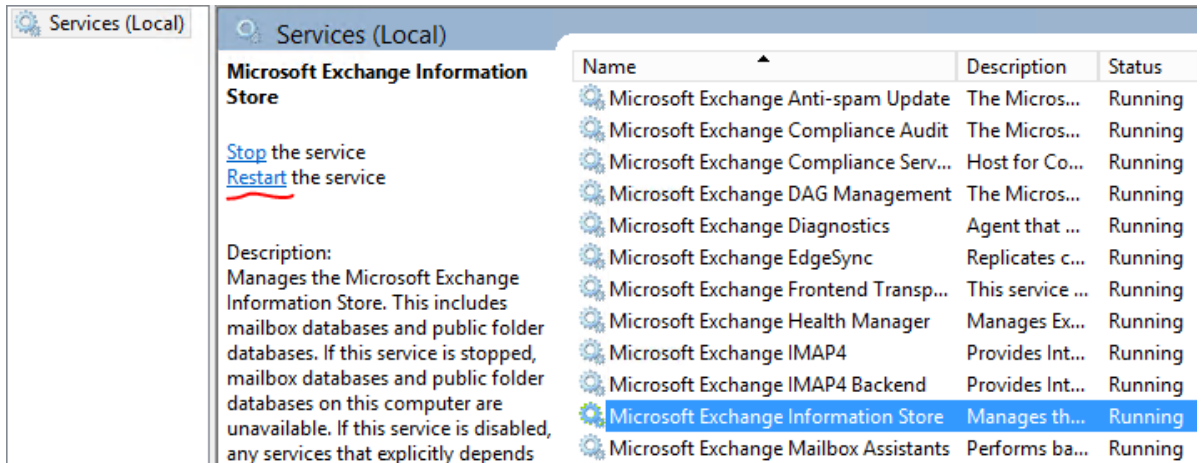
Log folder path:

Mount this database

Save

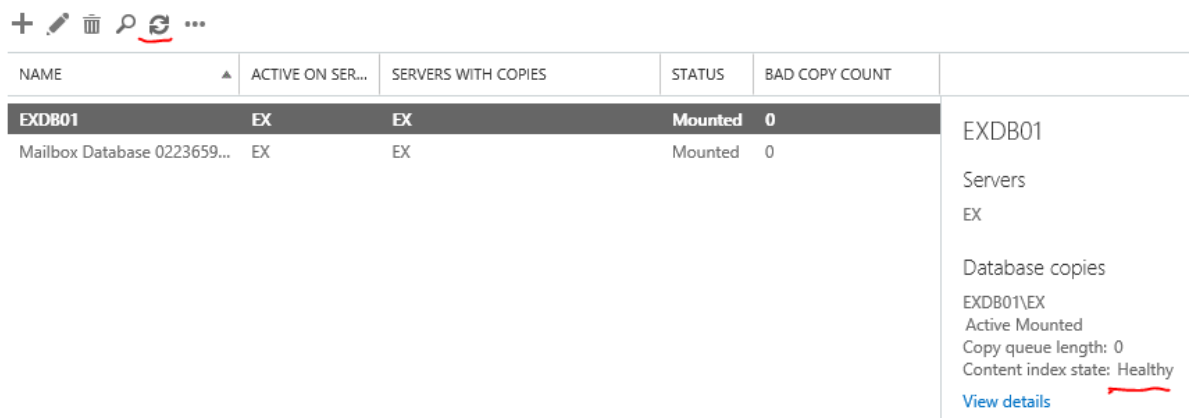
Cancel

- Open services and restart the Information store service



- Refresh and wait until Content index status is Healthy (this might take few minutes)

servers [databases](#) database availability groups virtual directories certificates



- Open Exchange management Shell and run the following command:

Get-mailboxdatabase | fl name

```
[PS] C:\Windows\system32>Get-MailboxDatabase | fl name
Name : Mailbox Database 0223659350
Name : EXDB01
```

Then run the following command to move all mailboxes from the old database to the new one:

Get-mailbox -database "Mailbox Database 0223659350" | new-moverrequest -targetdatabase "EXDB01"

```
[PS] C:\Windows\system32>Get-mailbox -database "Mailbox Database 0223659350" | new-moverrequest -targetdatabase "EXDB01"
DisplayName      StatusDetail      TotalMailboxSize  TotalArchiveSize  PercentComplete
-----
Master           Queued            4,947 KB (5,066 bytes)  0 B (0 bytes)      0
Discovery Search Mailbox Queued            0 B (0 bytes)          0
```



Then run the following command to move arbitration mailboxes:

```
Get-mailbox -database "Mailbox Database 0223659350" -arbitration | new-moverequest -targetdatabase "EXDB01"
```

```
[PS] C:\Windows\system32>Get-mailbox -database "Mailbox Database 0223659350" -arbitration | new-moverequest -targetdatabase "EXDB01"
```

DisplayName	StatusDetail	TotalMailboxSize	TotalArchiveSize	PercentComplete
Microsoft Exchange App...	Queued	0 B (0 bytes)	0	0
Microsoft Exchange	Queued	0 B (0 bytes)	0	0
Microsoft Exchange	Queued	76.29 KB (78,123 bytes)	0	0
Microsoft Exchange Mig...	Queued	0 B (0 bytes)	0	0
Microsoft Exchange Fed...	Queued	0 B (0 bytes)	0	0

Then run the following command to move Auditlog mailbox (new in Exchange 2016)

```
Get-Mailbox -Database "Mailbox Database 0223659350" -AuditLog | New-MoveRequest -TargetDatabase "EXDB01"
```

It will take around 5 minutes or so to move all mailboxes. Run Get-moverequest to check current status

```
[PS] C:\Windows\system32>Get-MoveRequest
```

DisplayName	Status	TargetDatabase
Master	Completed	EXDB01
Microsoft Exchange Approval Assistant	Completed	EXDB01
Microsoft Exchange	Completed	EXDB01
Microsoft Exchange	Completed	EXDB01
Discovery Search Mailbox	Completed	EXDB01
Microsoft Exchange Migration	Completed	EXDB01
Microsoft Exchange Federation Mailbox	Completed	EXDB01
SystemMailbox{8cc370d3-822a-4ab8-a926-bb94b...	Completed	EXDB01

When all status is Completed run the following command to remove move request:

```
Get-MoveRequest -MoveStatus Completed | Remove-MoveRequest
```

```
[PS] C:\Windows\system32>Get-MoveRequest -MoveStatus Completed | Remove-MoveRequest
```

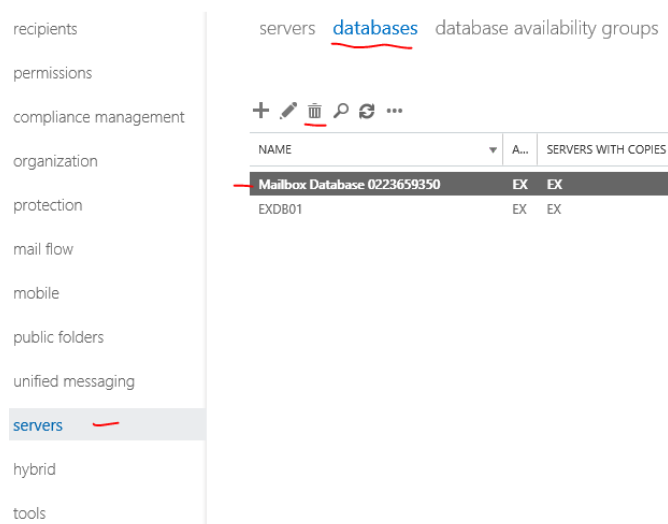
Confirm  
Are you sure you want to perform this action?  
Removing completed move request "Master".  
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help (default is "Y"): a

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

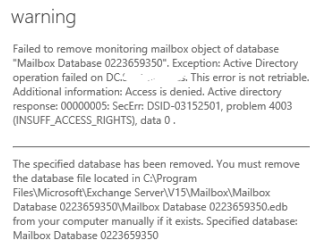
Enter A to confirm all

## 6. Back in ECP – Servers – Database, mark on the old database and click delete

[Exchange admin center](#)



## Click ok on the warning



7. Navigate to C:\Program Files\Microsoft\Exchange Server\V15\Mailbox\ and delete the old database

## Configure DNS

Before we start to configure Internal and External DNS, I just want to explain what they do. Exchange does not require that many DNS registers (compared to Lync/Skype for business), so here are minimum requirements:

Internal	External
Mail.domain.local (for use with OWA)	Mail.domain.com (for use with OWA)
Autodiscover.domain.local (For Outlook and ActiveSync)	Autodiscover.domain.com(For Outlook and ActiveSync)
MX record (for mail delivery)	MX record (for mail delivery)

When you configure Outlook, it will first look for autodiscover at **domain.com**. If not found, it will look at **autodiscover.domain.com**. Final it will look for SRV record **\_autodiscover.\_tcp.domain.com**.

1. Open your DNS and navigate to your local zone. Create a new A host Mail and point it to the IP of your Exchange server

**New Host** [X]

Name (uses parent domain name if blank):  
mail

Fully qualified domain name (FQDN):  
mail...

IP address:  
192.168.0.4

Create associated pointer (PTR) record  
 Allow any authenticated user to update DNS records with the same owner name

Add Host Cancel

2. Then create a new A record for autodiscover and point it to IP of your Exchange Server.

**New Host** [X]

Name (uses parent domain name if blank):  
autodiscover

Fully qualified domain name (FQDN):  
autodiscover...

IP address:  
192.168.0.4

Create associated pointer (PTR) record  
 Allow any authenticated user to update DNS records with the same owner name

Add Host Cancel

3. Then the final record is MX record. Just click browse or type in full FQDN of your Exchange server.

**New Resource Record** [X]

Mail Exchanger (MX)

Host or child domain:  
[Empty]

By default, DNS uses the parent domain name when creating a Mail Exchange record. You can specify a host or child name, but in most deployments, the above field is left blank.

Fully qualified domain name (FQDN):  
EX...

Fully qualified domain name (FQDN) of mail server:  
EX... Browse...

Mail server priority:  
10

OK Cancel Help

If you have a .com zone in your DNS, repeat same steps as above (mail, autodiscover and MX record). For External DNS you will have to repeat same steps as above, but point it to your External IP on your firewall, which will again forward it to your Exchange server.

## Configure Send connector

- 1. Navigate to ECP – mail flow –Send connector – Click on + sign to create new send connector  
Give it any name and chose Internet then click next  
new send connector

Create a Send connector.  
There are four types of send connectors. Each connector has different permissions and network settings. [Learn more...](#)

\*Name:

- Type:
- Custom (For example, to send mail to other non-Exchange servers)
  - Internal (For example, to send intranet mail)
  - Internet (For example, to send internet mail)
  - Partner (For example, to route mail to trusted third-party servers)

- 2. Click next if you don't use any smart host  
new send connector

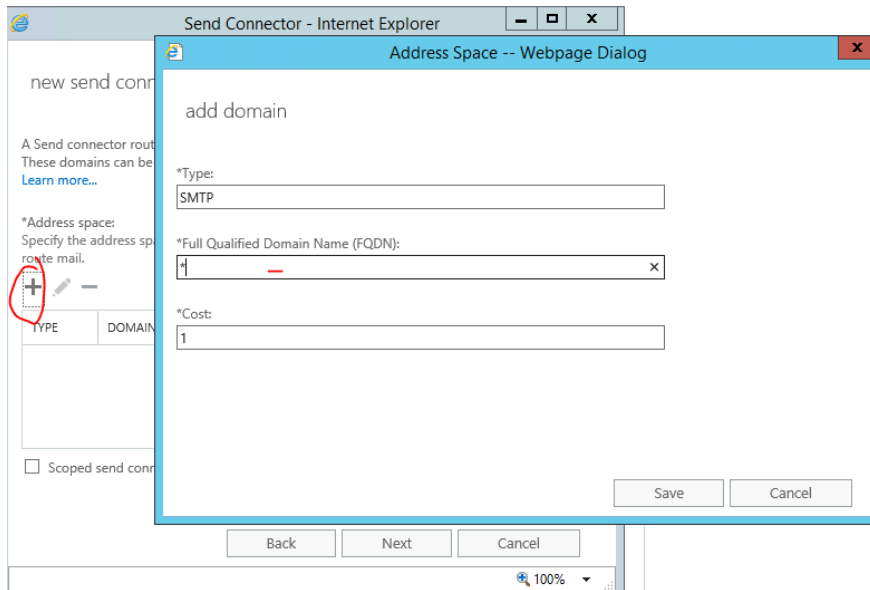
A send connector can route mail directly through DNS or redirect it to a smart host. [Learn more...](#)

- \*Network settings:  
Specify how to send mail with this connector.
- MX record associated with recipient domain
  - Route mail through smart hosts

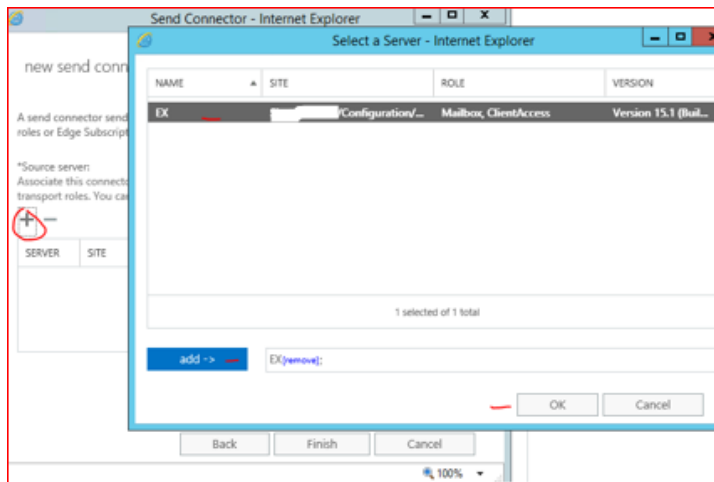
+ ✎ -

SMART HOST

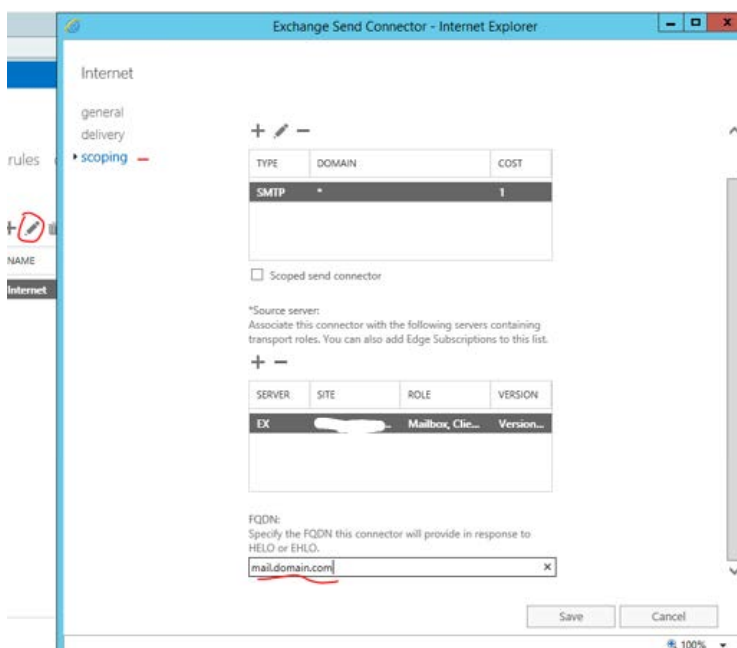
3. Click + sign and add \* to FQDN field. Save and next



4. Click + sign – mark your Exchange server – add and ok, then click Finish



5. Click edit on the new connector and click scoping. Add mail.domain.com in FQDN field and click save.



# Add accepted domain

1. Navigate to ECP – Mail flow – accepted domain. Click + sign to add a new domain. Fill in all required fields. Name field can be any, but accepted domain must be valid and added to your certificate.

## Exchange admin center

recipients rules delivery reports accepted domains email address policies receive connect

permissions

compliance management

organization

protection

**mail flow**

mobile

public folders

unified messaging

servers

hybrid

tools

Accepted Domain - Internet Explorer

new accepted domain

Accepted domains are used to define which domains will be accepted for inbound email routing.

\*Name:  
Domain.com

\*Accepted domain:  
Domain.com

This accepted domain is:

Authoritative: Email is delivered only to valid recipients in this Exchange organization. All email for unknown recipients is rejected.

Internal Relay: Email is delivered to recipients in this Exchange organization or relayed to an email server at another physical or logical location.

External Relay: Email is relayed to an email server at another physical or logical location.

Save Cancel

2. Edit the new accepted domain to set it as default

Accepted domains are used to define which domains will be accepted for inbound email routing.

\*Name:  
Domain.com

Accepted domain:  
Domain.com

This accepted domain is:

Authoritative: Email is delivered only to valid recipients in this Exchange organization. All email for unknown recipients is rejected.

Internal Relay: Email is delivered to recipients in this Exchange organization or relayed to an email server at another physical or logical location.

External Relay: Email is relayed to an email server at another physical or logical location.

Make this the default domain.

3. Navigate to ECP – Mail flow – Email address policies and edit default policy. Click Email address format and + sign to add new Email address format. Here its up to company policy what you want as default format. From my experience, the most common one is [Firstname.Lastname@domain.com](mailto:Firstname.Lastname@domain.com). If you want you can also make it as default. When done click save.

## Exchange admin center

recipients permissions compliance management organization protection **mail flow** mobile public folders unified messaging servers hybrid tools

rules delivery reports accepted domains email address policies receive connectors send connectors

Default Policy

Default Policy

general

▶ email address format

apply to

\*Email address

TYPE

SMTP

email address format

Select an accepted domain: [contoso.com]

Specify a custom domain name for the email address:

Email address format: Example user: John Smith

alias@contoso.com

John.Smith@contoso.com

JSmith@contoso.com

JohnS@contoso.com

SmithJohn@contoso.com

SJohn@contoso.com

Smith@contoso.com

More options...

Make this format the reply email address

The accepted domain is the portion of the email address that appears after the @ symbol. For example, john@contoso.com. You can also create additional email address policies if your organization receives mail for multiple domains, or if your default domain is used strictly for internal purposes and you use a different external mail domain.

4. As warning showed after we clicked save, policy has to be applied. Click apply and Yes to confirm

+ ✎ 🗑️ ⬆️ ⬇️ ↻

NAME

Default Policy

warning

Applying this email address policy may take a long time to finish. During the update, you won't be able to perform other tasks.

If this email address policy applies to more than 3,000 recipients, you should run the following Exchange Management Shell command to update it: Update-EmailAddressPolicy. Do you want to continue?

Yes No

Default

Email Ad

SMTP

Primary: Jo

Address 2:

Includes

All recipier

Not Appl

Some char

Apply

# Setup Round Robin for high availability

If your company does not have a lot of money to spend on a hardware or software load balancer, then Round Robin DNS is good enough solution for you. This requires that you have 2 Exchange servers.

Result will look like this

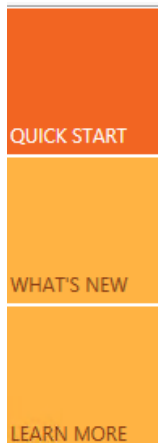
Name	Type	Destination
Mail.domain.local	Host (A)	192.168.0.4 (Exchange1)
Mail.domain.local	Host (A)	192.168.0.5 (Exchange2)
Autodiscover.domain.local	Host (A)	192.168.0.4 (Exchange1)
Autodiscover.domain.local	Host (A)	192.168.0.5 (Exchange2)
Same as parent	Mail Exchanger (MX)	Exchange01.domain.local
Same as parent	Mail Exchanger (MX)	Exchange02.domain.local

If you have .com as local zone in your DNS, the above records have to be created there as well.

## Configure Backup

To avoid Log disk getting full, a backup as to be done. Using built in Windows Server backup are one of the tools. A very importance notice here is that it DOES NOT support single item recovery. It will instead backup and recover a whole database. If you need single item recovery, then this is not a tool for you. Tools that supports single item recovery usually cost a bit.

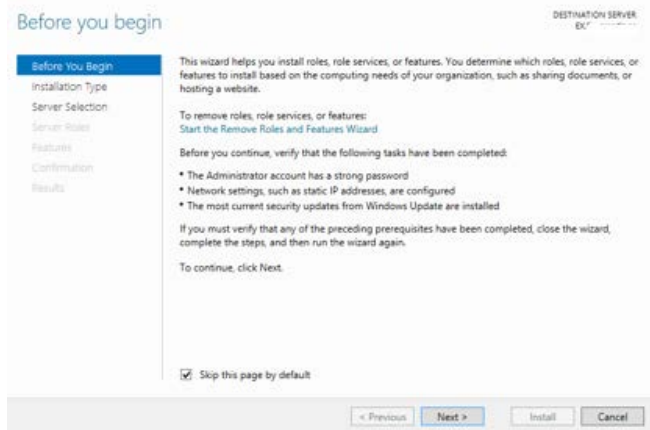
1. On your Exchange Server, start Server Management – click Add roles and features



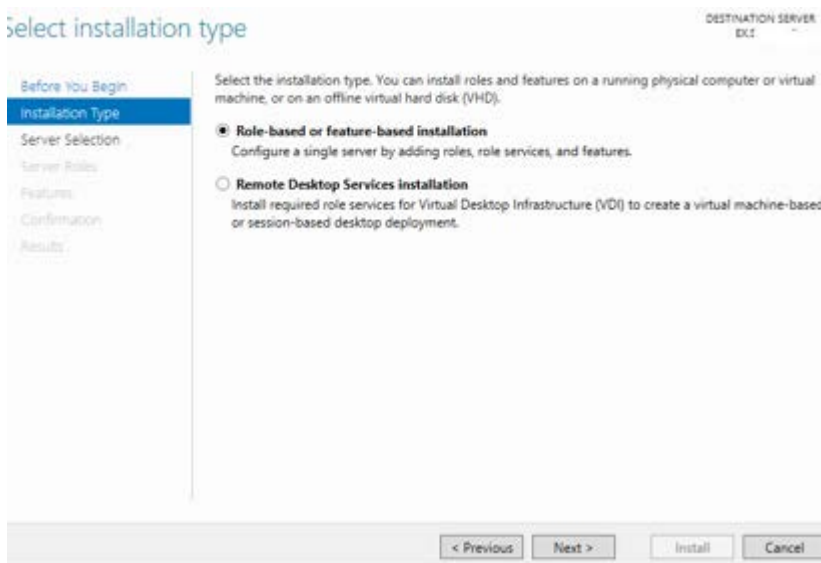
- 1 Configure this local server
- 2 Add roles and features
- 3 Add other servers to manage
- 4 Create a server group
- 5 Connect this server to cloud services



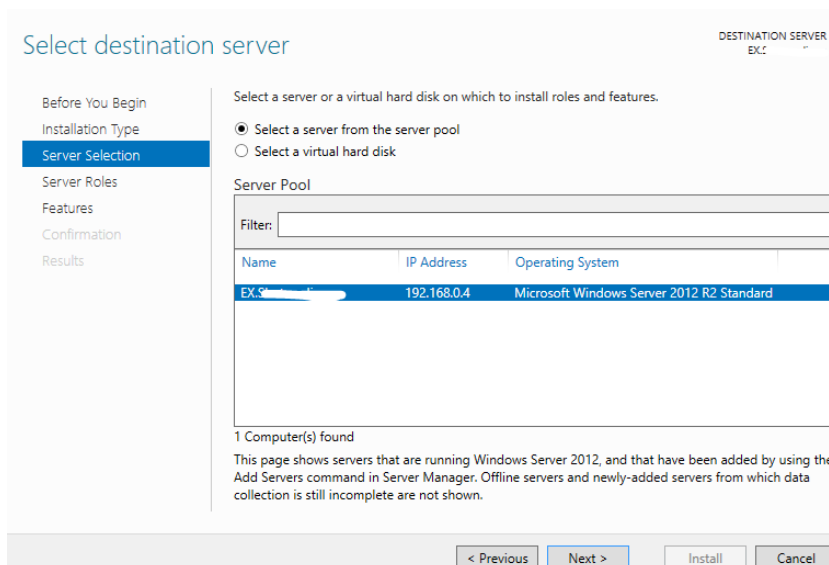
## 2. Click Next



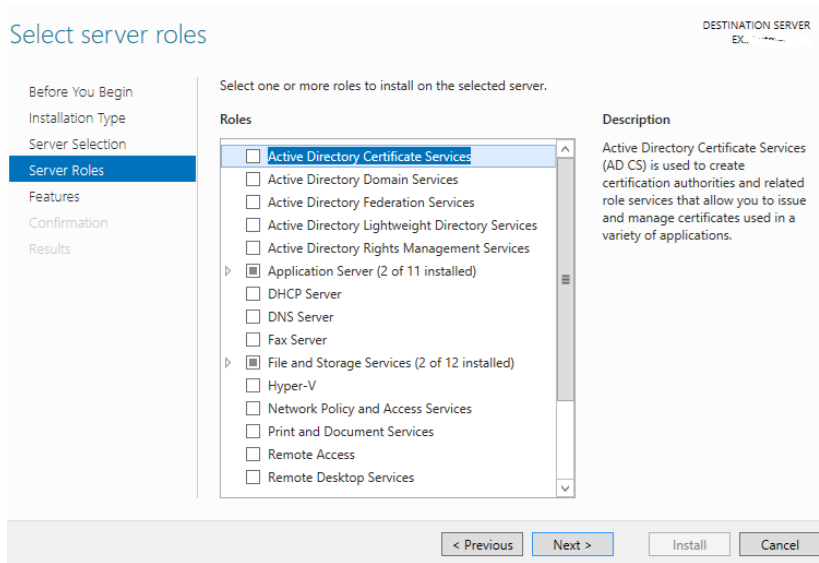
## 3. Leave default and click Next



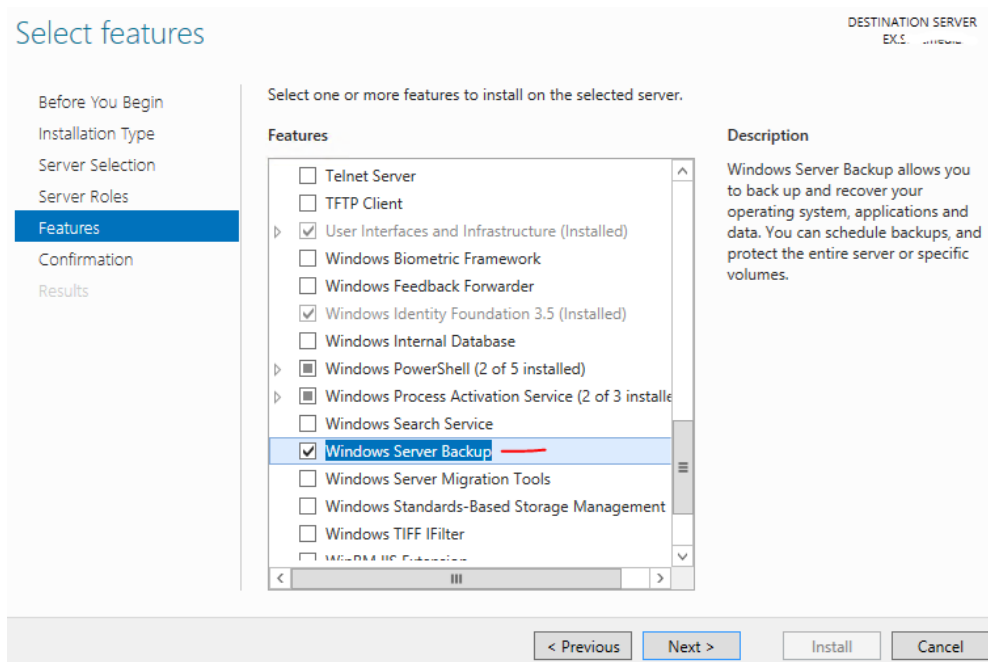
## 4. Click Next



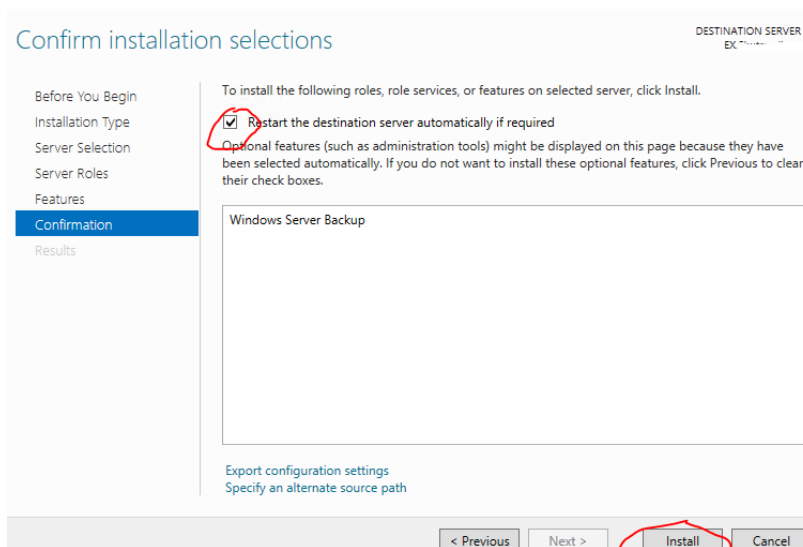
5. Click Next



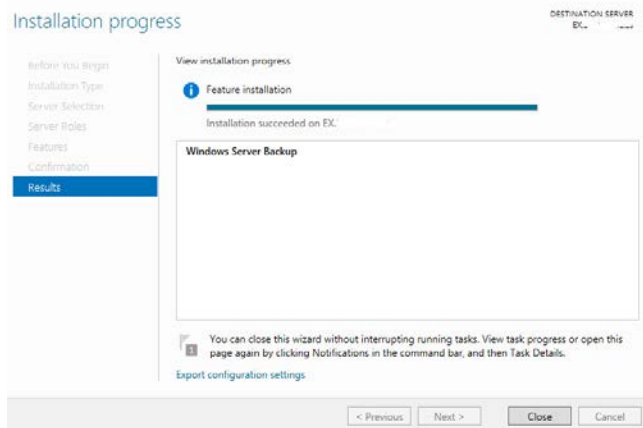
6. Scroll down until you see Windows server Backup and check it to install. Click Next



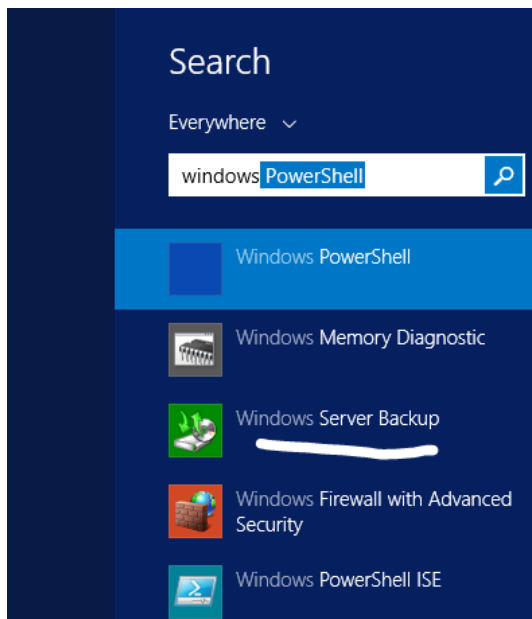
7. Check Restart if required and click Install



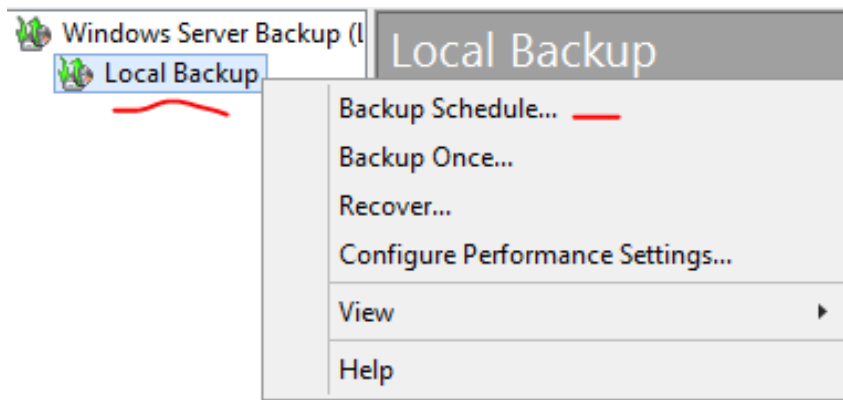
8. Click Close



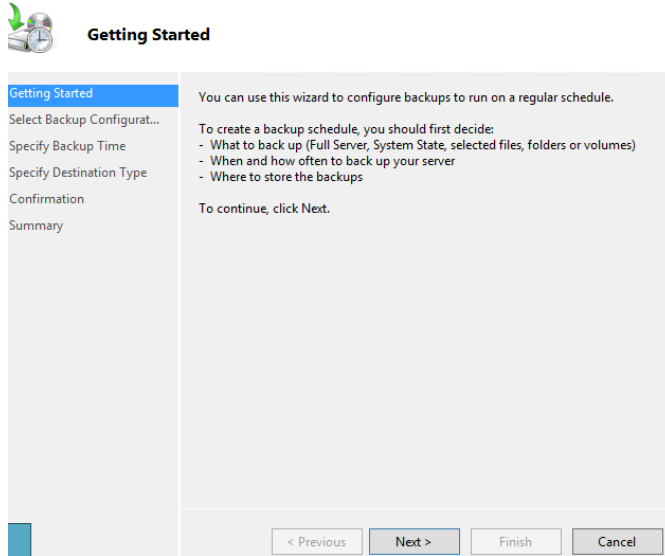
9. Search for Windows Server Backup and click on it to start



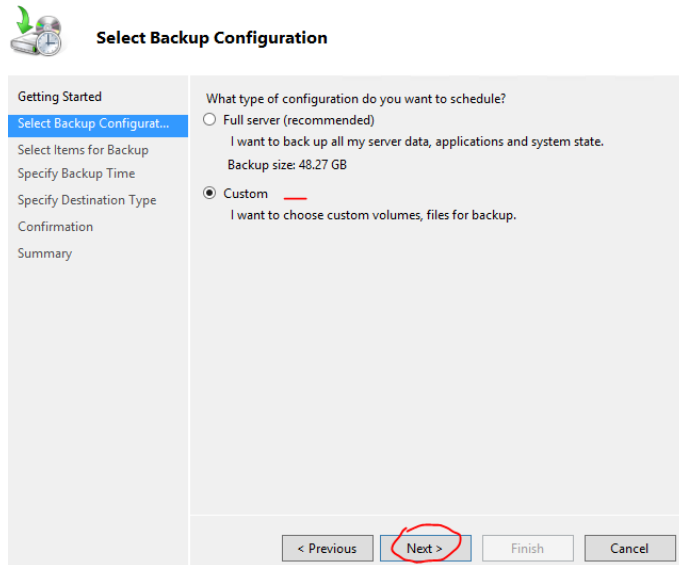
10. Click on Local Backup, when finished loading right click and choose Backup Schedule



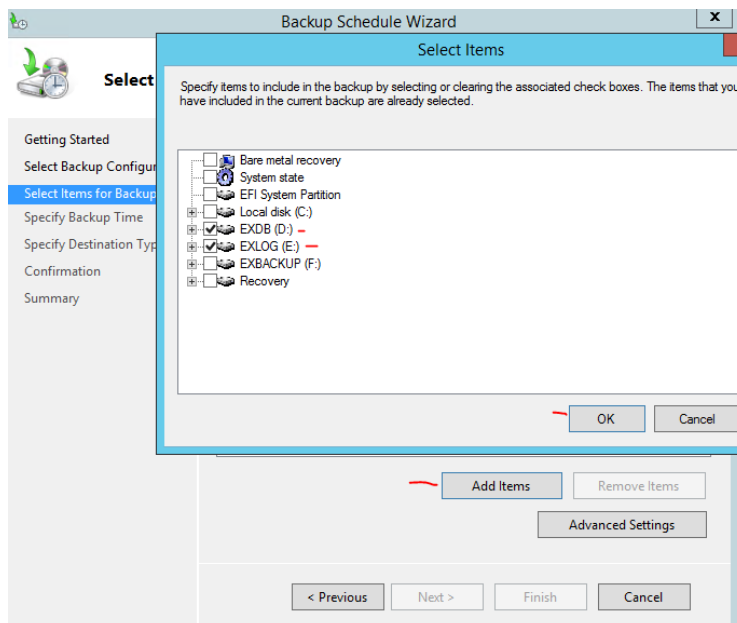
### 11. Click Next



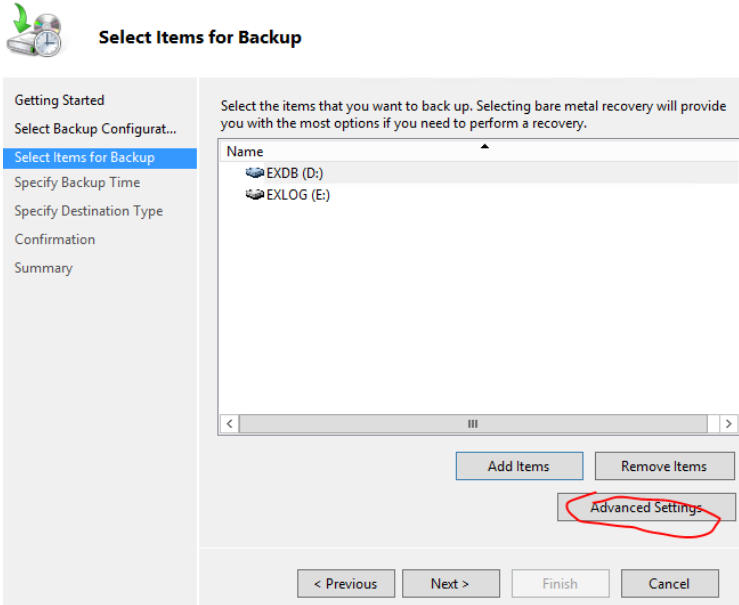
### 12. Select Custom and click Next



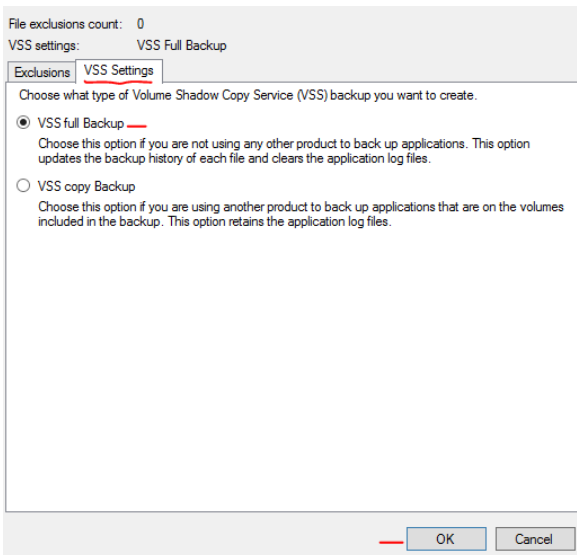
### 13. Click Add items - select your Database and Log Disk and click OK



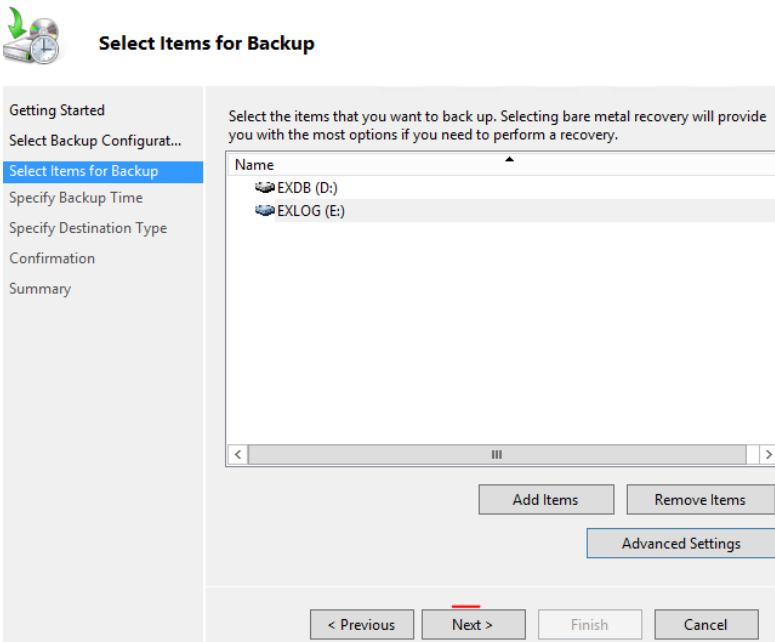
#### 14. Click Advanced Settings



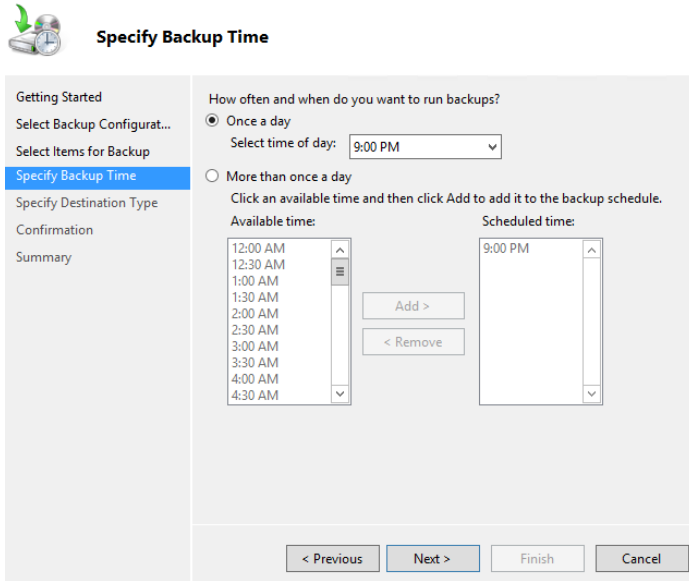
#### 15. Click VSS Settings – select VSS Full Backup and click OK



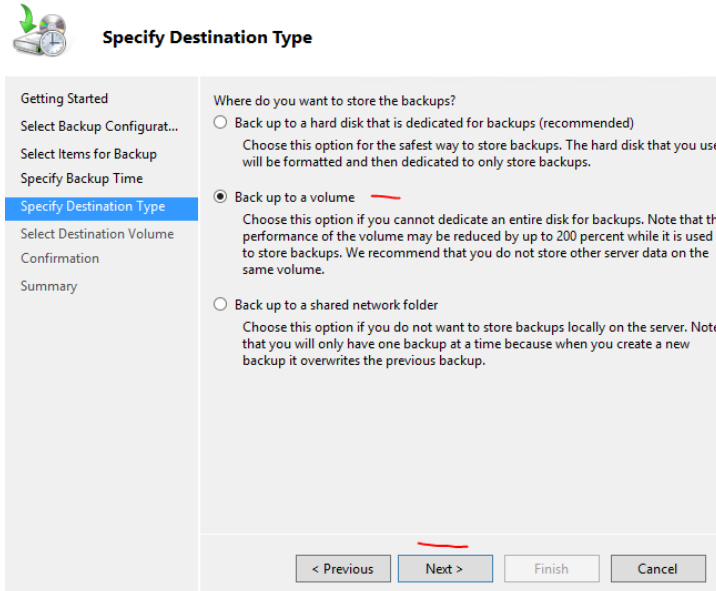
#### 16. Click Next



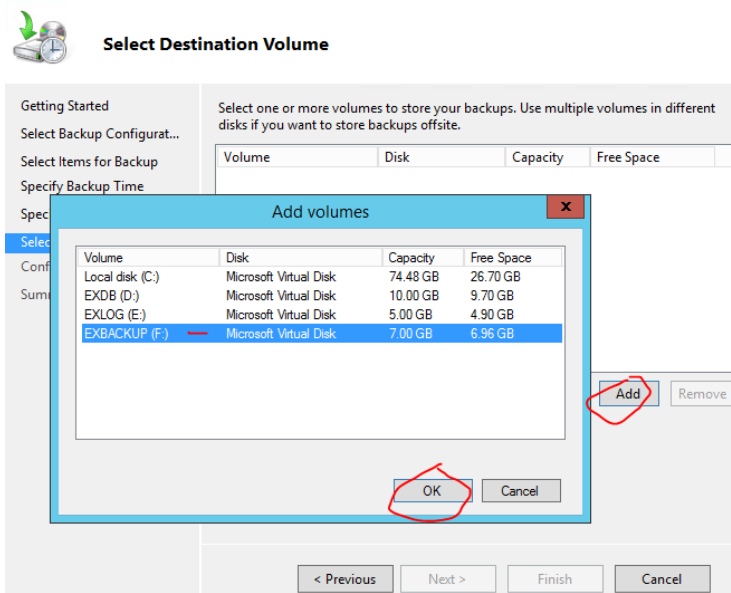
17. Choose your desired settings and click Next



18. If you have dedicated a volume for backup then select it and click Next



19. Click Add – Select your Volume and click OK



## 20. Click Next



### Select Destination Volume

Getting Started  
Select Backup Configurat...  
Select Items for Backup  
Specify Backup Time  
Specify Destination Type  
**Select Destination Volume**  
Confirmation  
Summary

Select one or more volumes to store your backups. Use multiple volumes in different disks if you want to store backups offsite.

Volume	Disk	Capacity	Free Space
EXBACKUP (F:)	Microsoft Virtual ...	7.00 GB	6.96 GB

Add Remove

< Previous Next > Finish Cancel

## 21. Confirm your settings and click Finish



### Confirmation

Getting Started  
Select Backup Configurat...  
Select Items for Backup  
Specify Backup Time  
Specify Destination Type  
Select Destination Volume  
**Confirmation**  
Summary

You are about to create the following backup schedule.

Backup times: 7:30 AM  
Files excluded: None  
Advanced option: VSS Full Backup

Backup destinations

Name	Size	Used Space
EXBACKUP (F:)	7.00 GB	35.41 MB

Backup items

Name
EXDB (D:)
EXLOG (E:)

< Previous Next > Finish Cancel

**Important Notice: This will override previous backup, so everything will be replace with newest version! If you wish to keep the old version, you will have to configure another backup of that disk!**

## Configure Recipient Validation

This configuration I learned from a bad mistake. My server got spam and was blacklisted all over the Internet. It was not easy to get back on the Whitelist again.

In Exchange, 2013 I had to enable Recipient Filter Agent thru the command Enable-TransportAgent "Recipient Filter Agent".

In Exchange 2016, only these transport agents are available:

```
[PS] C:\Windows\system32>Get-TransportAgent
```

Identity	Enabled	Priority
Transport Rule Agent	True	1
DLP Policy Agent	True	2
Malware Agent	True	3
Text Messaging Routing Agent	True	4
Text Messaging Delivery Agent	True	5
System Probe Drop Sntp Agent	True	6
System Probe Drop Routing Agent	True	7

Next step is to ensure your accepted domains are using the AddressBook for checking for valid recipients. By default this should be enabled when you set up Exchange as an authoritative Mailbox Server for you domain.

1. To check if your server is using the AddressBook for validation run the following command

```
Get-AcceptedDomain | Format-List Name,AddressBookEnabled
```

It should provide you with a list of all accepted domains and if the AddressBook is enable or not. If by any chance Exchange is not Authoritative and the AddressBook is disabled then enable it with:

```
Set-AcceptedDomain <name of accepted domain> -AddressBookEnabled $true
```

Or, to enable for all domains (caution, make sure you are not relaying any domains before running this)

```
Get-AcceptedDomain | Set-AcceptedDomain -AddressBookEnabled $true
```

Now you should have Recipient Filter on your Mailbox Server and AddressBook enabled on your domain. However, if you test this now, it probably still will not work. That is because Validation is still disabled.

2. To check the status of validation run the following

```
Get-RecipientFilterConfig | FL Enabled,RecipientValidationEnabled
```

It should return that Recipient Filter is enable, but validation is not

Enabled: True

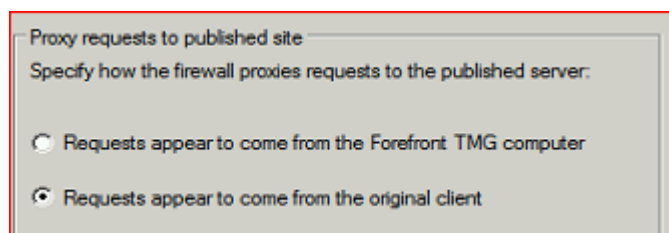
RecipientValidationEnabled : False

3. To enable validation run the following

```
Set-RecipientFilterConfig -RecipientValidationEnabled $true
```

4. Restart the Exchange Transport service

If you use TMG 2010 as your firewall, be sure that your publishing rule does not have “request should not be shown as it comes from TMG” enabled.



If you have this enabled and TMG is allowed to relay mail on your server, then you are going to have a long night ahead!



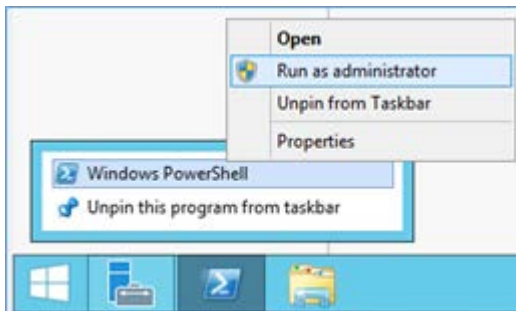
# Installing Office Web App server

Office Web Apps Server is a new Office server product that delivers browser-based versions of Word, PowerPoint, Excel, and OneNote. A single Office Web Apps Server farm can support users who access Office files through SharePoint 2013, Lync Server 2013, Exchange Server 2013, shared folders, and websites. Since it is used in so many products, it is recommended to have this installed in your environment.

With previous editions of Exchange, WebReady Document Viewing is built in to Exchange. With OWAS integration in Exchange 2013, SharePoint 2013 and Lync Server 2013, when a user wants to preview an Office attachment, Exchange/SharePoint/Lync makes a Web app Open Platform Interface [WOPI] call to the Office Web Apps Server which renders the document instead.

## Install prerequisites

Login to the server and open PowerShell



Copy and paste following command:

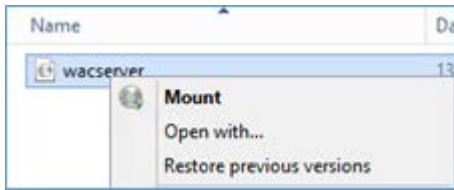
```
Add-WindowsFeature Web-Server,Web-Mgmt-Tools,Web-Mgmt-Console,Web-WebServer,Web-Common-Http,Web-Default-Doc,Web-Static-Content,Web-Performance,Web-Stat-Compression,Web-Dyn-Compression,Web-Security,Web-Filtering,Web-Windows-Auth,Web-App-Dev,Web-Net-Ext45,Web-Asp-Net45,Web-ISAPI-Ext,Web-ISAPI-Filter,Web-Includes,InkandHandwritingServices -restart
```

After reboot, run windows update again. You might need to do it a couple of times before everything is up to date.

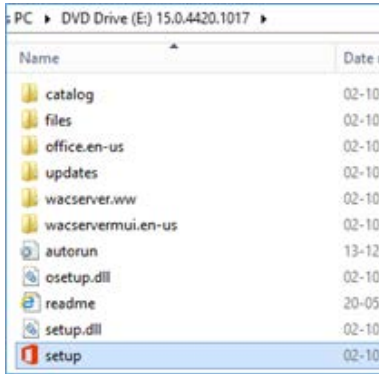
## Download Office Web App Server

After the server has restarted, download the Office Web Apps Server 2013 (As per 15.08.2015 you have to download it from MSDN, since it is no longer available as free download)

Mount the wacserver.img file



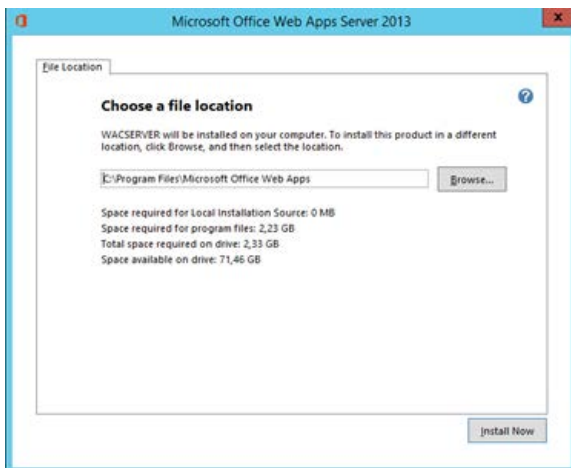
Double click setup.exe to start the installation



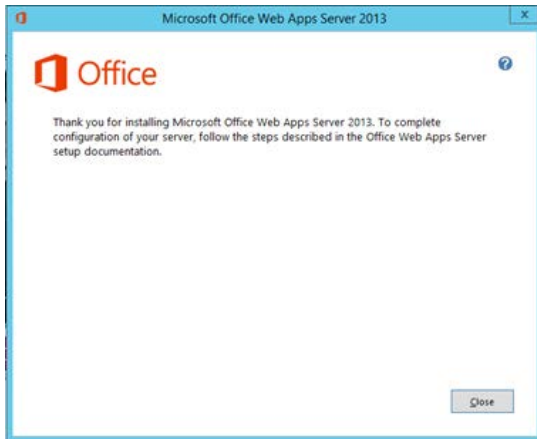
Read the EULA and accept.



Click Install Now



Click on Close



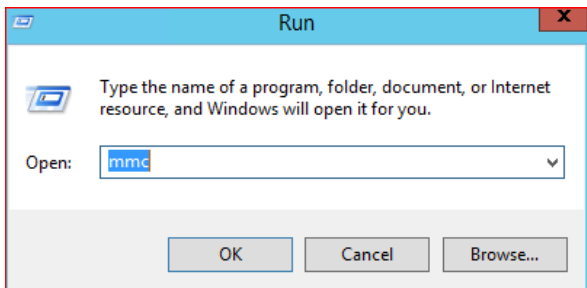
## Windows update and also WAC update

When the installation is finished, you should update the WAC server to with the latest fixes by running windows update. Again, this might need to be done a couple of times before everything is up to date.

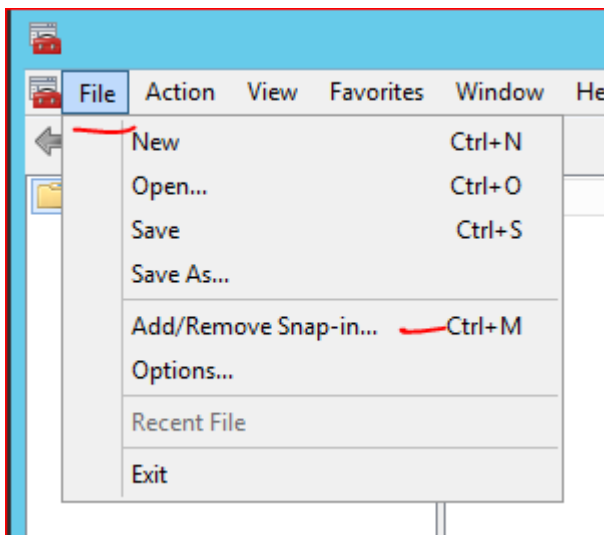
## Request and import certificate

When ready, we need to request a certificate that can be used to secure the communication.

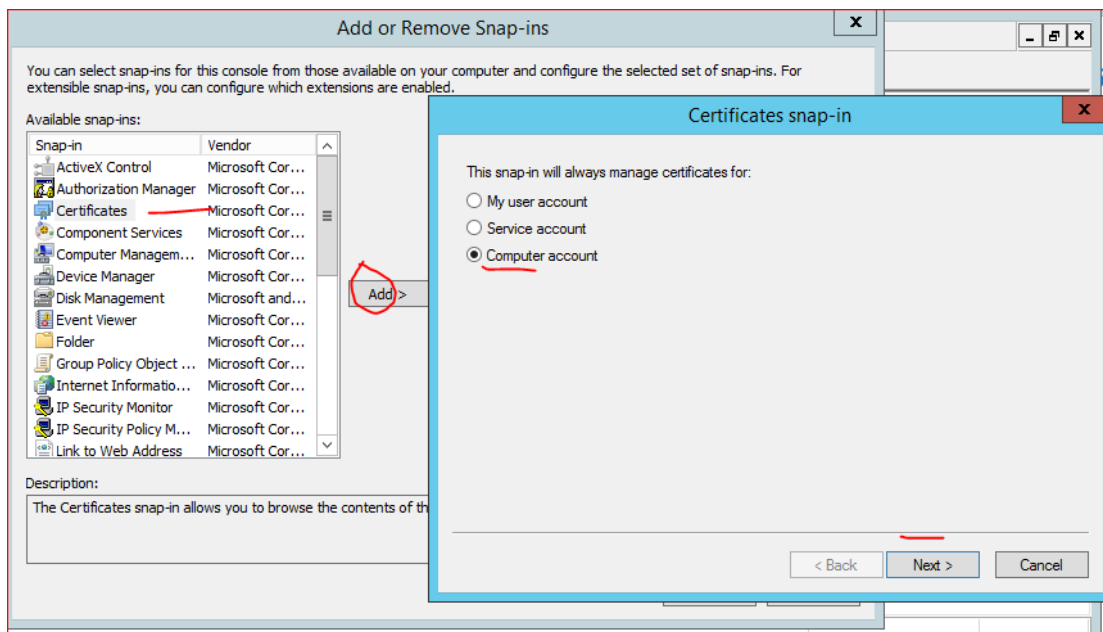
Open mmc console



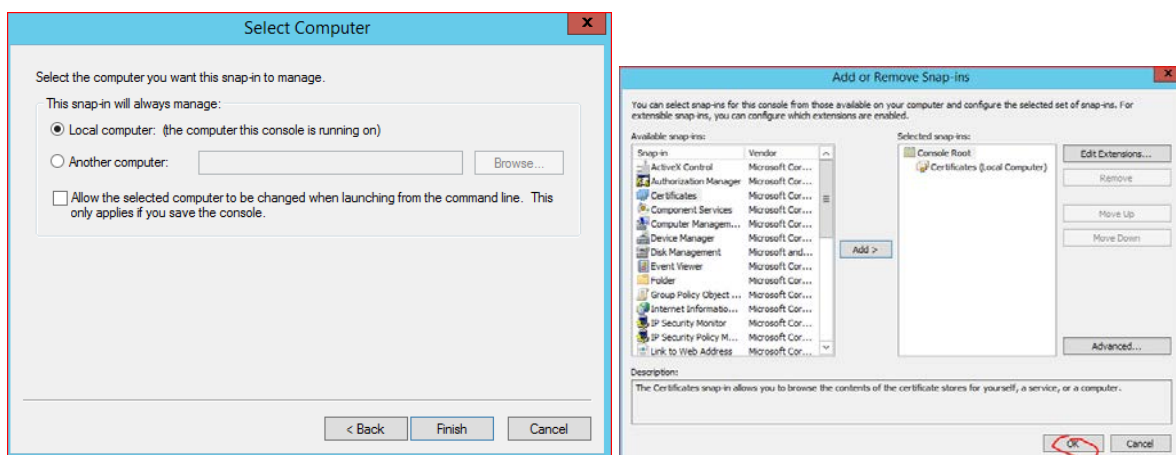
Click file – add remove Snap-in



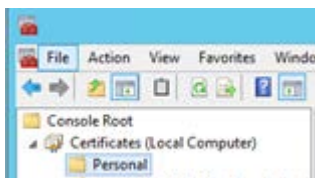
## Add the Local Computer Certificate store



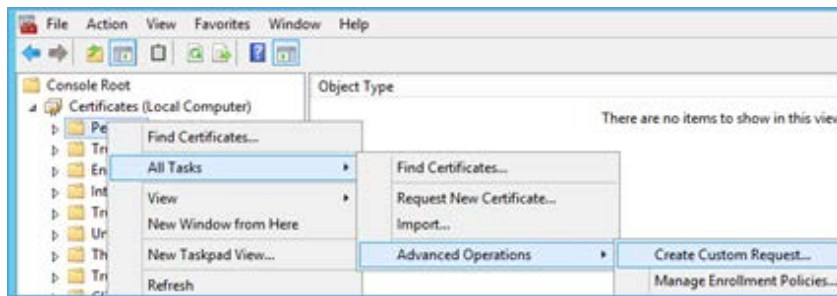
## Select local computer and click finish and ok



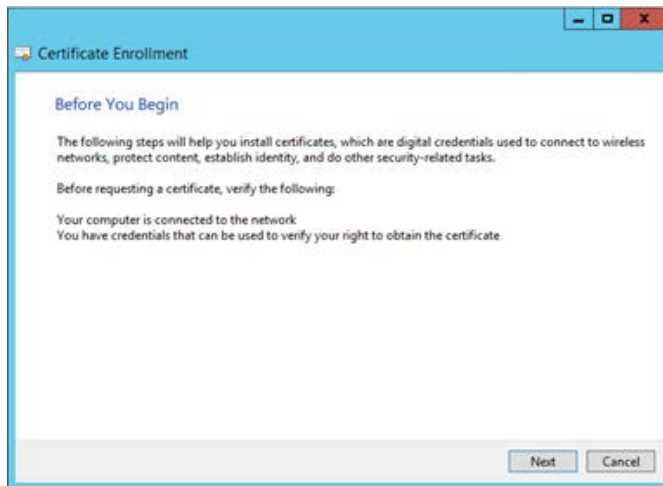
## Navigate to Personal



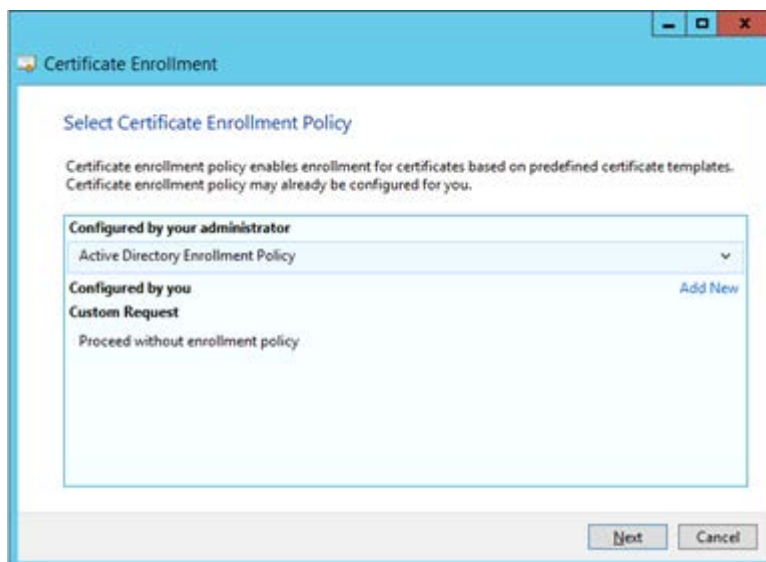
## Right click on Personal and select All Tasks -> Advanced Operations -> Create Custom Request



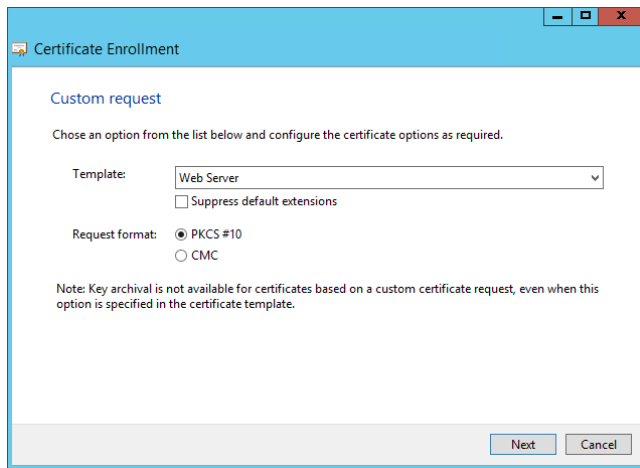
Click Next



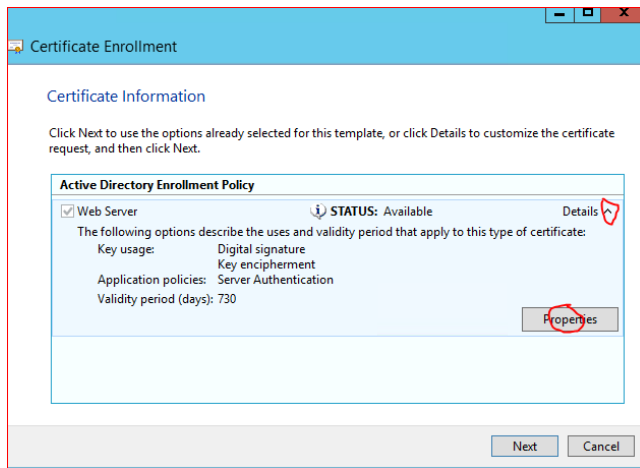
Click Next



Choose your custom Web Server Template from the drop down and click Next

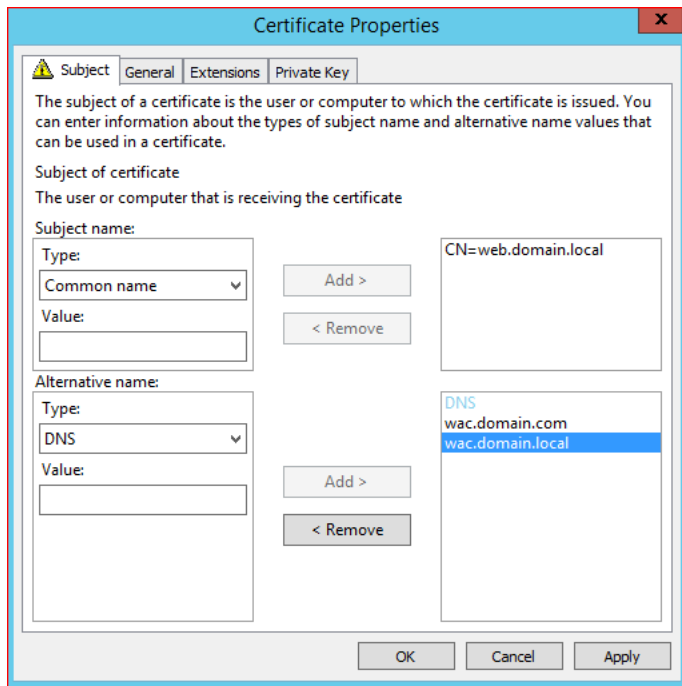


Click on the little arrow and select properties

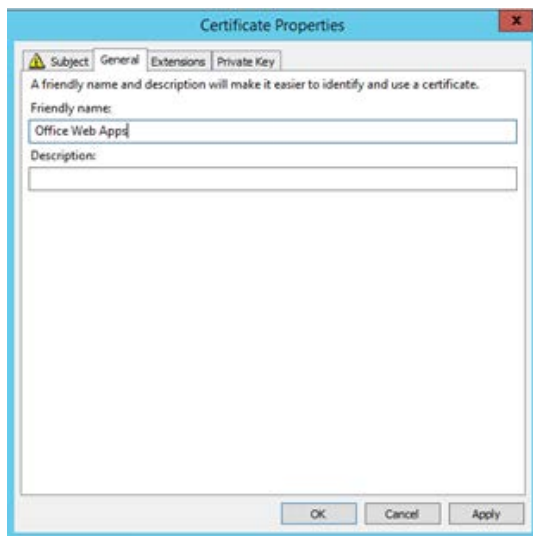


The certificate should contain common name and name of the server. If you plan to install another WAC server for high availability, then you should add it now to avoid future hazel. Also, choose common name well if your WAC server will be used for SharePoint and Lync/Skype for Business Server.

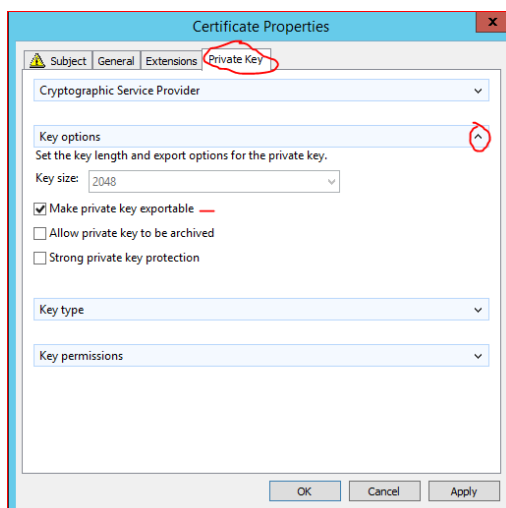
Type FQDN name for the WAC server in common name. In Alternative name, select DNS and add internal FQDN name for the WAC server, and external FQDN name of your WAC url.



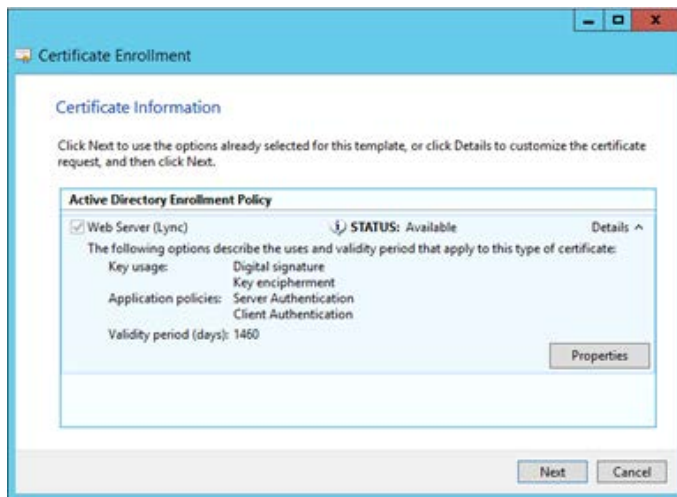
Select the general pane and type a friendly name for the certificate.



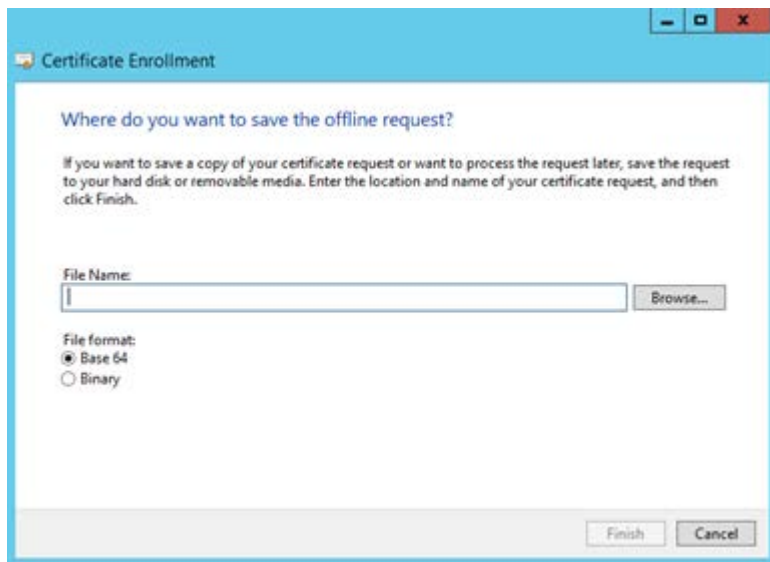
Select the Private Key and click down arrow under Key options. Select “Make private key exportable” and press OK



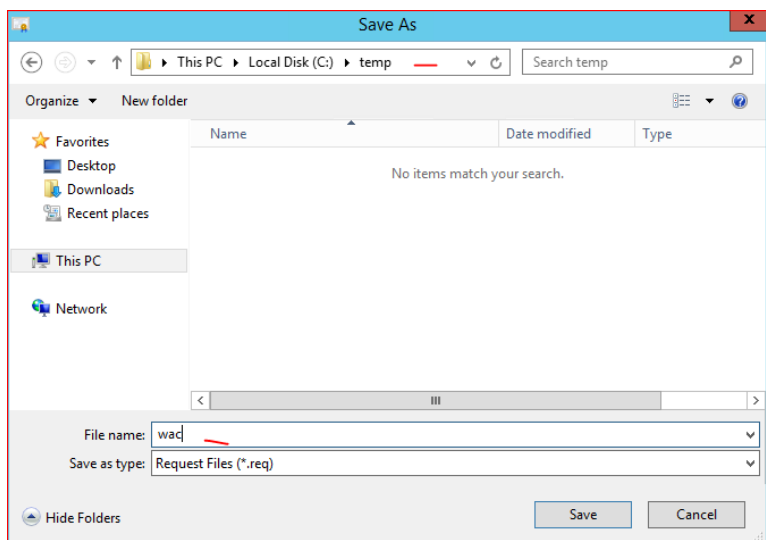
Select Next



Click on Browse

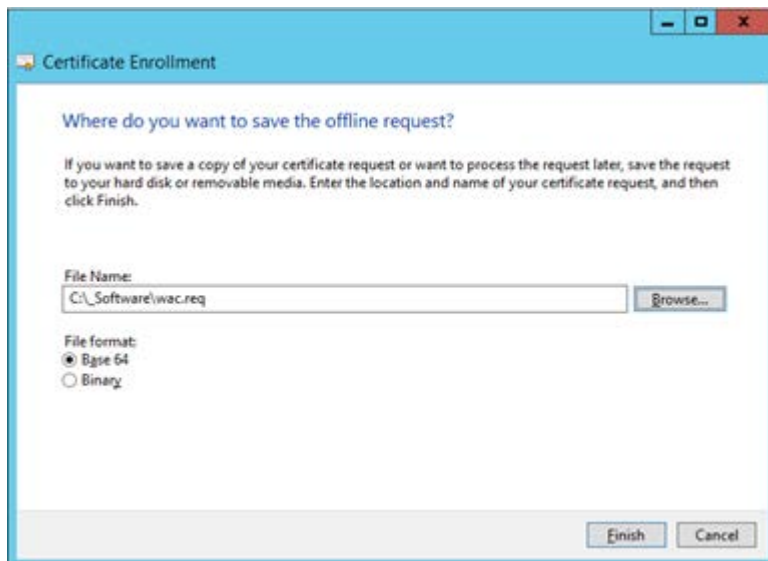


Select a folder to save it, type a name for the request file and click Save





Click Finish



Open Internet Explorer - navigate to your certificate server, and click on request a certificate

**Welcome**

Use this Web site to request a certificate for your Web browser, e-mail client, or other program. By using a certificate, you can verify your identity to people you communicate with over the Web, sign and encrypt messages, and, depending upon the type of certificate you request, perform other security tasks.

You can also use this Web site to download a certificate authority (CA) certificate, certificate chain, or certificate revocation list (CRL), or to view the status of a pending request.

For more information about Active Directory Certificate Services, see [Active Directory Certificate Services Documentation](#).

**Select a task:**

- [Request a certificate](#) —
- [View the status of a pending certificate request](#)
- [Download a CA certificate, certificate chain, or CRL](#)

Click on advanced certificate request

**Request a Certificate**

Select the certificate type:

- [User Certificate](#)

Or, submit an [advanced certificate request](#).

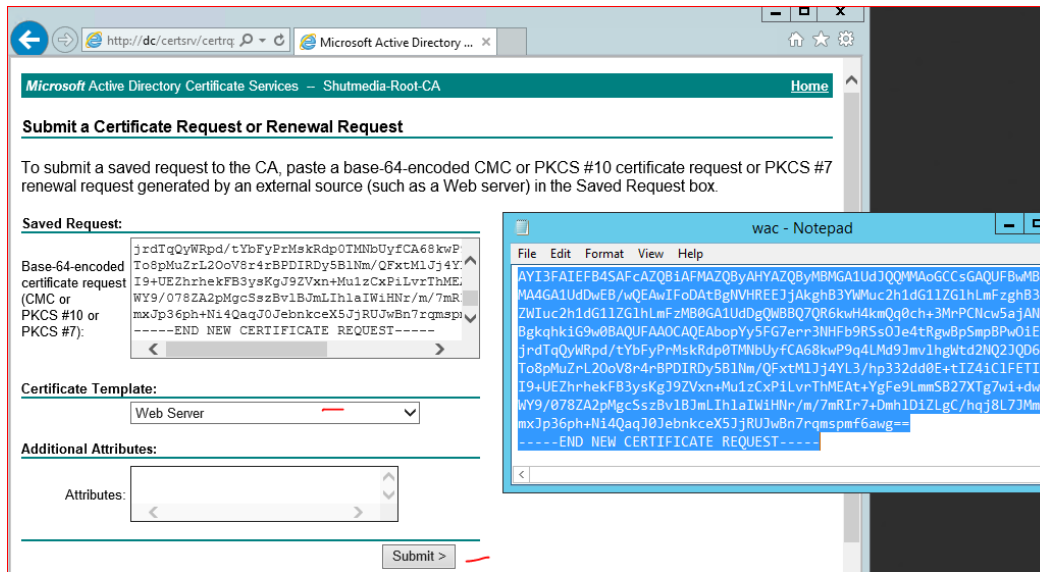
Select Submit a certificate request by....

**Advanced Certificate Request**

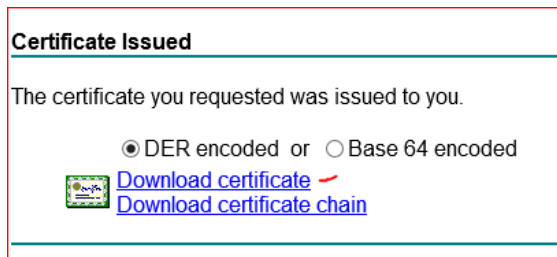
The policy of the CA determines the types of certificates you can request. Click one of the following options to:

- [Create and submit a request to this CA.](#)
- [Submit a certificate request by using a base-64-encoded CMC or PKCS #10 file, or submit a renewal request by using a base-64-encoded PKCS #7 file.](#)

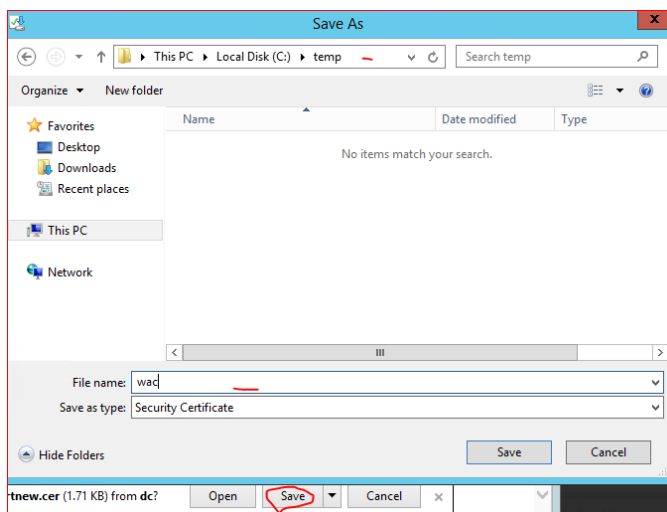
Paste content of the request file you created earlier and select web server certificate and submit.



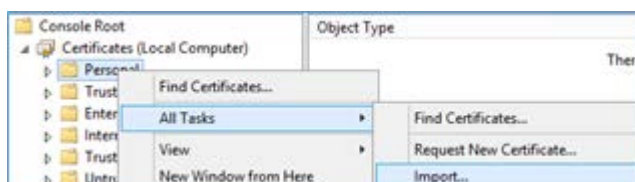
Click Download Certificate



Save the certificate



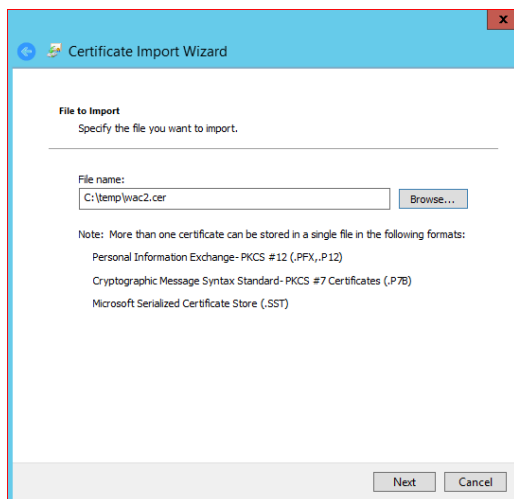
Back in the MMC select All Tasks ->Import



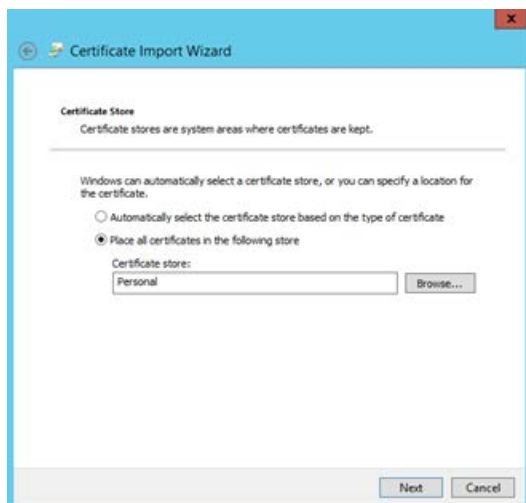
## Select Next



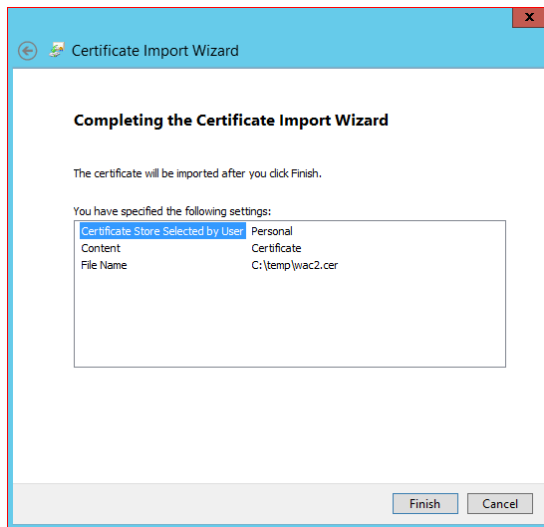
## Browse to the certificate and click next



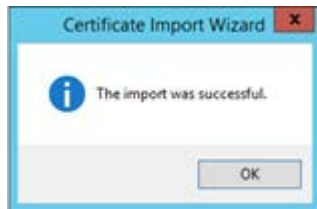
## Select Next



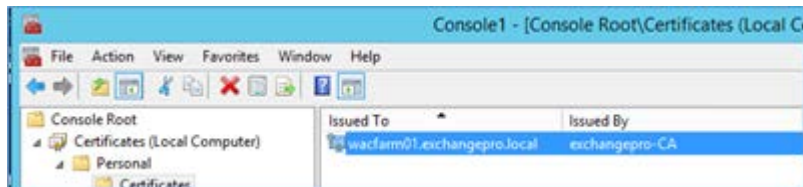
## Select Finish



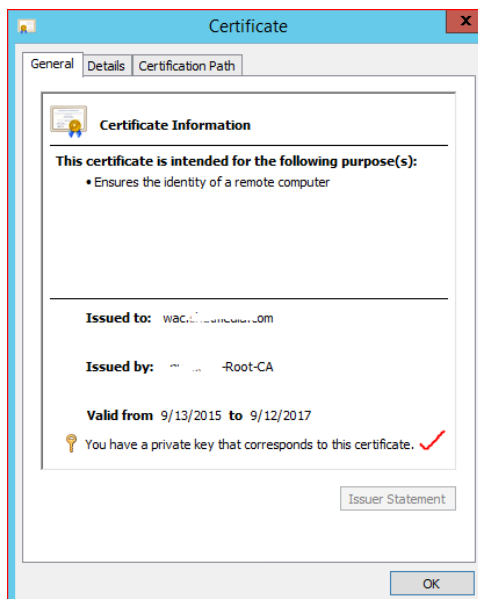
## Click OK



## You have imported the certificate



## Double click on the certificate and make sure you have the private key



## Click OK

## Configure WAC server

We are now ready to configure the first WAC server, which is done from PowerShell.

Open PowerShell as administrator and run this command

*New-OfficeWebAppsFarm -InternalURL "https://wac.domain.local" -ExternalUrl "https://wac.domain.com" -CertificateName "Office Web App"*

```
FarmOU :
InternalURL : https://wac. [redacted] as/
ExternalURL : https://wac. [redacted] .com/
AllowHTTP : False
SSLOffloaded : False
CertificateName : Office Web App
EditingEnabled : False
LogLocation : C:\ProgramData\Microsoft\OfficeWebApps\Data\Logs\ULS
LogRetentionInDays : 7
LogVerbosity :
Proxy :
CacheLocation : C:\ProgramData\Microsoft\OfficeWebApps\Working\d
MaxMemoryCacheSizeInMB : 75
DocumentInfoCacheSize : 5000
CacheSizeInGB : 15
ClipartEnabled : False
TranslationEnabled : False
MaxTranslationCharacterCount : 125000
TranslationServiceAppId :
TranslationServiceAddress :
RenderingLocalCacheLocation : C:\ProgramData\Microsoft\OfficeWebApps\Working\waccache
RecycleActiveProcessCount : 5
AllowCEIP : False
ExcelRequestDurationMax : 300
ExcelSessionTimeout : 450
ExcelWorkbookSizeMax : 10
ExcelPrivateBytesMax : -1
ExcelConnectionLifetime : 1800
ExcelExternalDataCacheLifetime : 300
ExcelAllowExternalData : True
ExcelWarnOnDataRefresh : True
OpenFromUrlEnabled : False
OpenFromUncEnabled : True
OpenFromUrlThrottlingEnabled : True
PicturePasteDisabled : True
RemovePersonalInformationFromLogs : False
AllowHttpSecureStoreConnections : False
IgnoreDeserializationFilter : False
Machines : {WEB}
```

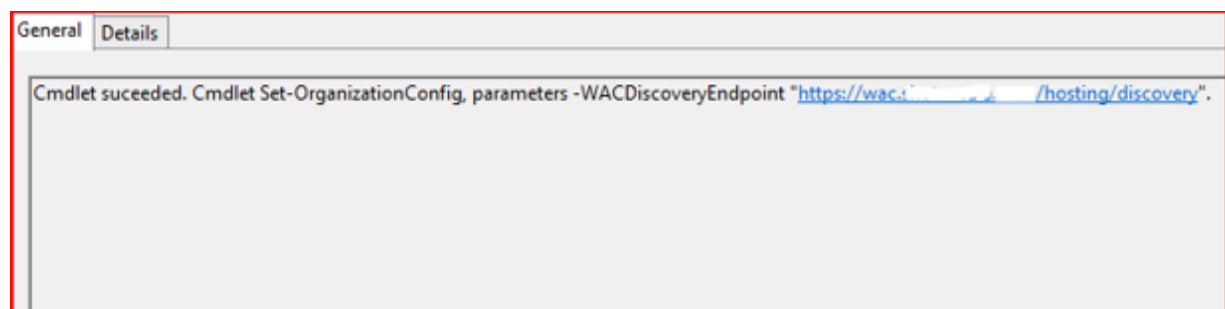
Then our Office Web App is ready, do not forget to add DNS host in your local zone IF internal URL is not the same as computer name. Also, add External DNS with your provider to point wac.domain.com to your firewall, which then will redirect to your Office Web App server.

## Configure Office Web Apps Server URL

To use OWAS to render attachments in OWA, first we need to specify the URL of the OWAS using the Set-OrganizationConfig cmdlet using Exchange Management Shell:

**Set-MailboxServer EX -WacDiscoveryEndpoint "https://wac.domain.local/hosting/discovery"**

Where EX is name of your Exchange mailbox server. You should then see this in event log of your Exchange server.



## Enable Office Web Apps Server Rendering

By default, the OWA Virtual Directory is already configured to enable the rendering of attachments through OWAS both on public and private computers.

```
[PS] C:\Windows\system32>Set-OrganizationConfig -WacDiscoveryEnabled $True
[PS] C:\Windows\system32>Get-OwaVirtualDirectory | fl *wac*

MacViewingOnPublicComputersEnabled      : True
MacViewingOnPrivateComputersEnabled      : True
ForceWacViewingFirstOnPublicComputers    : False
ForceWacViewingFirstOnPrivateComputers   : False
MacEditingEnabled                        : True
```

If you want to disable, for example, OWAS from being used on public computers, you can do so using the following cmdlet (this assuming OWAS is accessible from outside your internal network):

```
Get-OwaVirtualDirectory | Set-OwaVirtualDirectory WacViewingOnPublicComputersEnabled $False
```

## Force Office Web Apps Server Rendering

Another available option is to force users to render attachments using OWAS first before they can open them. As you guessed, this is done by setting

ForceWacViewingFirstOnPublicComputers and/or  
ForceWacViewingFirstOnPrivateComputers to True.

## Office Web Apps Server Logs

To determine where the Office Web Apps Logs are stored, run the following cmdlet on your WAC server using PowerShell prompt:

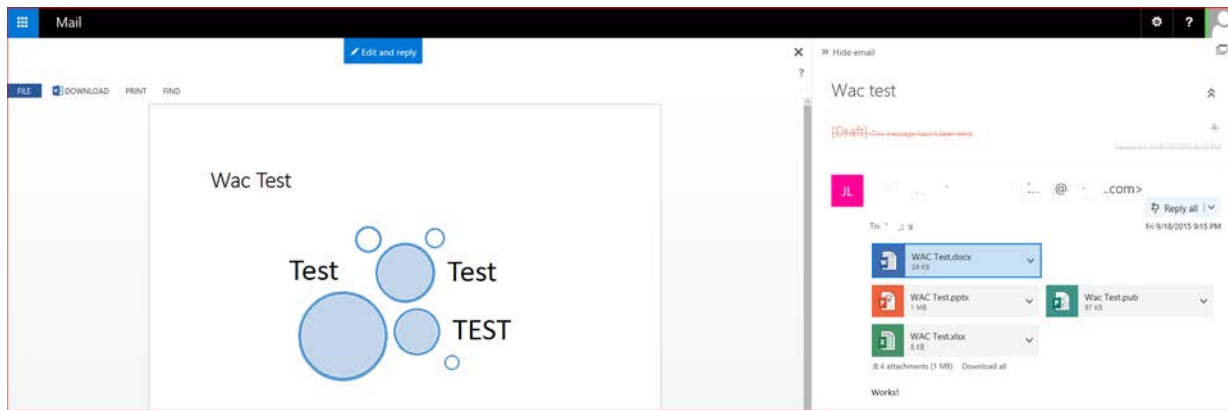
```
Get-OfficeWebAppsFarm | fl *log*
```

```
PS C:\Windows\system32> Get-OfficeWebAppsFarm | fl *log*

LogLocation           : C:\ProgramData\Microsoft\OfficeWebApps\Data\Logs\ULS
LogRetentionInDays    : 7
LogVerbosity           :
RemovePersonalInformationFromLogs : False
```

After everything has been configured, you “have” to restart MsExchangeOwaAppPool by running following command on your Exchange Server:

```
Restart-WebAppPool MsExchangeOwaAppPool
```



There you have it and off course, this only works with PowerPoint, Excel and Word files.

## IM in OWA

Another nice to have feature is IM in OWA. This off course requires Lync/Skype server to work. If you don't have Lync/Skype Server up and running, I have created a guide install Skype for Business Server 2015 Step by Step.

It can be download from here:

<https://gallery.technet.microsoft.com/Installing-Skype-for-78703118>

In my company, we have many consultant working at customer's site where they do not allow using Outlook or Skype for Business desktop version. This is one of the scenarios IM in OWA comes in handy, another would be if you were at Internet Café or at hotel lobby. Off course, you could use your mobile, but if battery is low, you do not want to turn on 4g or Wi-Fi.

## Pre-requisites

Only thing needed is Unified Communications Managed API 4.0 Runtime to be installed on your Exchange server. This is off course one of the pre-requisites to install Exchange server.

You can do this by looking for the existence of the following registry value:

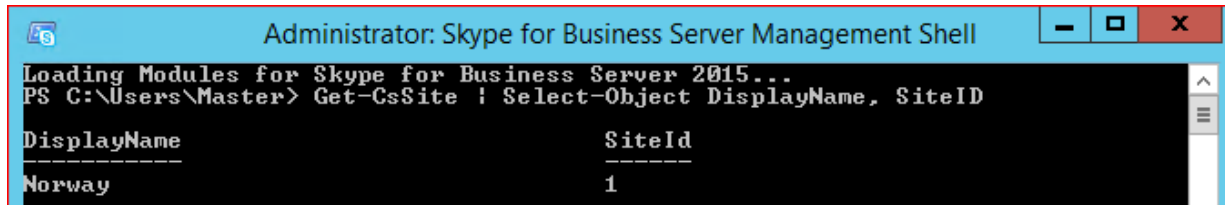
```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\MSEExchange  
OWA\InstantMessaging\ImplementationDLLPath
```

The ImplementationDLLPath should point to the folder location for the file Microsoft.Rtc.Internal.Ucweb.dll. If it does not, or if the registry value does not exist, then you should download and install the UCMA Runtime setup program from the Microsoft Download Center at <http://www.microsoft.com/en-us/download/details.aspx?id=34992> . Information on how to install the UCMA Runtime can be found on that same web page.

# Creating a Trusted Application Pool for Outlook Web App

First, we will need to get site ID of our Skype environment. Login to your Frontend server, start Skype PowerShell and run the following command

**Get-CsSite | Select-Object DisplayName, SiteID**



```
Administrator: Skype for Business Server Management Shell
Loading Modules for Skype for Business Server 2015...
PS C:\Users\Master> Get-CsSite | Select-Object DisplayName, SiteID

DisplayName          SiteId
-----
Norway                1
```

Now that we have SiteID, run this command to create a new Trusted Application pool:

**New-CsTrustedApplicationPool -Identity ex.domain.local -Registrar skype.domain.local -Site 1 -RequiresReplication \$False**

Where Ex.domain.local is FQDN of your Exchange server and Skype.domain.local is FQDN of your Skype Frontend Server. Site 1 is the SiteID we got from running Get-CsSite.

Output will look like this:

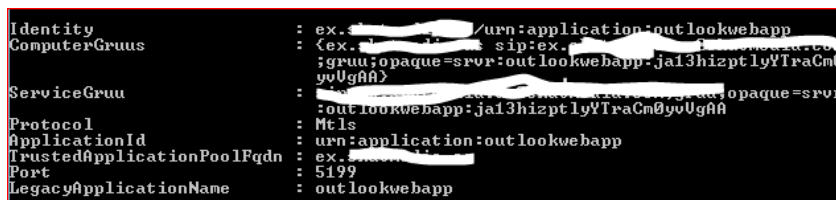


```
Identity           : 1-ExternalServer-1
Registrar          : Registrar:
FileStore          :
ThrottleAsServer  : True
TreatAsAuthenticated : True
OutboundOnly      : False
RequiresReplication : False
AudioPortStart    :
AudioPortCount    : 0
AppSharingPortStart :
AppSharingPortCount : 0
VideoPortStart    :
VideoPortCount    : 0
Applications      : <>
DependentServiceList : <>
ServiceId         : 1-ExternalServer-1
SiteId            : Site-Norway
PoolFqdn          :
Version           : 7
Role              : TrustedApplicationPool
```

After creating the trusted application pool, run this command to configure an application Identity and a port for Outlook Web App:

**New-CsTrustedApplication -ApplicationId OutlookWebApp -TrustedApplicationPoolFqdn ex.domain.local -Port 5199**

Output will look like this:



```
Identity           : ex.domain.local/urn:application:outlookwebapp
ComputerGrnuu     : <ex.domain.local> sip:ex.domain.local@skype.com
                  : ;gruu:opaque=srvr:outlookwebapp.ja13hizpt1yYTraCm0yUgAA)
ServiceGrnuu      : <ex.domain.local> sip:ex.domain.local@skype.com
                  : ;outlookwebapp:ja13hizpt1yYTraCm0yUgAA) ;gruu:opaque=srvr
Protocol          : Mtls
ApplicationId     : urn:application:outlookwebapp
TrustedApplicationPoolFqdn : ex.domain.local
Port              : 5199
LegacyApplicationName : outlookwebapp
```

To finish off, run the following command:

**Enable-CsTopology**

If successful, it should look like this:



```
PS C:\Users\Master>> Enable-CsTopology
PS C:\Users\Master>> _
```

## Enabling Instant Messaging on Outlook Web App

With Skype for Business Server correctly configured, you can then begin to configure Outlook Web App. The first step in that process is to enable instant messaging on all your Outlook Web App virtual directories on your front-end servers. (There is no need to enable instant messaging for the virtual directories on your backend servers. In fact, it is recommended that you do not enable instant messaging on your backend servers.) Login to your **Exchange Server** and start Exchange PowerShell, and then run the following command:

```
Get-OwaVirtualDirectory | Set-OwaVirtualDirectory -InstantMessagingEnabled $True -InstantMessagingType OCS
```

If successful, you should see this (ignore creating a new session message, since I had Exchange PowerShell open to long)

```
[PS] C:\Windows\system32>Get-OwaVirtualDirectory | Set-OwaVirtualDirectory -InstantMessagingEnabled $True -InstantMessagingType OCS
Creating a new session for implicit remoting of "Get-OwaVirtualDirectory" command...
[PS] C:\Windows\system32>
```

Now we need to confirm if we have any certificate assigned for UM service. In Exchange PowerShell run the following command:

```
Get-ExchangeCertificate | select services
```

```
Services
-----
IMAP, POP, IIS, SMTP
SMTP
IMAP, POP, SMTP
None
```

As you can see, we do not have any Certificate assigned to UM service. Login to ECP (<https://mail.domain.com/ECP>) and navigate to Servers – and Edit your Exchange server:

Exchange admin center

recipients servers databases database availability groups virtual directories certificates

permissions

compliance management

organization

protection

mail flow

mobile

public folders

unified messaging

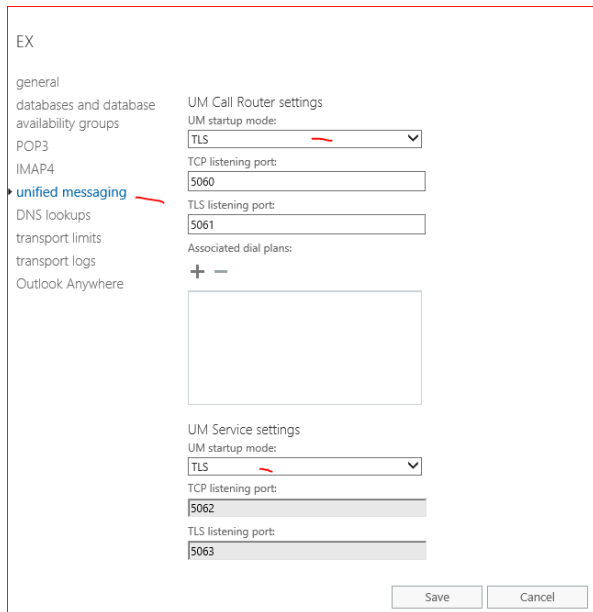
servers

hybrid

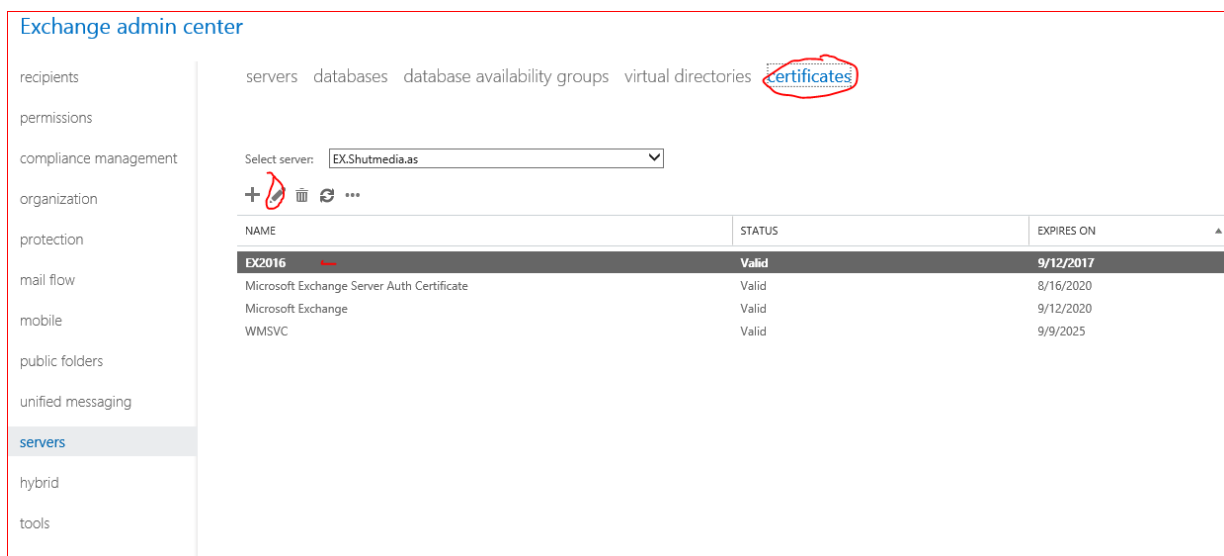
tools

NAME	SERVER ROLES
EX	Mailbox, Client Access

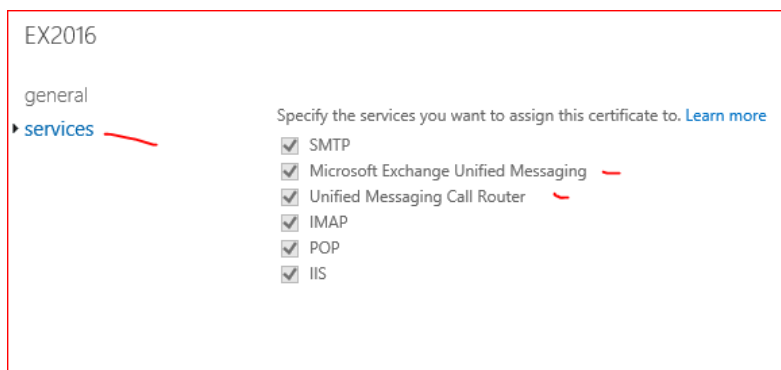
Navigate to Unified Messaging and change UM Call Router settings and UM Service settings to TLS mode.  
Yes to confirm



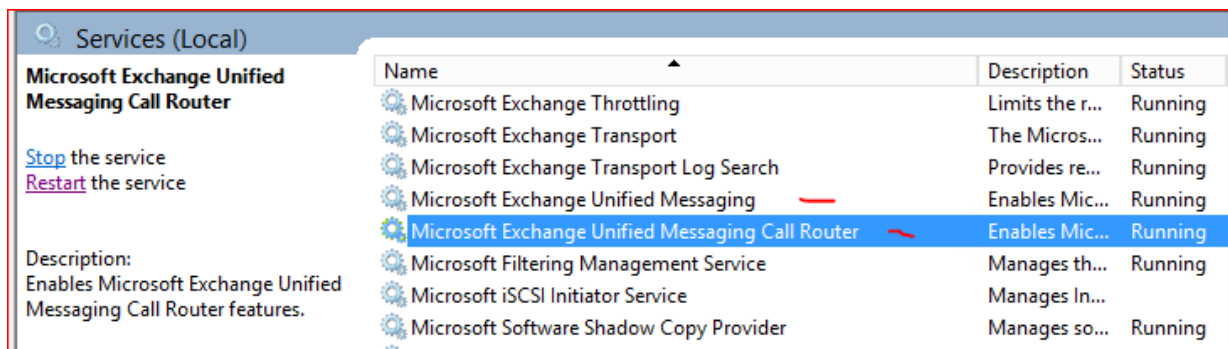
Click Certificate on top menu and edit your chosen certificate (in my case default cert used for OWA)



Click Services and check for both UM services and yes to confirm.

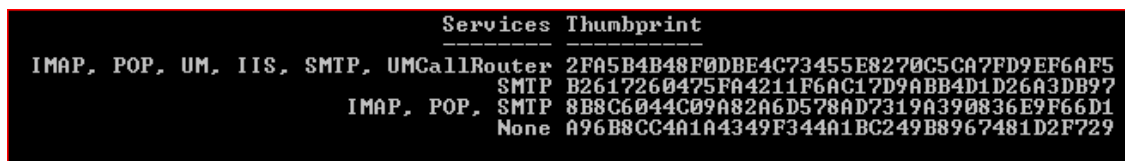


On your Exchange server, open services and restart both UM services.



In Exchange PowerShell run the following command to get thumbprint of your UM certificate:

```
Get-ExchangeCertificate | select services,thumbprint
```

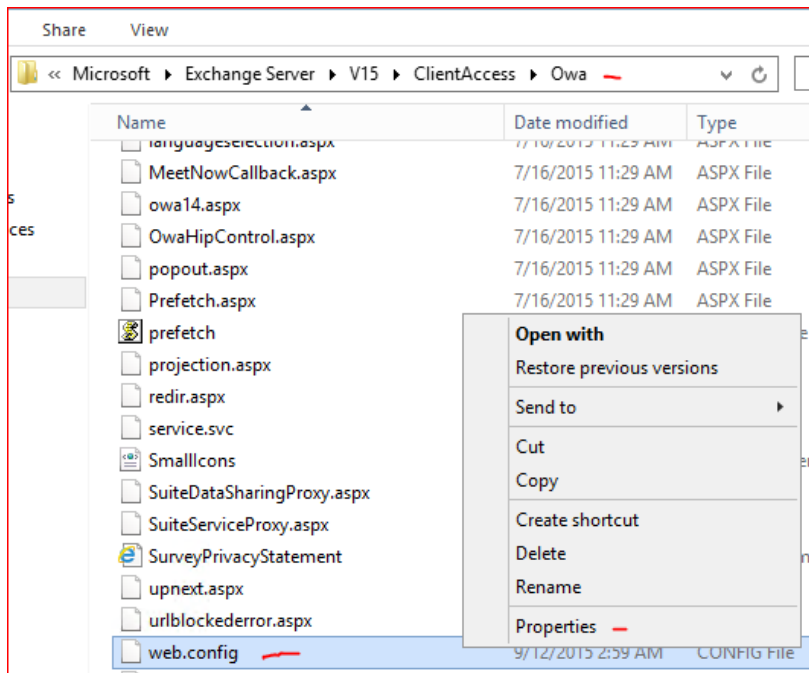


Take a note of the Thumbprint that has been assigned UM services.

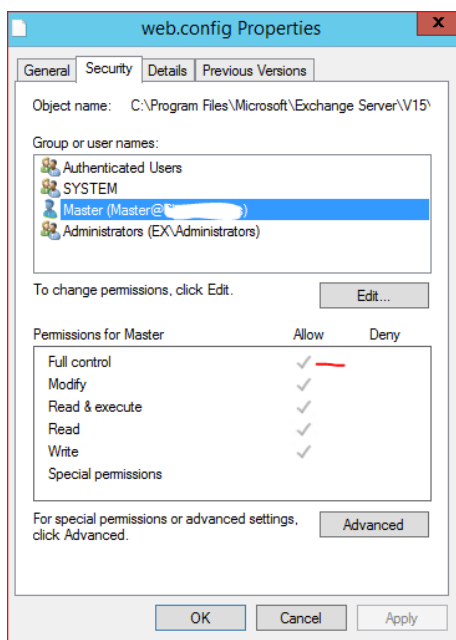
## Edit Web.config

Next we must add the following two lines to Outlook Web App Web.config file (this file is typically located in the folder C:\Program Files\Microsoft\Exchange Server\V15\ClientAccess\Owa). These two lines should be added under the <AppSettings> node in the Web.config file, and this procedure should be carried out only on the backend servers (Mailbox Server) where Outlook Web App has been installed.

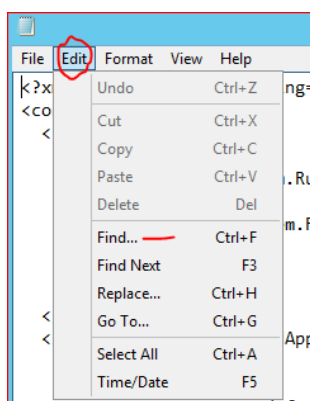
On you Exchange server, navigate to C:\Program Files\Microsoft\Exchange Server\V15\ClientAccess\Owa) - right click web.config file and choose properties



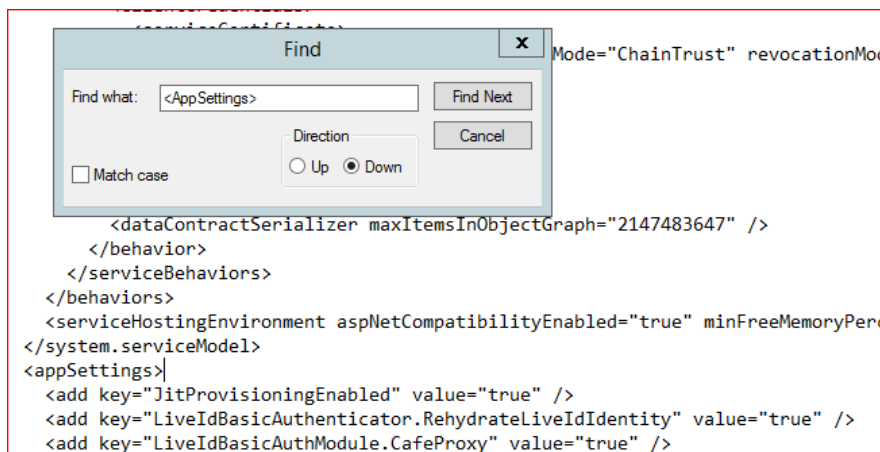
Click permission tab and confirm that your account has full access to the file and click OK.



Now right click same file and choose open with – notepad. In notepad click Edit – find (or ctrl+F)



Search for <AppSettings>



Enter these values right under <appSettings>

```
<add key="IMCertificateThumbprint" value="2FA5B4B48F0DBE4C73455E8270C5CA7FD9EF6AF5"/>
```

```
<add key="IMServerName" value="skype.domain.as"/>
```

Where skype.domain.as is FQDN of your Skype Frontend Server and IMCertificateThumbprint is the thumbprint we got earlier. It will look like this:

```
<appSettings>
  <add key="IMCertificateThumbprint" value="2FA5B4B48F0DBE4C73455E8270C5CA7FD9EF6AF5"/>
  <add key="IMServerName" value="skype.domain.local"/>
</appSettings>
```

Save the file and close it.

After you have updated the Web.config file you should then run the following command on the Exchange backend server in order to recycle the Outlook Web App pool:

```
C:\Windows\System32\Inetsrv\Appcmd.exe recycle apppool /apppool.name:"MSEExchangeOWAAppPool"
```

```
[PS] C:\Windows\system32>C:\Windows\System32\Inetsrv\Appcmd.exe recycle apppool /apppool.name:"MSEExchangeOWAAppPool"
'MSEExchangeOWAAppPool' successfully recycled
```

If successful, you will see the message: "MSEExchangeOWAAppPool" successfully recycled

## Configuring Outlook Web App Mailbox Policies

At this point, you can use the following command to configure instant messaging on the appropriate Outlook Web App mailbox policy (or policies). For example, this command, run on one of your mailbox servers, enables instant messaging on the Default policy:

```
Set-OwaMailboxPolicy -Identity "Default" -InstantMessagingEnabled $True -InstantMessagingType "OCS"
```

```
[PS] C:\Windows\system32>Set-OwaMailboxPolicy -Identity "Default" -InstantMessagingEnabled $True -InstantMessagingType "OCS"
[PS] C:\Windows\system32>
```

And this command enables instant messaging for all your Outlook Web App mailbox policies:

```
Get-OwaMailboxPolicy | Set-OwaMailboxPolicy -InstantMessagingEnabled $True -InstantMessagingType "OCS"
```

After the mailbox policy has been enabled then all users managed by that policy will have full integration between Skype for Business Server and Outlook Web App, provided that:

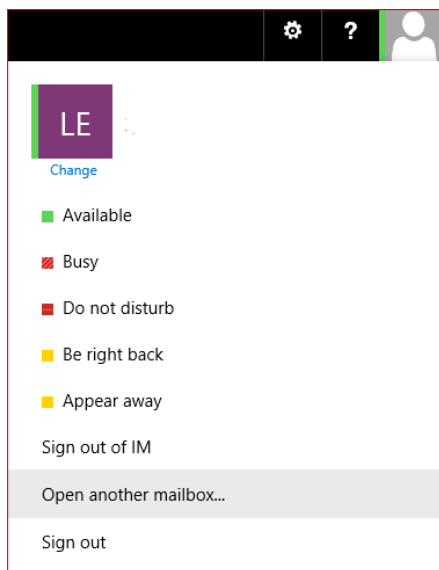
- The user has a mailbox on Exchange 2013.
- The user has been enabled for Skype for Business Server 2015.
- The user has a valid SIP proxy address.

## Disabling Instant Messaging in Outlook Web App

If you somehow (after all this work) do not want to integrate Outlook Web App with Skype for Business Server you can run the following command to disable it again:

```
Get-OwaVirtualDirectory | Set-OwaVirtualDirectory -InstantMessagingEnabled $False
```

Now to confirm that it works



## Final notice

Now that we have come to the end of the road, our final step is to test mail flow and configure Outlook/ActiveSync. If you have configured Internal/External DNS and firewall correctly, then everything should be good to go.

Be sure that port 25 is forwarded correctly from your Firewall to your exchange server.

If using internal CA, be sure that all clients trust your Root CA

# Links

Exchange 2016 system requirements:

[https://technet.microsoft.com/en-us/library/aa996719\(v=exchg.160\).aspx](https://technet.microsoft.com/en-us/library/aa996719(v=exchg.160).aspx)

What is new in Exchange 2016:

[https://technet.microsoft.com/en-us/library/jj150540\(v=exchg.160\).aspx](https://technet.microsoft.com/en-us/library/jj150540(v=exchg.160).aspx)

Exchange Server 2016 Architecture:

<http://blogs.technet.com/b/exchange/archive/2015/05/05/exchange-server-2016-architecture.aspx>

Installing DAG:

<http://www.moh10ly.website/2015/08/preparing-installing-and-configuring.html>