

Chapter 1: PowerShell Key Concepts

```
Administrator: Windows PowerShell
PS C:\> Get-Help New-Mailbox -Parameter Password

-Password <SecureString>
The Password parameter specifies the password for the mailbox (the user account that's associated with the mailbox). This parameter isn't required if you're creating a linked mailbox, resource mailbox, or shared mailbox, because the associated user accounts are disabled for these types of mailboxes.

This parameter uses the syntax (ConvertTo-SecureString -String '<password>' -AsPlainText -Force). Or, to be prompted to enter the password and store it as a variable, run the command $password = Read-Host "Enter password" -AsSecureString, and then use the value $password for this parameter.

Required?                true
Position?                Named
Default value
Accept pipeline input?   False
Accept wildcard characters? false
```

```
Machine: tlex01.testlabs.se
[PS] C:\> Get-Command Get-Service

CommandType      Name                Version
-----
Cmdlet           Get-Service        3.1.0.0
```

```
Machine: tlex01.testlabs.se
[PS] C:\> Get-Command Get-Mailbox

CommandType      Name                Version
-----
Function        Get-Mailbox        1.0
```

```
Machine: tlex01.testlabs.se
[PS] C:\> Get-Mailbox -Database DB2 | Remove-Mailbox -WhatIf
What if: Removing mailbox "testlabs.se/Users/testuser" will remove the Active Directory user object and mark the mailbox and the archive (if present) in the database for removal.
[PS] C:\>
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Remove-Mailbox -Identity testuser

Confirm
Are you sure you want to perform this action?
Removing mailbox "testuser" will remove the Active Directory user object
and mark the mailbox and the archive (if present) in the database for
removal.
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help
(default is "Y"): _
```

```
Machine: tlex01.testlabs.se
[PS] C:\>$mailbox.MaxSendSize.Value | Get-Member -MemberType Method

TypeName: Microsoft.Exchange.Data.ByteQuantifiedSize

Name           MemberType Definition
-----
CompareTo      Method      int CompareTo(Microsoft.Exchange.Data.ByteQuan...
Equals         Method      bool Equals(System.Object obj), bool Equals(Mi...
GetHashCode    Method      int GetHashCode()
GetType        Method      type GetType()
RoundUpToUnit  Method      uint64 RoundUpToUnit(Microsoft.Exchange.Data.B...
ToBytes        Method      uint64 ToBytes()
ToGB           Method      uint64 ToGB()
ToKB           Method      uint64 ToKB()
ToMB           Method      uint64 ToMB()
ToString       Method      string ToString(), string ToString(string form...
ToTB           Method      uint64 ToTB()

[PS] C:\>
```

```
Machine: tlex01.testlabs.se
[PS] C:\>$var1 = 32
[PS] C:\>$var1.GetType()

IsPublic IsSerial Name BaseType
-----
True     True     Int32     System.Value...

[PS] C:\>[string]$var2 = 32
[PS] C:\>$var2.GetType()

IsPublic IsSerial Name BaseType
-----
True     True     String    System.Object

[PS] C:\>
```

```
Machine: tlex01.testlabs.se
[PS] C:\>$mailboxes = Get-Mailbox t*
[PS] C:\>$mailboxes

Name                Alias                ServerName            ProhibitSe
ndQuota
-----
Terrance Randolph  trandolph            tlex01                Unlimited
testuser           testuser             tlex01                Unlimited
Tomas Dawson       tdawson              tlex01                Unlimited

[PS] C:\>
```

```
Machine: tlex01.testlabs.se
[PS] C:\>$mailboxes[0]

Name                Alias                ServerName            ProhibitSe
ndQuota
-----
Terrance Randolph  trandolph            tlex01                Unlimited
```

```
Machine: tlex01.testlabs.se
[PS] C:\Scripts>$mailboxes |
Format-Table Name,
Database,
@{name="Title";expression={(Get-User $_.Name).Title}},
@{name="Dept";expression={(Get-User $_.Name).Department}} -AutoSize
```

Name	Database	Title	Dept
Pete Dickson	DB1		
Emanuel Moss	DB1		
Lee Sanders	DB1		
Arlene Finley	DB1		
Ruben Mcleod	DB1		
testuser	DB2	Manager	Sales
Terrance Randolph	DB1		
Tomas Dawson	DB2		
Alice Andersson	DB1		
Indie Andersson	DB1		
Ann Andersson	DB2		
Klas Andersson	DB1		
Sofie Andersson	DB2		

```
Machine: tlex01.testlabs.se
[PS] C:\Scripts>.\loop.ps1
Value: 1
Value: 2
Value: 3
Value: 4
At C:\Scripts\loop.ps1:3 char:1
+ Write-Host "Value: $i"
+ ~~~~~
[PS] C:\Scripts>
```

```
Machine: tlex01.testlabs.se
[PS] C:\Scripts>$job = Start-Job -ScriptBlock { Set-PSBreakpoint C:\Scripts\MyJob.ps1 -Line 4; C:\Scripts\MyJob.ps1 }
[PS] C:\Scripts>$job

Id      Name      PSJobTypeName      State      HasMoreData      Location
--      -
3       Job3      BackgroundJob      Running    True              lo...

[PS] C:\Scripts>Debug-Job $job
Hit Line breakpoint on 'C:\Scripts\MyJob.ps1:4'

At C:\Scripts\MyJob.ps1:4 char:3
+   $i++
+   ~~~~~
[DBG]: [Job4]: PS C:\Users\administrator.TESTLABS\Documents>>
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-ExecutionPolicy -List | Format-Table -AutoSize

Scope ExecutionPolicy
-----
MachinePolicy      Undefined
UserPolicy         Undefined
Process            Undefined
CurrentUser        RemoteSigned
LocalMachine       RemoteSigned

[PS] C:\>
```

```
Administrator: Windows PowerShell
PS C:\HelpFiles> Update-Help -SourcePath "C:\HelpFiles" -Force

Updating Help for module Microsoft.PowerShell.Core
Installing Help content...
[ ]
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Install-Package -Name "AzureAD"

The package(s) come(s) from a package source that is not marked as trusted.
Are you sure you want to install software from 'PSGallery'?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): Y

Name                Version          Source            Summary
-----                -
AzureAD             2.0.0.71        PSGallery         This is the
General Availability release of Azure A...
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-Uptime

Computername  Days  Hours  Minutes  Seconds
-----
localhost    0     0     16       43

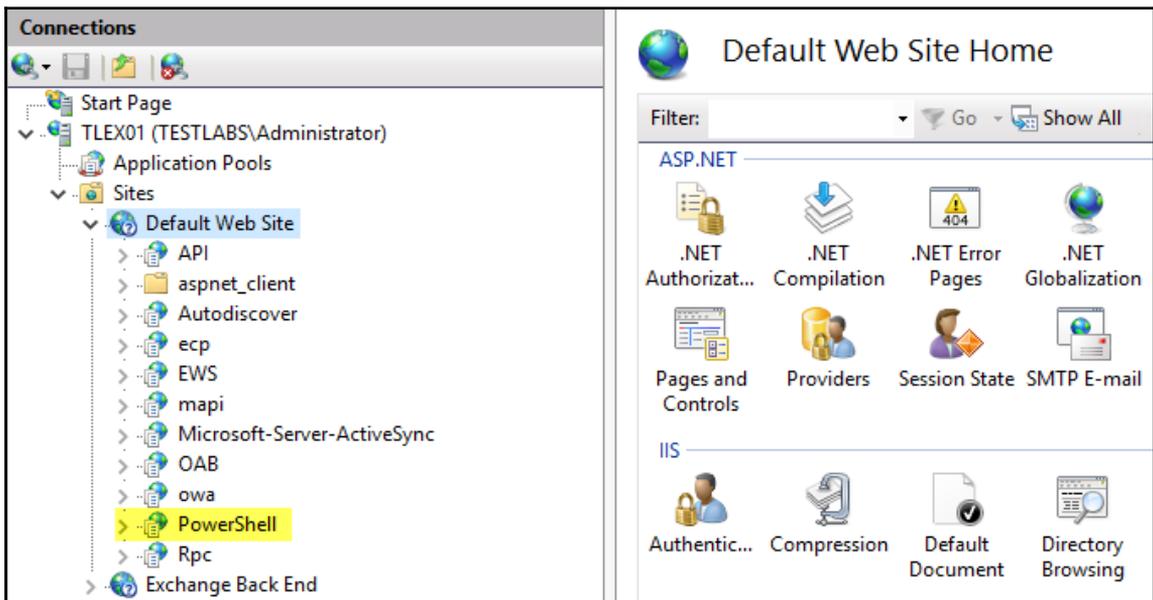
[PS] C:\>
```

Chapter 2: Exchange Management Shell Common Tasks

```
Administrator: Windows PowerShell
PS C:\> $credential = Get-Credential

cmdlet Get-Credential at command pipeline position 1
Supply values for the following parameters:
Credential
PS C:\> $session = New-PSSession -ConfigurationName Microsoft.Exchange -Con
nectionUri http://tlex01.testlabs.se/PowerShell/ -Credential $credential
PS C:\> Import-PSSession $session -AllowClobber
WARNING: The names of some imported commands from the module
'tmp_un1bq5hj.wn3' include unapproved verbs that might make them less
discoverable. To find the commands with unapproved verbs, run the
Import-Module command again with the Verbose parameter. For a list of
approved verbs, type Get-Verb.

ModuleType Version      Name                               ExportedCommands
-----
Script      1.0          tmp_un1bq5hj.wn3                  {Add-ADPermis...
```



```
Machine: tlex01.testlabs.se
[PS] C:\>Get-Mailbox

Name                           Alias                           ServerName                       ProhibitSendQuota
-----
DiscoverySearchMailbox...     DiscoverySearchMa...           db5pr01mb1013                   50 GB (...)
FR Room11                      FR.Room1                       amspr01mb296                     99 GB (...)
FR Room20                      FR.Room20                      he1pr01mb0780                   99 GB (...)
FR Room3                       FR.Room3                       he1pr01mb1865                   99 GB (...)
FR Room4                       FR.Room4                       db4pr01mb269                     99 GB (...)
FR Room5                       FR.Room5                       db4pr01mb0702                   99 GB (...)
jonas.andersson               jonas.andersson              am4pr0101mb2081                 99 GB (...)
Room ADM                      r1.adm                        db3pr01mb235                     99 GB (...)
Room EDU                      r1.edu                        am3pr01mb289                     99 GB (...)
Room1                          room1                          am3pr01mb1170                   99 GB (...)
```

```
Machine: tlex01.testlabs.se
[PS] C:\>$credential.UserName
testlabs\administrator
[PS] C:\>$credential.GetNetworkCredential().Password
P@ssw0rd01
[PS] C:\>
```

```
Machine: tlex01.testlabs.se
[PS] C:\Temp>Import-Csv .\report.csv

Name                           EmailAddresses
-----
Administrator                   Microsoft.Exchange.Data.ProxyAddressCollection
Pete Dickson                     Microsoft.Exchange.Data.ProxyAddressCollection
Emanuel Moss                     Microsoft.Exchange.Data.ProxyAddressCollection
Lee Sanders                      Microsoft.Exchange.Data.ProxyAddressCollection
Arlene Finley                    Microsoft.Exchange.Data.ProxyAddressCollection
Ruben McLeod                     Microsoft.Exchange.Data.ProxyAddressCollection
testuser                         Microsoft.Exchange.Data.ProxyAddressCollection
Terrance Randolph                Microsoft.Exchange.Data.ProxyAddressCollection
Tomas Dawson                     Microsoft.Exchange.Data.ProxyAddressCollection
Alice Andersson                  Microsoft.Exchange.Data.ProxyAddressCollection
Indie Andersson                  Microsoft.Exchange.Data.ProxyAddressCollection
Ann Andersson                    Microsoft.Exchange.Data.ProxyAddressCollection
Klas Andersson                   Microsoft.Exchange.Data.ProxyAddressCollection
Sofie Andersson                  Microsoft.Exchange.Data.ProxyAddressCollection
Jonas Andersson                  Microsoft.Exchange.Data.ProxyAddressCollection
```

```
Machine: tlex01.testlabs.se
[PS] C:\Temp>Import-Csv .\report1.csv

Name                Email
-----
Administrator      SMTP:Administrator@testlabs.se
Pete Dickson       SMTP:pdickson@testlabs.se
Emanuel Moss       SMTP:emoss@testlabs.se
Lee Sanders        SMTP:lsanders@testlabs.se
Arlene Finley      SMTP:afinley@testlabs.se
Ruben Mcleod       SMTP:rmcleod@testlabs.se
testuser          SMTP:testuser@testlabs.se
Terrance Randolph SMTP:trandolph@testlabs.se
Tomas Dawson       SMTP:tdawson@testlabs.se
Alice Andersson    SMTP:alice@testlabs.se
Indie Andersson    SMTP:indie@testlabs.se
Ann Andersson      SMTP:ann@testlabs.se
Klas Andersson     SMTP:klas@testlabs.se
Sofie Andersson    SMTP:sofie@testlabs.se
Jonas Andersson    smtp:jonas.andersson@testlabs.se;SMTP:jonas@testlabs.se
```

```
Machine: tlex01.testlabs.se
[PS] C:\Temp>Import-Csv .\report2.csv

Name                Email
-----
Administrator      Administrator@testlabs.se
Pete Dickson       pdickson@testlabs.se
Emanuel Moss       emoss@testlabs.se
Lee Sanders        lsanders@testlabs.se
Arlene Finley      afinley@testlabs.se
Ruben Mcleod       rmcleod@testlabs.se
testuser          testuser@testlabs.se
Terrance Randolph trandolph@testlabs.se
Tomas Dawson       tdawson@testlabs.se
Alice Andersson    alice@testlabs.se
Indie Andersson    indie@testlabs.se
Ann Andersson      ann@testlabs.se
Klas Andersson     klas@testlabs.se
Sofie Andersson    sofie@testlabs.se
Jonas Andersson    jonas.andersson@testlabs.se;jonas@testlabs.se
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Start-Transcript
Transcript started, output file is C:\Users\administrator.TESTLABS\Documents\PowerShell_transcript.TLEX01.VLpv8RPG.20170316211425.txt
[PS] C:\>
```

Chapter 3: Managing Recipients

mailboxes1.csv - Excel

	A	B	C	D	E	F
1	Name	Alias	UserPrincipalName	OrganizationalUnit		
2	Pete Dickson	pdickson	Pdickson@contoso.com	Sales		
3	Emanuel Moss	emoss	Emoss@contoso.com	Sales		
4	Lee Sanders	lsanders	Lsanders@contoso.com	Sales		
5	Arlene Finley	afinley	Afinley@contoso.com	Sales		
6	Ruben Mcleod	rmcleod	Rmcleod@contoso.com	Sales		

mailboxes2.csv - Excel

	A	B	C	D	E	F	G
1	Name	Alias	UserPrincipalName	Password			
2	Pete Dickson	pdickson	Pdickson@contoso.com	4::N2IQzXe			
3	Emanuel Moss	emoss	Emoss@contoso.com	:\$IG%FXxRw			
4	Lee Sanders	lsanders	Lsanders@contoso.com	Hez9sJz&zX			
5	Arlene Finley	afinley	Afinley@contoso.com	9X,/uNKsny			
6	Ruben Mcleod	rmcleod	Rmcleod@contoso.com	qD-*[Z(ku(

Send Attach Discard ***

helpdesk: A Help Desk representative will contact you within 2 hours.

To  helpdesk x

Cc

Add a subject

Add a message or drag a file here

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-MailboxAutoReplyConfiguration dave

RunspaceId           : d784ba26-17e5-45bc-8fef-4a0f8b763439
AutoDeclineFutureRequestsWhenOOFF : False
AutoReplyState       : Scheduled
CreateOOFFEvent      : False
DeclineAllEventsForScheduledOOFF : False
DeclineEventsForScheduledOOFF  : False
EventsToDeleteIDs   :
EndTime              : 2017-04-03 00:00:00
ExternalAudience    : All
ExternalMessage      : <html>
                       <body>
                       I will be out of the office this week
                       </body>
                       </html>
InternalMessage      :
DeclineMeetingMessage :
OOFFEventSubject     :
StartTime             : 2017-03-25 00:00:00
MailboxOwnerId       : testlabs.se/Sales/Seattle/Dave Jones
Identity              : testlabs.se/Sales/Seattle/Dave Jones
IsValid              : True
ObjectState          : Unchanged
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-InboxRule -Mailbox dave
Name Enabled Priority RuleIdentity
-----
Sales True 1 5838072491955716097
```

Chapter 4: Managing Mailboxes

```
Machine: tlex01.testlabs.se
[PS] C:\Scripts>Get-MoveRequest | ?{$_.Status -ne 'Completed'} | Get-MoveRequestStatistics | select DisplayName,PercentComplete,BytesTransferred
```

DisplayName	PercentComplete	BytesTransferred
admins	61	8.287 MB (8,690,065 bytes)
Discovery Search Mailbox	25	25.67 KB (26,289 bytes)
Jonas Andersson	65	8.333 MB (8,737,838 bytes)
Sofie Andersson	25	879.3 KB (900,434 bytes)
Indie Andersson	25	24.22 KB (24,798 bytes)
Ann Andersson	25	24.22 KB (24,798 bytes)
Klas Andersson	25	24.22 KB (24,798 bytes)
Test User	10	0 B (0 bytes)

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MigrationUser | Get-MigrationUserStatistics | FT -AutoSize
```

Identity	Batch	Status	Items Synced	Items Skipped
admin@testlabs.se	Move Batch #1	Syncing	15	0
jonas@testlabs.se	Move Batch #1	Syncing	3	0
nuno@testlabs.se	Move Batch #1	Syncing	19	0
testuser@testlabs.se	Move Batch #1	Syncing	3	0

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

File Message Tell me what you want to do

Ignore Delete Archive Reply Reply All Forward Meeting More

Microsoft Outlook Nuno; Jonas

Migration batch Move Batch #1 has completed

MigrationReport.csv
386 bytes

Migration batch Move Batch #1 has completed

Date: 29 March 2017
Run time: 46 minutes
Total: Mailboxes - 4

Please don't reply to this e-mail. It was sent from an unmonitored account.

```
Machine: tlex01.testlabs.se

[PS] C:\Scripts>Search-Mailbox -Identity testuser -SearchQuery "Subject:'su
ppress'" -DeleteContent -Force
WARNING: The Search-Mailbox cmdlet returns up to 10000 results per mailbox
if a search query is specified. To return more than 10000 results, use
the New-MailboxSearch cmdlet or the In-Place eDiscovery & Hold console in
the Exchange Administration Center.

RunspaceId      : 9ad249df-24c2-4509-9722-fa00715958aa
Identity        : testlabs.se/Sales/Seattle/testuser
TargetMailbox   :
Success        : True
TargetFolder    :
ResultItemsCount : 2
ResultItemsSize : 315.4 KB (322,925 bytes)
```

```
Machine: tlex01.testlabs.se

[PS] C:\Scripts>Get-DisconnectedMailbox t*

DisplayName      MailboxGuid      Database      DisconnectReason
-----
Test User       9cfce6f3-2151-4... DB1           SoftDeleted
testuser       a848ea1e-9f9f-4... DB1           SoftDeleted
```

```
Machine: TLEX1.testlabs.se

[PS] C:\>Get-ComplianceSearch "Delete Spam" | Select Status, Items, SuccessResults, Num
FailedSources, NumBindings, ExchangeLocation

Status          : Completed
Items           : 7
SuccessResults  : {Location: nuno@testlabs.se, Item count: 4, Total size: 29436,
Location: testuser@testlabs.se, Item count: 1, Total size: 10142,
Location: admin@testlabs.se, Item count: 1, Total size: 10131,
Location: jonas@testlabs.se, Item count: 1, Total size: 10121,
Location: IT@testlabs.se, Item count: 0, Total size: 0}
NumFailedSources : 0
NumBindings     : 5
ExchangeLocation : {All}

[PS] C:\>_
```

public folders - nuno@... All Unread By Date ▾ Newest ↓

Monday

Nuno
 First PF Email! 😊 Mon 17:32
 First PF Email! ☹️ <end>

- public folders - nuno@...
- All Public Folders
 - AMER
 - USA
- Projects
- Favorites

```
Machine: tlex01.testlabs.se
[PS] C:\Scripts>Get-MailboxDatabase | Get-MailboxStatistics | ?{!$_.DisconnectDate} | Select-Object DisplayName,TotalItemSize
```

DisplayName	TotalItemSize
admins	13.34 MB (13,993,029 bytes)
Klas Andersson	10.9 MB (11,425,207 bytes)
Jonas Andersson	12.18 MB (12,770,516 bytes)
Sofie Andersson	11.91 MB (12,488,421 bytes)
Ann Andersson	9.449 MB (9,908,020 bytes)
Indie Andersson	11.4 MB (11,955,851 bytes)

```
Machine: tlex01.testlabs.se
ectDate} | Select-Object DisplayName,@{n="SizeMB";e={$_.TotalItemSize.value.ToMb()}} | Sort-Object SizeMB -Descending
```

DisplayName	SizeMB
HealthMailbox-tlex01-DB1	153
HealthMailbox-tlex01-DB2	153
HealthMailbox-tlex01-001	40
admins	13
Jonas Andersson	12
Sofie Andersson	11
testuser	11
Indie Andersson	11
Klas Andersson	10
Ann Andersson	9

Chapter 5: Distribution Groups and Address Lists

```
Machine: tlex01.testlabs.se
[PS] C:\>foreach($i in Get-DistributionGroup -ResultSize Unlimited) {
>>   Get-DistributionGroupMember $i -ResultSize Unlimited |
>>   Select-Object @{n="Member";e={$_.Name}},
>>   RecipientType,
>>   @{n="Group";e={$i.Name}}
>> }

Member           RecipientType Group
-----
Pete Dickson     UserMailbox  DL_Marketing
Emanuel Moss     UserMailbox  DL_Marketing
Lee Sanders      UserMailbox  DL_Marketing
Arlene Finley    UserMailbox  DL_Marketing
Ruben McLeod     UserMailbox  DL_Marketing
Pete Dickson     UserMailbox  DL_Sales
Emanuel Moss     UserMailbox  DL_Sales
Lee Sanders      UserMailbox  DL_Sales
```

```
users.txt - Notepad
File Edit Format View Help
afinley@testlabs.se
rmcleod@testlabs.se
emoss@testlabs.se
pdickson@testlabs.se
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Import-Csv C:\Scripts\users.csv

FirstName LastName EmailAddress
-----
Alexander Lucas   alucas@testlabs.se
Alejandro Jones   ajones@testlabs.se
Charlene Munoz    cmunoz@testlabs.se
Alex Knowles     aknowles@testlabs.se
Cassandra Peck    cpeck@testlabs.se
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-DynamicDistributionGroupMember -Identity Legal

Name           RecipientType
-----
Tomas Dawson   UserMailbox
John Davis     MailUser
Cassandra Peck UserMailbox
```

```
Machine: TLEX01.testlabs.se
TestDG0005 TestDG0005 Universal TestDG0005@testlabs.se
TestDG0006 TestDG0006 Universal TestDG0006@testlabs.se

Processing data..
Processing.. 25.3%
[ooooooooooooooooooooo ]

TestDG0012 TestDG0012 Universal TestDG0012@testlabs.se
TestDG0013 TestDG0013 Universal TestDG0013@testlabs.se
TestDG0014 TestDG0014 Universal TestDG0014@testlabs.se
TestDG0015 TestDG0015 Universal TestDG0015@testlabs.se
TestDG0016 TestDG0016 Universal TestDG0016@testlabs.se
TestDG0017 TestDG0017 Universal TestDG0017@testlabs.se
TestDG0018 TestDG0018 Universal TestDG0018@testlabs.se
TestDG0019 TestDG0019 Universal TestDG0019@testlabs.se
TestDG0020 TestDG0020 Universal TestDG0020@testlabs.se
```

```
Machine: tlex01.testlabs.se
[PS] C:\>(Get-DynamicDistributionGroup Marketing).recipientfilter
((((EmailAddresses -like '*marketing*') -and (HiddenFromAddressListsEnabled
-ne 'True')) -and (-not(Name -like 'SystemMailbox{*}') -and (-not(Name -l
ike 'CAS_{*}') -and (-not(RecipientTypeDetailsValue -eq 'MailboxPlan')) -an
d (-not(RecipientTypeDetailsValue -eq 'DiscoveryMailbox')) -and (-not(Recip
ientTypeDetailsValue -eq 'PublicFolderMailbox')) -and (-not(RecipientTypeDe
tailsValue -eq 'ArbitrationMailbox')) -and (-not(RecipientTypeDetailsValue
-eq 'AuditLogMailbox')) -and (-not(RecipientTypeDetailsValue -eq 'AuxAuditL
ogMailbox')) -and (-not(RecipientTypeDetailsValue -eq 'SupervisoryReviewPol
icyMailbox'))))
[PS] C:\>
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-Group -ResultSize Unlimited -RecipientTypeDetails NonUniversal
Group -OrganizationalUnit Sales | Where-Object {$_.GroupType -match 'global
'}

Name                                DisplayName SamAccountName
-----
Global-NonUniversal-DistributionGroup Global-NonUniversal-Dist
ributionGroup
Global-NonUniversal-SecurityGroup   Global-NonUniversal-Secu
rityGroup

[PS] C:\>Get-Group -ResultSize Unlimited -RecipientTypeDetails NonUniversal
Group -OrganizationalUnit Sales | Where-Object {$_.GroupType -match 'global
'} | Set-Group -Universal
[PS] C:\>
```

```
Machine: tlex01.testlabs.se
[PS] C:\>$groups = Get-DistributionGroup -ResultSize Unlimited
[PS] C:\>foreach($group in $groups){
>> Get-DistributionGroupMember $group |
>> ?{$_.RecipientTypeDetails -like '*User*'} |
>> Get-User | ?{$_.UserAccountControl -match 'AccountDisabled'}}

Name                RecipientType
-----
Terrance Randolph  UserMailbox
Tomas Dawson       UserMailbox
Cassandra Peck     UserMailbox

[PS] C:\>foreach($group in $groups){
>> Get-DistributionGroupMember $group |
>> ?{$_.RecipientTypeDetails -like '*User*'} |
>> Get-User | ?{$_.UserAccountControl -match 'AccountDisabled'} |
>> Remove-DistributionGroupMember $group -Confirm:$false
>> }
[PS] C:\>
```

GAL.csv - Notepad

File Edit Format View Help

```
"DisplayName","EmailAddresses"
"Accounting","SMTP:Accounting@testlabs.se"
"Administrator","SMTP:Administrator@testlabs.se"
"Arlene Finley","SMTP:afinley@testlabs.se"
"Alejandro Jones","SMTP:ajones@testlabs.se"
"Alex Knowles","SMTP:aknowles@testlabs.se"
"Alice Andersson","SMTP:alice@testlabs.se"
```

Address Book

File Edit Tools

Name List Organization

Search:

Go

ContosoRoot

- Executives
- Sales

Name	Title	Business Phone
Cassandra Peck	Technical Presales	
Dave Jones	Executive Sales	
Lee Sanders	Manager	
Terrance Randolph	Manager assistant	
Tomas Dawson	Store Manager	

Chapter 6: Mailbox Database Management

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-MailboxDatabase | fl Name,EdbFilePath,LogFolderPath

Name           : DB1
EdbFilePath    : F:\Databases\DB1\Database\DB1.edb
LogFolderPath  : F:\Databases\DB1\Logs

Name           : DB2
EdbFilePath    : F:\Databases\DB2\Database\DB2.edb
LogFolderPath  : F:\Databases\DB2\Logs
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-MailboxDatabase -Status | Select-Object Name,DatabaseSize

Name DatabaseSize
-----
DB1  247.9 MB (259,981,312 bytes)
DB2  247.9 MB (259,981,312 bytes)
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-MailboxDatabase -Status | Select-Object Name,@{n="DatabaseSize (MB)";e={$_.DatabaseSize.ToMb()}}

Name DatabaseSize (MB)
-----
DB1           247
DB2           247
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-Mailbox -Database DB1 | Measure-Object

Count      : 16
Average    :
Sum        :
Maximum    :
Minimum    :
Property   :
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-MailboxDatabase |
>> Select-Object Name,
>> @{n="TotalMailboxes";e={@(Get-Mailbox -Database $_).count}}

Name TotalMailboxes
-----
DB1           16
DB2           13
```

```
Machine: tlex01.testlabs.se
[PS] C:\Scripts>.\size.ps1

Name AvgMailboxSize
-----
DB1           4.33
DB2           6.56
```

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-MailboxDatabase -Status | Select-Object Name,LastFullBackup

Name LastFullBackup
-----
DB1  4/10/2017 11:22:10 PM
DB2  4/10/2017 11:22:10 PM
```

```
Machine: tlex01.testlabs.se
[PS] C:\Scripts>.\lastbackup.ps1

DaysSinceBackup Name LastFullBackup
-----
0 DB1  4/10/2017 11:24:37 PM
0 DB2  4/10/2017 11:24:37 PM
```

Chapter 7: Managing Client Access

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-Counter '\\tlex01\ASP.NET Apps v4.0.30319(_LM_W3SVC_1_ROOT_OWA)\Requests Executing'
```

Timestamp	CounterSamples
2017-05-01 22:10:29	\\tlex01\asp.net apps v4.0.30319(_lm_w3svc_1_roo t_owa)\requests executing : 2

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-Counter '\\tlex01\MSEExchange MapiHttp Emsmdb\User Count'
```

Timestamp	CounterSamples
4/23/2017 7:43:24 PM	\\tlex01\msexchange mapihttp emsmdb\user count : 1

```
Machine: tlex01.testlabs.se
[PS] C:\>Get-Counter '\\tlex01\MSEExchange RpcClientAccess\User Count'
```

Timestamp	CounterSamples
4/23/2017 7:45:30 PM	\\tlex01\msexchange rpcclientaccess\user count : 1

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-ActiveUsers -Name tlex01
```

MAPI users	Server Outlook	Web App users	HTTP/RPC users
0	tlex01	2	0

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-MailboxServer | Get-ActiveUsers
```

MAPI users	Server Outlook	Web App users	HTTP/RPC users
0	TLEX01	2	0

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-MobileDevice | ?{$_.DeviceAccessState -eq 'Quarantined'} | fl
UserDisplayName,DeviceAccessState,DeviceID

UserDisplayName : testlabs.se/Sales/Lee Sanders
DeviceAccessState : Quarantined
DeviceId : PQI18009516R120JE6A3DU4BD0
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-MobileDeviceStatistics -Mailbox lsanders | select LastSuccessS
ync,Status,DevicePhoneNumber,DeviceType

LastSuccessSync      Status DevicePhoneNumber DeviceType
-----
2017-05-01 19:38:46 DeviceOk                iPhone
```

Chapter 8: Managing Transport Servers

```
Machine: TLEX1.testlabs.se
[PS] C:\>$comparison

InputObject      SideIndicator
-----
172.28.125.248 =>
172.28.125.247 =>
172.28.125.245 <=
172.28.125.240 <=
172.28.125.238 <=

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se

InputObject      Connector
-----
172.28.125.248 EX2\Relay
172.28.125.247 EX2\Relay
172.28.125.245 EX1\Relay
172.28.125.240 EX1\Relay
172.28.125.238 EX1\Relay

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-SystemMessage

Identity                Text
-----
en\Internal\5.1.1      The mailbox you tried to send an e-mail message
                        to does not exist. Please visit the <a
                        href='http://support.contoso.com'>help desk
                        site</a> for assistance

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-TransportService TLEX1 | FL ConnectivityLog*

ConnectivityLogEnabled      : True
ConnectivityLogMaxAge       : 30.00:00:00
ConnectivityLogMaxDirectorySize : 1000 MB (1,048,576,000 bytes)
ConnectivityLogMaxFileSize  : 10 MB (10,485,760 bytes)
ConnectivityLogPath         : C:\Program Files\Microsoft\Exchange Serv
                             er\V15\TransportRoles\Logs\Hub\Connectiv
                             ity

[PS] C:\>_
```


#Fields:	date-time	session	source	Destination	direction	description
1	2017-04-04T15:03:36.168Z		Transport		*	service started; MaxConcurrentSubmissions=8
2	2017-04-04T15:05:41.611Z	08D47B6BE12F53F2	SMTP	internalproxy	>	Undefined 00000000-0000-0000-0000-00000000
3	2017-04-04T15:05:41.655Z	08D47B6BE12F53F2	SMTP	internalproxy	>	TLEX1.testlabs.se[192.168.1.61]
4	2017-04-04T15:05:41.660Z	08D47B6BE12F53F2	SMTP	internalproxy	>	Established connection to 192.168.1.61
5	2017-04-04T15:05:42.012Z	08D47B6BE12F53F2	SMTP	internalproxy	-	Messages: 1 Bytes: 4466 ()
6	2017-04-04T15:07:45.876Z	08D47B6BE12F53F8	SMTP	client proxy	+	Client proxy session for HealthMailboxb122ff3
7	2017-04-04T15:07:45.876Z	08D47B6BE12F53F8	SMTP	client proxy	>	TLEX1.testlabs.se[192.168.1.61]
8	2017-04-04T15:07:45.877Z	08D47B6BE12F53F8	SMTP	client proxy	>	Established connection to 192.168.1.61
9	2017-04-04T15:07:45.934Z	08D47B6BE12F53F8	SMTP		-	Messages: 0 Bytes: 0 (Remote error from proxy)

```
Machine: TLEX1.testlabs.se
[PS] C:\>$results | Measure-Object -Property TotalBytes -Sum | Select-Object
@{n="Total Items";e={$_.Count}}, @{n="Total Item Size (MB)";e={[math]::Round($_.Sum /1mb,2)}}

Total Items Total Item Size (MB)
-----
7484 802.76

[PS] C:\>
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>$domains | Group | Sort Count -Descending | FT Name, Count -Auto
Name          Count
-----
gmail.com     2170
hotmail.com   673
jpmorgan.com  309
yahoo.com     231
me.com        157
barclays.com  87

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
SourceContext : MDB:02176f42-32bd-4e99-b5fc-bfe79ccf12ce,
Mailbox:7a126ca0-9acc-49a5-8119-ab4e8087b70b, Event:7025,
MessageClass:IPM.Note,
CreationTime:2017-04-04T16:44:40.067Z, ClientType:MOMT, Su
bmissionAssistant:MailboxTransportSubmissionEmailAssistant

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-Queue -Server TLEX1
Identity          DeliveryType      Status MessageCount Velocity RiskLe
vel
-----
TLEX1\3           SmtplibDeliveryToMailbox Ready 0 0 Normal
TLEX1\4           SmtplibDeliveryToMailbox Ready 0 0 Normal
TLEX1\Submission Undefined         Ready 1 -1 Normal

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-AgentLog | ? {$_.Agent -eq 'Sender Filter Agent'}

RunspaceId      : 71b361bb-64ca-4892-88be-1597da8d3315
Timestamp       : 04/04/2017 18:46:38
SessionId       : 08D47B825645C668
IPAddress       : 192.168.1.2
MessageId       :
P1FromAddress   : spammer@nunomota.pt
P2FromAddresses : {}
Recipients      : {}
Agent           : Sender Filter Agent
Event           : OnMailCommand
Action          : RejectCommand
SmtpResponse    : 554 5.7.105 SenderFilterAgent; Sender denied as
                  sender's email address is on SenderFilterConfig list
Reason          : ExactMatch
ReasonData      : spammer@nunomota.pt
Diagnostics     :
NetworkMsgID    : 00000000-0000-0000-0000-000000000000
TenantID        : 00000000-0000-0000-0000-000000000000
Directionality : Undefined

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-SendConnector

Identity                                     AddressSpaces Enabled
-----
EdgeSync - Default-First-Site-Name to Internet {smtp:*;100} True
EdgeSync - Inbound to Default-First-Site-Name {smtp:--;100} True

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Test-EdgeSynchronization

RunspaceId           : 7851c5ce-c0b2-4d77-93ce-71913c90c75f
SyncStatus           : Normal
UtcNow                : 07/04/2017 13:55:57
Name                  : EDGE
LeaseHolder           : CN=TLEX1,CN=Servers,CN=Exchange
                        Administrative Group
                        (FYDIBOHF23SPDLT),CN=Administrative
                        Groups,CN=TestLabs,CN=Microsoft Exchange,CN=
                        Services,CN=Configuration,DC=testlabs,DC=se
LeaseType             : Option
FailureDetail         :
LeaseExpiryUtc        : 07/04/2017 14:25:25
LastSynchronizedUtc   : 07/04/2017 13:55:25
TransportServerStatus : Skipped
TransportConfigStatus : Skipped
AcceptedDomainStatus  : Skipped
RemoteDomainStatus    : Skipped
SendConnectorStatus   : Skipped
MessageClassificationStatus : Skipped
RecipientStatus       : Skipped
CredentialRecords     : Number of credentials 3
CookieRecords         : Number of cookies 2

[PS] C:\>
```

Chapter 9: Exchange Security

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MailboxPermission admin | Where-Object {$_.AccessRights -match "FullAccess"}

Identity          User                AccessRights      IsInherited  Deny
-----          -
testlabs.se/Users... NT AUTHORITY\SELF  {FullAccess...  False        False
testlabs.se/Users... TESTLABS\it.servi... {FullAccess}    False        False
testlabs.se/Users... TESTLABS\Domain A... {FullAccess}    True         True
testlabs.se/Users... TESTLABS\Enterpri... {FullAccess}    True         True
testlabs.se/Users... TESTLABS\admin     {FullAccess}    True         True
testlabs.se/Users... TESTLABS\Organiza... {FullAccess}    True         True
testlabs.se/Users... NT AUTHORITY\SYSTEM {FullAccess}    True         False
testlabs.se/Users... TESTLABS\Domain A... {FullAccess... True         False
testlabs.se/Users... TESTLABS\Enterpri... {FullAccess... True         False
testlabs.se/Users... TESTLABS\admin     {FullAccess... True         False
testlabs.se/Users... TESTLABS\Organiza... {FullAccess... True         False
testlabs.se/Users... TESTLABS\Exchange... {FullAccess... True         False
testlabs.se/Users... TESTLABS\Exchange... {FullAccess... True         False
testlabs.se/Users... TESTLABS\auditor   {FullAccess... True         False

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MailboxPermission admin | Where-Object {($_.AccessRights -match "FullAccess") -and ($_.User -notmatch "SELF") -and ($_.IsInherited -eq $False)} | FT User, AccessRights, IsInherited -AutoSize

User                AccessRights      IsInherited
-----          -
TESTLABS\it.servicedesk {FullAccess}    False

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-ManagementRoleAssignment -RoleAssignee 'Server Management' | S
select Role

Role
----
Database Copies
Databases
Exchange Connectors
Exchange Server Certificates
Exchange Servers
Exchange Virtual Directories
Monitoring
POP3 And IMAP4 Protocols
Receive Connectors
Transport Queues

[PS] C:\>
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-ManagementRoleEntry "Exchange Servers\*"

Name                                Role                                Parameters
----                                -
Write-AdminAuditLog                 Exchange Servers                   {Comment, Conf...
Update-OfflineAddressBook           Exchange Servers                   {Confirm, Debu...
Update-ExchangeHelp                 Exchange Servers                   {Force, Verbose}
Set-UMService                        Exchange Servers                   {Confirm, Debu...
Set-UMCallRouterSettings             Exchange Servers                   {Confirm, Debu...
Set-TransportService                 Exchange Servers                   {ActiveUserSta...
Set-TransportServer                  Exchange Servers                   {ActiveUserSta...
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-ManagementRole -Cmdlet Set-User -CmdletParameters Phone

Name                RoleType
----                -
Mail Recipients     MailRecipients
User Options        UserOptions
MyContactInformation MyContactInformation
MyAddressInformation MyContactInformation

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-RoleAssignmentPolicy "Default Role Assignment Policy" | FL AssignedRoles

AssignedRoles : {MyTeamMailboxes, MyDistributionGroupMembership, My
Custom Apps, My Marketplace Apps, My ReadWriteMailbox
Apps, MyBaseOptions, MyContactInformation,
MyTextMessaging, MyVoiceMail}
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-RbacDiagnosticInfo -UserName nuno
WARNING: User name is nuno

Name                               Value
----                               -
CombinedScripts                    {GetAppMarketplaceUrl, InstallApp}
UserSid                            S-1-5-21-1411203154-1084355696-209206089...
TokenSids                          {S-1-5-21-1411203154-1084355696-20920608...
RbacUserId                         TESTLABS\nuno
AllRoleEntries                    {RoleEntry: GetAppMarketplaceUrl ...
IdentityName                       testlabs.se/Users/Nuno
MachineName                        TLEX1
CombinedCmdlets                    {(Microsoft.Exchange.Management.PowerShe...

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>(Get-RbacDiagnosticInfo -UserName nuno).CombinedCmdlets | ? {$_.Name -like "Set-*"} | Select Name, Parameters
WARNING: User name is nuno

Name                               Parameters
----                               -
Set-CalendarNotification          {CalendarUpdateNotification, Calendar...
Set-CalendarProcessing            {AddAdditionalResponse, AdditionalRes...
Set-CASMailbox                   {ActiveSyncDebugLogging, ActiveSyncSu...
Set-ConsumerGroup                {Confirm, Identity, MembersToAdd, Wha...
Set-ConsumerMailbox              {Confirm, DefaultFromAddress, Delive...
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>((Get-RbacDiagnosticInfo -UserName nuno).CombinedCmdlets | ? {$_.Name -eq "Set-CASMailbox"}).Parameters
WARNING: User name is nuno
ActiveSyncDebugLogging
ActiveSyncSuppressReadReceipt
Confirm
ErrorAction
ErrorVariable
Identity
ImapForceICalForCalendarRetrievalOption
ImapMessagesRetrievalMimeFormat
ImapSuppressReadReceipt
ImapUseProtocolDefaults
OutBuffer
OutVariable
PopForceICalForCalendarRetrievalOption
PopMessagesRetrievalMimeFormat
PopSuppressReadReceipt
PopUseProtocolDefaults
ShowGalAsDefaultView
WarningAction
WarningVariable
WhatIf
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>(Get-RbacDiagnosticInfo -UserName nuno).AllRoleEntries | ? {$_.ma
tch "Set-CASMailbox"}
WARNING: User name is nuno
RoleEntry: (Microsoft.Exchange.Management.PowerShell.E2010) Set-CASMailbox
-ActiveSyncDebugLogging -ActiveSyncSuppressReadReceipt -Confirm -ErrorActio
n -ErrorVariable -Identity -ImapForceICalForCalendarRetrievalOption -ImapMe
ssagesRetrievalMimeFormat -ImapSuppressReadReceipt -ImapUseProtocolDefaults
-OutBuffer -OutVariable -PopForceICalForCalendarRetrievalOption -PopMessag
esRetrievalMimeFormat -PopSuppressReadReceipt -PopUseProtocolDefaults -Show
GalAsDefaultView -WarningAction -WarningVariable -WhatIf
RoleAssignmentId: CN=MyBaseOptions-Default Role Assignment Policy,CN=Role A
ssignments,CN=RBAC,CN=TestLabs,CN=Microsoft Exchange,CN=Services,CN=Configu
ration,DC=testlabs,DC=se
Name: MyBaseOptions-Default Role Assignment Policy
Role: CN=MyBaseOptions,CN=Roles,CN=RBAC,CN=TestLabs,CN=Microsoft Exchange,C
N=Services,CN=Configuration,DC=testlabs,DC=se
RoleAssignmentDelegationType: Regular
Enabled: True
RoleAssigneeType: RoleAssignmentPolicy
Assignee: CN=Default Role Assignment Policy,CN=Policies,CN=RBAC,CN=TestLabs
,CN=Microsoft Exchange,CN=Services,CN=Configuration,DC=testlabs,DC=se
RecipientReadScope: Self
ConfigReadScope: OrganizationConfig
RecipientWriteScope: Self
ConfigWriteScope: OrganizationConfig
[PS] C:\>_
```

```
Machine: TLEX2.testlabs.se
[PS] C:\>Get-ExchangeCertificate

Thumbprint                               Services    Subject
-----
1A8A88851400B072FAED6EDB246AC6651911C31A IP.WS..    CN=TLEX2
E0E8C60AEAB698214FB500579BA0D47DB8525758 .....    CN=WMSvc-SHA2-TLEX2
9C5CBB122ECD7338A2076127D2216F518CF1B9B7 .....    CN=mail.testlabs.s...
B8C6503355E26804EDE7CBA27EB7E77E6DC03B3A ....S..    CN=Microsoft Excha...

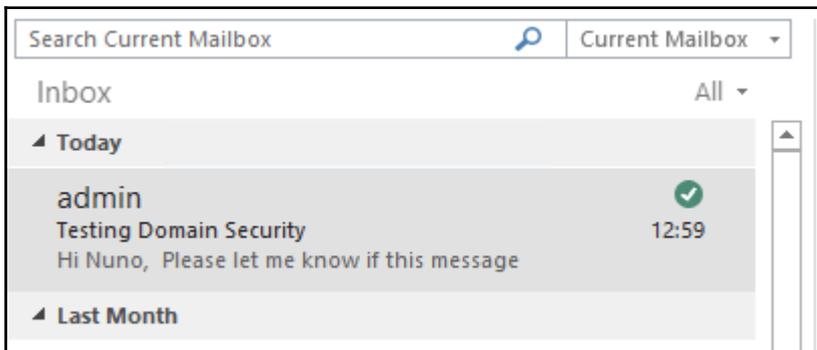
[PS] C:\>_
```

```
Machine: TLEX2.testlabs.se
[PS] C:\>Get-ExchangeCertificate | FL Thumbprint, CertificateDomains, Services, IsSelfSigned

Thumbprint      : 1A8A88851400B072FAED6EDB246AC6651911C31A
CertificateDomains : {TLEX2, TLEX2.testlabs.se}
Services        : IMAP, POP, IIS, SMTP
IsSelfSigned    : True

Thumbprint      : E0E8C60AEAB698214FB500579BA0D47DB8525758
CertificateDomains : {WMSvc-SHA2-TLEX2}
Services        : None
IsSelfSigned    : True

Thumbprint      : 9C5CBB122ECD7338A2076127D2216F518CF1B9B7
CertificateDomains : {mail.testlabs.se, autodiscover.testlabs.se}
Services        : None
IsSelfSigned    : False
```



Testing Domain...

File Message Tell me what you want to do

Delete Archive Respond Quick Steps Move Tags Editing Zoom

Tue 02/05/2017 12:59

admin <admin@nunomota.pt>
Testing Domain Security

To Nuno

Hi Nuno,

Please let me
indicating th
Thanks!

Regards,
Admin

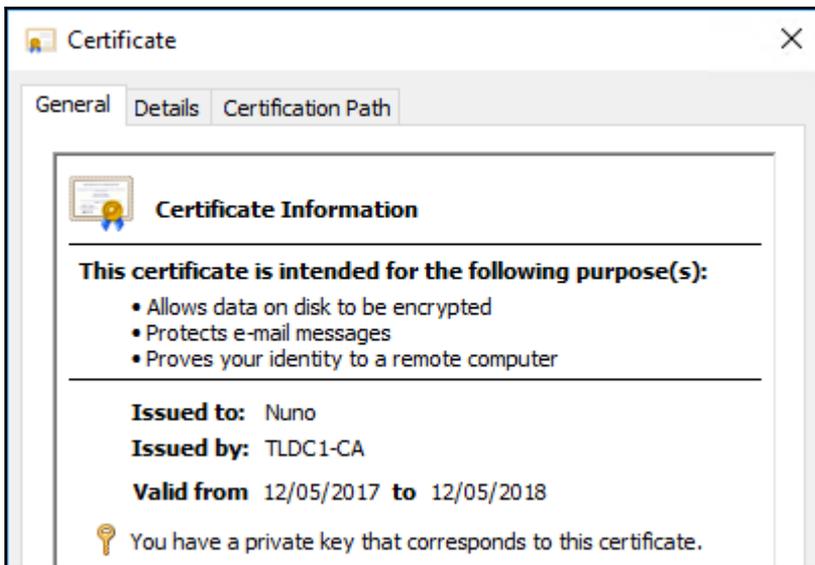
Exchange Domain Authenticated Email

From: admin@nunomota.pt

This message was received securely by Microsoft Exchange from nunomota.pt. The message and its content were not viewed or changed in transit.

Close

```
,+,  
,>,"220 mail.nunomota.pt Microsoft ESMTP MAIL Service ready at Tue, 2 May 2017 13:24:00  
,<,"EHLO tlex1.testlabs.se,  
,>,"250 mail.nunomota.pt Hello [192.168.1.161] SIZE 37748736 PIPELINING DSN ENHANCEDST  
,<,"STARTTLS,  
,>,"220 2.0.0 SMTP server ready,  
,*," CN=mail.nunomota.pt, OU=IT, O=Nuno Mota, L=London, C=GB CN=DigiCert SHA2 Secure S  
,*," CN=TLEX1 CN=TLEX1 17A753A2E0CB0C9D41EEBFC4ED83EDA8 7D099306C5F30E401CF42B0DC3EDF48  
,*," TLS protocol SP_PROT_TLS1_2_SERVER negotiation succeeded using bulk encryption al  
,<,"EHLO tlex1.testlabs.se,  
,*," CN=TLEX1 CN=TLEX1 17A753A2E0CB0C9D41EEBFC4ED83EDA8 7D099306C5F30E401CF42B0DC3EDF48  
,*," TlsDomainCapabilities='None'; Status='Success'; Domain=''  
,*," CN=TLEX1 CN=TLEX1 17A753A2E0CB0C9D41EEBFC4ED83EDA8 7D099306C5F30E401CF42B0DC3EDF48  
,*," TlsDomainCapabilities='None'; Status='Success'; Domain=''  
,>,"250 mail.nunomota.pt Hello [192.168.1.161] SIZE 37748736 PIPELINING DSN ENHANCEDST  
,<,"MAIL FROM:<admin@testlabs.se> SIZE=5346,  
,*," CN=TLEX1 CN=TLEX1 17A753A2E0CB0C9D41EEBFC4ED83EDA8 7D099306C5F30E401CF42B0DC3EDF48  
,*," SMTPSubmit AcceptRoutingHeaders,Set Session Permissions  
,*," SMTPSubmit AcceptRoutingHeaders,Set Session Permissions  
,*," 08D491548CAD3D49;2017-05-02T12:24:03.469Z;1,receiving message  
,<,"RCPT TO:<admin@nunomota.pt>,  
,>,"250 2.1.0 Sender OK,  
,>,"250 2.1.5 Recipient OK,  
,<,"BDAT 1702 LAST,  
,*," Proxy destination(s) obtained from OnProxyInboundMessage event  
,>,"250 2.6.0 <0dff7003d376447880ed4b890f4cf7bf@testlabs.se> [InternalId=1541893259282  
,<,"QUIT,  
,-,Local
```





Options

Shortcuts

▶ General

◀ Mail

- ◀ Automatic processing
 - Automatic replies
 - Inbox and sweep rules
 - Junk email reporting
 - Mark as read
 - Message options
 - Read receipts
 - Reply settings
- ◀ Accounts
 - Block or allow
 - POP and IMAP
- ◀ Layout
 - Conversations
 - Email signature
 - Link preview
 - Message format
 - Message list
 - Reading pane
- S/MIME

▶ Calendar

Save Discard

S/MIME settings

S/MIME lets you encrypt and digitally sign email messages you send, view encrypted content in messages you receive, and verify senders' digital signatures. [Learn more](#)

To use S/MIME, you need to install the S/MIME control. To install it, [Click here](#).

- Encrypt contents and attachments for all messages I send
- Add a digital signature to all messages I send
- Automatically choose the best certificate for digital signing

Reply all | Delete Junk | ...

Encrypted Email Using S/MIME



Nuno

Today, 16:28

Jonas

Reply all |

The digital signature for <nuno@testlabs.se> on this message is valid and trusted. For more information, [click here](#).

Chapter 10: Compliance and Audit Logging

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-Mailbox nuno | Format-List *archive*

ArchiveDatabase      : DB1
ArchiveGuid          : b5d3eef1-c097-46d3-8eb5-3ae447dd0589
ArchiveName          : {In-Place Archive - Nuno}
JournalArchiveAddress :
ArchiveQuota         : 100 GB (107,374,182,400 bytes)
ArchiveWarningQuota  : 90 GB (96,636,764,160 bytes)
ArchiveDomain        :
ArchiveStatus        : None
ArchiveState         : Local
AutoExpandingArchiveEnabled : False
DisabledArchiveDatabase :
DisabledArchiveGuid  : 00000000-0000-0000-0000-000000000000
ArchiveRelease       :
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-RetentionPolicyTag | FT Name, Type, RetentionAction

Name                                Type      RetentionAction
----                                -
Personal 1 year move to archive     Personal  MoveToArchive
Default 2 year move to archive      All      MoveToArchive
Personal 5 year move to archive     Personal  MoveToArchive
Personal never move to archive      Personal  MoveToArchive
1 Week Delete                       Personal  DeleteAndAllowRecovery
1 Month Delete                      Personal  DeleteAndAllowRecovery
6 Month Delete                      Personal  DeleteAndAllowRecovery
1 Year Delete                       Personal  DeleteAndAllowRecovery
5 Year Delete                       Personal  DeleteAndAllowRecovery
Never Delete                        Personal  DeleteAndAllowRecovery
Recoverable Items 14 days move to archive RecoverableItems MoveToArchive

[PS] C:\>_
```

Account Information



nuno@testlabs.se

Microsoft Exchange

+ Add Account



Account Settings

Account Settings

Change settings for this account or set up more connections.

- Access this account on the web.
<https://mail.testlabs.se/owa/>
- You are currently on in-place hold, please visit the provided URL
[More Information](#)
- [Get the Outlook app for iPhone, iPad, Android, or Windows 10 Mobile.](#)



[Change](#)



Machine: TLEX1.testlabs.se

```
[PS] C:\>Get-ComplianceSearch "Search All - Project X" | Select Status, Items, SuccessResults, NumFailedSources, NumBindings, ExchangeLocation
```

```
Status          : Completed
Items           : 47
SuccessResults  : {Location: admin@testlabs.se, Item count: 11, Total size: 83281,
                  Location: nuno@testlabs.se, Item count: 8, Total size: 68760,
                  Location: ceo@testlabs.se, Item count: 8, Total size: 63432,
                  Location: it.servicedesk@testlabs.se, Item count: 5, Total size: 45315,
                  Location: auditor@testlabs.se, Item count: 5, Total size: 45075,
                  Location: testuser@testlabs.se, Item count: 5, Total size: 45060,
                  Location: jonas@testlabs.se, Item count: 5, Total size: 44950}
NumFailedSources : 0
NumBindings      : 7
ExchangeLocation : {All}
```

```
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>New-DlpPolicy -Name "Block Outbound Credit Card Details" -Template "U.K. Financial Data" -Mode Enforce -State Enabled
WARNING: The rule contains NotifySender action with an option that may reject the message. In case the message gets rejected, other actions won't be applied.
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-DlpPolicyTemplate "U.K. Financial Data" | FL Description

Description : Helps detect the presence of information commonly considered to be financial information in United Kingdom, including information like credit card, account information, and debit card numbers. Use of this policy does not ensure compliance with any regulation. After your testing is complete, make the necessary configuration changes in Exchange so the transmission of information complies with your organization's policies. Examples include configuring TLS with known business partners or adding more restrictive transport rule actions, such as adding rights protection to messages that contain this type of data.

[PS] C:\>_
```

Policy Tip: This message appears to contain sensitive information. Make sure all recipients are authorized to receive it.

Send	To...	admin@nunomota.pt
	Cc...	
	Subject	Payment Details
Attached		 Credit Card Details.txt 552 bytes

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MessageTrackingLog -ResultSize Unlimited -Sender nuno@testlabs.se -Recipients admin@nunomota.pt -MessageSubject "Payment Details" -EventID AGENTINFO | FL EventData

EventData : {[AMA, SUM|v=0|action=|error=|atch=1], [AMA, EV|engine=M|v=0|sig=1.245.65.0|name=|file=], [TRA, ETRP|ruleId=60b7d72a-d5f8-4240-a99a-f6fa0c2cb980|st=2017-05-25T12:43:32.000000Z|ExecW=5|ExecC=0|Conditions=MRP,M.S,1], [TRA, DC|dcid=50842eb7-edc8-4019-85dd-5a5c1f2bb085|count=3|ucount=3|conf=85], [TRA, DC|dcid=0e9b3178-9678-47dd-a509-37222ca96b42|count=2|ucount=2|conf=85], [TRA, ETR|ruleId=7dce9087-316a-497c-8700-74a9ff1c943b|st=25/05/2017 12:43:32|action=SetAuditSeverity|action=NotifySender|sev=2|mode=Enforce|dlpId=799cacab-fb90-47d7-addb-f6e74c8d0019|dcId=50842eb7-edc8-4019-85dd-5a5c1f2bb085|dcId=0e9b3178-9678-47dd-a509-
```

Policy Tip: This message can't be sent because it appears to contain sensitive information. 'admin@nunomota.pt'  isn't authorized to receive this type of information. To send this message without removing the information, you must first click **override**.

 Send	To...	'admin@nunomota.pt'
	Cc...	
	Subject	Payment Details
Attached	 Credit Card Details.txt 2 KB	

Microsoft Outlook 

 This message includes one or more recipients who aren't authorized to receive sensitive information. Please remove those recipients and try again to send the message.



Delivery has failed to these recipients or groups:

'admin@nunomota.pt' (admin@nunomota.pt)

Unable to deliver your message. You can override this policy by adding the word 'override' to the subject line.

Your message wasn't delivered because the email admin for the organization 'testlabs.se' created an email rule restriction. Please contact the email admin for that organization and ask them to remove or update the rule restriction.

For more information about this error, see [DSN code 5.7.1 in Exchange Online - Office 365](#).

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MessageTrackingLog -ResultSize Unlimited -Recipients admin@nunomota.pt -EventId FAIL | FL Source, SourceContext, RecipientStatus

Source          : AGENT
SourceContext    : Transport Rule Agent
RecipientStatus  : {[LED=550 5.7.1 TRANSPORT.RULES.RejectMessage; the message was rejected by organization policy];{MSG=};{FQDN=};{IP=};{LRT=}}
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-TransportRule

Name                                                    State  Mode  Priority
----
U.K. Financial: Allow override                        Enabled Enforce 0
U.K. Financial: Scan email sent outside - low count  Enabled Enforce 1
U.K. Financial: Scan email sent outside - high count Enabled Enforce 2
U.K. Financial: Scan text limit exceeded              Enabled Enforce 3
U.K. Financial: Attachment not supported             Enabled Enforce 4

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>(Get-TransportRule "U.K. Financial: Scan email sent outside - high count").MessageContainsDataClassifications
{id:"Credit Card Number", guid:"50842eb7-edc8-4019-85dd-5a5c1f2bb085", displayName:"Credit Card Number", minCount:10, maxCount:Infinity, minConfidence:Recommended, maxConfidence:100}
{id:"EU Debit Card Number", guid:"0e9b3178-9678-47dd-a509-37222ca96b42", displayName:"EU Debit Card Number", minCount:10, maxCount:Infinity, minConfidence:Recommended, maxConfidence:100}
{id:"SWIFT Code", guid:"cb2ab58c-9cb8-4c81-baf8-a4e106791df4", displayName:"SWIFT Code", minCount:10, maxCount:Infinity, minConfidence:Recommended, maxConfidence:100}
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-AdminAuditLogConfig

RunspaceId           : 7a6dc68c-a437-429a-87c1-06c2e5354e44
AdminAuditLogEnabled : True
LogLevel             : Verbose
TestCmdletLoggingEnabled : False
AdminAuditLogCmdlets : {*}
AdminAuditLogParameters : {*}
AdminAuditLogExcludedCmdlets : {}
AdminAuditLogAgeLimit : 90.00:00:00
LoadBalancerCount    : 3
RefreshInterval      : 10
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Search-AdminAuditLog -Cmdlets Add-MailboxPermission | Where {$_.ObjectModified -match "servicedesk"} | Select Caller -ExpandProperty CmdletParameters

Caller           Name           Value
-----
admin@testlabs.se Identity       it.servicedesk
admin@testlabs.se AccessRights   FullAccess
admin@testlabs.se InheritanceType All
admin@testlabs.se User          nuno

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>$logs = Search-AdminAuditLog | Select-Object -First 10
[PS] C:\>$logs[0]

RunspaceId           : 7a6dc68c-a437-429a-87c1-06c2e5354e44
ObjectModified       : testlabs.se/Users/Auditor
CmdletName           : Set-Mailbox
CmdletParameters     : {Identity, HiddenFromAddressListsEnabled}
ModifiedProperties   : {HiddenFromAddressListsEnabled,
                        ReadOnlyAddressListMembership,
                        HiddenFromAddressListsValue, AddressListMembership}
Caller               : admin@testlabs.se
ExternalAccess       : False
Succeeded            : True
Error                :
RunDate              : 19/05/2017 12:38:45
OriginatingServer    : TLEX1 (15.01.1034.013)
Identity             : AAMkAGU2MGFkOGNjLTg4MzAtNGRlOC1hMmJhLTM3ZDE2YzE1NzY1Y
                        gBGAAAAAADgQ3W050PrRq7G47YPbiHlBwAhn13+tcbXRLEkyLmBXI
                        80AAAAZrWGAAAhnl3+tcbXRLEkyLmBXI80AAAtXINoAAA=
IsValid              : True
ObjectState          : New

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>$logs[0].ModifiedProperties | FL

Name      : HiddenFromAddressListsEnabled
NewValue  : True
OldValue  : False
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Set-Mailbox CEO -AuditEnabled $True
[PS] C:\>Get-Mailbox CEO | Select Audit*

AuditEnabled      : True
AuditLogAgeLimit  : 90.00:00:00
AuditAdmin        : {Update, Move, MoveToDeletedItems, SoftDelete,
                    HardDelete, FolderBind, SendAs, SendOnBehalf, Create}
AuditDelegate     : {Update, SoftDelete, HardDelete, SendAs, Create}
AuditOwner       : {}

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Set-Mailbox CEO -AuditAdmin @{Add="Copy"} -AuditDelegate @{Add="MoveToDeletedItems"}
[PS] C:\>Get-Mailbox CEO | Select Audit*

AuditEnabled      : True
AuditLogAgeLimit  : 90.00:00:00
AuditAdmin        : {Update, Copy, Move, MoveToDeletedItems, SoftDelete,
                    HardDelete, FolderBind, SendAs, SendOnBehalf, Create}
AuditDelegate     : {Update, MoveToDeletedItems, SoftDelete, HardDelete,
                    SendAs, Create}
AuditOwner       : {}

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Search-MailboxAuditLog CEO -StartDate 05/01/2017 -EndDate 05/31/2017 -LogonTypes Delegate -ShowDetails

RunspaceId           : 7a6dc68c-a437-429a-87c1-06c2e5354e44
Operation             : SendAs
OperationResult       : Succeeded
LogonType              : Delegate
ExternalAccess        : False
DestFolderId          :
DestFolderPathName    :
FolderId              :
FolderPathName        :
ClientInfoString      : Client=MSExchangeRPC
ClientIPAddress       : 192.168.1.171
ClientMachineName     :
ClientProcessName     : OUTLOOK.EXE
ClientVersion         : 16.0.8067.6527
InternalLogonType     : Owner
MailboxOwnerUPN       : admin@testlabs.se
MailboxOwnerSid       : S-1-5-21-1411203154-1084355696-2092060891-1103
DestMailboxOwnerUPN   :
DestMailboxOwnerSid   :
DestMailboxGuid       :
CrossMailboxOperation :
LogonUserDisplayName  : admin
LogonUserSid          : S-1-5-21-1411203154-1084355696-2092060891-1103
SourceItems           : {}
SourceFolders         : {}
SourceItemIdsList     :
SourceItemSubjectsList :
SourceItemAttachmentsList :
SourceItemFolderPathNamesList :
SourceFolderPathNamesList :
ItemId                : Unknown
ItemSubject           : Bonus
ItemAttachments       :
DirtyProperties       :
OriginatingServer     : TLEX1 (15.01.1034.013)
MailboxGuid           : df7a539e-fe4d-4d47-8c65-bad044a9f22a
MailboxResolvedOwnerName : CEO
LastAccessed         : 19/05/2017 07:24:56
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Search-MailboxAuditLog CEO -ShowDetails | Where {$_.Operation -match "delete"}

RunspaceId           : 7a6dc68c-a437-429a-87c1-06c2e5354e44
Operation            : SoftDelete
OperationResult      : Succeeded
LogonType            : Delegate
ExternalAccess       : False
DestFolderId         :
DestFolderPathName   :
FolderId             : LgAAAAACduxFmtr3NRZPEHNxQZc7oAQD8w1NgaLrbQ6s8Axuhi8TUAAAAAAEMAAAB
FolderPathName       : \Inbox
ClientInfoString     : Client=MSExchangeRPC
ClientIPAddress      : 192.168.1.171
ClientMachineName    :
ClientProcessName    : OUTLOOK.EXE
ClientVersion        : 16.0.8067.6527
InternalLogonType    : Owner
MailboxOwnerUPN      : ceo@testlabs.se
MailboxOwnerSid      : S-1-5-21-1411203154-1084355696-2092060891-1691
DestMailboxOwnerUPN  :
DestMailboxOwnerSid  :
DestMailboxGuid      :
CrossMailboxOperation : False
LogonUserDisplayName : admin
LogonUserSid         : S-1-5-21-1411203154-1084355696-2092060891-1103
SourceItems          : {RgAAAAACduxFmtr3NRZPEHNxQZc7oBwD8w1NgaLrbQ6s8Axuhi8TUAAAAAAEMAAD8w1NgaLrbQ6s8Axuhi8TUAAAAAAk2AAAA}
SourceFolders        : {}
SourceItemIdsList    : RgAAAAACduxFmtr3NRZPEHNxQZc7oBwD8w1NgaLrbQ6s8Axuhi8TUAAAAAAEMAAD8w1NgaLrbQ6s8Axuhi8TUAAAAAAk2AAAA
SourceItemSubjectsList : Disciplinary Action
SourceItemAttachmentsList :
SourceItemFolderPathNamesList : Inbox
SourceFolderPathNamesList :
ItemId              :
ItemSubject         :
ItemAttachments     :
DirtyProperties     :
OriginatingServer   : TLEX1 (15.01.1034.013)
MailboxGuid         : df7a539e-fe4d-4d47-8c65-bad044a9f22a
MailboxResolvedOwnerName : CEO
LastAccessed       : 19/05/2017 07:24:25
```

```
C:\Software\SearchResult.xml
- <Event OriginatingServer="TLEX1 (15.01.1034.013)" LogonUserSid="S-1-5-21-1411203154-1084355696-2092060891-1103" LogonUserDisplayName="admin" CrossMailboxOperation="false" MailboxOwnerSid="S-1-5-21-1411203154-1084355696-2092060891-1691" MailboxOwnerUPN="ceo@testlabs.se" InternalLogonType="Owner" ClientIPAddress="192.168.1.171" ClientInfoString="Client=MSExchangeRPC" FolderPathName="\Inbox" FolderId="LgAAAAACduxFmtr3NRZPEHNxQZc7oAQD8wLNgaLrbQ6s8Axuhi8TUAAAAAAEMAAAB" LogonType="Delegate" OperationResult="Succeeded" Operation="SoftDelete" LastAccessed="2017-05-19T07:24:25+01:00" Owner="CEO" MailboxGuid="df7a539e-fe4d-4d47-8c65-bad044a9f22a" ClientVersion="16.0.8067.6527" ClientProcessName="OUTLOOK.EXE">
  - <SourceItems>
    <Item FolderPathName="\Inbox" Subject="Disciplinary Action" Id="RgAAAAACduxFmtr3NRZPEHNxQZc7oBwD8wLNgaLrbQ6s8Axuhi8TUAAAAAAEMAAD8wLNgaLr" />
  </SourceItems>
</Event>
```

```
Machine: TLEX1.testlabs.se
[PS] C:\Software>[XML] $searchResult = Get-Content .\SearchResult.xml
[PS] C:\Software>$searchResult.SearchResults.Event | Where {$_.Operation -match "delete"}

MailboxGuid      : df7a539e-fe4d-4d47-8c65-bad044a9f22a
Owner            : CEO
LastAccessed    : 2017-05-19T07:24:25+01:00
Operation        : SoftDelete
OperationResult  : Succeeded
LogonType        : Delegate
FolderId         : LgAAAAACduxFmtr3NRZPEHNxQZc7oAQD8wLNgaLrbQ6s8Axuhi8TUAAAAAAEMAAAB
FolderPathName   : \Inbox
ClientInfoString : Client=MSExchangeRPC
ClientIPAddress  : 192.168.1.171
ClientProcessName : OUTLOOK.EXE
ClientVersion    : 16.0.8067.6527
InternalLogonType : Owner
MailboxOwnerUPN  : ceo@testlabs.se
MailboxOwnerSid  : S-1-5-21-1411203154-1084355696-2092060891-1691
CrossMailboxOperation : false
LogonUserDisplayName : admin
LogonUserSid     : S-1-5-21-1411203154-1084355696-2092060891-1103
OriginatingServer : TLEX1 (15.01.1034.013)
SourceItems      : SourceItems
```

Chapter 11: High Availability

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-DatabaseAvailabilityGroupNetwork

Identity          ReplicationEnabled Subnets
-----
DAG\MapiDagNetwork True                {{192.168.1.0/24,Up}}
```

[PS] C:\>_

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-DatabaseAvailabilityGroupNetwork

Identity          ReplicationEnabled Subnets
-----
DAG\MapiDagNetwork True                {{192.168.1.0/24,Up}}
DAG\Replication  True                {{10.0.0.0/8,Misconfigured}}
```

[PS] C:\>_

```

Machine: TLEX1.testlabs.se
[PS] C:\>Move-ActiveMailboxDatabase DB2 -ActivateOnServer TLEX1

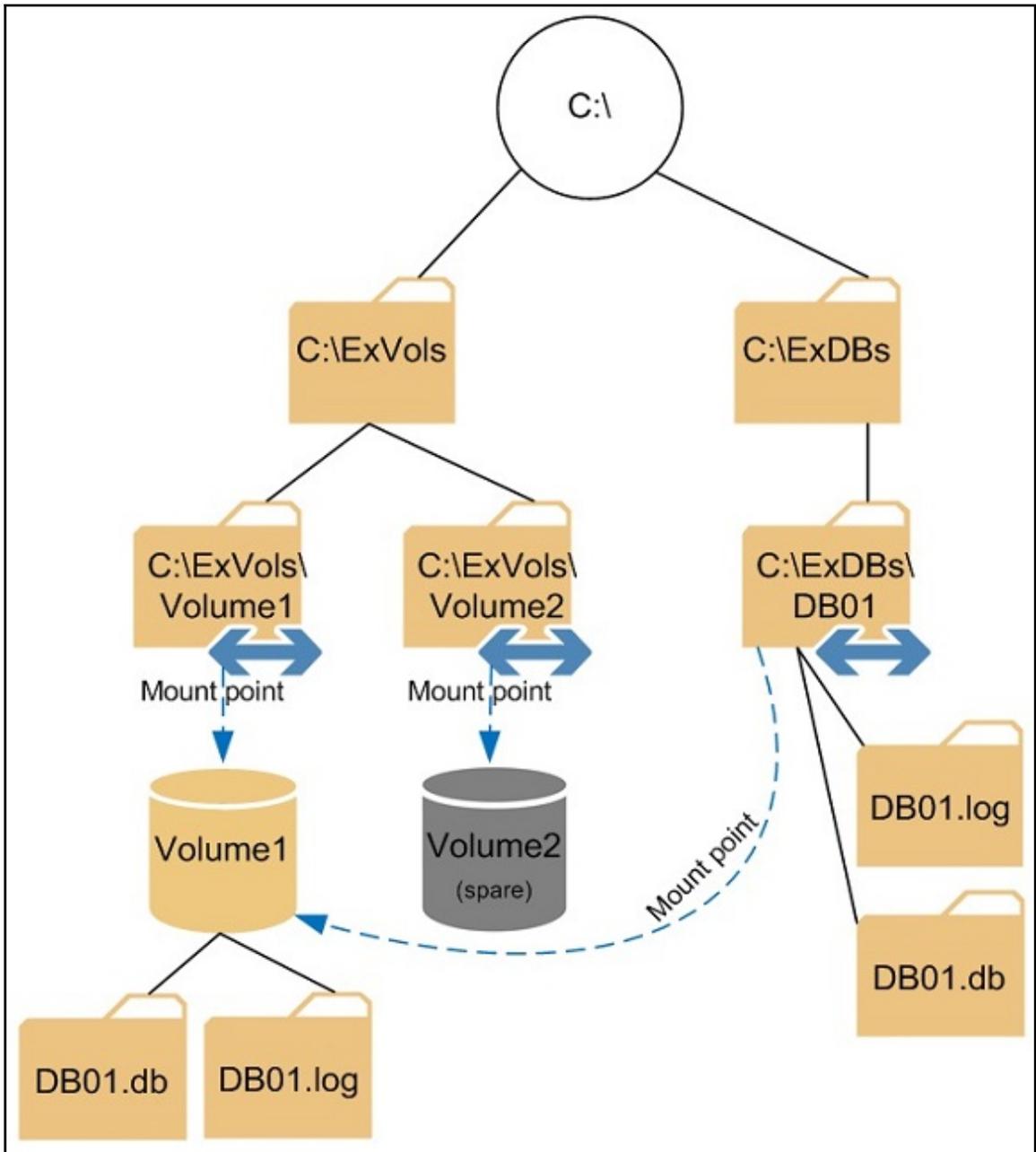
Identity          ActiveServerAtS ActiveServerAtE Status      NumberOfLogsLos
-----          -
DB2              TLEX2           TLEX2           Failed
An Active Manager operation failed. Error: The database action failed.
Error: Move for database 'DB2' was suppressed due to a blackout between
'09:00:00'UTC and '17:00:00'UTC. 3 previous moves have happened in this
period. [Database: DB2, Server: TLEX1.testlabs.se]
+ CategoryInfo          : InvalidOperation: (DB2:ADObjectId) [Move-ActiveMailboxDatabase], AmDbMoveMoveSuppressedBlackoutException
+ FullyQualifiedErrorId : [Server=TLEX1,RequestId=c4e5997b-6a61-49e4-ade0-5fbf6c2c989f,TimeStamp=21/04/2017 10:31:09] [FailureCategory=Cmdlet-AmDbMoveMoveSuppressedBlackoutException] 28CB99B6,Microsoft.Exchange.Management.SystemConfigurationTasks.MoveActiveMailboxDatabase
+ PSComputerName        : tlex1.testlabs.se

[PS] C:\>

```

Disk 1 Basic 20,00 GB Online	Volume1 (M:) 20,00 GB NTFS Healthy (Primary Partition)
Disk 2 Basic 20,00 GB Online	Volume2 (N:) 20,00 GB NTFS Healthy (Primary Partition)

This PC > Local Disk (C:) > ExVols >			
Name ^	Date modified	Type	
 Volume1	21/04/2017 12:26	File folder	
 Volume2	21/04/2017 12:26	File folder	



```
Machine: TLEX1.testlabs.se

\\?\Volume{96740b06-04e5-4c4a-bf0d-fe3e4af39e6b}\
C:\

\\?\Volume{6e762c53-4974-4b06-b036-940383b09e8a}\
N:\
C:\ExVols\Volume2\
C:\ExDBs\DB01\

\\?\Volume{9d236651-d862-417d-b460-ae72b7f3f8ca}\
*** NO MOUNT POINTS ***

\\?\Volume{8e71f9fa-0357-11e7-841e-00155d01041a}\
D:\

[PS] C:\>_
```

Seeding Number of events: 133

Level	Date and Time	Source	Eve...	Task Category
Information	21/04/2017 13:20:10	HighAvailability	1110	Auto Reseed Manager
Information	21/04/2017 13:20:10	HighAvailability	1124	Auto Reseed Manager
Information	21/04/2017 13:20:10	HighAvailability	1109	Auto Reseed Manager

Event 1109, HighAvailability

General Details

Automatic Reseed Manager is starting repair workflow 'FailedSuspendedCopyAutoReseed' for database 'DB01'.

WorkflowLaunchReason: The Microsoft Exchange Replication service is unable to create required directory C:\ExDBs\DB01\DB01.log for DB01\TLEX1. The database copy status will be set to Failed. Please check the file system permissions. Error: System.IO.DirectoryNotFoundException: Could not find a part of the path 'C:\ExDBs\DB01\DB01.log'.

- at System.IO._Error.WinIOError(Int32 errorCode, String maybeFullPath)
- at System.IO.Directory.InternalCreateDirectory(String fullPath, String path, Object dirSecurityObj, Boolean checkHost)
- at System.IO.Directory.CreateDirectory(String path, DirectorySecurity directorySecurity)
- at Microsoft.Exchange.Cluster.Replay.DirectoryOperations.TryCreateDirectory(String directory)

```
Machine: TLEX1.testlabs.se
[PS] C:\Program Files\Microsoft\Exchange Server\V15\Scripts>.\RedistributeActiveDatabases.ps1 -DagName DAG -BalanceDbsByActivationPreference -ShowFinalDatabaseDistribution

*****
Balance DAG DBs
22 April 2017 06:24:31
*****
Dag                :    DAG
ServerCount        :    2
DatabaseCount      :    4
CopiesCount        :    8

-----
Starting Server Distribution
-----

ServerName TotalDbs ActiveDbs PassiveDbs PreferenceCountList MountedDbs Dis
sm
ou
nt
ed
Db
s
-----
TLEX1          4         1         3 {4, 0}          1 0
TLEX2          4         3         1 {0, 4}          3 0

-----
Starting Database Moves
-----

Considering move of 'DB2' from 'TLEX2' (AP = 2) to 'TLEX1' (AP = 1)...

Confirm
Are you sure you want to perform this action?
Moving mailbox database "DB2" from server "TLEX2.testlabs.se" to server
"TLEX1.testlabs.se".
[Y] Yes [A] Yes to All [N] No [L] No to All [?] Help
(default is "Y"):_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MailboxDatabase | Get-MailboxDatabaseCopyStatus | Select Name, Status, ContentIndexState
```

Name	Status	ContentIndexState
DB1\TLEX1	Healthy	Healthy
DB1\TLEX2	Mounted	Healthy
DB2\TLEX1	Healthy	Healthy
DB2\TLEX2	Mounted	Healthy
DB3\TLEX1	Healthy	Healthy
DB3\TLEX2	Mounted	Healthy
DB4\TLEX1	Mounted	Healthy
DB4\TLEX2	Healthy	Healthy

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

```
Machine: TLEX1.testlabs.se
[PS] C:\>Test-ReplicationHealth

Server      Check      Result      Error
-----
TLEX1      ClusterService      Passed
TLEX1      ReplayService      Passed
TLEX1      ActiveManager      Passed
TLEX1      TasksRpcListener      Passed
TLEX1      TcpListener      Passed
TLEX1      ServerLocatorService      Passed
TLEX1      DagMembersUp      Passed
TLEX1      MonitoringService      Passed
TLEX1      ClusterNetwork      Passed
TLEX1      QuorumGroup      Passed
TLEX1      FileShareQuorum      Passed
TLEX1      DatabaseRedundancy      Passed
TLEX1      DatabaseAvailability      Passed
TLEX1      DBCopySuspended      Passed
TLEX1      DBCopyFailed      Passed
TLEX1      DBInitializing      Passed
TLEX1      DBDisconnected      Passed
TLEX1      DBLogCopyKeepingUp      Passed
TLEX1      DBLogReplayKeepingUp      Passed

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\Program Files\Microsoft\Exchange Server\V15\Scripts>.\CollectOverMe
trics.ps1 -DatabaseAvailabilityGroup DAG -ReportPath C:\temp\Report
Get statistics from TLEX2.testlabs.se
Get statistics from TLEX1.testlabs.se
Found total of 104 entries
Searching for ACLL loss reports on TLEX2.testlabs.se.
Searching for ACLL loss reports on TLEX1.testlabs.se.

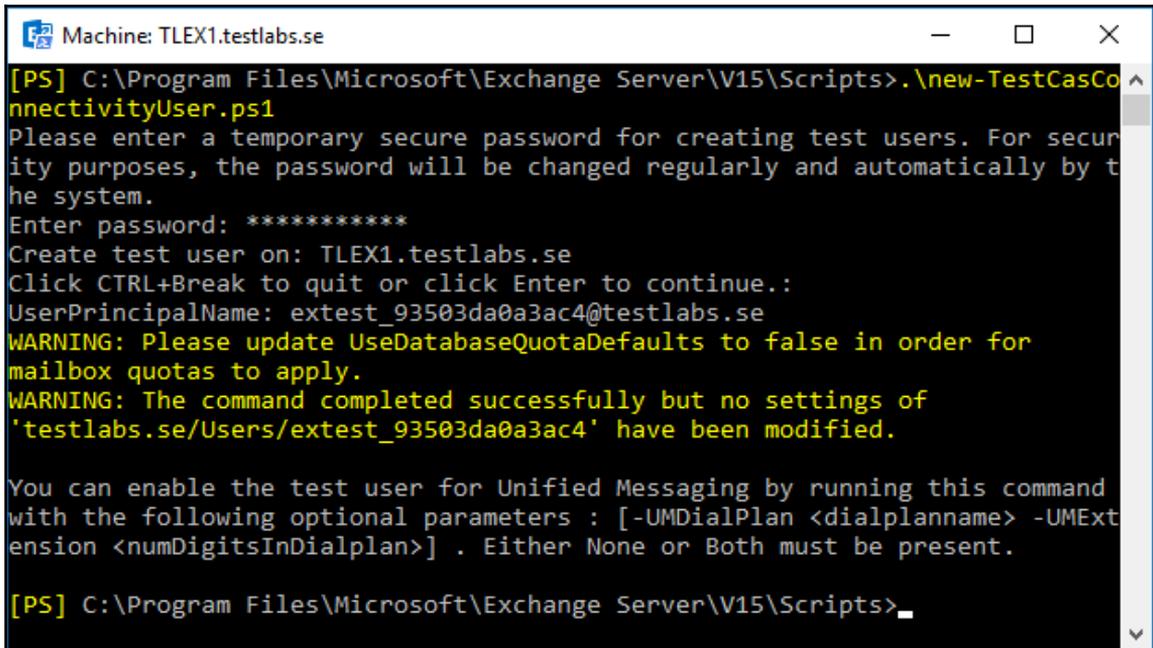
Generated the following per-DAG reports:
C:\temp\Report\FailoverReport.DAG.2017_04_22_06_47_30.csv

[PS] C:\Program Files\Microsoft\Exchange Server\V15\Scripts>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\Program Files\Microsoft\Exchange Server\V15\Scripts>Import-Csv C:\t
emp\Report\FailoverReport.DAG.2017_04_22_06_47_30.csv

DatabaseName           : DB2
TimeRecoveryStarted    : 22/04/2017 06:42:23
TimeRecoveryEnded      : 22/04/2017 06:42:24
ActionInitiator        : Automatic
ActionCategory         : Move
ActionReason           : NodeDown
Result                 : Success
DurationOutage         : 0.9743777
DurationDismount       : 0.1159182
DurationBcs            : 0.0189146
DurationAcll          : 0.2088316
DurationMount          : 0.6279018
DurationOther          : 0.0217261
ActiveOnStart          : TLEX2.testlabs.se
ActiveOnFinish         : TLEX1.testlabs.se
PAMServer              : TLEX1.testlabs.se
NumberOfAttempts       : 1
ReplayedLogs           : 0
LostLogs               : 0
```

Chapter 12: Monitoring Exchange Health



```
[PS] C:\Program Files\Microsoft\Exchange Server\V15\Scripts>.\new-TestCasConnectivityUser.ps1
Please enter a temporary secure password for creating test users. For security purposes, the password will be changed regularly and automatically by the system.
Enter password: *****
Create test user on: TLEX1.testlabs.se
Click CTRL+Break to quit or click Enter to continue.:
UserPrincipalName: extest_93503da0a3ac4@testlabs.se
WARNING: Please update UseDatabaseQuotaDefaults to false in order for mailbox quotas to apply.
WARNING: The command completed successfully but no settings of 'testlabs.se/Users/extest_93503da0a3ac4' have been modified.

You can enable the test user for Unified Messaging by running this command with the following optional parameters : [-UMDialPlan <dialplanname> -UMExtension <numDigitsInDialplan>] . Either None or Both must be present.

[PS] C:\Program Files\Microsoft\Exchange Server\V15\Scripts>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Test-ServiceHealth

Role           : Mailbox Server Role
RequiredServicesRunning : True
ServicesRunning : {IISAdmin, MExchangeADTopology, MExchangeDelivery, MExchangeIS, MExchangeMailboxAssistants, MExchangeRepl, MExchangeRPC, MExchangeServiceHost, MExchangeSubmission, MExchangeThrottling, MExchangeTransportLogSearch, W3Svc, WinRM}
ServicesNotRunning : {}

Role           : Client Access Server Role
RequiredServicesRunning : True
ServicesRunning : {IISAdmin, MExchangeADTopology, MExchangeMailboxReplication, MExchangeRPC, MExchangeServiceHost, W3Svc, WinRM}
ServicesNotRunning : {}

Role           : Unified Messaging Server Role
RequiredServicesRunning : True
ServicesRunning : {IISAdmin, MExchangeADTopology, MExchangeServiceHost, MExchangeUM, W3Svc, WinRM}
ServicesNotRunning : {}

Role           : Hub Transport Server Role
RequiredServicesRunning : False
ServicesRunning : {IISAdmin, MExchangeADTopology, MExchangeEdgeSync, MExchangeServiceHost, MExchangeTransportLogSearch, W3Svc, WinRM}
ServicesNotRunning : {MExchangeTransport}

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Test-MAPIConnectivity nuno@testlabs.se | FL

RunspaceId      : 1a25b300-c5e9-4354-baad-f9a6c8c1d785
Server          : TLEX1
Database        : DB1
Mailbox         : Nuno
MailboxGuid     : 7a126ca0-9acc-49a5-8119-ab4e8087b70b
IsArchive       : False
IsDatabaseCopyActive : True
Result          : Success
Latency         : 00:00:00.0073686
Error           :
Identity        :
IsValid         : True
ObjectState     : New

[PS] C:\>
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>$cred = Get-Credential

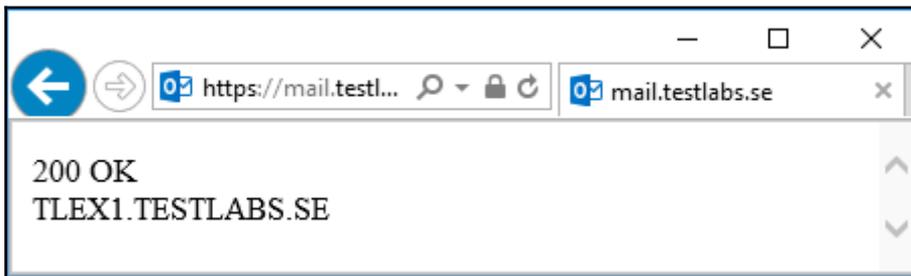
cmdlet Get-Credential at command pipeline position 1
Supply values for the following parameters:
Credential
[PS] C:\>Test-OutlookWebServices nuno@testlabs.se -MailboxCredential $cred
| FT ServiceEndpoint, Scenario, Result, Latency -AutoSize

ServiceEndpoint      Scenario      Result  Latency
-----
autodiscover.testlabs.se AutoDiscoverOutlookProvider Success      22
mail.testlabs.se      ExchangeWebServices Success      10
mail.testlabs.se      AvailabilityService Success      23
mail.testlabs.se      OfflineAddressBook Failure       12

[PS] C:\>
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Test-WebServicesConnectivity nuno@testlabs.se -MailboxCredential $cred | Select ServiceEndPoint, Scenario, Result, Latency
ServiceEndPoint          Scenario  Result  Latency
-----
autodiscover.testlabs.se AutoDiscoverSoapProvider Success   15
mail.testlabs.se         EwsGetFolder Success   15

[PS] C:\>_
```



```
Machine: TLEX1.testlabs.se
[PS] C:\>Invoke-WebRequest -Uri "https://mail.testlabs.se/owa/healthcheck.htm"

StatusCode      : 200
StatusDescription : OK
Content         : {50, 48, 48, 32, 79, 75, 60, 98, 114, 47, 62, 84, 76, 69, 88, 49...}
RawContent      : HTTP/1.1 200 OK
                  X-FEServer: TLEX1
                  Content-Length: 28
                  Date: Tue, 30 May 2017 12:07:35 GMT
                  Server: Microsoft-IIS/10.0
                  X-Powered-By: ASP.NET

Headers         : {200 OK<br/>TLEX1.TESTLABS.SE}
                  {[X-FEServer, TLEX1], [Content-Length, 28], [Date, Tue, 30 May 2017 12:07:35 GMT], [Server, Microsoft-IIS/10.0], [X-Powered-By, ASP.NET]}
RawContentLength : 28

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>[System.Net.ServicePointManager]::ServerCertificateValidationCallback = {$true}
[PS] C:\>$wc = New-Object System.Net.WebClient
[PS] C:\>$wc.downloadstring("https://tlex1.testlabs.se/owa/healthcheck.htm")
200 OK<br/>TLEX1.TESTLABS.SE
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Set-ServerComponentState TLEX1 -Component OwaProxy -Requester Maintenance -State Inactive
[PS] C:\>
[PS] C:\>$wc.downloadstring("https://tlex1.testlabs.se/owa/healthcheck.htm")
Exception calling "DownloadString" with "1" argument(s): "The underlying connection was closed: An unexpected error occurred on a receive."
At line:1 char:1
+ $wc.downloadstring("https://tlex1.testlabs.se/owa/healthcheck.htm")
+ ~~~~~
+ CategoryInfo          : NotSpecified: (:) [], MethodInvocationException
+ FullyQualifiedErrorId : WebException
[PS] C:\>
[PS] C:\>
[PS] C:\>Set-ServerComponentState TLEX1 -Component OwaProxy -Requester Maintenance -State Active
[PS] C:\>
[PS] C:\>$wc.downloadstring("https://tlex1.testlabs.se/owa/healthcheck.htm")
200 OK<br/>TLEX1.TESTLABS.SE
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-ServerHealth TLEX1 | FL CurrentHealthSetState, Name, HealthSetName, AlertValue
CurrentHealthSetState : NotApplicable
Name                  : CrashEvent.MSExchangeBotsAppPool
HealthSetName         : O365Griffin
AlertValue             : Healthy
CurrentHealthSetState : Online
Name                  : RuleEvaluationAdFailureEventLogMonitor
HealthSetName         : HubTransport
AlertValue             : Healthy
CurrentHealthSetState : NotApplicable
Name                  : PowerShellHttpGenericErrorAboveThresholdMonitor
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-HealthReport -Server TLEX1 | FT State, HealthSet, AlertValue, MonitorCount
```

State	HealthSet	AlertValue	MonitorCount
NotApplicable	0365Griffin	Healthy	248
Online	HubTransport	Healthy	67
NotApplicable	EDS	Healthy	43
Online	FrontendTransport	Healthy	20
NotApplicable	Search	Healthy	78
NotApplicable	HxService	Healthy	110
NotApplicable	StreamingOptics	Healthy	16
NotApplicable	Store	Healthy	90
NotApplicable	Xrm	Healthy	38
NotApplicable	PublicFolders	Healthy	9
NotApplicable	DataProtection	Healthy	92

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-HealthReport -Server TLEX1 | Where {$_.AlertValue -ne "Healthy"} | FT State, HealthSet, AlertValue, MonitorCount
```

State	HealthSet	AlertValue	MonitorCount
NotApplicable	MailboxSpace	Unhealthy	10

```
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-ServerHealth -HealthSet MailboxSpace -Server TLEX1 | Sort AlertValue | FT Name, TargetResource, AlertValue -Auto
```

Name	TargetResource	AlertValue
DatabaseSizeMonitor	DB2	Healthy
DatabaseSizeMonitor	DB3	Healthy
DatabaseSizeMonitor	DB04	Healthy
DatabaseSizeMonitor	DB1	Healthy
MaintenanceTimeoutMonitor.MailboxSpace		Healthy
MaintenanceFailureMonitor.MailboxSpace		Healthy
StorageLogicalDriveSpaceMonitor	DB1	Unhealthy
StorageLogicalDriveSpaceMonitor	DB04	Unhealthy
StorageLogicalDriveSpaceMonitor	DB3	Unhealthy
StorageLogicalDriveSpaceMonitor	DB2	Unhealthy

```
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>(Get-WinEvent -ComputerName TLEX1 -LogName Microsoft-Exchange-ActiveMonitoring/ProbeResult -FilterXPath "[*][UserData[EventXML[ResultName='MSExchangeDagMgmt/EdbAndLogVolSpace/DB1']]]" | ForEach {[XML] $_.toXml()}).Event.UserData.EventXml | Sort ExecutionEndTime -Descending | Select Error -First 1 | FL
```

Error : 'DB1' is low on log volume space [C:\]. Current=9.85 GB,
Threshold=175.78 GB

```
[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\Software>. \countTransactionLogs.ps1

Name Server Logs
-----
DB01 TLEX1 488
DB02 TLEX1 509
DB03 TLEX1 474
DB04 TLEX1 474

[PS] C:\Software>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MailboxDatabase | Get-MailboxDatabaseCopyStatus | Sort Name |
FT Name, DiskTotalSpace, DiskFreeSpace -AutoSize

Name                DiskTotalSpace          DiskFreeSpace
-----
DB01\TLEX1 69.45 GB (74,567,380,992 bytes) 9.882 GB (10,610,659,328 bytes)
DB01\TLEX2 69.45 GB (74,567,380,992 bytes) 25.96 GB (27,873,320,960 bytes)
DB02\TLEX1 69.45 GB (74,567,380,992 bytes) 9.882 GB (10,610,659,328 bytes)
DB02\TLEX2 69.45 GB (74,567,380,992 bytes) 25.96 GB (27,873,320,960 bytes)
DB03\TLEX1 69.45 GB (74,567,380,992 bytes) 9.882 GB (10,610,659,328 bytes)
DB03\TLEX2 69.45 GB (74,567,380,992 bytes) 25.96 GB (27,873,320,960 bytes)
DB04\TLEX1 4.967 GB (5,333,053,440 bytes) 3.128 GB (3,358,760,960 bytes)
DB04\TLEX2 69.45 GB (74,567,380,992 bytes) 25.96 GB (27,873,320,960 bytes)

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se

[PS] C:\>Get-MailboxDatabaseRedundancy DB01 | FL

RunspaceId           : 664fb032-104b-44a8-9b15-2a6606304008
DbGuid               : 02176f42-32bd-4e99-b5fc-bfe79ccf12ce
Identity             : DB01
IsDatabaseFoundInAD : True
IsAtLeast2RedundantCopy : True
IsAtLeast2AvailableCopy : True
AtLeast2RedundantCopyTransitionTime : 02/06/2017 07:18:26
AtLeast2AvailableCopyTransitionTime : 02/06/2017 07:18:26
ServerContactedFqdn : TLEX1.TESTLABS.SE
HealthInfoCreateTime : 21/04/2017 08:36:05
HealthInfoLastUpdateTime : 02/06/2017 08:01:27
DatabaseFoundInAD   : CurrentState: Active; LastActiveTran:
SkippedFromMonitoring : CurrentState: Inactive; LastActiveTran:
AtLeast1RedundantCopy : CurrentState: Active; LastActiveTran:
AtLeast2RedundantCopy : CurrentState: Active; LastActiveTran:
AtLeast3RedundantCopy : CurrentState: Inactive; LastActiveTran:
AtLeast4RedundantCopy : CurrentState: Inactive; LastActiveTran:
AtLeast1AvailableCopy : CurrentState: Active; LastActiveTran:
AtLeast2AvailableCopy : CurrentState: Active; LastActiveTran:
AtLeast3AvailableCopy : CurrentState: Inactive; LastActiveTran:
AtLeast4AvailableCopy : CurrentState: Inactive; LastActiveTran:
DbCopies             : {DB01\TLEX1, DB01\TLEX2}
IsValid              : True
ObjectState          : Unchanged

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MailboxDatabaseRedundancy -DatabaseAvailabilityGroup DAG | Select Identity, IsAtLeast2RedundantCopy, IsAtLeast2AvailableCopy, @{Expression={$_.AtLeast3AvailableCopy.CurrentState}; Name="AtLeast3AvailableCopy"}

Identity IsAtLeast2RedundantCopy IsAtLeast2AvailableCopy AtLeast3AvailableCopy
-----
DB01      True                        True                        Inactive
DB02      True                        True                        Inactive
DB03      True                        True                        Inactive
DB04      True                        True                        Inactive

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-MailboxDatabaseRedundancy -DatabaseAvailabilityGroup DAG | Select Identity, IsAtLeast2RedundantCopy, IsAtLeast2AvailableCopy

Identity IsAtLeast2RedundantCopy IsAtLeast2AvailableCopy
-----
DB01      False                     False
DB02      False                     False
DB03      False                     False
DB04      False                     False

[PS] C:\>_
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-WinEvent -ComputerName TLEX1 -FilterHashTable @{LogName="Microsoft-Exchange-HighAvailability/Monitoring"; id=1018} | Select -First 1 | FL

TimeCreated      : 09/06/2017 06:18:22
ProviderName     : Microsoft-Exchange-HighAvailability
Id               : 1018
Message          : Database redundancy two-copy health check failed. You can
                  ignore this error if you have less than 3 database copies
                  configured.

                  This event can be disabled by setting the following regkey
                  to 1: 'HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\ExchangeServer\
                  v15\Replay\Parameters ->
                  DatabaseHealthCheckRedundancyTwoCopyAlertDisabled'.

                  Database: DB04
                  Redundancy count: 1

                  Error: There were database redundancy check failures for
                  database 'DB04' that may be lowering its redundancy and
                  putting the database at risk of data loss. Redundancy
                  Count: 1. Expected Redundancy Count: 2. Detailed error(s):
```

```
Machine: TLEX1.testlabs.se
[PS] C:\>Get-HealthReport -Server TLEX1 | Where {$_.AlertValue -ne "Healthy"}

Server State      HealthSet AlertValue LastTransitionTime MonitorCount
-----
TLEX1 NotApplicable Store      Unhealthy  04/06/2017 08:27:08 90

[PS] C:\>_
```

Chapter 13: Integration

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-ClientAccessService | fl Name, AutoDiscoverServiceInternalUri
Name
AutoDiscoverServiceInternalUri : TLEX01
                                : https://autodiscover.testlabs.se/Autodisc
                                  over/Autodiscover.xml
```

```
Administrator: Skype for Business Server Management Shell
PS C:\> Get-CsOAuthConfiguration
Identity
PartnerApplications
OAuthServers
Realm
ServiceName
ClientAuthorizationOAuthServerIdentity
ExchangeAutodiscoverUrl
ExchangeAutodiscoverAllowedDomains
: Global
: {Name=Exchange;ApplicationIdentifier=00000002-0000-0ff1-ce00-000000000000;Realm=testlabs.se;ApplicationTrustLevel=Full;AcceptSecurityIdentifierInformation=False;Enabled=True}
: {}
:
: 00000004-0000-0ff1-ce00-000000000000
:
: https://autodiscover.testlabs.se/autodiscover/autodiscover.svc
:
```

```
Administrator: Skype for Business Server Management Shell
PS C:\> Get-CsCertificate -Type OAuthTokenIssuer

Issuer           : CN=testlabs-TLDC01-CA, DC=testlabs, DC=se
NotAfter         : 2019-05-11 22:19:32
NotBefore        : 2017-05-11 22:19:32
SerialNumber     : 780000000F1A00538B3D9F371E000000000000F
Subject          : CN=testlabs.se, OU=Testlabs, O=Testlabs, L=Malmo, S=S
                  kane, C=SE
AlternativeNames : {}
Thumbprint       : 714A8335F44E95EA3D50EFEAF221D0B4571D2A79
EffectiveDate    : 2017-05-11 22:29:40
PreviousThumbprint :
UpdateTime       :
Use              : OAuthTokenIssuer
SourceScope      : Global
```

```
Administrator: Skype for Business Server Management Shell
PS C:\> Get-CsUser pdickson | fl Identity,ClientPolicy,ArchivingPolicy,ExchangeArchivingPolicy,RegistrarPool,SipAddress

Identity           : CN=Pete Dickson,OU=Sales,DC=testlabs,DC=se
ClientPolicy       : TestlabsClientPolicy
ArchivingPolicy    : TestlabsArchivingPolicy
ExchangeArchivingPolicy : ArchivingToExchange
RegistrarPool      : tlfe01.testlabs.se
SipAddress         : sip:pdickson@testlabs.se
```

```
Administrator: Skype for Business Server Management Shell
PS C:\> Test-CsUnifiedContactStore -UserSipAddress "sip:pdickson@testlabs.se" -TargetFqdn "tlfe01.testlabs.se" -UserCredential $credential

Target Fqdn      : tlfe01.testlabs.se
Result           : Success
Latency          : 00:00:00.0350145
Error Message    :
Diagnosis        :
```

```
Administrator: Skype for Business Server Management Shell
PS C:\> Debug-CsUnifiedContactStore -Identity pdickson@testlabs.se | fl

UcsMigrationAttemptCount : 1
LastUcsMigrationAttempt  : 5/12/2017 6:24:00 PM
SipUri                    : pdickson@testlabs.se
UcsMode                   : Migrated
```

```
Administrator: Skype for Business Server Management Shell
PS C:\> Get-CsPartnerApplication

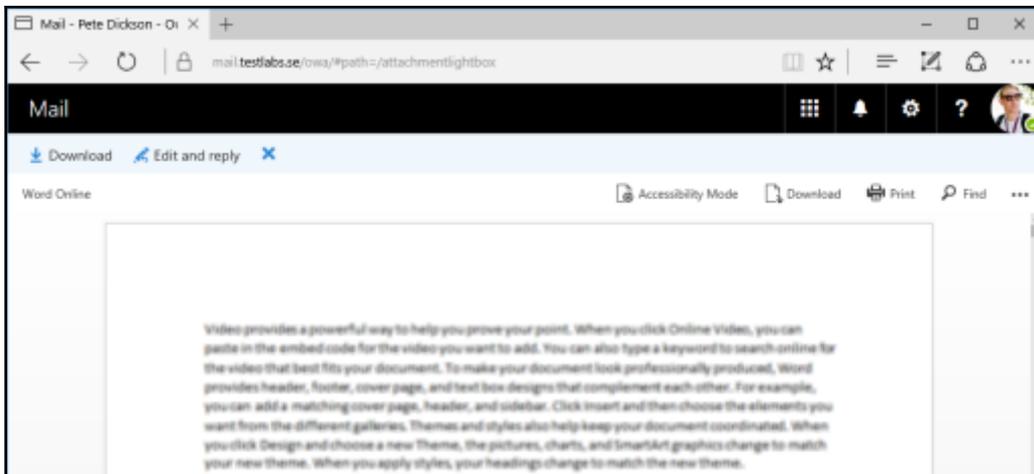
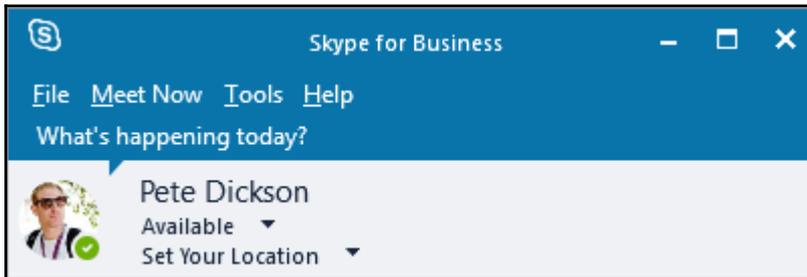
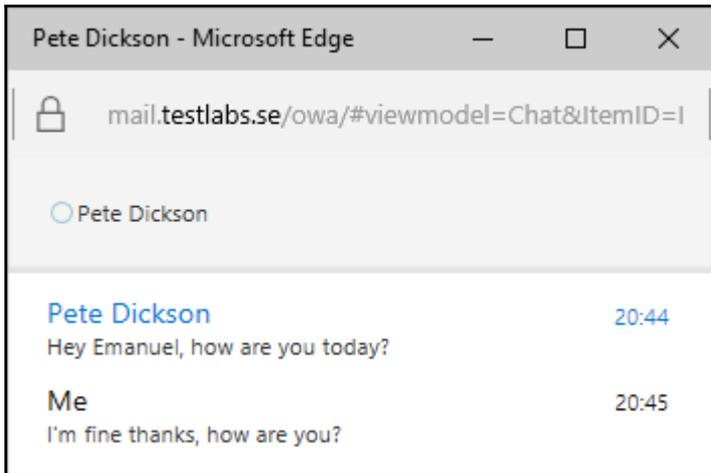
Identity           : Exchange
AuthToken          : Value=https://autodiscover.testlabs.se/autodiscover/metadata/json/1
Name               : Exchange
ApplicationIdentifier : 00000002-0000-0ff1-ce00-000000000000
Realm              : testlabs.se
ApplicationTrustLevel : Full
AcceptSecurityIdentifierInformation : False
Enabled            : True
```

Skype for Business Configuration Information

Controlled Phones	TRUE	--
GAL or Server Based Search	GAL search	--
PC to PC AV Encryption	AV Encryption Enforced	--
Telephony Mode	Telephony Mode Disabled	--
Line Configured From	Auto Line Configuration	--
Configuration Mode	Auto Configuration	--
EWS Internal URL	https://mail.testlabs.se/EWS/Exchange.asmx	--
EWS External URL	https://mail.testlabs.se/EWS/Exchange.asmx	--
SharePoint Search Center UF		--
Skill Search URL		--
Skype for Business Server	tffe01.testlabs.se	--
Local Log Folder	C:\Users\pdickson\AppData\Local\Microsoft\Office\16.0\Lync\Tracing	--
Inside User Status	TRUE	--
Contact List Provider	UCS	--
Pairing State	Skype for Business cannot connect to your desk phone because the US	Enabled
UCS Connectivity State	Exchange connection Active	--
MAPI Information	MAPI Status OK	MAPI Status OK
EWS Information		EWS Status OK
License State	Skype for Business ProPlus	--

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-ExchangeCertificate

Thumbprint                               Services  Subject
-----
1422EB9AB822E73ADFD7E4B1013D9E871FF3F181 .....  CN=TLEX01.testlabs.se
60C59DAE95C3FCB91B6AD2D545A9A99203D9B543 .....  CN=localhost
BA4E150BBA6F7D7324A7F694AFC1F46E4FADC98A ...WS..  CN=mail.testlabs.s...
183CEB67296427EC9C6BA63EE626A3DAAA66F0AA ...S..   CN=Microsoft Excha...
2041D4FF67FFDC1BF12CF6C0526338B4B5D0B716 IP.WS..  CN=TLEX01
3AD26581EE2D9D4820AF28C17C6FEE610DE668D7 .....  CN=WMSvc-SHA2-TLEX01
```



```
Machine: TLEX01.testlabs.se
[PS] C:\>Test-FederationTrust

Begin process.

STEP 1 of 6: Getting ADUser information for extest_f55866cfee824...
RESULT: Success.

STEP 2 of 6: Getting FederationTrust object for extest_f55866cfee824...
RESULT: Success.

STEP 3 of 6: Validating that the FederationTrust has the same STS certificates as the actual certificates published by the STS in the federation metadata.
RESULT: Success.

STEP 4 of 6: Getting STS and Organization certificates from the federation trust object...
RESULT: Success.

Validating current configuration for FYDIBOHF25SPDLT.testlabs.se...

Validation successful.

STEP 5 of 6: Requesting delegation token...
RESULT: Success. Token retrieved.

STEP 6 of 6: Validating delegation token...
RESULT: Success.

Closing Test-FederationTrust...
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>Get-OrganizationRelationship | Test-OrganizationRelationship -User Identity pdickson@testlabs.se

Begin testing for organization relationship CN=0n-premises to 0365 - 873245c5-d3df-4d16-afb2-14e3fbb018a7,CN=Federation,CN=First Organization,CN=Microsoft Exchange,CN=Services,CN=Configuration,DC=testlabs,DC=se, enabled state True.

Exchange D-Auth Federation Authentication STS Client Identities are urn:federation:MicrosoftOnline/FYDIBOHF25SPDLT.testlabs.se;

STEP 1: Validating user configuration
RESULT: Success.

STEP 2: Getting federation information from remote organization...
RESULT: Success.

STEP 3: Validating consistency in returned federation information
RESULT: Success.

STEP 4: Requesting delegation token from the STS...
RESULT: Success.
Retrieved token for target https://autodiscover-s.outlook.com/autodiscover/autodiscover.svc/WSSecurity for offer Name=MSExchange.Autodiscover,Duration=28800(secs)

STEP 5: Getting organization relationship setting from remote partner...
RESULT: Success.

STEP 6: Validating organization relationships returned from remote partner
RESULT: Success.

LAST STEP: Writing results...
No Significant Issues to Report

COMPLETE.
```

Chapter 14: Scripting with the Exchange Web Services Managed API

```
Machine: TLEX01.testlabs.se
[PS] C:\>Add-Type -Path C:\EWS\Microsoft.Exchange.WebServices.dll
[PS] C:\>$svc = New-Object Microsoft.Exchange.WebServices.Data.ExchangeService
[PS] C:\>$svc.AutodiscoverUrl("Isanders@testlabs.se")
[PS] C:\>
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>[System.Reflection.Assembly]::LoadFile("C:\EWS\Microsoft.Exchange.WebServices.dll")
GAC      Version      Location
----      -
True     v2.0.50727    C:\Windows\assembly\GAC_MSIL\Microsoft.Exchange.W...
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>$url = "https://autodiscover.testlabs.se/EWS/Exchange.asmx"
[PS] C:\>$svc.Url = New-Object System.Uri -ArgumentList $url
[PS] C:\>
[PS] C:\>$svc.Url
AbsolutePath      : /EWS/Exchange.asmx
AbsoluteUri       : https://autodiscover.testlabs.se/EWS/Exchange.asmx
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>[System.Reflection.Assembly]::LoadFile(
>> "C:\EWS\Microsoft.Exchange.WebServices.dll"
>> )
GAC      Version      Location
----      -
True     v2.0.50727    C:\Windows\assembly\GAC_MSIL\Microsoft.Exchange.W...

[PS] C:\>$svc = New-Object Microsoft.Exchange.WebServices.Data.ExchangeService
[PS] C:\>$spm = [System.Net.ServicePointManager]
[PS] C:\>$spm::ServerCertificateValidationCallback = {$true}
[PS] C:\>$svc.AutodiscoverUrl("Isanders@testlabs.se")
[PS] C:\>
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>Add-Type -Path C:\EWS\Microsoft.Exchange.WebServices.dll
[PS] C:\>$svc = New-Object -TypeName Microsoft.Exchange.WebServices.Data.ExchangeService
[PS] C:\>$svc.AutoDiscoverUrl("lsanders@testlabs.se")
[PS] C:\>$msg = New-Object -TypeName Microsoft.Exchange.WebServices.Data.EmailMessage -ArgumentList $svc
[PS] C:\>$msg.Subject = "Test E-Mail"
[PS] C:\>$msg.Body = "This is a test"
[PS] C:\>$msg.From = "lsanders@testlabs.se"
[PS] C:\>$to = "administrator@testlabs.se","pdickson@testlabs.se","emoss@testlabs.se"
[PS] C:\>$to | ForEach-Object {$msg.ToRecipients.Add($_) | Out-Null}
[PS] C:\>$msg.SendAndSaveCopy()
[PS] C:\>
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>Send-EWSMailMessage -From administrator@testlabs.se -PrimarySmtpAddress helpdesk@testlabs.se,lsanders@testlabs.se -Subject 'Critical alert on TLEX01' -Body 'TLEX01 Server is low on disk space' -Cc itmanager@testlabs.se
[PS] C:\>
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>Send-EWSMailMessage -From sysadmin@testlabs.se -PrimarySmtpAddress helpdesk@testlabs.se -Subject 'Critical alert on TLEX04' -Body 'TLEX04 Server is low on disk space' -Cc administrator@testlabs.se -Bcc itmanager@testlabs.se
[PS] C:\>
```

```
Machine: TLEX01.testlabs.se
HasAttachments : False
To             : Arlene Finley; Arlene Finley; Emanuel Moss; Lee Sanders;
               : Pete Dickson
Received      : 5/1/2017 7:08:02 PM
Subject       : Satiare
Id            : AQMkAGYzYz1hNmVmLWM5YTAtNDM1ZC05Mzg1LWVhMzk2ZDQyYjg1YgBGA
               : AADjIGhyGd89EWPYfMpDePJdQcAmnPawTdxuUKedWHHqvWuBQAAAgEMAA
               : AAmnPawTdxuUKedWHHqvWuBQAAQEFHQAAAA==
Body          : west. At 6 crossed O'Connell's Plains, and at 7 stopped
               : on a point of remained for the night. Started a kangaroo
               : half-a-mile before we got in, sore feet and unable to
               : walk that they killed it. CONVICTS. labourers. 'Smith
               : employed mending tools and making shoe-nails. beyond the
               : Blue Mountains, wrote at once to William Cox, Esq.,
               : J.P., Clarndon: branch of a river running to the east
               : not yet named. A fine, clear day. water-platypus mole,
               : is seen in great numbers. The soil is rich, and

Sent          : 5/1/2017 7:08:01 PM
Cc           :
```

```
Machine: TLEX01.testlabs.se
[PS] C:\Scripts>. \GetMessageHeaders.ps1 -query "Subject:'Financial report FY17'" -mailbox lsanders@testlabs.se -folder Inbox

Name                               Value
----                               -
Received                           from TLEX01.testlabs.s...
Received                           from TLEX01.testlabs.s...
Received                           from TLEX01.testlabs.s...
Content-Type                       application/ms-tnef
Content-Transfer-Encoding          binary
Subject                            Financial report FY17
Thread-Topic                       Financial report FY17
Thread-Index                       AQHSxQA/Y8uKyubzPEaDaK...
Date                                Thu, 4 May 2017 20:00:...
Message-ID                         <7ba9c379e1d54635a5e45...
Accept-Language                   sv-SE, en-US
Content-Language                   sv-SE
X-MS-Has-Attach                   yes
X-MS-Exchange-Organization-SCL   -1
X-MS-TNEF-Correlator              <7ba9c379e1d54635a5e45...
MIME-Version                       1.0
X-MS-Exchange-Organization-MessageDirectionality Originating
X-MS-Exchange-Organization-AuthSource TLEX01.testlabs.se
X-MS-Exchange-Organization-AuthAs Internal
X-MS-Exchange-Organization-AuthMechanism 04
X-Originating-IP                  [192.168.0.2]
X-MS-Exchange-Organization-Network-Message-Id b300227c-6b2a-4b0d-f6a...
Return-Path                       emoss@testlabs.se
X-MS-Exchange-Organization-AVStamp-Enterprise 1.0
X-MS-Exchange-Transport-EndToEndLatency 00:00:18.3505808

[PS] C:\Scripts>
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>Remove-MailboxItem -PrimarySmtpAddress emoss@testlabs.se -SearchQuery "Subject:'Free Surface Book'" -DeleteMode SoftDelete

Confirm
Are you sure you want to perform this action?
Performing the operation "Remove-MailboxItem" on target "Free Surface Book".
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help
(default is "Y"):
```

```
Machine: TLEX01.testlabs.se
[PS] C:\>New-CalendarItem -Subject "Reboot Server"
>> -Body "Reboot EXCH-SRV01 server after 5PM today"
>> -Start (Get-Date).AddHours(6)
>> -End (Get-Date).AddHours(7)
>> -Mailbox sysadmin@testlabs.se
>> -RequiredAttendees helpdesk@testlabs.se,administrator@testlabs.se
[PS] C:\>
```

```
Machine: TLEX01.testlabs.se
[PS] C:\Scripts>.\AttachmentExport.ps1 -folder Inbox
>> -mailbox emoss@testlabs.se
>> -query "attachment:docx"
>> -path c:\Export
[PS] C:\Scripts>.\AttachmentExport.ps1 -folder Inbox
>> -mailbox emoss@testlabs.se
>> -query "attachment:xlsx"
>> -path c:\Export
[PS] C:\Scripts>
```

Name	Date modified	Type	Size
Document.docx	5/6/2017 8:29 PM	Office Open XML ...	
Spreadsheet.xlsx	5/6/2017 8:31 PM	XLSX File	

