

The Guide v2.0

poc

Codename: Janice

This guide is made to simulate a scenario where a company called “Jd0e Inc” in our case was acquired by “Agzsolt Inc). They both are using a hybrid Office365 environment, however in this guide we only deal with the mail service. Our goal is to merge Jd0e into the Agzsolt tenant while we maintain mail- and workflow the whole time.

To make the situation a little more complex, the source Jd0e tenant is using **ADFS** for single sign-on functionality.

Also the Jd0e users are still using the the 2010 version of Outlook so we stick with it here.

In our example **agzsolt.com** is used to be the destination tenant and **jd0e.com** is the organization to be moved the mailboxes from.

The starting setup

Destination:

agzsolt.com

Hybrid

O365: agzsolt.onmicrosoft.com tenant, agzsolt.com as the default domain

Onprem: **Exchange 2013 CU18** server: 51.143.185.87

```
> set q=mx
> agzsolt.com
Server: UnKnown
Address: ::1

Non-authoritative answer:
agzsolt.com      MX preference = 10, mail exchanger = mail.agzsolt.com
mail.agzsolt.com internet address = 51.143.185.87
> _
```

Source:

Jd0e.com

Hybrid and ADFS federated

O365: jdoe.onmicrosoft.com tenant; jd0e.com as the default domain

Onprem: **Exchange 2013 CU18** server+DC: 51.143.157.86

Adfs proxy: 51.143.188.208

```
> set q=mx
> jd0e.com
Server: UnKnown
Address: ::1

Non-authoritative answer:
jd0e.com      MX preference = 10, mail exchanger = dc.jd0e.com
dc.jd0e.com   internet address = 51.143.157.86
> _
```

Mailbox situation:

Destination – agzsolt.com:

[mailboxes](#) [groups](#) [resources](#) [contacts](#) [shared](#) [migration](#)



DISPLAY NAME ▲	MAILBOX TYPE	EMAIL ADDRESS
Person 1	Office 365	person1@agzsolt.com
Person 10	Office 365	person10@agzsolt.com
Person 2	Office 365	person2@agzsolt.com
Person 3	Office 365	person3@agzsolt.com
Person 4	Office 365	person4@agzsolt.com
Person 5	Office 365	person5@agzsolt.com
Person 6	Office 365	person6@agzsolt.com
Person 7	Office 365	person7@agzsolt.com
Person 8	Office 365	person8@agzsolt.com
Person 9	Office 365	person9@agzsolt.com
za	User	za@agzsolt.com

Source – jd0e.com:

[mailboxes](#) [groups](#) [resources](#) [contacts](#) [shared](#) [migration](#)



DISPLAY NAME ▲	MAILBOX TYPE	EMAIL ADDRESS
Chandler Bing	Office 365	Chandler@jd0e.com
Janice Hosenstein	Office 365	Janice@jd0e.com
Joey Tribbiani	Office 365	Joey@jd0e.com
Monica Geller	Office 365	Monica@jd0e.com
Phoebe Buffay	Office 365	Phoebe@jd0e.com
Rachel Green	Office 365	Rachel@jd0e.com
Ross Geller	Office 365	Ross@jd0e.com
za	User	za@jd0e.com

Ok, let's start!

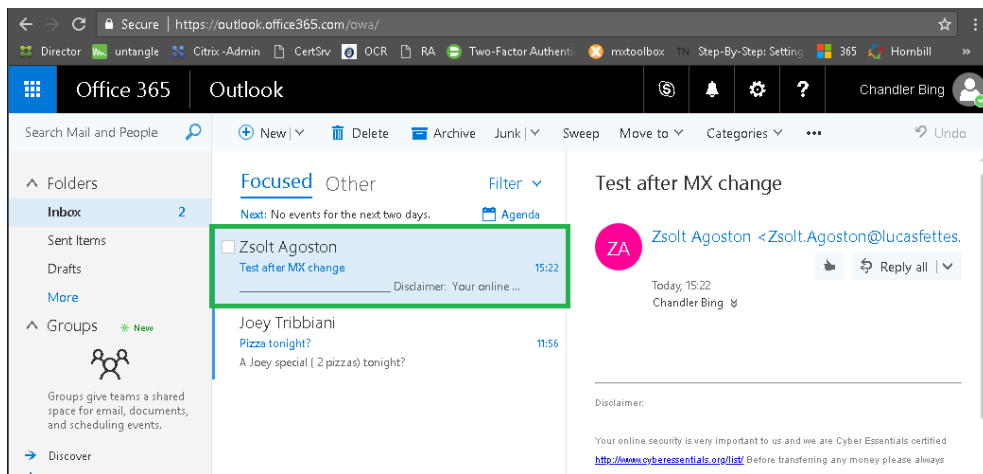
Change the jd0e.com MX record to point to the agzsolt.com on-prem server

```
C:\Users\za>nslookup -q=mx jd0e.com 8.8.8.8
Server: google-public-dns-a.google.com
Address: 8.8.8.8

Non-authoritative answer:
jd0e.com MX preference = 10, mail exchanger = mail.agzsolt.com
C:\Users\za>
```

Now test the mailflow to verify the emails are still arriving to the @jd0e.com mailboxes: we send an email from a Gmail address to a jd0e mailbox. Note that the jd0e MX record has already been directed to the destination on-prem server (mail.agzsolt.com). Also the SPF record is updated accordingly to prevent the sent emails to be put in the recipient's junk folder.

```
Spf for jd0e:
v=spf1 include:mail.agzsolt.com include:spf.protection.outlook.com -all
```



The email has arrived without an issue!

Prepare the destination on-prem server

1. Put jd0e.com in the accepted domain list

recipients rules delivery reports **accepted domains** email address policies re

+ ✎ 🗑️ 🔍 ↺

NAME	ACCEPTED DOMAIN	DOMAIN TYPE
agzsolt.com (default domain)	agzsolt.com	Internal relay
agzsolt.mail.onmicrosoft.com	agzsolt.mail.onmicrosoft.com	Internal relay
jd0e.com	jd0e.com	Internal relay

2. If not already done, create a send connector to the cloud

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

+ ✎ 🗑️ 🔍 ...

to cloud

general **delivery** scoping

*Network settings:
Specify how to send mail with this connector.

☐ MX record associated with recipient domain
☒ Route mail through smart hosts

+ ✎ -

SMART HOST

agzsolt-com.mail.protection.outlook.com

Smart host authentication:

☒ None
☐ Basic authentication
☐ Offer basic authentication only after starting TLS

*User name:

*Password:

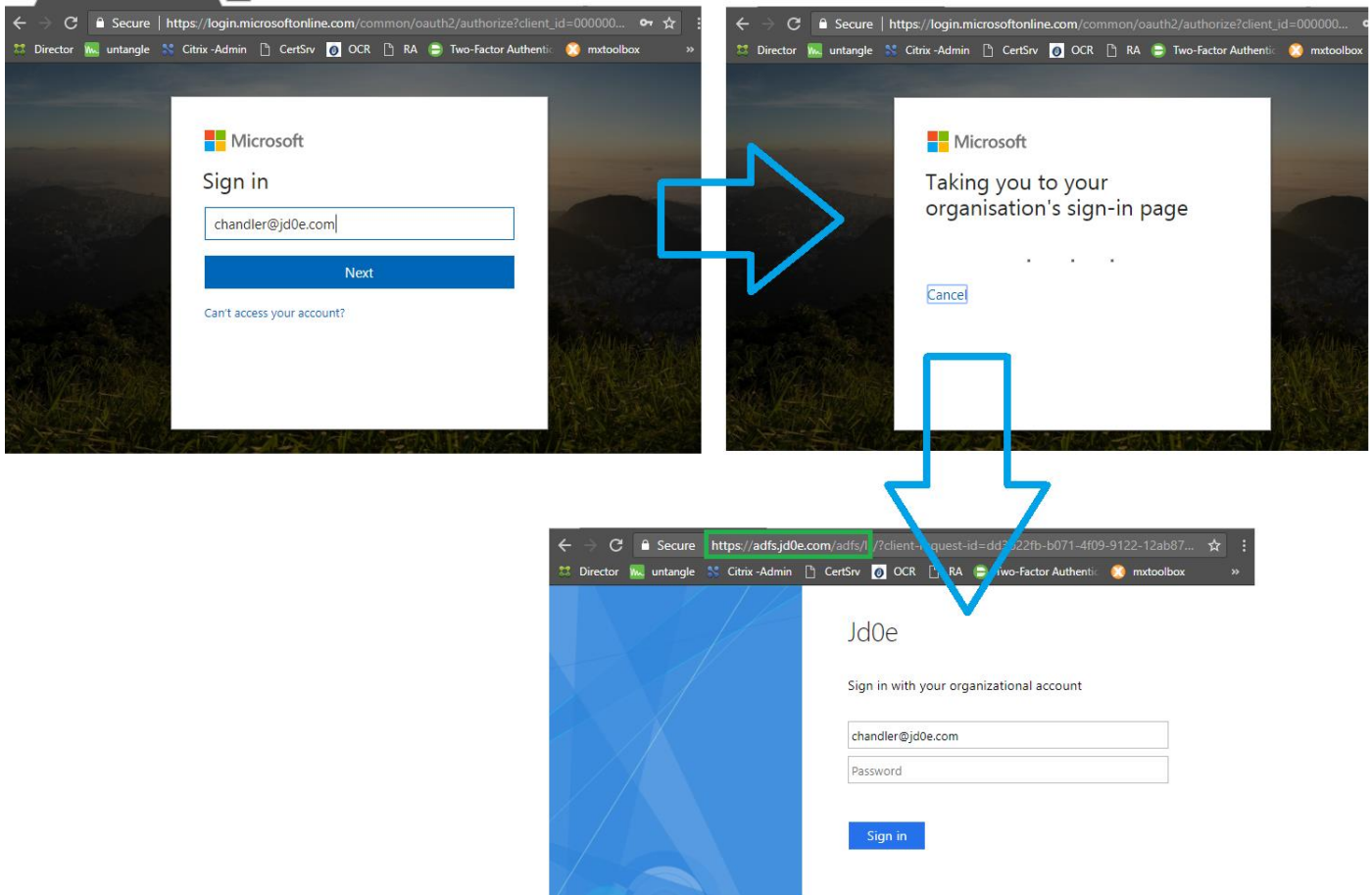
Note: all smart hosts must accept the same username and password.

save cancel

Disable Federation

First we need to disable ADFS before we can proceed and cut dirsync to make the mailboxes fully cloud-managed.

Let's see how the OWA portal behaves. As soon as we try to log in on <https://out.look.office365.com> it redirects us to the local ADFS proxy server for authentication



We can see on dc.jd0e.com server that the domain is federated:

```
[PS] C:\>Get-MsolDomain | fl name,authentication
Name       : jd0e.com
Authentication : Federated
Name       : jd0e.onmicrosoft.com
Authentication : Managed
Name       : jd0e.mail.onmicrosoft.com
Authentication : Managed
```

Now we **make the domain standalone**. First we connect to the adfs server

```
Set-MsolADFSContext -ComputerName adfs.jd0e.com
```

And set the domain to standard:

```
Convert-MsolDomainToStandard -DomainName jd0e.com -SkipUserConversion:$true -PasswordFile c:\passwdfile.txt
```

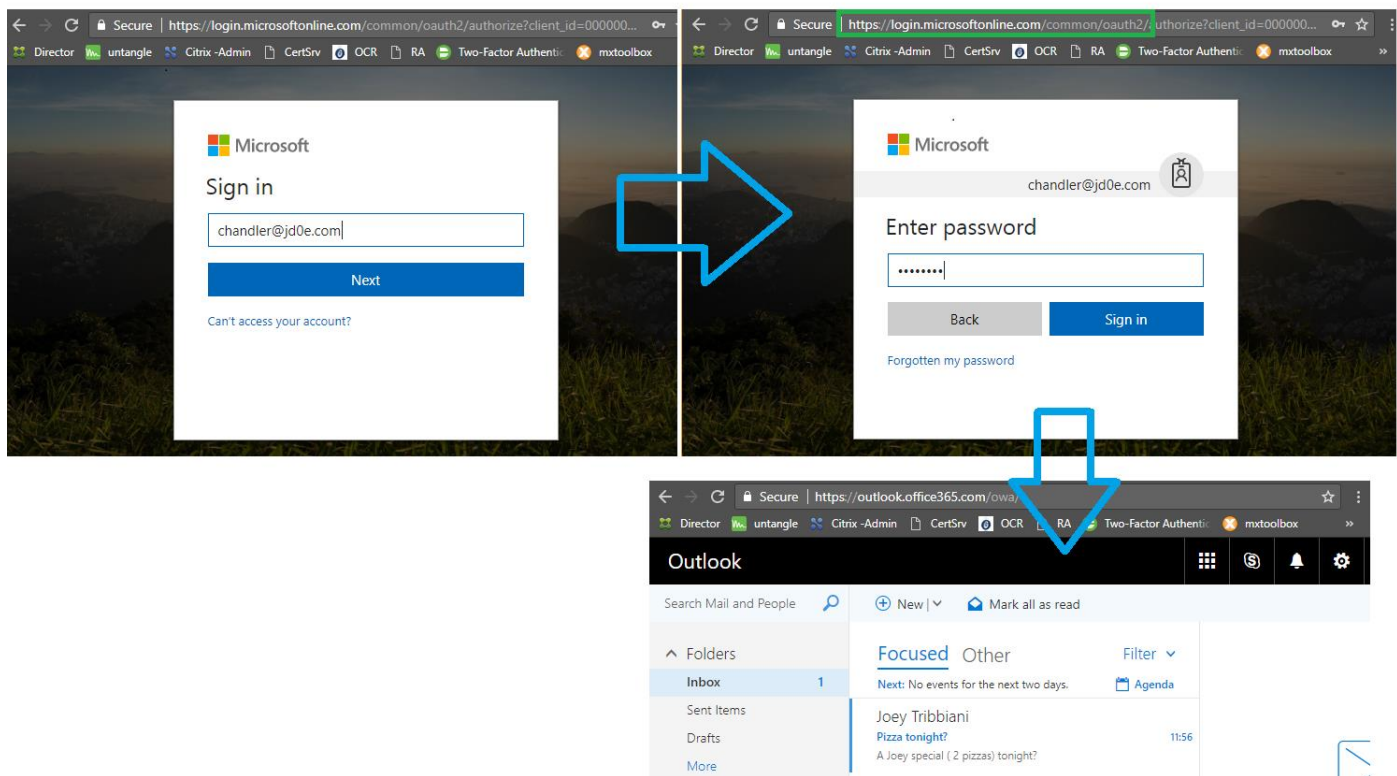
And set the authentication method as well:

```
Set-MsolDomainAuthentication -Authentication managed -DomainName jd0e.com
```

At this point the domain becomes cloud-managed again, that we will confirm

```
[PS] C:\>Convert-MsolDomainToStandard -DomainName jd0e.com -SkipUserConversion:$true -PasswordFile c:\passwdfile.txt
Successfully updated 'jd0e.com' domain.
[PS] C:\>
[PS] C:\>Get-MsolDomain | fl name,authentication
Name       : jd0e.com
Authentication : Managed
Name       : jd0e.onmicrosoft.com
Authentication : Managed
Name       : jd0e.mail.onmicrosoft.com
Authentication : Managed
```

To see if the authentication works we check the login interface again:



We are in, the authentication is happening in the cloud with the AD password that is synced with DirSync! Excellent!

Cut jd0e.com dirsync (can take up to 72 hours to complete), or...

In this step we convert accounts to purely cloud account while keeping their original password

Before:

Home > Active users				
<div><div>+ Add a user</div><div>More ▾</div><div>Views</div><div>All users ▾</div><div></div><div>Export</div></div>				
<input type="checkbox"/>	Display name ^	Username	Status	Sync Type
<input type="checkbox"/>	admin	admin@jd0e.onmicrosoft.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Central Perk	centralperk@jd0e.com	Unlicensed	Synced with...
<input type="checkbox"/>	Chandler Bing	Chandler@jd0e.com	Office 365 Enterprise E3	Synced with...
<input type="checkbox"/>	Janice Hosenstein	Janice@jd0e.com	Office 365 Enterprise E3	Synced with...
<input type="checkbox"/>	Joey Tribbiani	Joey@jd0e.com	Office 365 Enterprise E3	Synced with...
<input type="checkbox"/>	Monica Geller	Monica@jd0e.com	Office 365 Enterprise E3	Synced with...
<input type="checkbox"/>	On-Premises Directory Synchronizatio...	Sync_DC_eb3c1e1c4b1b@jd0e.onmicrosoft.com	Unlicensed	Synced with...
<input type="checkbox"/>	Phoebe Buffay	Phoebe@jd0e.com	Office 365 Enterprise E3	Synced with...
<input type="checkbox"/>	Rachel Green	Rachel@jd0e.com	Office 365 Enterprise E3	Synced with...
<input type="checkbox"/>	Ross Geller	Ross@jd0e.com	Office 365 Enterprise E3	Synced with...
<input type="checkbox"/>	Zsolt Agoston	za@jd0e.onmicrosoft.com	Office 365 Enterprise E3	In cloud

```
Set-MSolDirSyncEnabled -EnableDirSync:$false
```

Check if the process has run:

```
(Get-MSOLCompanyInformation).DirectorySynchronizationEnabled
```

Note, if the process takes very long there's another way: **simply move the user accounts to an OU that is not synced to the cloud, and wait for or force a sync cycle.** That will soft delete the cloud accounts, after which they can be restored using the following command (the cloud system will restore them as cloud accounts, preserving the original passwords, permission settings as well):

```
Get-MsolUser -ReturnDeletedUsers | Restore-MsolUser
```

```
Administrator: Windows PowerShell

PS C:\> sync

Result
-----
Success

PS C:\> Get-MsolUser -ReturnDeletedUsers | Restore-MsolUser

UserPrincipalName Display Name      isLicensed
-----
Janice@jd0e.com    Janice Hosenstein True
Monica@jd0e.com    Monica Geller      True
Chandler@jd0e.com  Chandler Bing       True
Ross@jd0e.com      Ross Geller         True
Joey@jd0e.com      Joey Tribbiani      True
centralperk@jd0e.com Central Perk        False
Phoebe@jd0e.com    Phoebe Buffay       True
Rachel@jd0e.com    Rachel Green        True

PS C:\> _
```

After which:

Home > Active users

+ Add a user

More ▾

Views

All users ▾

X

↓ Export

<input type="checkbox"/>	Display name ^	Username	Status	Sync Type
<input type="checkbox"/>	admin	admin@jd0e.onmicrosoft.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Central Perk	centralperk@jd0e.com	Unlicensed	In cloud
<input type="checkbox"/>	Chandler Bing	Chandler@jd0e.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Janice Hosenstein	Janice@jd0e.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Joey Tribbiani	Joey@jd0e.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Monica Geller	Monica@jd0e.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	On-Premises Directory Synchronizatio...	Sync_DC_eb3c1e1c4b1b@jd0e.onmicrosoft.com	Unlicensed	Synced with...
<input type="checkbox"/>	Phoebe Buffay	Phoebe@jd0e.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Rachel Green	Rachel@jd0e.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Ross Geller	Ross@jd0e.com	Office 365 Enterprise E3	In cloud
<input type="checkbox"/>	Zsolt Agoston	za@jd0e.onmicrosoft.com	Office 365 Enterprise E3	In cloud

Now we check the permissions on the shared mailboxes to make sure they are not lost like after a license unassign-reassign scenario. As seen below the permission structure is preserved post-cloudization ☺

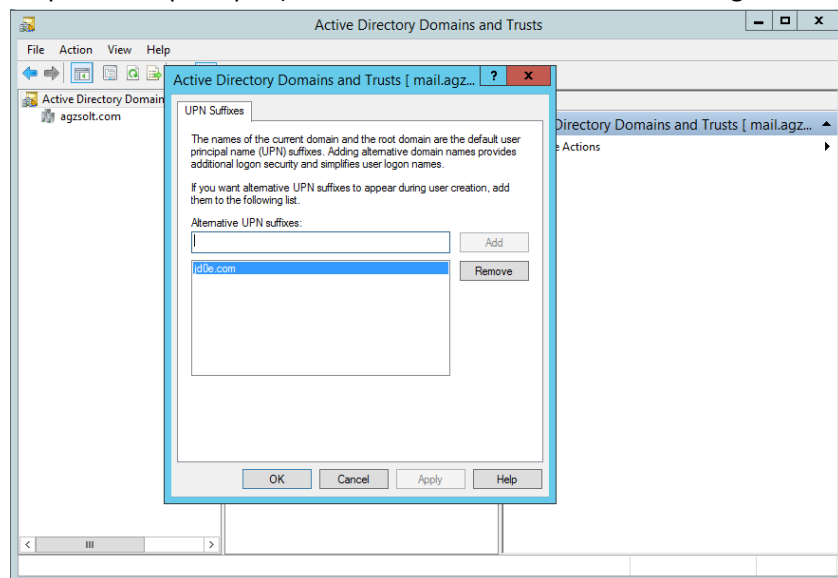
```
PS C:\> Get-MailboxPermission -Identity centralperk@jd0e.com

Identity      User                                AccessRights                                     IsInherited Deny
-----
Central Perk  NT AUTHORITY\SELF                   {FullAccess, ReadPermission}                   False       False
Central Perk  NT AUTHORITY\SELF                   {FullAccess, ExternalAccount, ReadPermission}    False       False
Central Perk  Ross@jd0e.com                      {FullAccess}                                     False       False
Central Perk  Rachel@jd0e.com                    {FullAccess}                                     False       False
Central Perk  Joey@jd0e.com                      {FullAccess}                                     False       False
Central Perk  Janice@jd0e.com                    {FullAccess}                                     False       False
Central Perk  Phoebe@jd0e.com                    {FullAccess}                                     False       False
Central Perk  Monica@jd0e.com                    {FullAccess}                                     False       False
Central Perk  Chandler@jd0e.com                  {FullAccess}                                     False       False
Central Perk  GBRP265\Administr...                {FullAccess}                                     True        True
Central Perk  GBRP265\Domain Ad...                {FullAccess}                                     True        True
Central Perk  GBRP265\Enterpris...                {FullAccess}                                     True        True
Central Perk  GBRP265\Organizat...                {FullAccess}                                     True        True
Central Perk  NT AUTHORITY\SYSTEM                 {FullAccess}                                     True        False
Central Perk  NT AUTHORITY\NETW...                {ReadPermission}                                True        False
Central Perk  PRDTSB01\JitUsers                  {ReadPermission}                                True        False
Central Perk  GBRP265\Administr...                {FullAccess, DeleteItem, ReadPermission, ChangePermissio... True        False
Central Perk  GBRP265\Domain Ad...                {FullAccess, DeleteItem, ReadPermission, ChangePermissio... True        False
Central Perk  GBRP265\Enterpris...                {FullAccess, DeleteItem, ReadPermission, ChangePermissio... True        False
Central Perk  GBRP265\Organizat...                {FullAccess, DeleteItem, ReadPermission, ChangePermissio... True        False
Central Perk  GBRP265\Public Fo...                {ReadPermission}                                True        False
Central Perk  GBRP265\Exchange ...                {FullAccess, ReadPermission}                    True        False
Central Perk  GBRP265\Exchange ...                {FullAccess, DeleteItem, ReadPermission, ChangePermissio... True        False
Central Perk  GBRP265\Managed A...                {ReadPermission}                                True        False

PS C:\> _
```

Create jd0e.com users in the agzsolt.com local AD in a non-synced OU

First, we add the jd0e.com domain to the Active Directory Domains and Trusts temporarily to make the transition simpler for the users. This way they will be able to log in using the underlying kerberos ticketing system – meaning no password prompts (at least while the mailboxes are sitting on the on-prem server) ☺



We run the following script to create the users, which will be created from users.csv

Users.csv

FirstName	LastName
Ross	Geller
Joey	Tribbiani
Monica	Geller
Rachel	Green
Chandler	Bing
Phoebe	Buffay
Janice	Hosenstein
CentralPerk	

Script:

```
New-ADOrganizationalUnit -Name "jd0e" -Path "OU=My Business,DC=agzsolt,DC=com" -Verbose

import-csv users.csv | foreach {
$fn=$_.FirstName
$ln=$_.LastName
New-ADUser -Name "$fn $ln" -DisplayName "$fn $ln" -GivenName "$fn" -Surname "$ln" -UserPrincipalName
$fn@jd0e.com -Path "OU=jd0e,OU=My Business,DC=agzsolt,DC=com" -Enabled:$true -EmailAddress
"$fn@jd0e.com" -AccountPassword(ConvertTo-SecureString "Password12345!" -AsPlainText -Force)
Enable-RemoteMailbox -Identity $fn@jd0e.com -RemoteRoutingAddress $fn@jd0e.onmicrosoft.com
Set-RemoteMailbox -Identity $fn@jd0e.com -EmailAddressPolicyEnabled:$false
}
```

After the commands being run we check the results on the agzsolt.com server:



DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
CentralPerk	Office 365	CentralPerk@jd0e.com
Chandler Bing	Office 365	Chandler@jd0e.com
Janice Hosenstein	Office 365	Janice@jd0e.com
Joey Tribbiani	Office 365	Joey@jd0e.com
Monica Geller	Office 365	Monica@jd0e.com
Person 1	Office 365	person1@agzsolt.com
Person 10	Office 365	person10@agzsolt.com
Person 2	Office 365	person2@agzsolt.com
Person 3	Office 365	person3@agzsolt.com
Person 4	Office 365	person4@agzsolt.com
Person 5	Office 365	person5@agzsolt.com
Person 6	Office 365	person6@agzsolt.com
Person 7	Office 365	person7@agzsolt.com
Person 8	Office 365	person8@agzsolt.com
Person 9	Office 365	person9@agzsolt.com
Phoebe Buffay	Office 365	Phoebe@jd0e.com
Rachel Green	Office 365	Rachel@jd0e.com
Ross Geller	Office 365	Ross@jd0e.com
za	User	za@agzsolt.com

Configure the cross-forest hybrid environment

To make the servers able to move jd0e.com mailboxes to the agzsolt.com server we need to create a migration endpoint in the jd0e.com **cloud** server. It is done in **recipients/migration/migration endpoints**, as the new endpoint's type we use is **"exchange remote"**

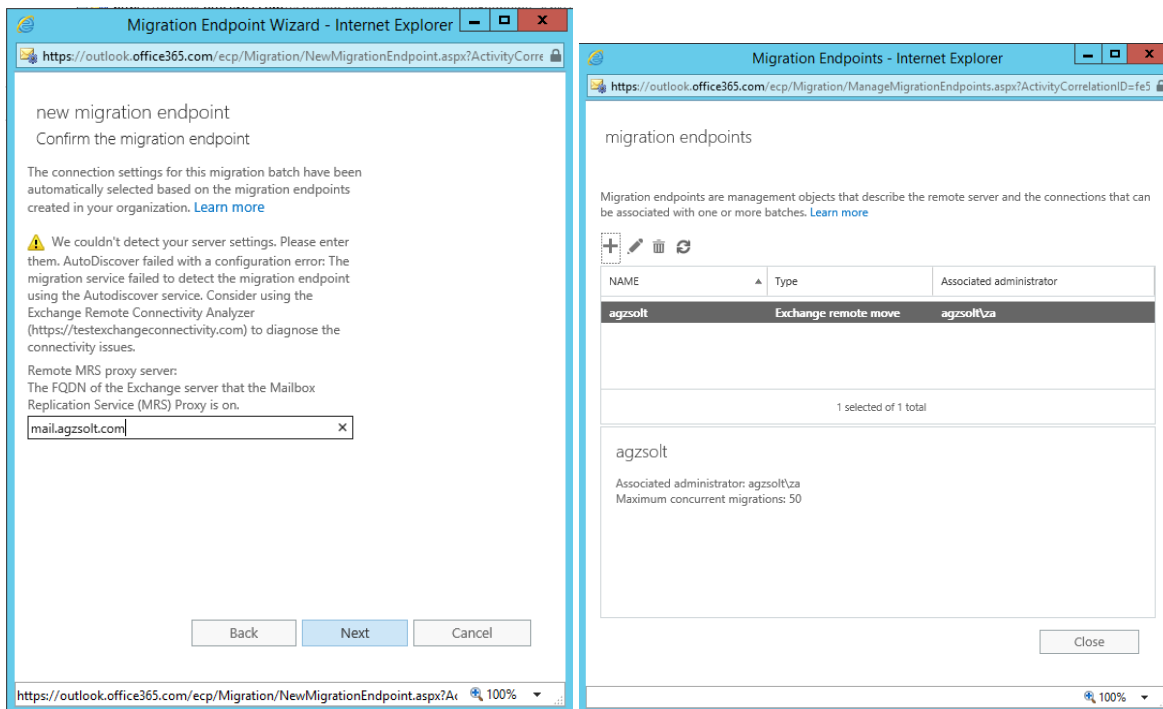
Click to view the status for all current migration batches. [Status for all batches](#)



NAME	STATUS
------	--------

There

It will fail because the server tries to determine the destination FQDN using autodiscover which points to the wrong location of course. We put the right server manually:



In our example we will call the connector “agzsolt”

Sync the MSOL attributes into the agzsolt.com local AD accounts

Here the most important thing is that the **ExchangeGUID** attribute of the accounts on the destination on-prem server must match the **ExchangeGUID**, **WindowsEmailAddress** and **PrimarySMTPAddress** attributes of the actual cloud mailboxes. We can sync it doing the following:

1. On the cloud server we run the following command that will create a file called **mailboxes.csv**, with all the mailboxes and with the attributes we need:

```
Get-Mailbox -ResultSize Unlimited | select userprincipalname,windowsemailaddress,alias,exchangeGUID | Export-Csv mailboxes.csv
```

Now we import the important attributes into the on-prem server for compliance:

```
import-csv mailboxes.csv | foreach {
$name=$_.userprincipalname
$winname=$_.windowsemailaddress
$alias=$_.alias
$guid=$_.exchangeGUID
Set-RemoteMailbox -Identity $name -ExchangeGuid $guid -WindowsEmailAddress $winname -EmailAddresses @{add="$name"}
Set-RemoteMailbox -Identity $name -PrimarySmtpAddress $name
write-host "$name has given GUID: $guid"
}
```

2. To save the mailbox permission structure, we create a backup file that stores that information, called **perm.csv**

```
Get-Mailbox -ResultSize Unlimited | Get-MailboxPermission | where {$_.isinherited -like "FALSE"} | where {$_.user -notlike "NT AUTHORITY\SELF"} | where {$_.user -notlike "Discovery Management"} | select identity,user,accessrights | Export-Csv perm.csv
```

```
PS C:\> Get-Mailbox -ResultSize Unlimited | Get-MailboxPermission | where {$_.isinherited -like "FALSE"} | where {$_.user -notlike "NT AUTHORITY\SELF"} | where {$_.user -notlike "Discovery Management"} | select identity,user,accessrights | Export-Csv perm.csv
```

Identity	User	AccessRights
Central Perk	Ross@jd0e.com	{FullAccess}
Central Perk	Rachel@jd0e.com	{FullAccess}
Central Perk	Joey@jd0e.com	{FullAccess}
Central Perk	Janice@jd0e.com	{FullAccess}
Central Perk	Phoebe@jd0e.com	{FullAccess}
Central Perk	Monica@jd0e.com	{FullAccess}
Central Perk	Chandler@jd0e.com	{FullAccess}
Janice Hosenstein	Ross@jd0e.com	{FullAccess}
Janice Hosenstein	Rachel@jd0e.com	{FullAccess}
Janice Hosenstein	Joey@jd0e.com	{FullAccess}
Janice Hosenstein	Janice@jd0e.com	{FullAccess}
Janice Hosenstein	Phoebe@jd0e.com	{FullAccess}
Janice Hosenstein	Monica@jd0e.com	{FullAccess}
Janice Hosenstein	Chandler@jd0e.com	{FullAccess}
Janice Hosenstein	centralperk@jd0e.com	{FullAccess}

We do the same with send-as permissions (**sendasperm.csv**):

```
Get-Mailbox -ResultSize Unlimited | Get-RecipientPermission | where {$_.isinherited -like "FALSE"} | where {$_.trustee -notlike "NT AUTHORITY\SELF"} | select identity,trustee,accessrights | Export-Csv sendasperm.csv
```

```
PS C:\> Get-Mailbox -ResultSize Unlimited | Get-RecipientPermission | where {$_.isinherited -like "FALSE"} | where {$_.trustee -notlike "NT AUTHORITY\SELF"} | select identity,trustee,accessrights
```

Identity	Trustee	AccessRights
Central Perk	Ross@jd0e.com	{SendAs}
Central Perk	Rachel@jd0e.com	{SendAs}
Central Perk	Joey@jd0e.com	{SendAs}
Central Perk	Janice@jd0e.com	{SendAs}
Central Perk	Phoebe@jd0e.com	{SendAs}
Central Perk	Monica@jd0e.com	{SendAs}
Central Perk	Chandler@jd0e.com	{SendAs}
Central Perk	centralperk@jd0e.com	{SendAs}
Janice Hosenstein	Ross@jd0e.com	{SendAs}
Janice Hosenstein	Rachel@jd0e.com	{SendAs}
Janice Hosenstein	Joey@jd0e.com	{SendAs}
Janice Hosenstein	Janice@jd0e.com	{SendAs}
Janice Hosenstein	Phoebe@jd0e.com	{SendAs}
Janice Hosenstein	Monica@jd0e.com	{SendAs}
Janice Hosenstein	Chandler@jd0e.com	{SendAs}
Janice Hosenstein	centralperk@jd0e.com	{SendAs}

3. Next, we save the distribution groups and members as well in a file called **distro.csv**

```
$distro = Get-DistributionGroup -ResultSize unlimited  
$distro | select samaccountname,displayname>windowsemailaddress | Export-Csv distro-list.csv  
$members = foreach ($m in $distro) { Get-DistributionGroupMember -Identity $m.Identity | Select  
@{Name="Group";Expression={$m.name}},PrimarySMTPAddress}  
$members | export-csv distro.csv
```

```
[PS] C:\>echo $members
```

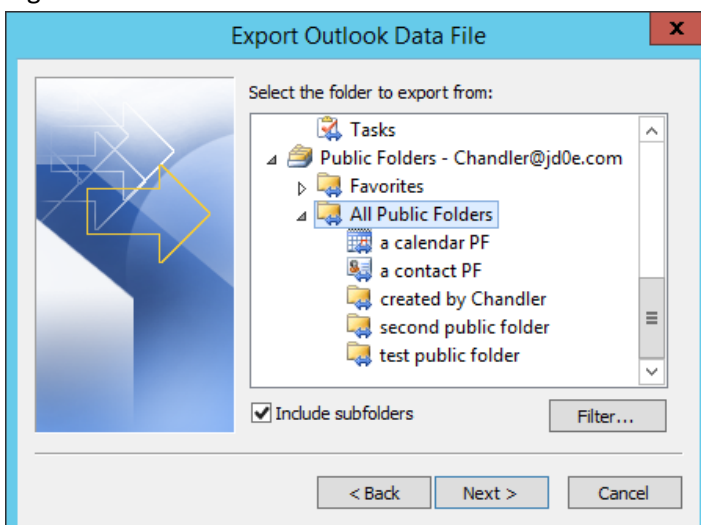
Group	PrimarySMTPAddress
Cast	Ross@jd0e.com
Cast	Joey@jd0e.com
Cast	Monica@jd0e.com
Cast	Rachel@jd0e.com
Cast	Chandler@jd0e.com
Cast	Phoebe@jd0e.com
Cast	Janice@jd0e.com
Others	Janice@jd0e.com

4. Let's export the contacts:

```
Get-Contact -ResultSize unlimited | select identity, name,displayname,firstname,lastname>windowsemailaddress | export-csv contacts.csv
```

DisplayName	WindowsEmailAddress
Zsolt Agoston	zsolt.agoston@lucasfettes.co.uk
Zsolt Gmail	zsolt@gmail.com

5. As the public folder migration is a little cumbersome between O365 and on-prem, even with modern public folder mailboxes, we simply **export all the public folders** from an Outlook client into a PST file for future ingestion



Migrate users to agzsolt.com on-prem

Now we create a migration batch that will synchronize and move the jd0e.com mailboxes to the on-prem endpoint. We create our first batch called **"First Ones"** from **first.csv**:

first.csv

```
EmailAddress
Ross@jd0e.com
Joey@jd0e.com
Monica@jd0e.com
Rachel@jd0e.com
Chandler@jd0e.com
Phoebe@jd0e.com
Janice@jd0e.com
CentralPerk@jd0e.com
```

Script

```
New-MigrationBatch -Name "First Ones" -TargetEndpoint "agzsolt" -BadItemLimit unlimited -TargetDeliveryDomain agzsolt.com -CSVData ([System.IO.File]::ReadAllBytes("C:\first.csv")) -TargetDatabases "e9bdf60-047b-4542-a36c-e923f9f14d9d" -Verbose
```

```
PS C:\> New-MigrationBatch -Name "First Ones" -TargetEndpoint "agzsolt" -BadItemLimit unlimited -TargetDeliveryDomain agzsolt.com -CSVData ([System.IO.File]::ReadAllBytes("C:\first.csv")) -TargetDatabases "e9bdf60-047b-4542-a36c-e923f9f14d9d" -Verbose
VERBOSE: Do you want to import the CSV file "First Ones" to migrate mailboxes for "jd0e.onmicrosoft.com"?
```

```
Identity      Status      Type              TotalCount
-----
First Ones    Stopped     ExchangeRemoteMove 8
```

```
PS C:\>
```

Migration Batch Users - Internet Explorer

https://outlook.office365.com/ecp/Migration/MigrationBatchUsers.aspx?ActivityCorrelationID=fd1ad48a-4ee1-f8a5-cd7e-ef1fb3eef3d1&reqId=

First Ones

IDENTITY	STATUS	ITEMS SYNCED	ITEMS SKIPPED
CentralPerk@jd0e.com	Syncing	0	0
Chandler@jd0e.com	Syncing	0	0
Janice@jd0e.com	Syncing	0	0
Joey@jd0e.com	Syncing	0	0
Monica@jd0e.com	Syncing	0	0
Phoebe@jd0e.com	Syncing	0	0
Rachel@jd0e.com	Syncing	0	0
Ross@jd0e.com	Syncing	0	0

1 selected of 8 total

Close

CentralPerk@jd0e.com

Status: Syncing

Skipped item details

Data migrated: 2.503 MB (2,624,332 bytes)

Migration rate: 0 B (0 bytes)

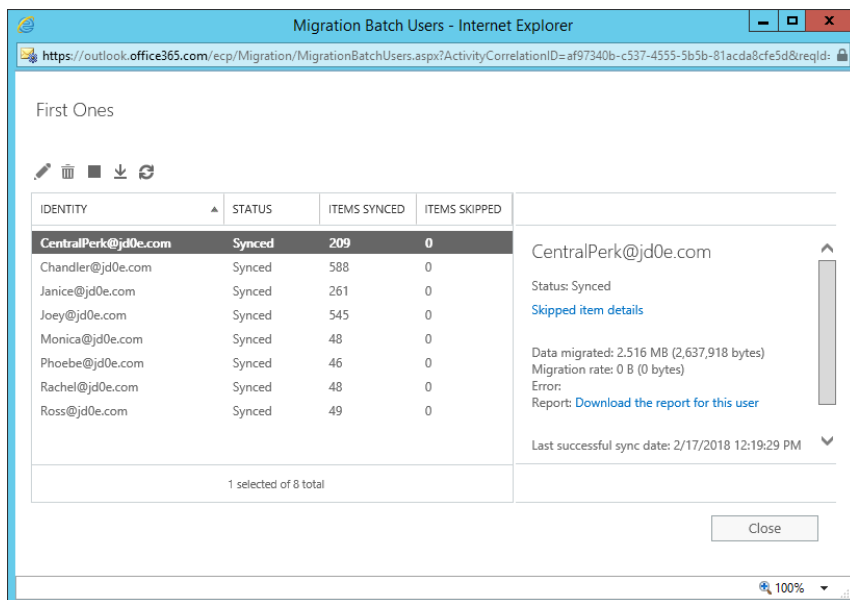
Error:

Report: [Download the report for this user](#)

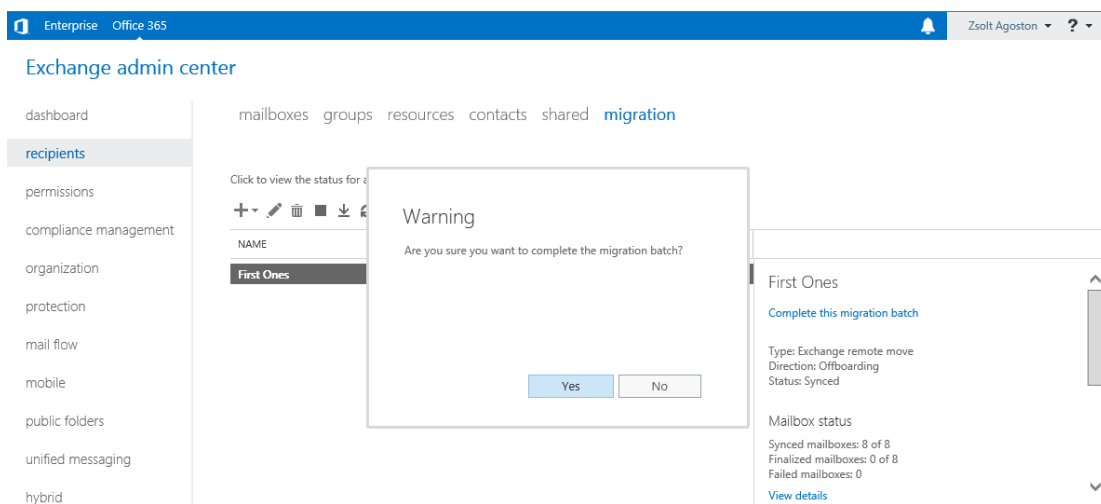
Last successful sync date: 2/17/2018 11:53:22 AM

https://outlook.office365.com/ecp/Migration/MigrationBatchUsers.aspx?ActivityCorrelationID=fd1ad48a-4ee1-f8a5-cd7e-ef1fb3eef3d1 100%

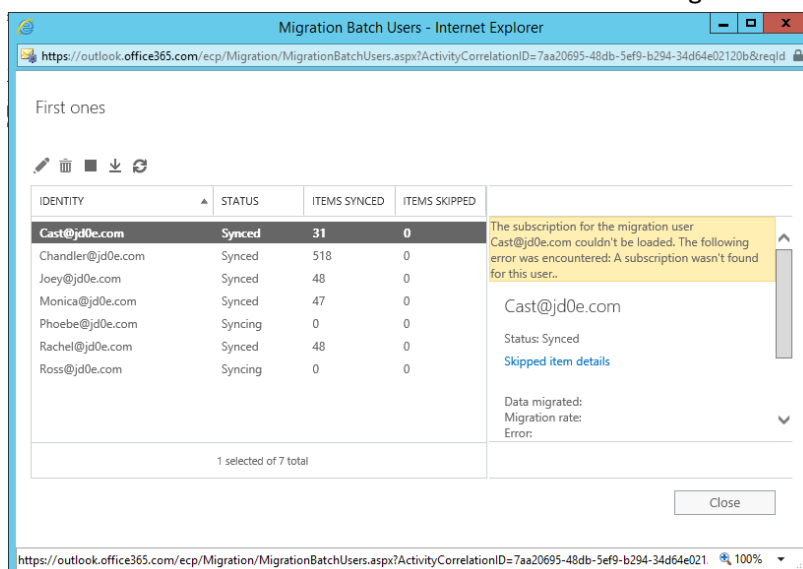
When it's done we are ready to finish the whole batch (or just specific mailboxes, it depends on our needs)



We complete the migration batch and make sure the users can access their mailboxes and they are functional



Just to mention: the shared mailboxes need a license assigned to them



After the migration, we see that the on-prem server handles the mailboxes as local mailboxes:



DISPLAY NAME	MAILBOX TYPE	EMAIL ADDRESS
Chandler Bing	User	Chandler@jd0e.com
Janice Hosenstein	User	Janice@jd0e.com
Joey Tribbiani	User	Joey@jd0e.com
Monica Geller	User	Monica@jd0e.com
Person 1	Office 365	person1@agzsolt.com
Person 10	Office 365	person10@agzsolt.com
Person 2	Office 365	person2@agzsolt.com
Person 3	Office 365	person3@agzsolt.com
Person 4	Office 365	person4@agzsolt.com
Person 5	Office 365	person5@agzsolt.com
Person 6	Office 365	person6@agzsolt.com
Person 7	Office 365	person7@agzsolt.com
Person 8	Office 365	person8@agzsolt.com
Person 9	Office 365	person9@agzsolt.com
Phoebe Buffay	User	Phoebe@jd0e.com
Rachel Green	User	Rachel@jd0e.com
Ross Geller	User	Ross@jd0e.com
za	User	za@agzsolt.com

Now we change the local **SCP** record for **autodiscover** on the jd0e.com (source) **domain controller**, because this is the first place the server is looking for the autodiscover.xml data file which will not return the right values, we change that to point to the agzsolt.com (destination) autodiscover file:

<https://mail.agzsolt.com/Autodiscover/Autodiscover.xml>

ADSI Edit

- Configuration [dc.jd0e.com]
 - CN=Configuration,DC=jd0e,DC=com
 - CN=DisplaySpecifiers
 - CN=Extended-Rights
 - CN=ForestUpdates
 - CN=LostAndFoundConfig
 - CN=NTDS Quotas
 - CN=Partitions
 - CN=Physical Locations
 - CN=Services
 - CN=AuthN Policy Configuration
 - CN=Claims Configuration
 - CN=Group Key Distribution Service
 - CN=Microsoft Exchange
 - CN=First Organization
 - CN=Address Lists Container
 - CN=AddressBook Mailbox Policies
 - CN=Addressing
 - CN=Administrative Groups
 - CN=Exchange Administrative Group (FYDIBOHF23SPKH)
 - CN=Advanced Security
 - CN=Arrays
 - CN=Database Availability Groups
 - CN=Databases
 - CN=Folder Hierarchies
 - CN=Routing Groups
 - CN=Servers
 - CN=DC
 - CN=InformationStore
 - CN=Microsoft MTA
 - CN=Microsoft System Attendant
 - CN=Protocols
 - CN=Autodiscover
 - CN=DC
 - CN=HTTP
 - CN=IMAP4

There are no items to show in this view.

CN=DC Properties

Attribute Editor Security

Attributes:

| Attribute | Value |
|-------------------------|--|
| cn | DC |
| distinguishedName | CN=DC,CN=Autodiscover,CN=Protocols,CN=... |
| dSCorePropagationD... | 0x0 = () |
| instanceType | 0x4 = (WRITE) |
| keywords | Site=Default-First-Site-Name; 77378F46-2C6... |
| name | DC |
| objectCategory | CN=Service-Connection-Point,CN=Schema,C... |
| objectClass | top; leaf; connectionPoint; serviceConnection... |
| objectGUID | e1c60183-7cce-4588-8142-3384b6290466 |
| replPropertyMetaData | AttID Ver Loc.USN Org.DSA |
| serviceBindingInform... | https://mail.agzsolt.com/Autodiscover/Autoc... |
| serviceClassName | ms-Exchange-AutoDiscover-Service |
| serviceDNSName | dc |
| showInAdvancedVie... | TRUE |

Edit Filter

OK Cancel Apply Help

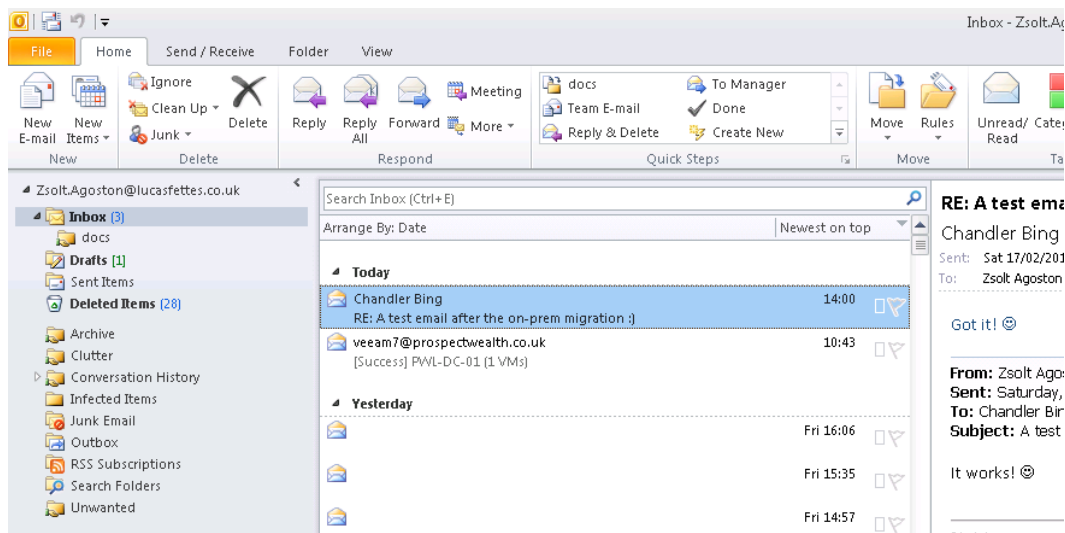
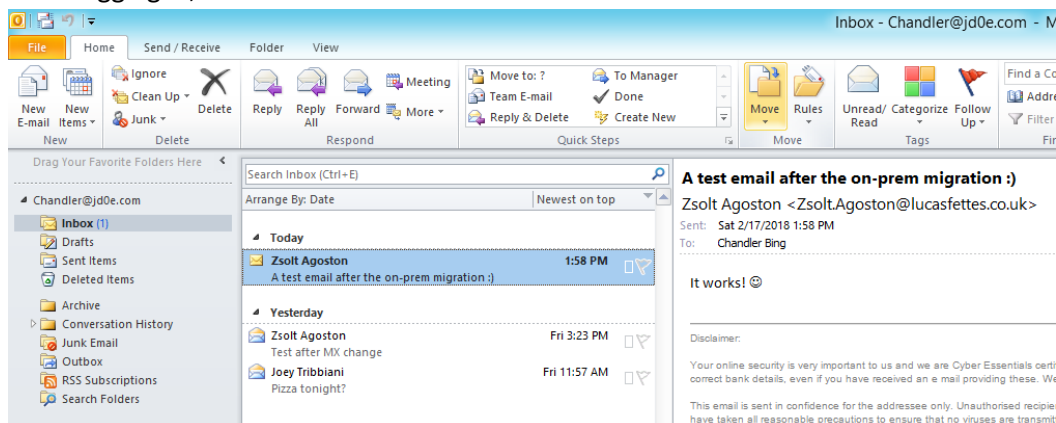
Note that the windows Outlook client is relying on the autodiscover record to locate public folders and it checks the SCP record first when it's opened. If we changed it before moving the publicfolder mailbox to the new server, it would give us an error message on the client side!

Once the users try to log in, Outlook notifies them of the changes in the background - the server name will be updated in the profile - and the users will be asked to close and open Outlook again, just like after a cloud migration:



Now another good news, from this point if a user needed to re-create his/her Outlook profile on a domain-joined client (even on the source-side in the jd0e.com domain), they won't be prompted for their password, as long as the passwords match on the original jd0e.com and the new agzsolt.com forest the Kerberos ticketing will work flawlessly

After logging in, we test the mail flow:



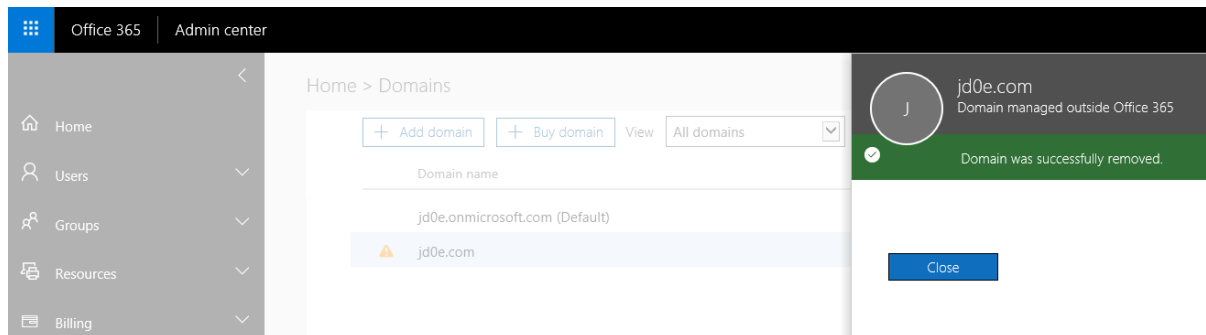
Excellent! The mail flow works in both directions!

Before we forget, we remove the old **jd0e.onmicrosoft.com STMP addresses** from the moved mailboxes.

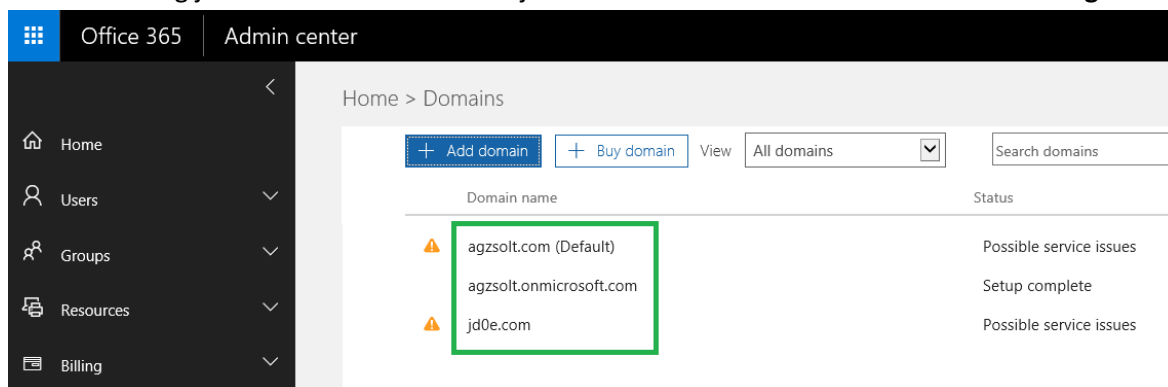
```
import-csv users.csv | foreach {  
$name=$_.FirstName  
Set-Mailbox -Identity $name -EmailAddresses @{remove="$name@jd0e.onmicrosoft.com" }  
}
```

Strip down the old tenant

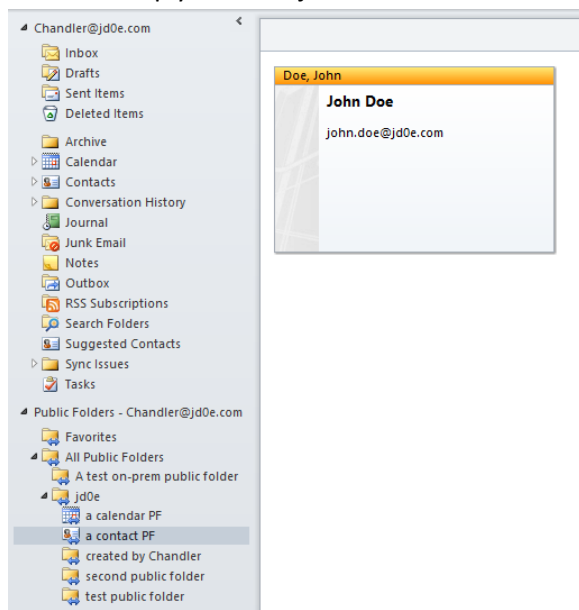
As a next step we remove of our business domains from the source tenant and add them to the target. In our example it is a single domain: **jd0e.com**



After removing jd0e.com domain from the jd0e.onmicrosoft.com tenant and **add that to agzsolt.onmicrosoft.com**



Now we simply create a jd0e subfolder in the local Public Folder system and import the PF.pst file there



Perfect!

Sorting the post-migration tasks: permissions check, distribution lists and contacts creation

Amazing news that the **mailbox permissions are inherited**, they were mirrored during the migration so we don't need to worry about that

```
[PS] C:\>get-mailbox centralperk ! Get-MailboxPermission ! select user,accessrights
```

| User | AccessRights |
|-------------------------------------|---|
| NT AUTHORITY\SELF | <FullAccess, ReadPermission> |
| NT AUTHORITY\SELF | <FullAccess, ExternalAccount, ReadPermission> |
| AGZSOL\Ross Geller | <FullAccess> |
| AGZSOL\Joey Tribbiani | <FullAccess> |
| AGZSOL\Monica Geller | <FullAccess> |
| AGZSOL\Rachel Green | <FullAccess> |
| AGZSOL\Chandler Bing | <FullAccess> |
| AGZSOL\Phoebe Buffay | <FullAccess> |
| AGZSOL\Janice Hosenstein | <FullAccess> |
| AGZSOL\za | <FullAccess> |
| AGZSOL\Domain Admins | <FullAccess> |
| AGZSOL\Enterprise Admins | <FullAccess> |
| AGZSOL\Organization Management | <FullAccess> |
| NT AUTHORITY\SYSTEM | <FullAccess> |
| NT AUTHORITY\NETWORK SERVICE | <ReadPermission> |
| AGZSOL\za | <FullAccess, DeleteItem, ReadPermission, ChangePermission, ChangeOwner> |
| AGZSOL\Domain Admins | <FullAccess, DeleteItem, ReadPermission, ChangePermission, ChangeOwner> |
| AGZSOL\Enterprise Admins | <FullAccess, DeleteItem, ReadPermission, ChangePermission, ChangeOwner> |
| AGZSOL\Organization Management | <FullAccess, DeleteItem, ReadPermission, ChangePermission, ChangeOwner> |
| AGZSOL\Public Folder Management | <ReadPermission> |
| AGZSOL\Delegated Setup | <ReadPermission> |
| AGZSOL\Exchange Servers | <FullAccess, ReadPermission> |
| AGZSOL\Exchange Trusted Subsystem | <FullAccess, DeleteItem, ReadPermission, ChangePermission, ChangeOwner> |
| AGZSOL\Managed Availability Servers | <ReadPermission> |

Send-as permissions are moved through as well:

```
[PS] C:\>get-mailbox centralperk ! get-ADPermission ! where {$_.extendedrights -like "*send*"}

Identity      User      Deny Inherited
-----
agzsolt.com/My Bu... NT AUTHORITY\SELF      False False
agzsolt.com/My Bu... AGZSOL\Ross Geller    False False
agzsolt.com/My Bu... AGZSOL\Joey Trib...   False False
agzsolt.com/My Bu... AGZSOL\Monica Ge...   False False
agzsolt.com/My Bu... AGZSOL\Rachel Green   False False
agzsolt.com/My Bu... AGZSOL\Chandler ...   False False
agzsolt.com/My Bu... AGZSOL\Phoebe Bu...   False False
agzsolt.com/My Bu... AGZSOL\Janice Ho...   False False
agzsolt.com/My Bu... AGZSOL\CentralPerk    False False

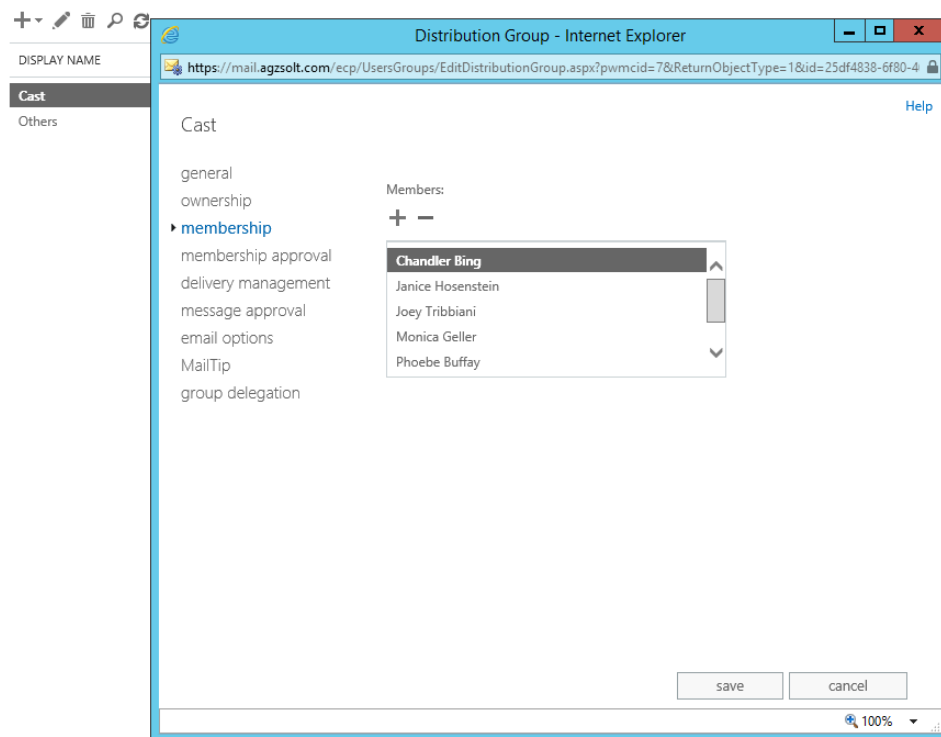
[PS] C:\>
```

Now we create the distribution groups with the right users

```
import-csv distro-list.csv | foreach {
$SAM=$_.SamAccountName
$name=$_.DisplayName
$win=$_.WindowsEmailAddress
New-DistributionGroup -Name $name -DisplayName $name -PrimarySmtpAddress $win -Type distribution -
IgnoreNamingPolicy:$true -ModerationEnabled:$false -OrganizationalUnit "OU=DGs,OU=jd0e,OU=My
Business,DC=agzsolt,DC=com" -Confirm:$false
Set-DistributionGroup -Identity $win -RequireSenderAuthenticationEnabled:$false
}
```

Populate with the members:

```
import-csv distro.csv | foreach {
$group=$_.Group
$member=$_.PrimarySmtpAddress
Add-DistributionGroupMember -Identity $group -Member $member -Confirm:$false
}
```

And to finish the process, we create the **contacts**:

```
import-csv contacts.csv | foreach {
$name=$_.Name
$disp=$_.DisplayName
$fn=$_.FirstName
$ln=$_.LastName
$email=$_.WindowsEmailAddress
New-MailContact -Name $name -DisplayName $disp -FirstName $fn -LastName $ln -ExternalEmailAddress $email -
OrganizationalUnit "OU=Contacts,OU=jd0e,OU=My Business,DC=agzsolt,DC=com" -Confirm:$false
}
```

From this point it's a normal migration to the cloud scenario.



MIGRATE BACK TO THE CLOUD

That's the easy and well documented part of our job, first we create the migration endpoint in the cloud server just like we did the first time on the source tenant. This time we do the exact same steps, and we call this endpoint "**agzsolt**" as well.

An important thing is to move the OU that contains all the moved accounts to an **AD that is a synced OU** so the users will appear in the tenant

We create a file called **UpToTheCloud.csv** and start the migration batch:

UpToTheCloud.csv

```
EmailAddress
Ross@jd0e.com
Joey@jd0e.com
Monica@jd0e.com
Rachel@jd0e.com
Chandler@jd0e.com
Phoebe@jd0e.com
Janice@jd0e.com
```

CentralPerk@jd0e.com

Script:

```
New-MigrationBatch -Name "Up Back To The Cloud" -SourceEndpoint "agzsolt" -BadItemLimit unlimited -TargetDeliveryDomain agzsolt.mail.onmicrosoft.com -CSVData ([System.IO.File]::ReadAllBytes("C:\UpToTheCloud.csv"))
```

```
PS C:\> New-MigrationBatch -Name "Up Back To The Cloud" -SourceEndpoint "agzsolt" -BadItemLimit unlimited -TargetDeliveryDomain agzsolt.mail.onmicrosoft.com -CSVData ([System.IO.File]::ReadAllBytes("C:\UpToTheCloud.csv"))

Identity           Status  Type                TotalCount
-----
Up Back To The Cloud Stopped ExchangeRemoteMove 8

PS C:\>
```

Start the migration

mailboxes groups resources contacts shared [migration](#)

Click to view the status for all current migration batches. [Status for all batches](#)

| IDENTITY | STATUS | ITEMS SYNCED | ITEMS SKIPPED |
|----------------------|---------|--------------|---------------|
| CentralPerk@jd0e.com | Syncing | 0 | 0 |
| Chandler@jd0e.com | Syncing | 0 | 0 |
| Janice@jd0e.com | Syncing | 0 | 0 |
| Joey@jd0e.com | Syncing | 0 | 0 |
| Monica@jd0e.com | Syncing | 0 | 0 |
| Phoebe@jd0e.com | Syncing | 0 | 0 |
| Rachel@jd0e.com | Syncing | 0 | 0 |
| Ross@jd0e.com | Syncing | 0 | 0 |

Now it's time to complete the batch

mailboxes groups resources contacts shared [migration](#)

Click to view the status for all current migration batches. [Status for all batches](#)

| NAME | STATUS | TOTAL | SYNCED | FINALIZED | FAILED |
|----------------------|--------|-------|--------|-----------|--------|
| Up Back To The Cloud | Synced | | | | |

After the batch is done we can see the mailboxes finally appearing in the cloud

Exchange admin center

dashboard

recipients

permissions

compliance management

organization

protection

mail flow

mobile

public folders

unified messaging

hybrid

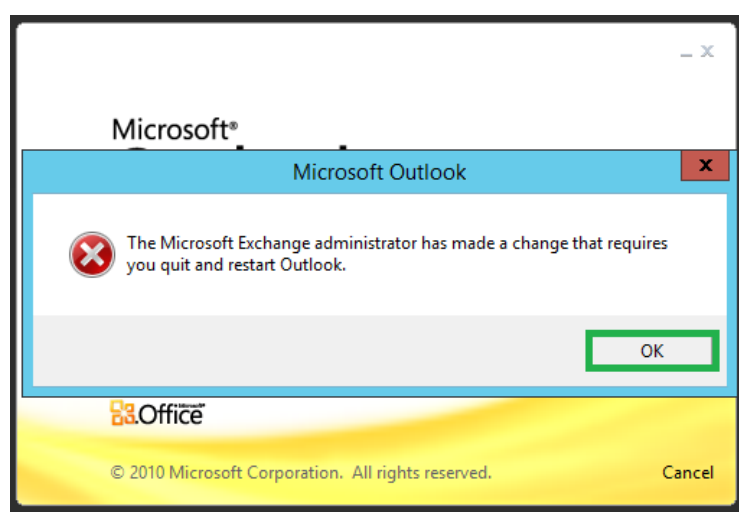
mailboxes groups resources contacts shared migration



| DISPLAY NAME | MAILBOX TYPE | EMAIL ADDRESS |
|-------------------|--------------|-------------------------------|
| admin | User | admin@agzsolt.onmicrosoft.com |
| Chandler Bing | User | Chandler@jd0e.com |
| Janice Hosenstein | User | Janice@jd0e.com |
| Joey Tribbiani | User | Joey@jd0e.com |
| Monica Geller | User | Monica@jd0e.com |
| Person 1 | User | person1@agzsolt.com |
| Person 10 | User | person10@agzsolt.com |
| Person 2 | User | person2@agzsolt.com |
| Person 3 | User | person3@agzsolt.com |
| Person 4 | User | person4@agzsolt.com |
| Person 5 | User | person5@agzsolt.com |
| Person 6 | User | person6@agzsolt.com |
| Person 7 | User | person7@agzsolt.com |
| Person 8 | User | person8@agzsolt.com |
| Person 9 | User | person9@agzsolt.com |
| Phoebe Buffay | User | Phoebe@jd0e.com |
| Rachel Green | User | Rachel@jd0e.com |
| Ross Geller | User | Ross@jd0e.com |
| Zsolt Agoston | User | za@agzsolt.onmicrosoft.com |

I personally like to **change the SCP domain for autodiscover** in the jd0e domain to <https://autodiscover-s.outlook.com/Autodiscover/Autodiscover.xml> which makes faster discovery at later profile creations, but this step can be omitted.

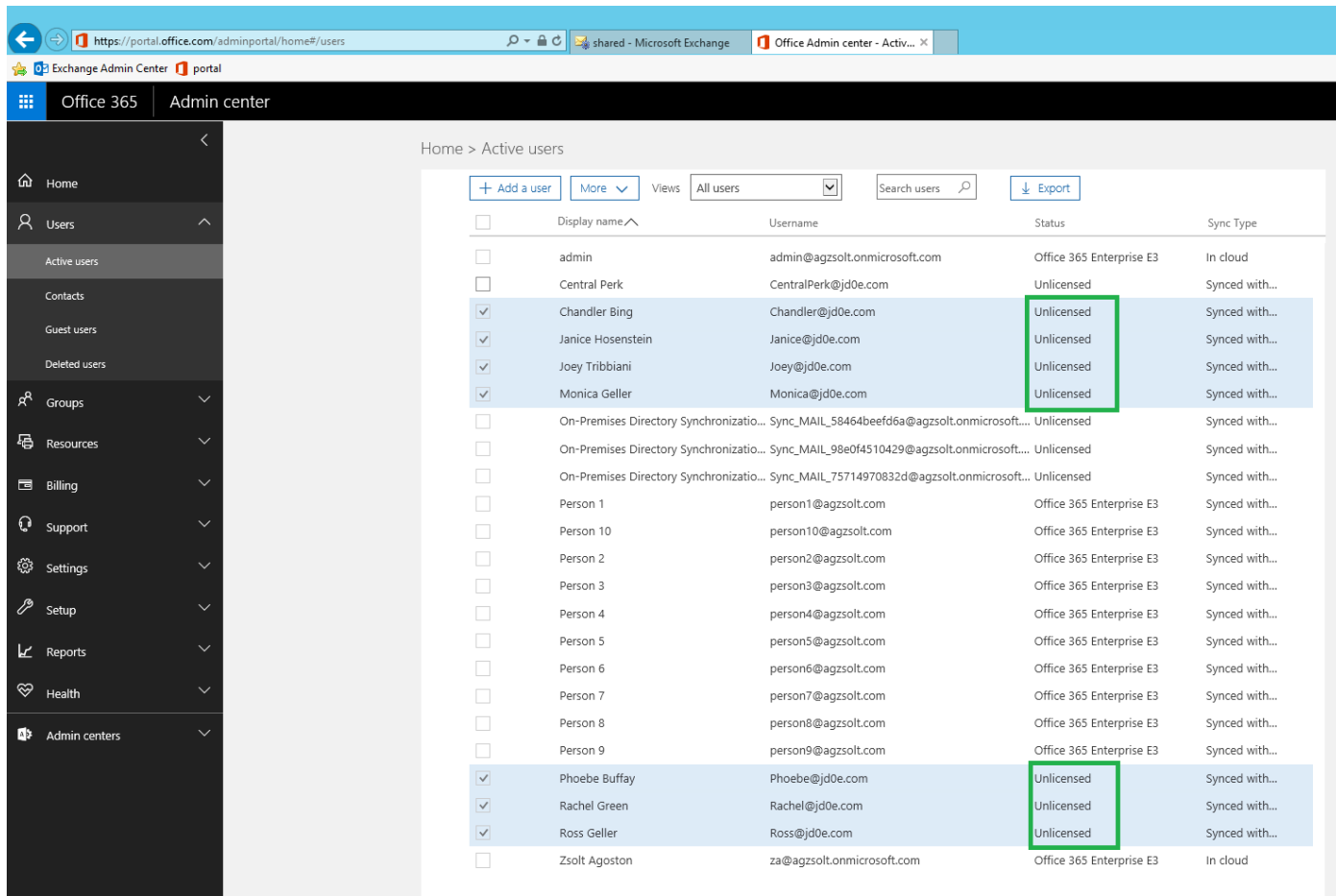
The clients will receive another notification of the background changes after which they need to restart Outlook again and we are done!



Tidying up

We still have a few things to sort:

1. We assign the appropriate licenses to the migrated accounts




The screenshot shows the Microsoft Exchange Admin Center interface. The left sidebar contains navigation options like Home, Users, Active users, Contacts, Guest users, Deleted users, Groups, Resources, Billing, Support, Settings, Setup, Reports, Health, and Admin centers. The main area displays a list of users under the heading 'Home > Active users'. The list has columns for 'Display name', 'Username', 'Status', and 'Sync Type'. Several users are selected, and their 'Status' is 'Unlicensed', which is highlighted with a green box. The 'Sync Type' for these users is 'Synced with...'. The 'Status' column for 'Office 365 Enterprise E3' users is 'In cloud'.

| | Display name | Username | Status | Sync Type |
|-------------------------------------|---|---|--------------------------|----------------|
| <input type="checkbox"/> | admin | admin@agzsolt.onmicrosoft.com | Office 365 Enterprise E3 | In cloud |
| <input type="checkbox"/> | Central Perk | CentralPerk@jd0e.com | Unlicensed | Synced with... |
| <input checked="" type="checkbox"/> | Chandler Bing | Chandler@jd0e.com | Unlicensed | Synced with... |
| <input checked="" type="checkbox"/> | Janice Hosenstein | Janice@jd0e.com | Unlicensed | Synced with... |
| <input checked="" type="checkbox"/> | Joey Tribbiani | Joey@jd0e.com | Unlicensed | Synced with... |
| <input checked="" type="checkbox"/> | Monica Geller | Monica@jd0e.com | Unlicensed | Synced with... |
| <input type="checkbox"/> | On-Premises Directory Synchronizatio... | Sync_MAIL_58464beefd6a@agzsolt.onmicrosoft... | Unlicensed | Synced with... |
| <input type="checkbox"/> | On-Premises Directory Synchronizatio... | Sync_MAIL_98e0f4510429@agzsolt.onmicrosoft... | Unlicensed | Synced with... |
| <input type="checkbox"/> | On-Premises Directory Synchronizatio... | Sync_MAIL_75714970832d@agzsolt.onmicrosoft... | Unlicensed | Synced with... |
| <input type="checkbox"/> | Person 1 | person1@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 10 | person10@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 2 | person2@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 3 | person3@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 4 | person4@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 5 | person5@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 6 | person6@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 7 | person7@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 8 | person8@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input type="checkbox"/> | Person 9 | person9@agzsolt.com | Office 365 Enterprise E3 | Synced with... |
| <input checked="" type="checkbox"/> | Phoebe Buffay | Phoebe@jd0e.com | Unlicensed | Synced with... |
| <input checked="" type="checkbox"/> | Rachel Green | Rachel@jd0e.com | Unlicensed | Synced with... |
| <input checked="" type="checkbox"/> | Ross Geller | Ross@jd0e.com | Unlicensed | Synced with... |
| <input type="checkbox"/> | Zsolt Agoston | za@agzsolt.onmicrosoft.com | Office 365 Enterprise E3 | In cloud |

```
import-csv users.csv | foreach {  
  $fn=$_.FirstName  
  Set-MsolUser -UserPrincipalName "$fn@jd0e.com" -UsageLocation "GB"  
  Set-MsolUserLicense -UserPrincipalName "$fn@jd0e.com" -AddLicenses "agzsolt:ENTERPRISEPACK"  
}
```

2. The public folders need to be moved to the cloud. Again, Microsoft's solution is a pretty cumbersome way, since the mailbox database is pretty small I use a simple client to export them in a PST file and import it back to a cloud managed PF mailbox.


After migrating back to the cloud, the **mobile phones will start working again**. In few cases users are prompted for their passwords by the device after which the connection goes back to normal.

Search 


Last synced 17:41

- Zsolt Agoston14:13


Test from the phone! - Is Activesync working?
Yes it does! Sent from my Samsung Galaxy sma...


- Zsolt Agoston13:58


A test email after the on-prem migration :)
It works! J Disclaimer: Your online security is ve...


- Zsolt Agoston16 Feb

Test after MX change
Disclaimer: Your online security is very importan...


- Joey Tribbiani16 Feb

Pizza tonight?
A Joey special (2 pizzas) tonight?





We are done!



Z.