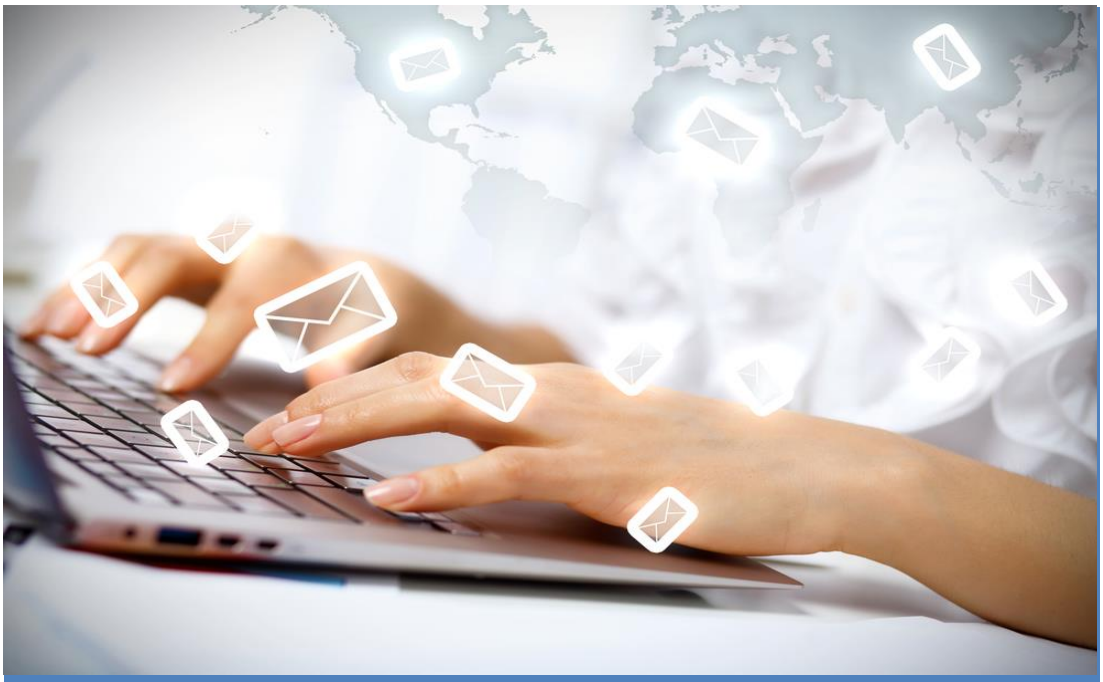


MICROSOFT EXCHANGE SERVER 2013 INSTALLATION

An Enterprise Grade Email Solution

This document focuses on Microsoft's leading email solution software; the Exchange Server 2013. This document also is a guide for step by step installation processes which will lead you to a success and professional installation of an enterprise grade mail server installation.

Shahab Al Yamin Chawdhury

14th September 2013

So, what are you waiting for? Let's Start Installing Microsoft Exchange Server 2013!

A brief explanation of what Exchange Server is; Exchange Server is Microsoft's email solution and is a leading product in the IT industry. Comes with whole lot of features that addresses compliance and regulatory status for an organization. Moreover, it's light and fast and seamlessly integrates into iOS, Androids, and has a native support for Windows Phones.

It is understood that you have already installed Windows Server 2012, and promoted the server as a Domain Controller, and the DC needs to be the Global Catalog Server. Since we are installing everything in one server, and it's a Demo/PoC machine, so we are allowed to test ☺

The PDC (Global Catalog Server) must have the following installed prior making it a Domain Controller:

- Microsoft .NET Framework 4.5
- Windows Management Framework 3.0

I will be installing Microsoft Exchange Server 2013 on top of Microsoft Windows Server 2012 Datacenter Server in a single machine. This will be a clean install with no previous exchange server installations whatsoever. If you want otherwise, have at least a Win2k8R2 SP1 build machine and have it configured as a Domain Controller and another member server required if you wish not to install the Exchange on the Domain Controller. But this is a test lab machine we are building. Deploying Exchange Server 2013 on a production server requires some serious hardware sizing and allocation for all the roles it carries.

Things you should know about Exchange Server 2013 Prior Installation

Exchange 2013 has two Roles:

1. Mailbox Server Role
2. Client Access Server Role

Each organization requires minimum one Mailbox Server Role and Client Access Server Role.

Mailbox Server Role Includes:

1. Client Access Protocols
2. Transport Service
3. Mailbox Databases
4. Unified Messaging (Except SIP Redirection)
5. Handles all activities for active Mailboxes on that Server

Client Access Server Role Includes:

1. Authentication
2. Redirection (limited)
3. Proxy Services for HTTP, POP, IMAP and SMTP

4. Thin and Stateless Server
5. Does not do any data rendering
6. Nothing is queued or stored here (except diagnostic logging)

Before you start installing on a demo machine, have a look at the following link @ Microsoft TechNet where Exchange Server 2013 Installation Prerequisites are lined up:

http://technet.microsoft.com/en-us/library/bb691354%28v=exchg.150%29.aspx

The hardware requirements vary depending on where you are going to install the Mailbox or CAS roles or whether the server is physical or virtual. Review the official Exchange 2013 System Requirements located below:

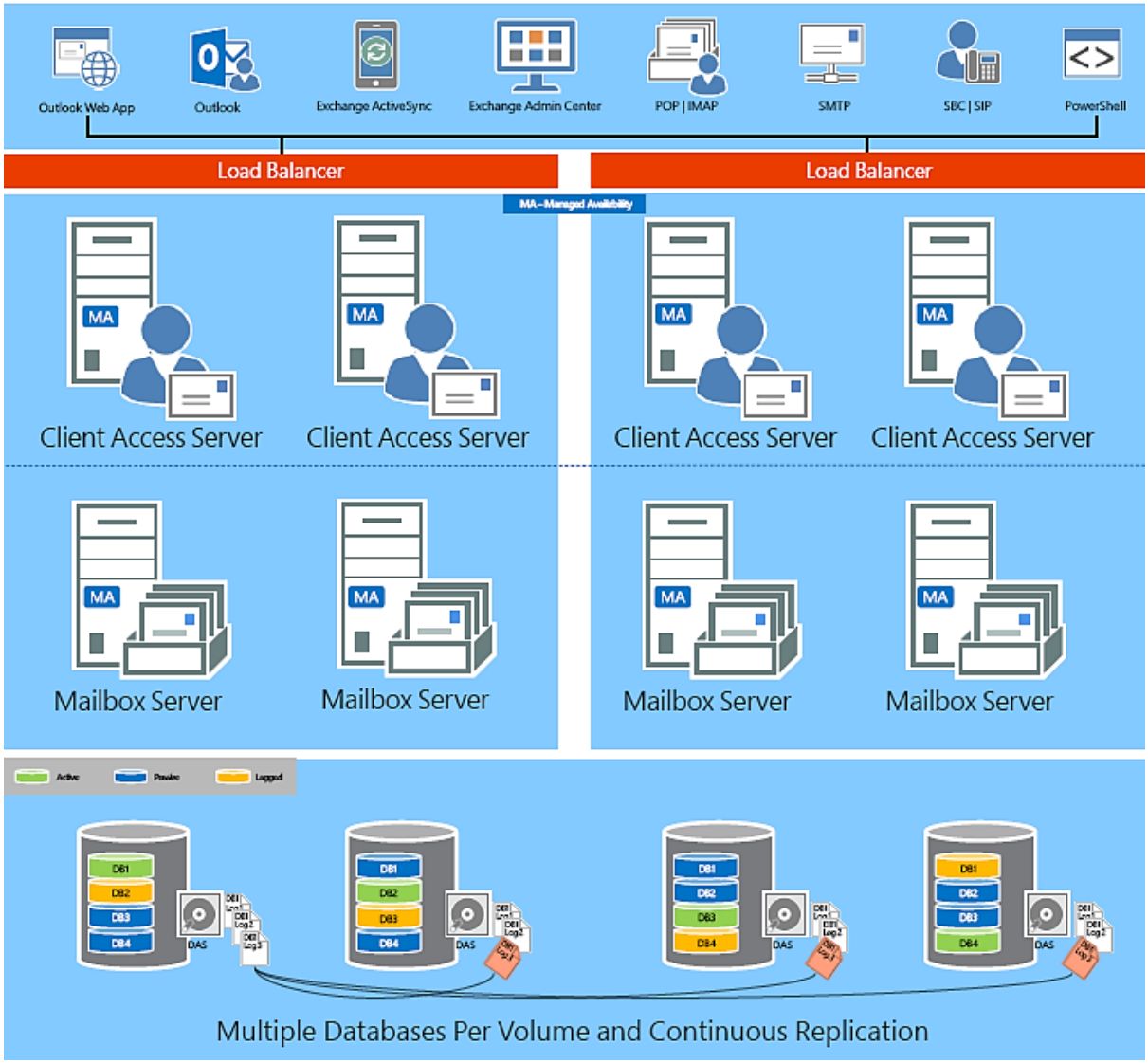
http://technet.microsoft.com/en-us/library/aa996719.aspx

There is also a deployment assistant found in the TechNet site:
http://technet.microsoft.com/en-US/exdeploy2013/Checklist?state=1839-W-AAAAAAAAQAAAAAEAAA~~

You can install Exchange Server 2013 in three different flavors:

- Install Exchange Server 2013 as a CAS Server
- Install Exchange Server 2013 as a Mailbox Server
- Install Exchange Server 2013 as a CAS+MBX Server (all in one box, a real work horse)

Now let's take a look at the architecture of the new Exchange Server 2013:



Exchange Server 2013 Architecture Poster: http://www.microsoft.com/en-us/download/details.aspx?id=39102

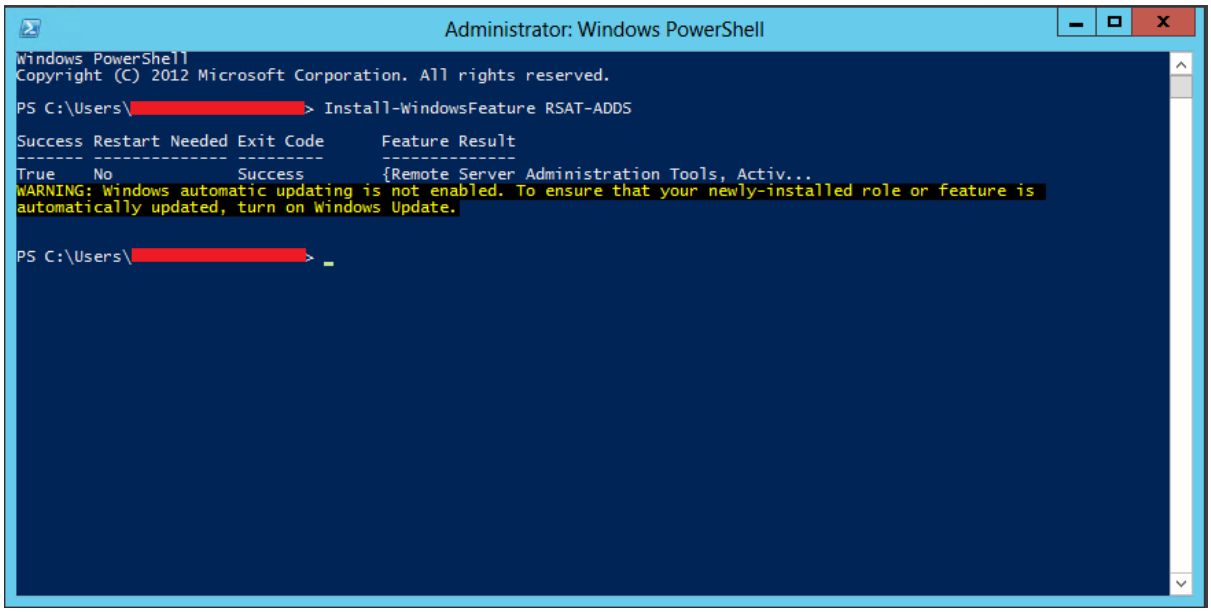
Exchange Server 2013 Architecture Deep Dive @ Channel 9: http://channel9.msdn.com/Events/TechEd/Australia/2012/EXL311

As you can see, CAS merely operating as a proxy server and the MBX is the real workhorse. You might have noticed that the Hub Role, Unified Communication and the Edge Role no longer exists, if you are developing a larger scale exchange installation then you would build a CAS server for authentication/user mailbox redirection then install the mailbox roles on as many servers as you require to hold mailboxes for load balancing and performance. If you have a large environment I would suggest that you make CAS as a necessary component (safe to be virtualized also, as it requires small footprint), on an 8GB (with OS) machine, and definitely do the math on the mailbox calculator for the MBX storage requirements. AD, Exchange, SharePoint, Lync, and System Center Components have seamless integration on the mentioned lineups of software's. So, plan early where your organization is heading to and provision for scale and software component requirements while the installation occurs. Suppose if you left out any component, and Lync or any other software gets populated into

the organization, you will have to run the setup and install that component once more. But dormant component can be reinstated while initiation or while connection gets established. Basically, if you fail to plan, you are planning to fail, it's that simple.

Now let's concentrate into the software requirements of Exchange 2013 (things you must have installed prior installing Exchange Server 2013):

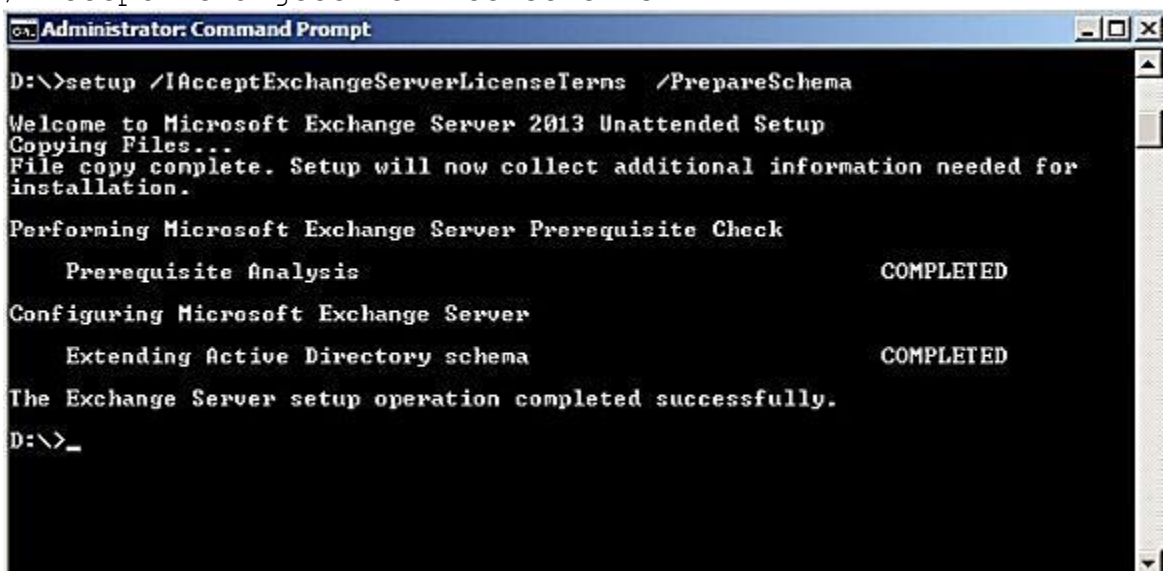
1. **Windows Server 2012 Prerequisites:** Issue following commands in PowerShell one by one (a & b)
   a. `Import-Module ServerManager`
   b. `Install-WindowsFeature RSAT-ADDS`



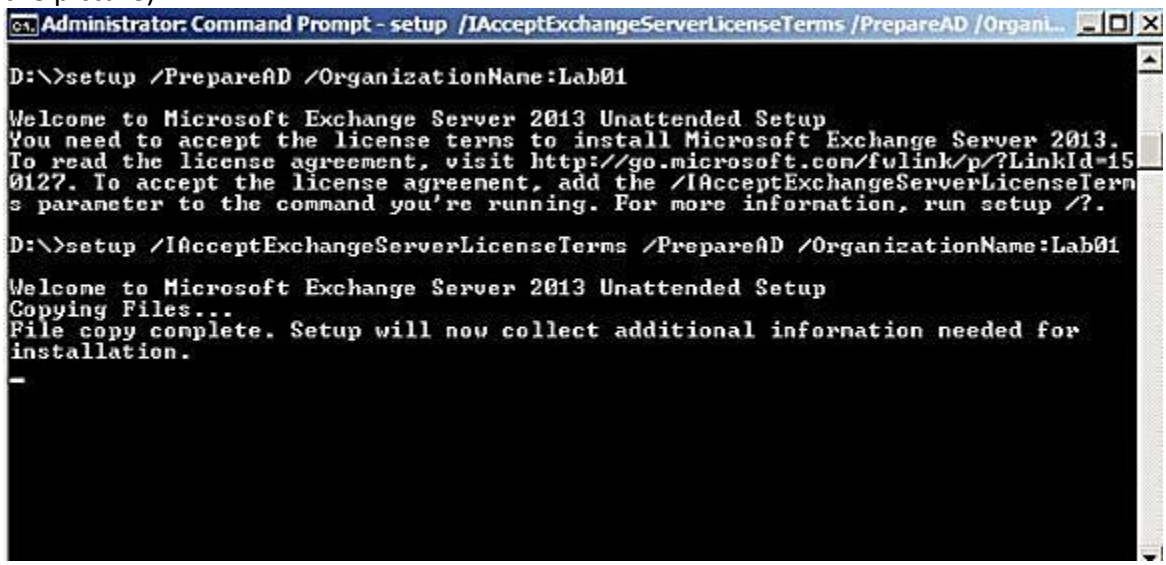
The module for managing the server gets imported to the PowerShell, so that it could manage and issue certain commands. RSAT stands for Remote Server Administration Tool, and ADDS stands for Active Directory Domain Services, tools we are going to need to Administer Exchange in conjunction with Active Directory. Here is the link for Installing and Uninstalling the RSAT pack: http://technet.microsoft.com/en-us/library/cc730825.aspx

Run c, d, e under command prompt, changing into the setup drive where the installation of Exchange resides (typically your DVD-ROM drives location).

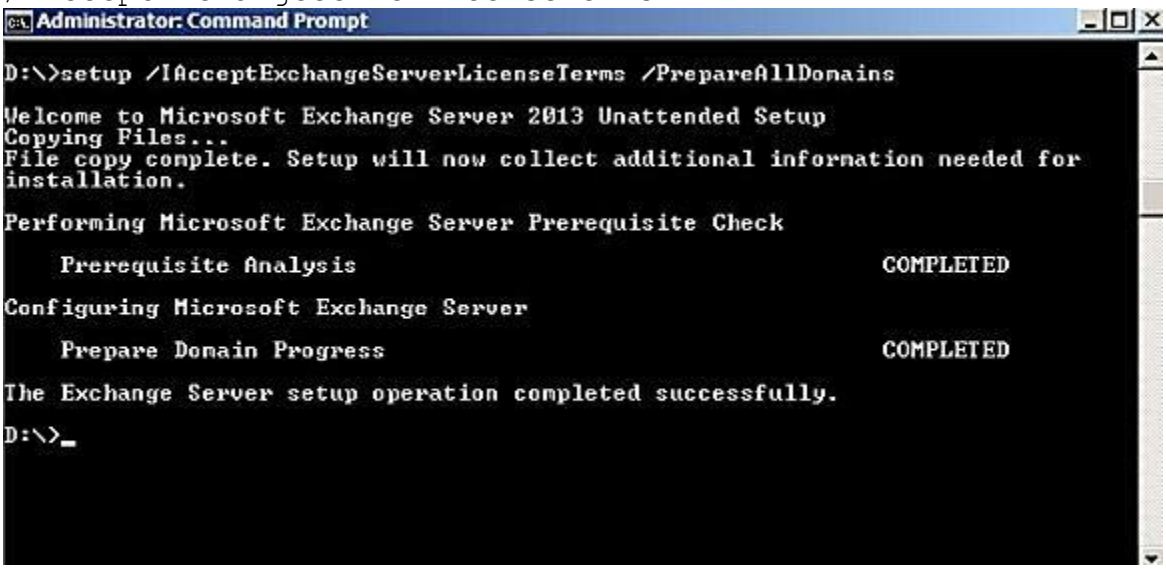
c. `setup.exe /PrepareSchema /IAcceptExchangeServerLicenseTerms`



d. `setup.exe /PrepareAD /IAcceptExchangeServerLicenseTerms` (or use the command in the picture)



e. `setup.exe /PrepareAllDomains /IAcceptExchangeServerLicenseTerms`



More on AD Preparation: http://technet.microsoft.com/en-us/library/bb125224%28v=exchg.150%29.aspx

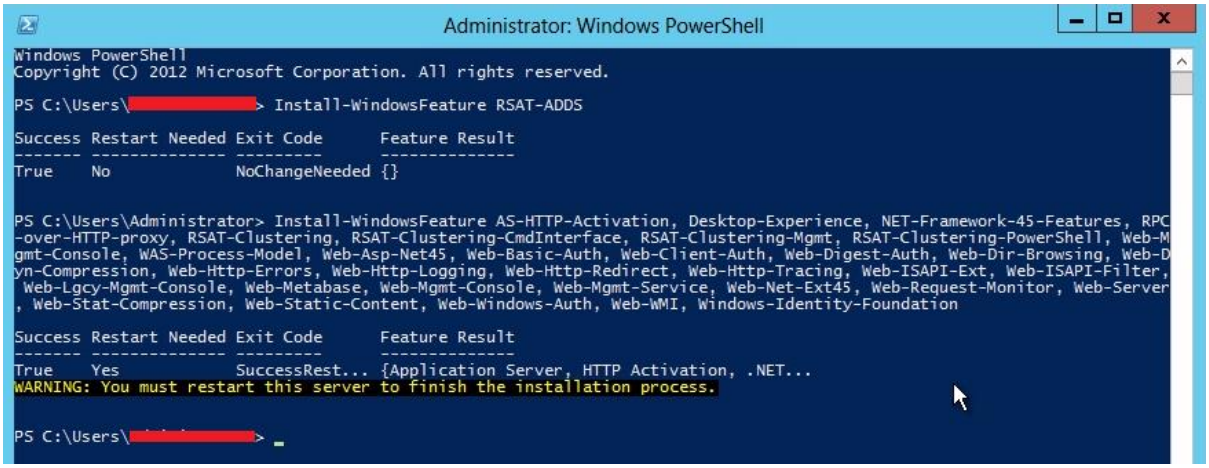
2. **Exchange Server 2013 Installation:**
   a. Install all the following software prior installing the roles and in the exact order:

      - Unified Communications Managed API 4.0 Runtime
      - Microsoft Office 2010 Filter Packs
      - Service Pack 1 for Microsoft Office Filter Pack 2010

   b. Mailbox Server Role or Combined CAS & MBX Roles: Open up PowerShell and issue the following command exactly how it shown below:

```
Install-WindowsFeature 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
```

The Screenshot would look like the following after executing the command that you have just issued. As in the yellow outlined warning says, please restart your server at this point to take on the next challenge.

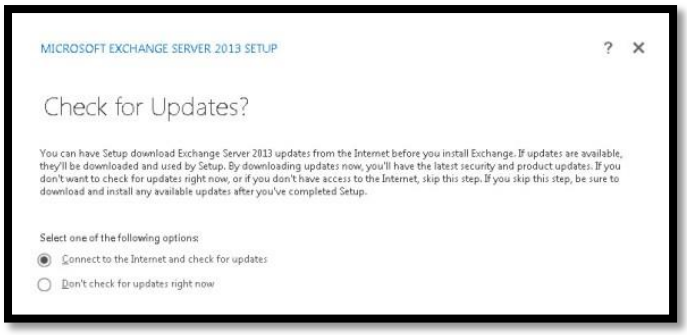


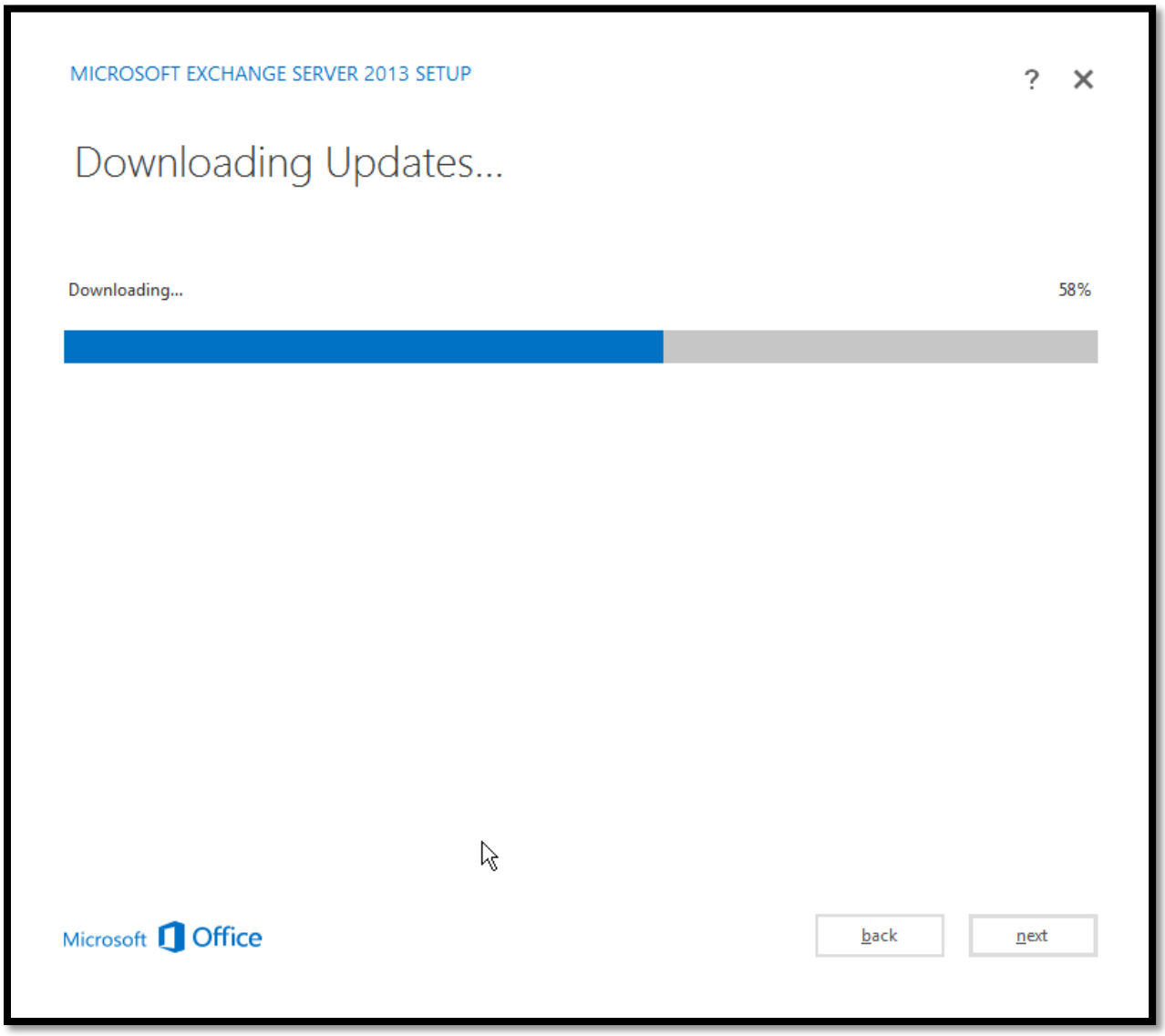
c. <u>Client Access Server Role:</u> Open up PowerShell and issue the following command

```
Install-WindowsFeature 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
```

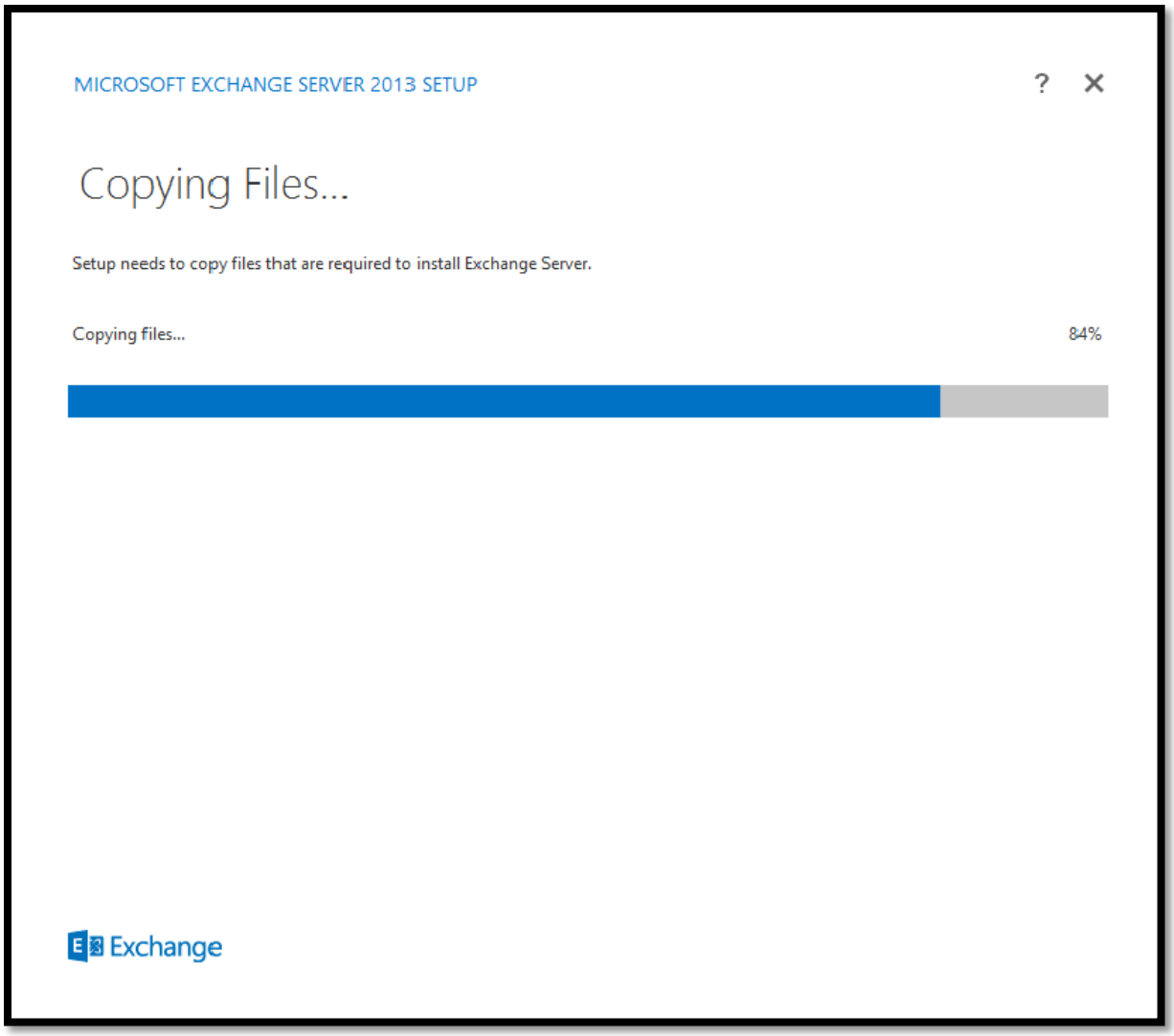
The command we have just issued in the PowerShell will prep up Windows Server 2012 for housing Exchange with necessary components. After doing the above exactly I have mentioned, please reboot the server. We are now ready to run the setup “Exchange-x64.exe”, do so.

After extraction, it is recommended that you download the updates, it may save you time later on if the installation fails because you did not have the latest software updates installed for the base operating system compatibilities or hotfix, there are hundreds of things that could go wrong, so prevention is always better than cure!. The download could take significant amount of time depending on your internet connection speed, or you can choose not to download the updates also.

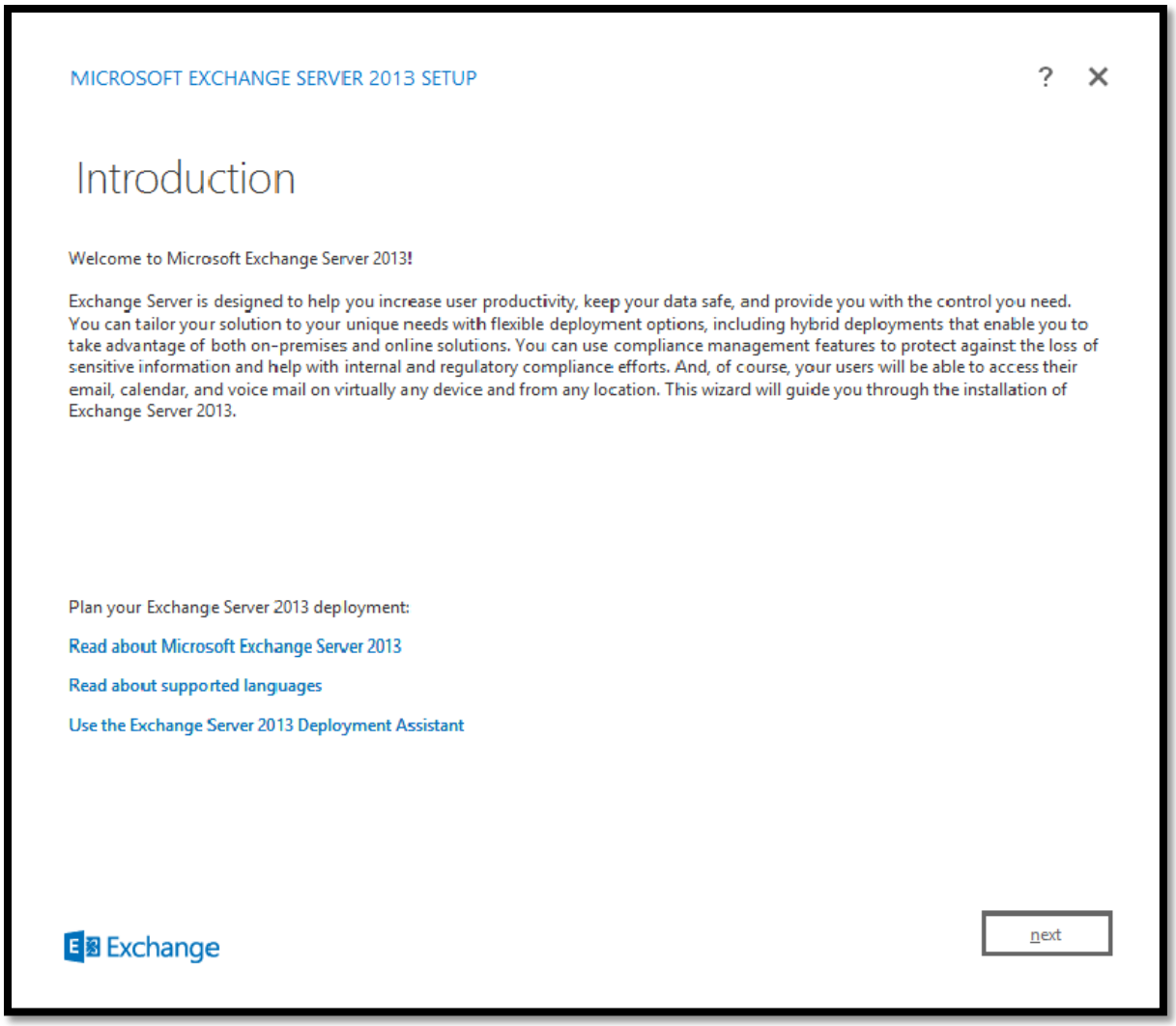




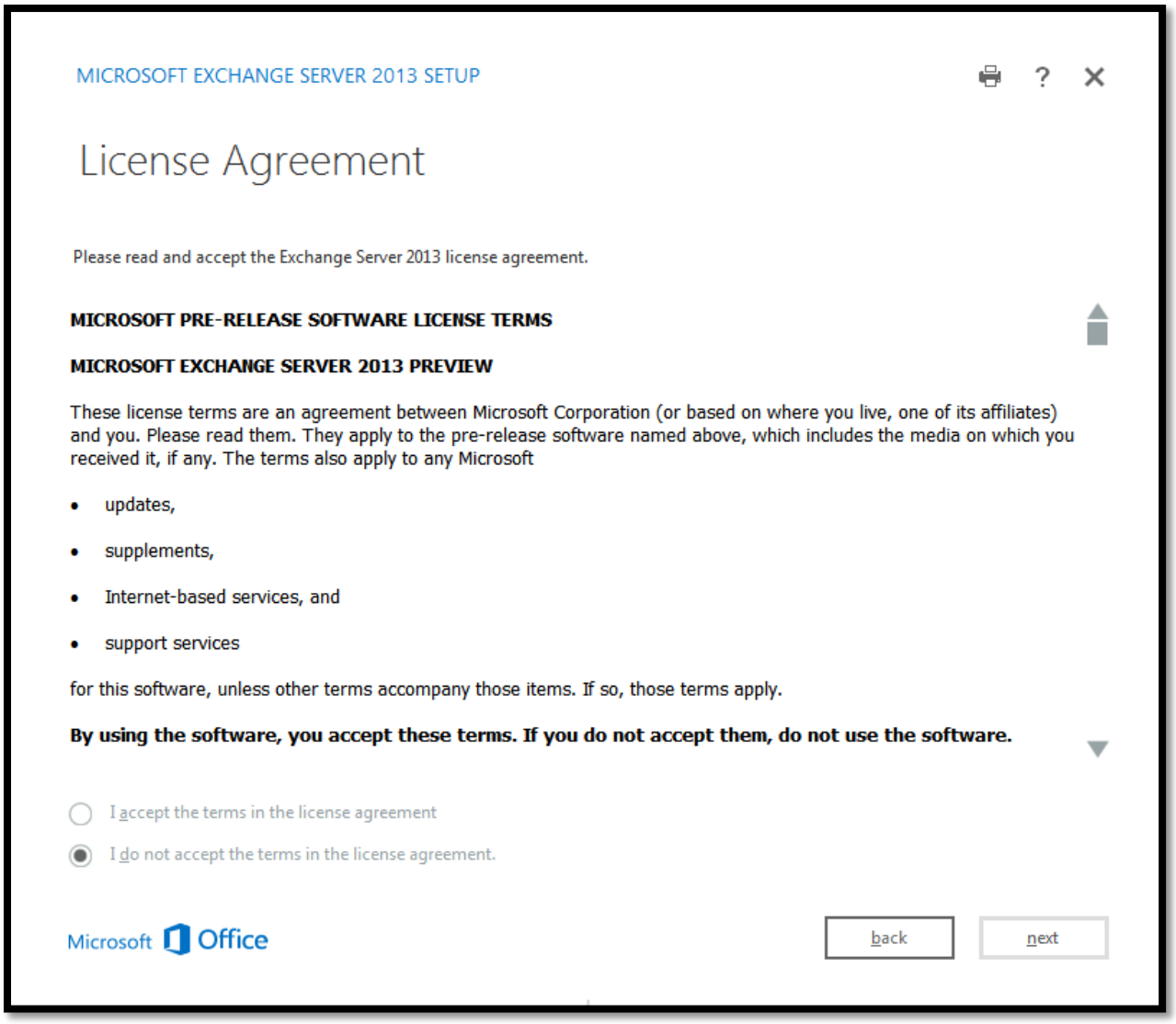
I am going for downloading the updates. You are going to need a good chunk of bandwidth for that. Once the download completes you will click next and the License Agreement Screen pops up. Simply accept the license and continue by clicking next, if you feel otherwise, the installation is not going to continue. Afterwards you will see a menu which will copy all the files necessary to continue with the installation. And on the introduction menu, click next to continue after reading the setup introductions.



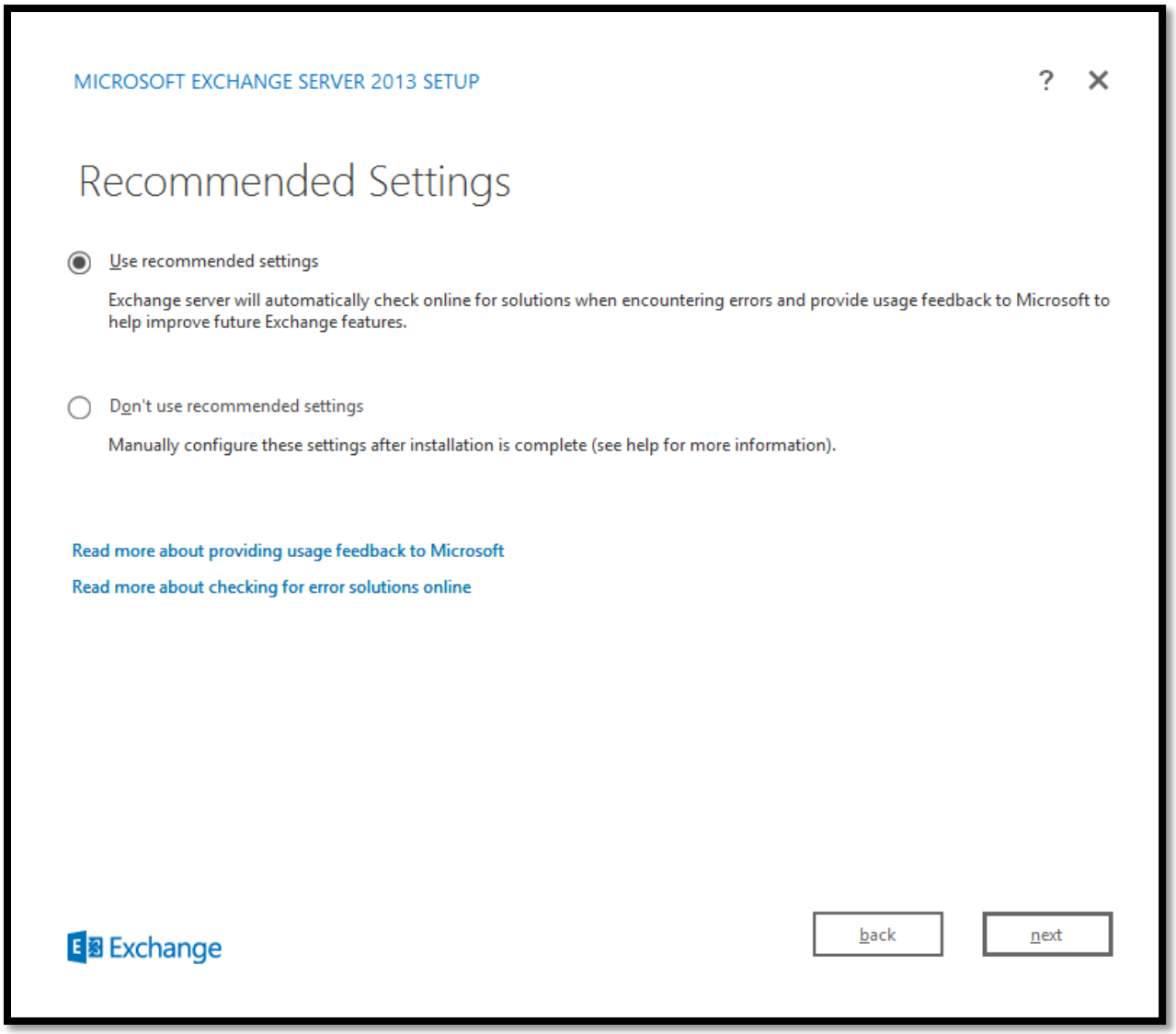
The downloaded files will be copied to a temporary location for later use. At this point just sit tight, and if you have nothing to do, grab a coffee.



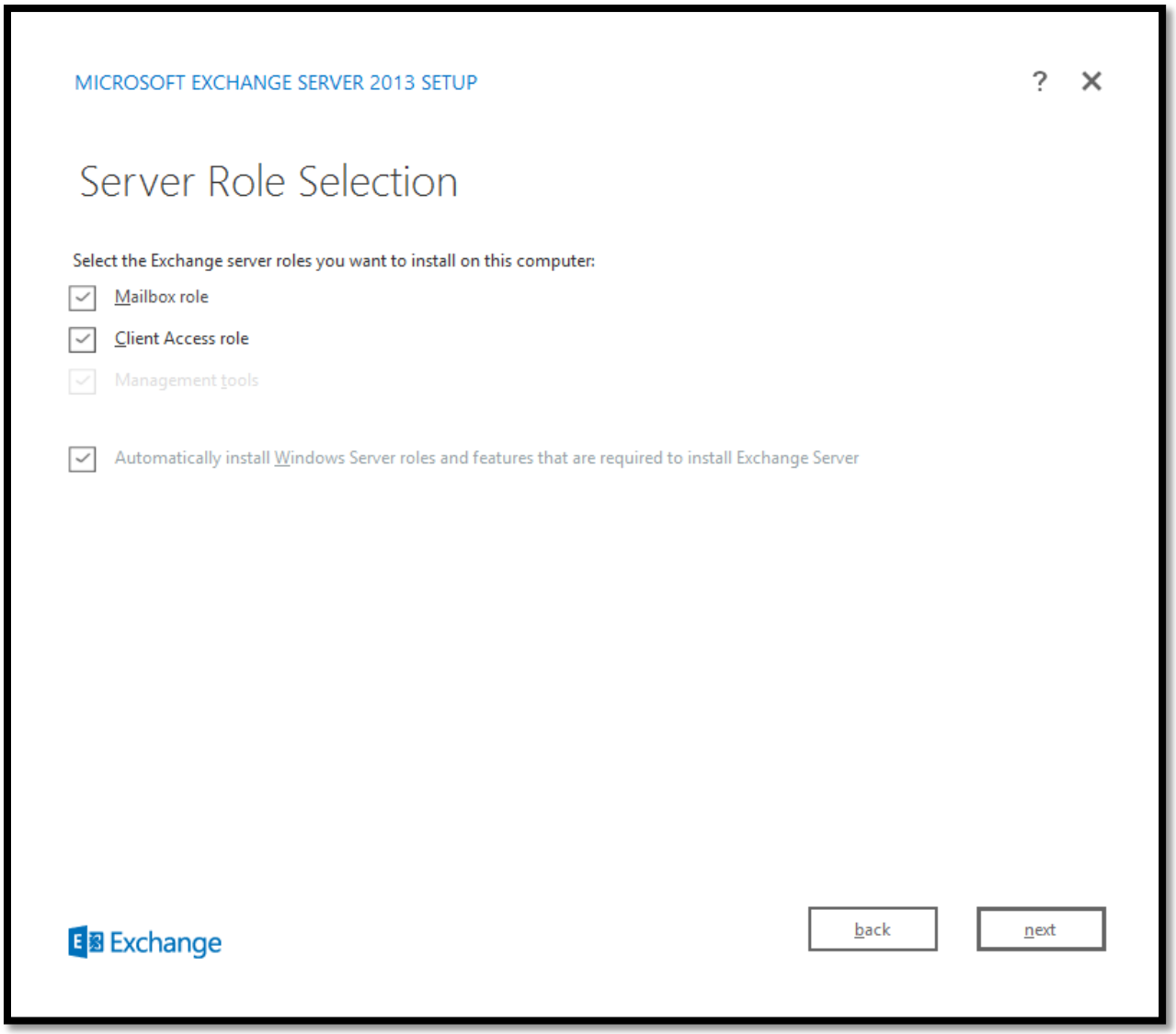
Now the actual installation starts. This is the screen that guides you to a number of locations like the Exchange Server 2013 Deployment Assistant. This DA gives you insight regarding how the Exchange 2013 should be deployed, nearly a BPA, where it shows you best practices.



Accept the license agreement where without accepting it this deployment wizard will get closed. Move forward by clicking next.



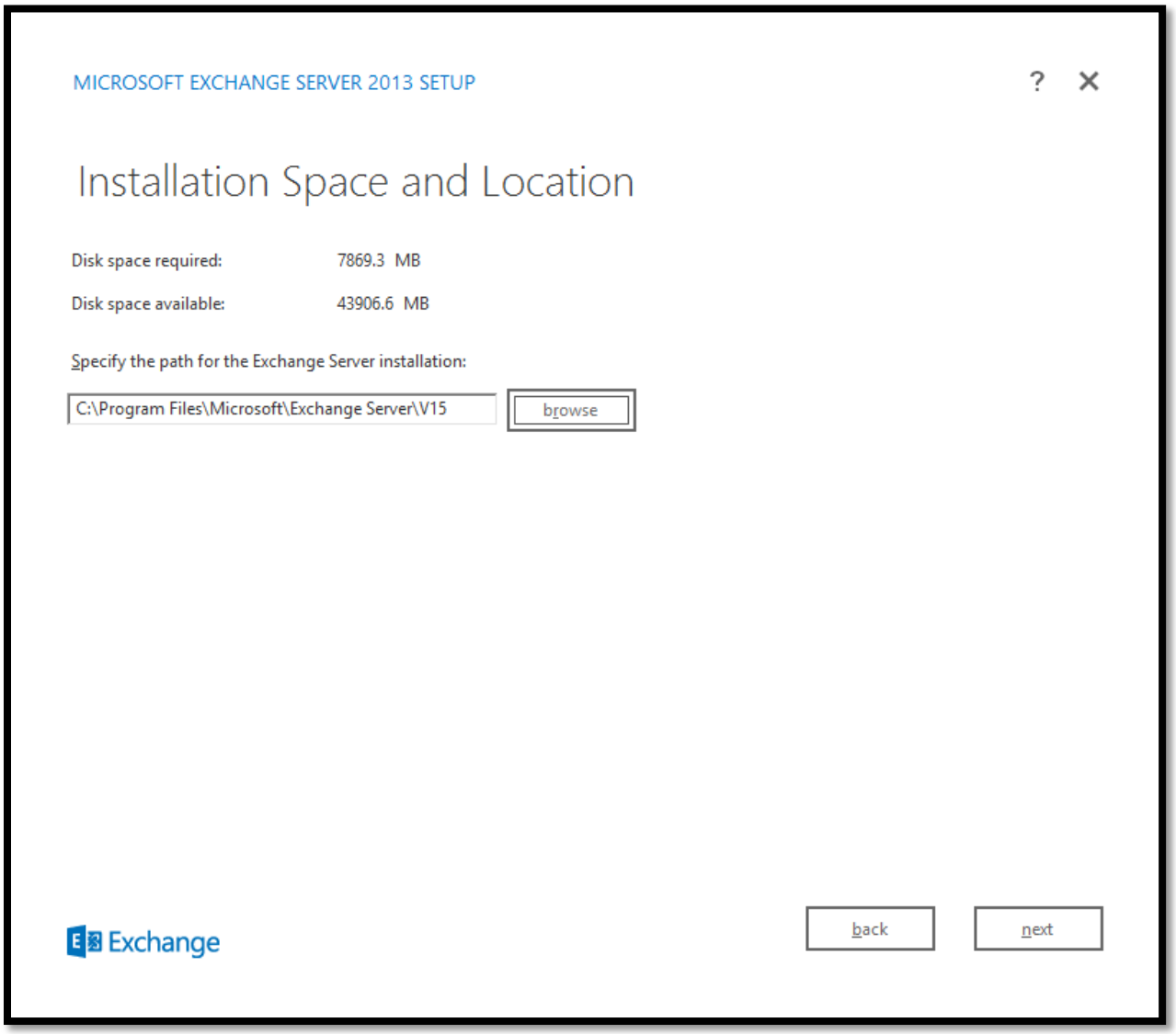
For the sake of this installation I will be continuing with the recommended settings. For advanced installation options for real-life admins you should choose not to configure Exchange 2013 with recommended settings. But if you choose to go with the second selection, be ready to answer some questions.



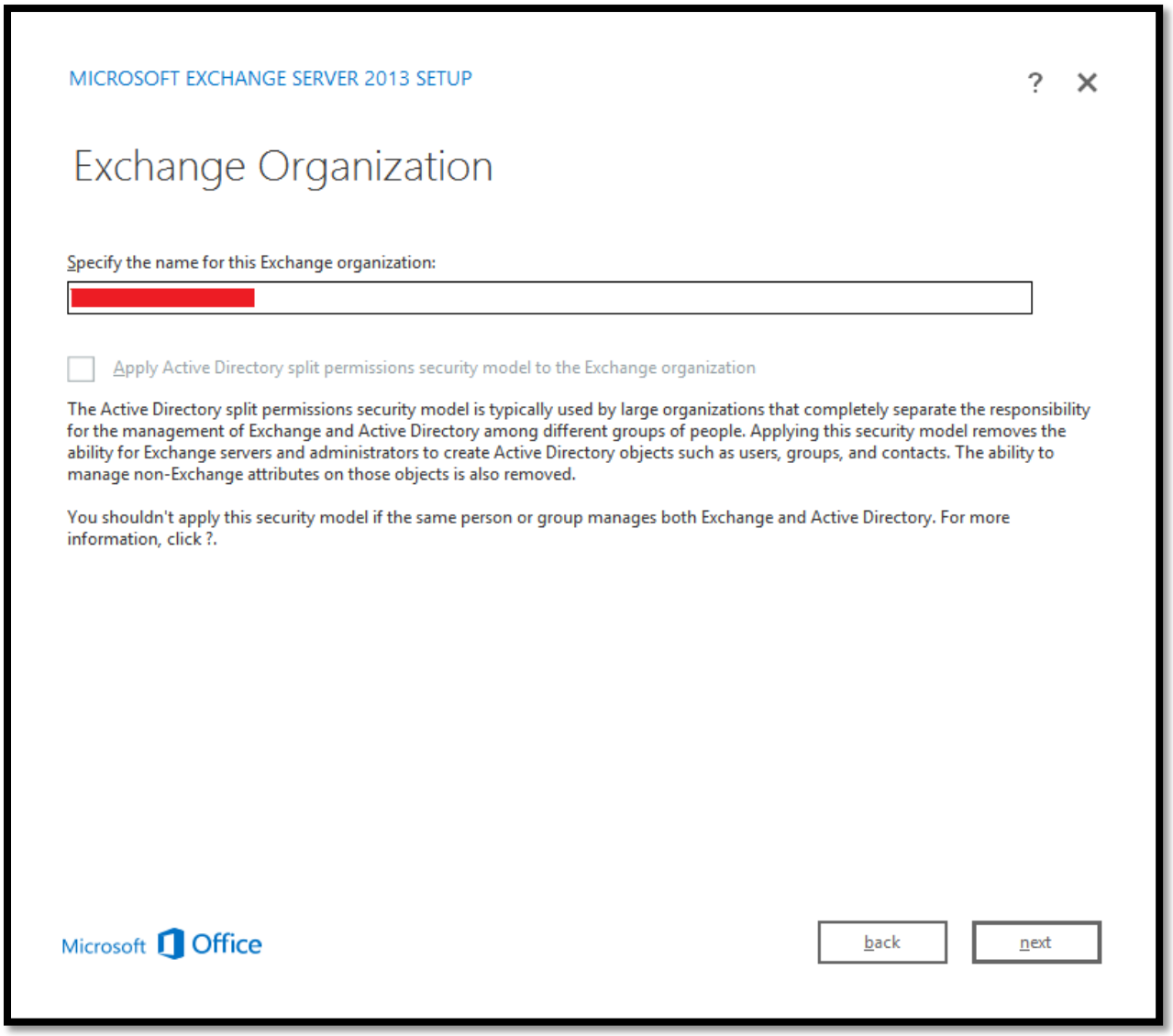
My environment does not require individual server installations and since this is test-bed so I will install all roles on one server. You will also notice the box that mentions “Automatically install any server roles that are required to install Exchange Server”. Leave this ticked as this installs and configures all the prerequisites that’s required for exchange 2013 such as IIS and .Net features, though we have installed it earlier, but we didn’t configure it right? This feature will connect the dots for Exchange and IIS.

Exchange has the following Management roles built into it:

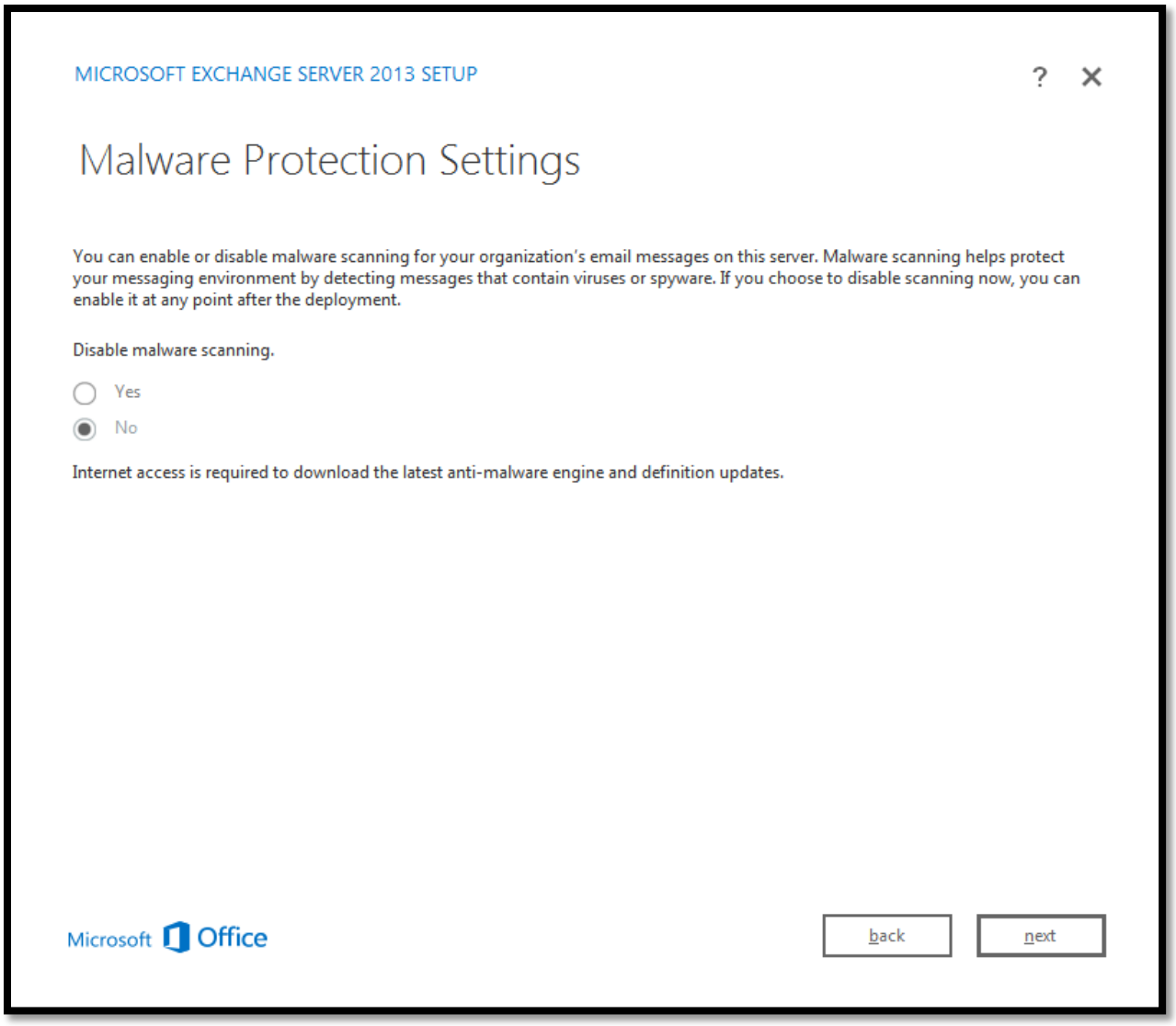
- Mail Recipients Enables administrators to manage mailboxes, contacts, and mail users.
- Transport Rules Enables administrators or specialist users assigned the role to manage the transport rules feature.
- Distribution Groups Enables administrators or specialist users assigned the role to manage distribution groups and distribution group members.
- MyPersonalInformation Enables end users to modify their own home phone number and Web site address.



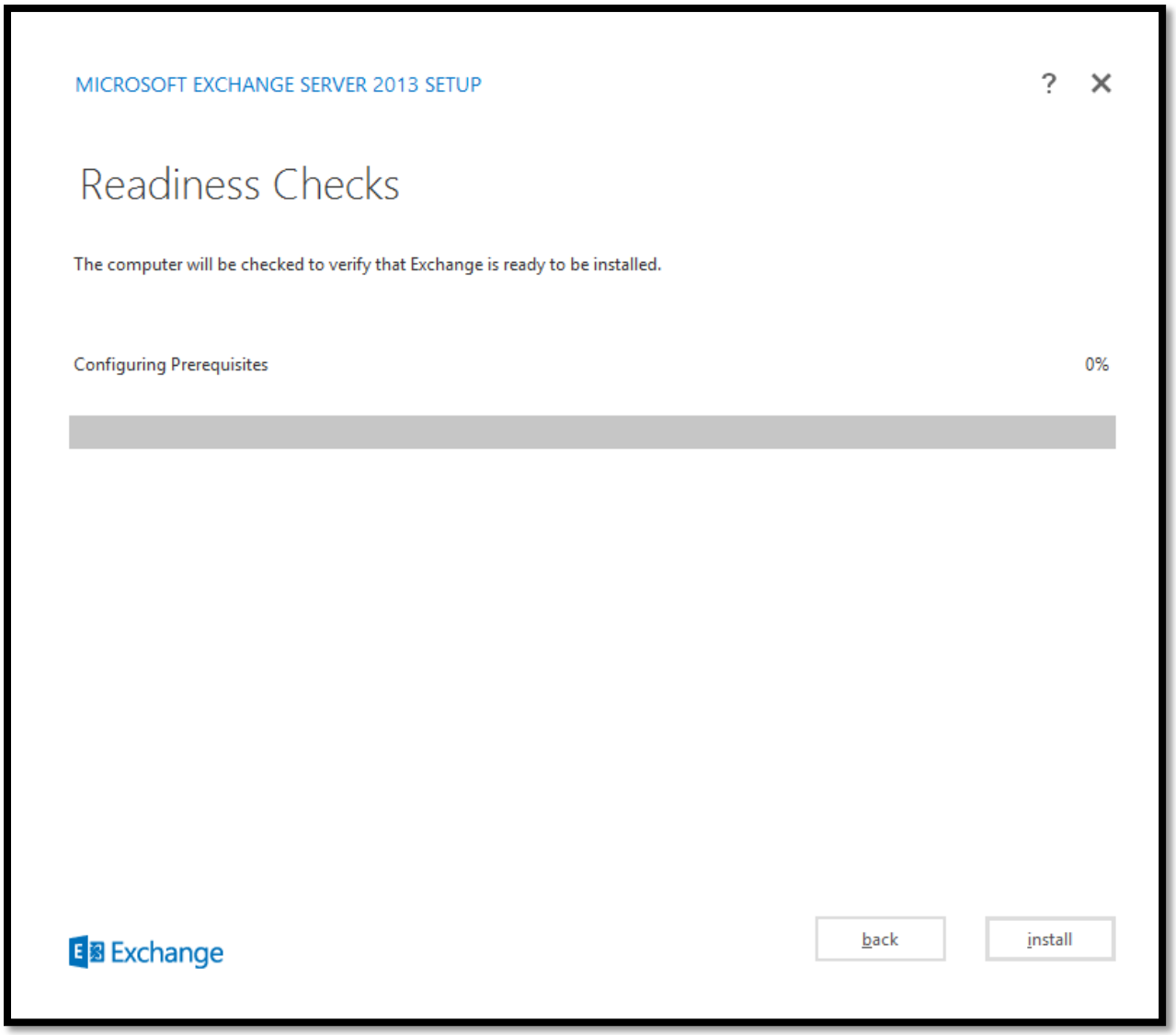
Next decide where to install Exchange Server 2013; I am going with the normal installation. But it's a good practice not to install Exchange on a partition that houses any Operating Systems. On a production server you should house the Exchange on a RAID drive, at least be a RAID-5. The Exchange Server 2013 installation will take roughly 5GB or more hard disk space depending on the selected configuration; house it where you have space for the time being. But on a production server, please be mindful that you will need more storage space for your Exchange server to GROW. Click on next to continue.



Next is an important decision point, make sure you have selected a suitable name (example: mail.mobs-bd.org) for your exchange 2013 organization. Make a note of the option to setup split permissions. In a large production environment you may want to enable this so that you can give Exchange Administrators different levels of administration privileges. On the other hand you should not enable this feature if your Exchange Administrator also manages your AD with the same account. If he/she does manages both of your AD & Exchange environment, at least use two account for each purpose.



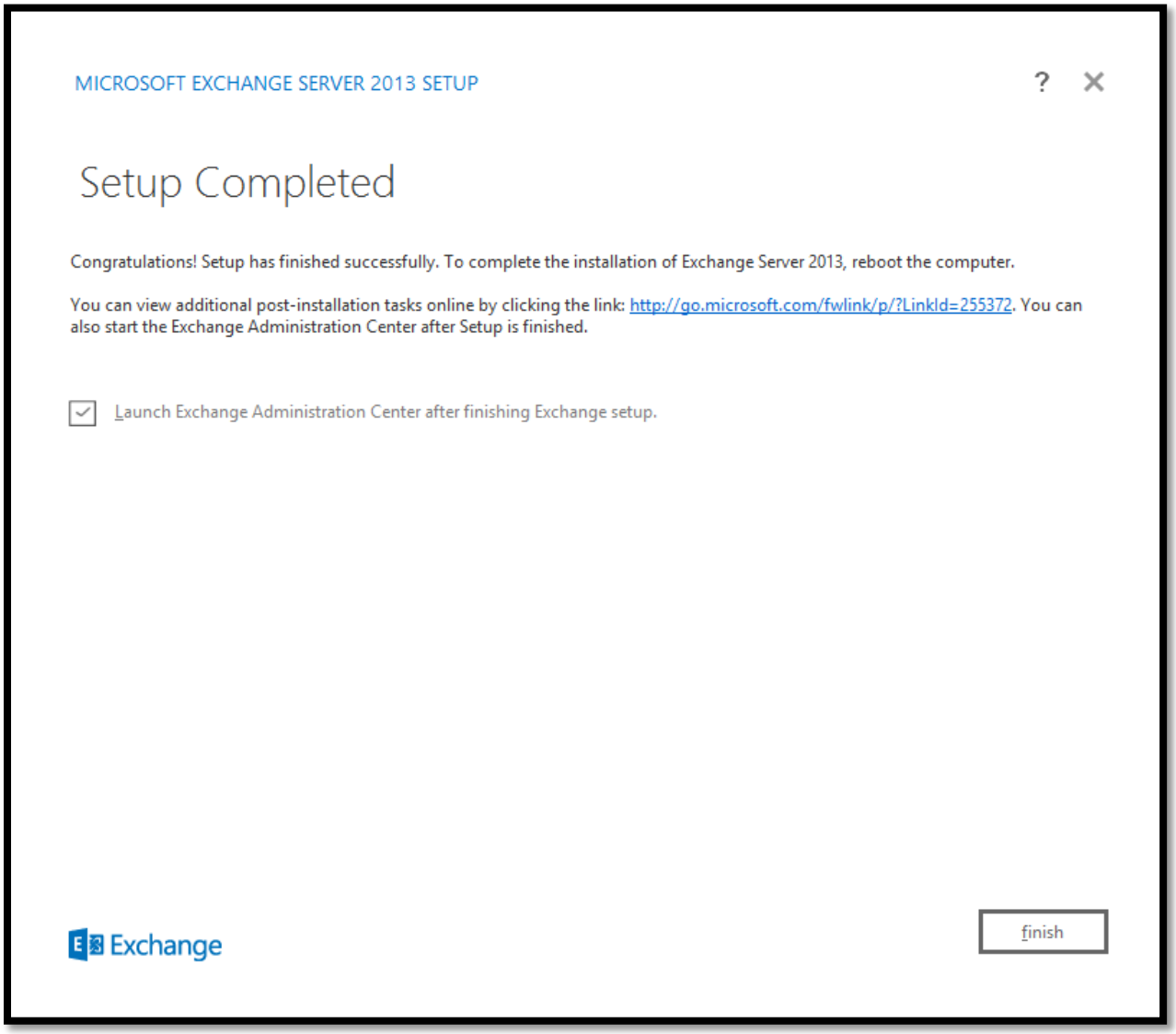
Exchange 2013 has built-in malware and spy-ware scanning, previously you had to enable this with some PowerShell after the install, here, and you get the option to enable it automatically before the total installation takes place. But I am enabling this right now, taking the advantage. Click “NO” to continue, as it’s literally asking you whether you want to DISABLE the feature or not.

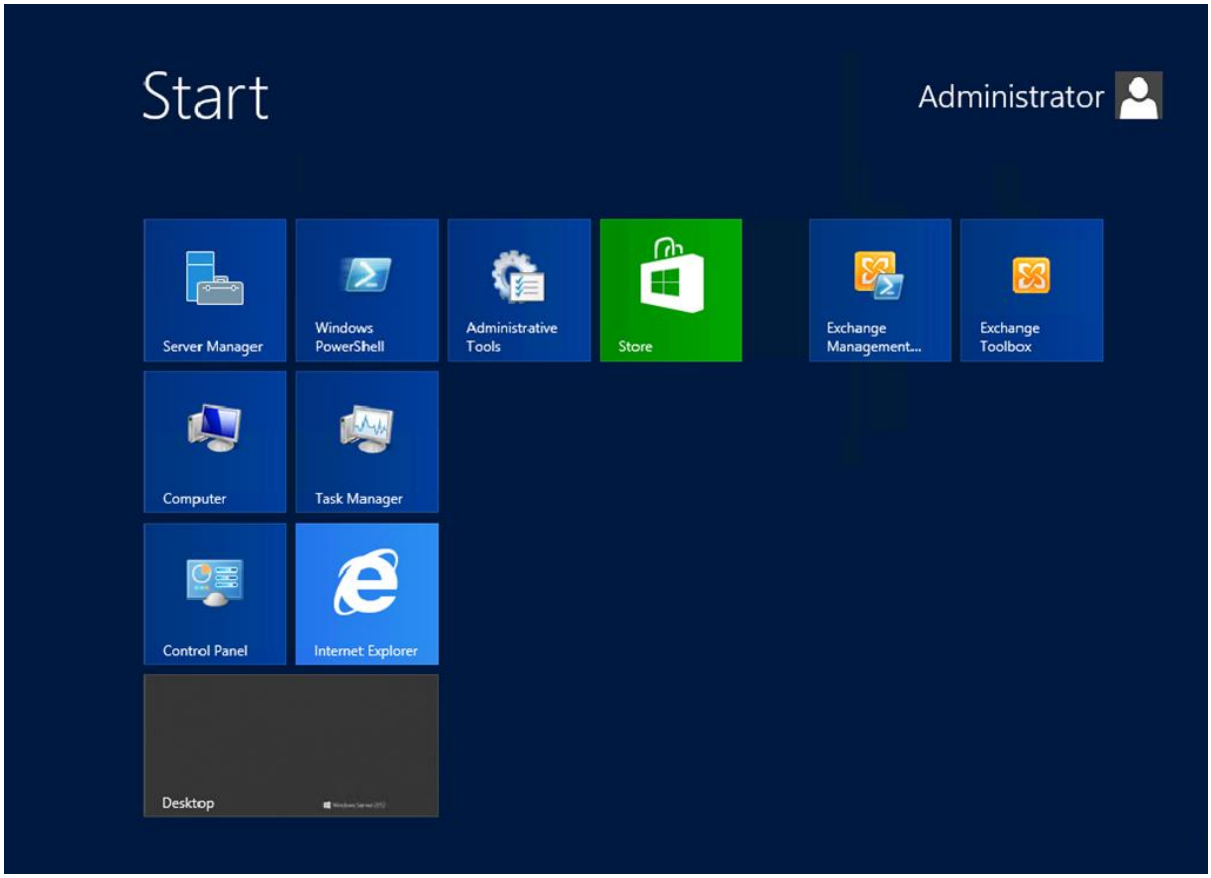


This is where Exchange 2013 will check for all the prerequisites and warns accordingly, the pre-deployment readiness checks. Since we have installed all the prerequisites prior starting the installation and restarted the machine, all information really got in effect. So move ahead and install the prerequisites prior Exchange installation, and you should let the installation check for all the prerequisites have been installed or not. This could also take some time to check, as you don't want to haste….let it be.

Exchange 2013 will now prepare the organization in multiple steps. You can see the progress in steps, tiresome to watch at this stage. The process gets completed after step 15.

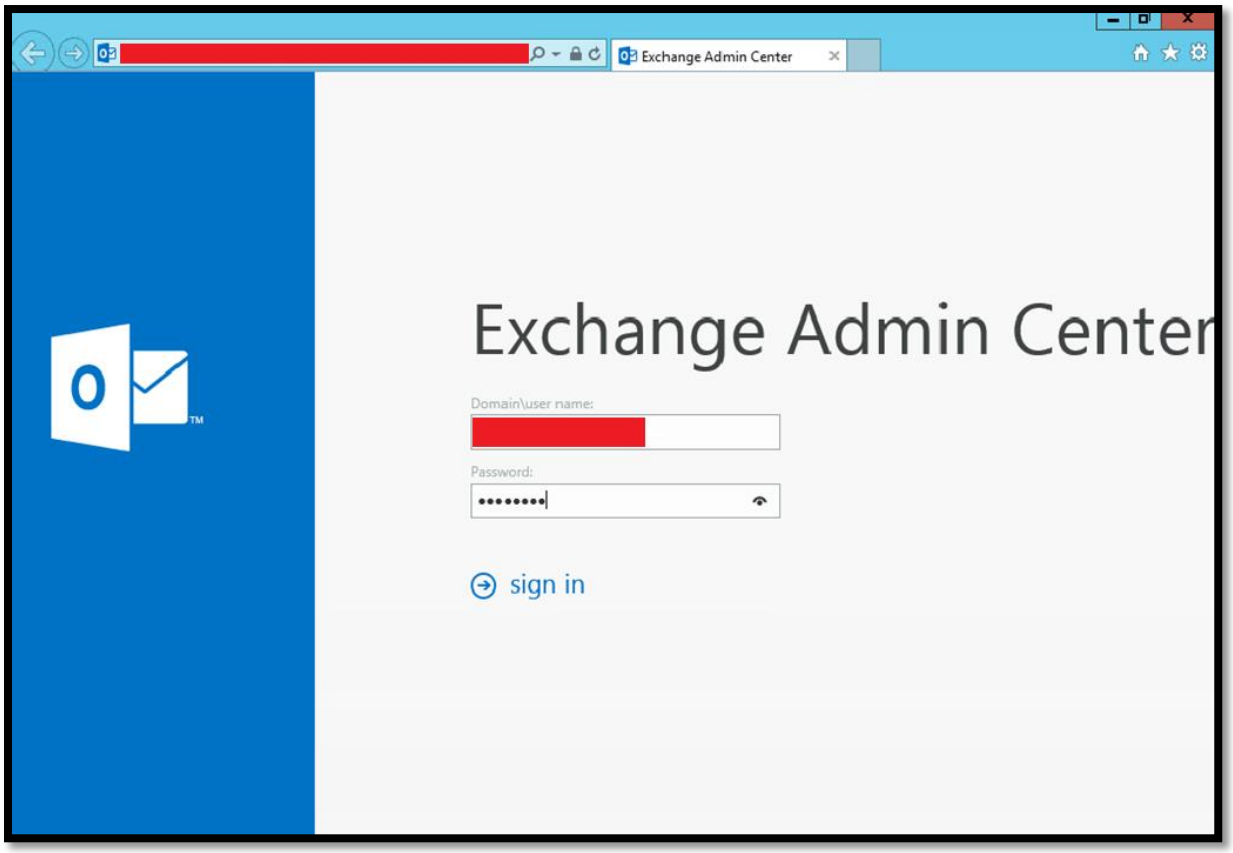
This again may take upwards of 30 minutes depending on your server. Once Exchange Server 2013 gets installed you will see the completion screen. Run the EAC, a first look.

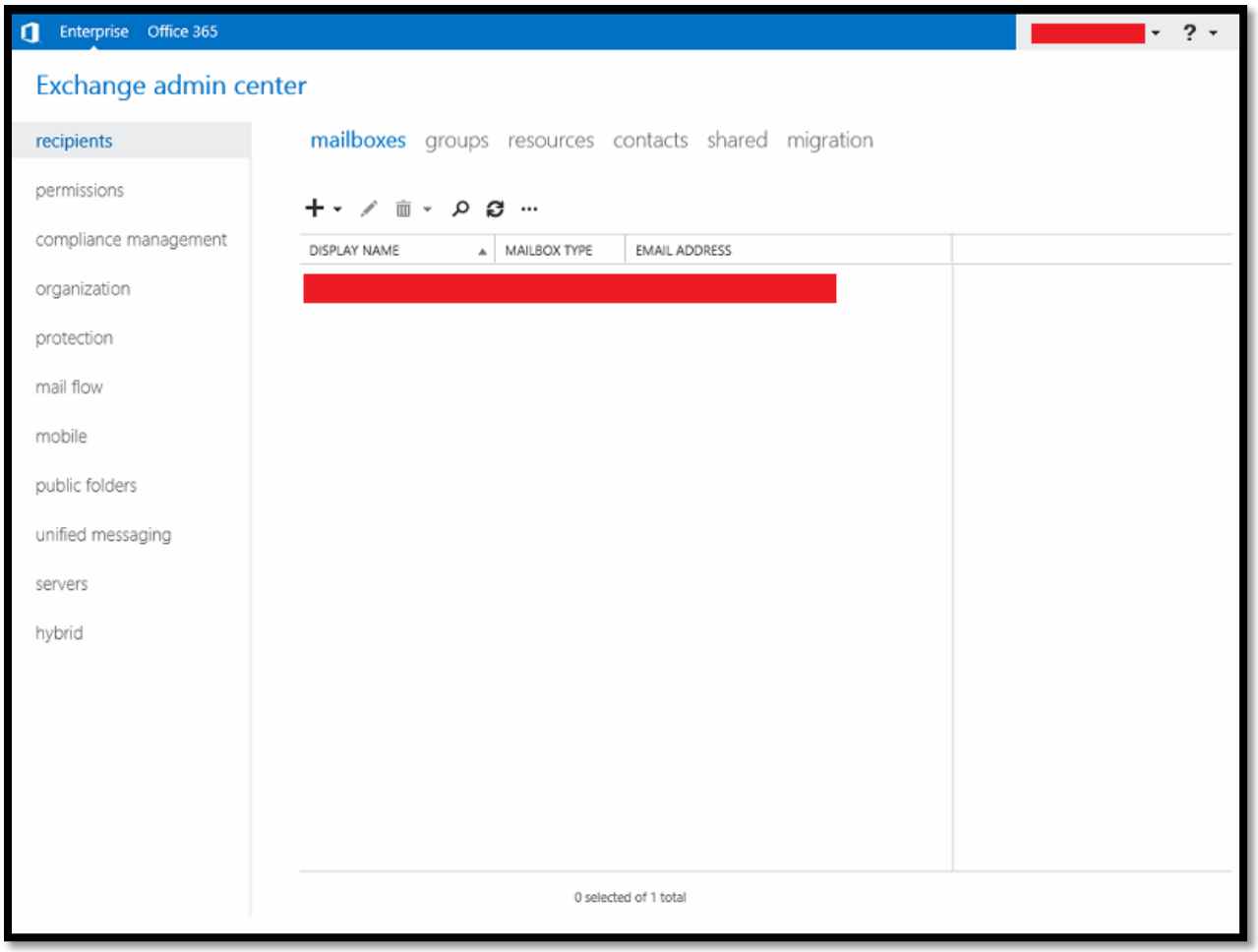




And if you press the windows logo on the keyboard, you will see a similar screen. On the right side you will see the Toolbox and the Management Console at your disposal. Please be mindful that Exchange 2013 does not come with a management console or a control panel. Exchange 2013 has been designed so that you could have ease of use by porting your Administration manageability into the web. Typically Exchange 2013 Admin Center can be accesses through https://servername.com/eac. Fire up your explorer and issue the command:

For Outlook Web Access: https://servername/owa
For Exchange 2013 Admin Center: https://servername/eac
And you will be presented with the following login screen:


Exchange Admin Center
Exchange Admin Center
Domain\user name:
Password:
sign in



Afterwards, you might want to check out the following, since we haven't configured the server yet (Exchange 2013 Post-Installation Tasks):

- Enter Product Key
- Configure Mail Flow and Client Access
- Verify an Exchange 2013 Installation
- Install the Exchange 2013 Management Tools

And this is where I left everything else at your disposal. The video for this installation is also posted @ my

- YouTube Channel: http://www.youtube.com/watch?v=b3aXBQVI1mg
- Mobs-bd.org: http://mobs-bd.org/?p=1135

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