

Exchange Server 2019 - PowerShell Quick Reference

(v 1.03)

Install Prerequisites

In order to install Exchange 2019 on Windows 2019, a series of prerequisites need to be installed

Install-WindowsFeature Web-WebServer,Web-Common-Http,Web-Default-Doc,Web-Dir-Browsing,Web-Http-Errors,Web-Static-Content,Web-Http-Redirect,Web-Health,Web-Http-Logging,Web-Log-Libraries,Web-Request-Monitor,Web-Http-Tracing,Web-Performance,Web-Stat-Compression,Web-Dyn-Compression,Web-Security,Web-Filtering,Web-Basic-Auth,Web-Client-Auth,Web-Digest-Auth,Web-Windows-Auth,Web-App-Dev,Web-Net-Ext45,Web-Asp-Net45,Web-ISAPI-Ext,Web-ISAPI-Filter,Web-Mgmt-Tools,Web-Mgmt-Compat,Web-Metabase,Web-WMI,Web-Mgmt-Service,NET-Framework-45-ASPNET,NET-WCF-HTTP-Activation45,NET-WCF-MSMQ-Activation45,NET-WCF-Pipe-Activation45,NET-WCF-TCP-Activation45,Server-Media-Foundation,MSMQ-Services,MSMQ-Server,RSAT-Feature-Tools,RSAT-Clustering,RSAT-Clustering-PowerShell,RSAT-Clustering-CmdInterface,RPC-over-HTTP-Proxy,WAS-Process-Model,WAS-Config-APIs

```
[string]$expression = ".\UcmaRuntimeSetup.exe /quiet /norestart"
```

```
Invoke-Expression $expression
```

```
[string]$expression = ".\vcredis_x64.exe /quiet /norestart"
```

```
Invoke-Expression $expression
```

Pro Tip

Some cmdlets produce a lot of results and Exchange will cap the display at 1000. To get greater than 1000 results Use these parameters:

`'-ResultSize Unlimited'` OR `'-ResultSize <number of objects to return>'`

Prerequisite Script: <http://www.powershellgeek.com/powershell-scripts/>

Configure Exchange Service URLs

Global Names (example):

```
$BaseURL = 'mail.domain.com'
```

```
$AutoDiscoverURL = 'autodiscover.domain.com'
```

Outlook Web Access (OWA) – Web client version access for end-users

```
Set-OWAVirtualDirectory -Identity "$Server\OWA (Default Web Site)" -InternalURL $BaseURL/OWA -ExternalURL https://$BaseURL/OWA
```

Offline Address Book – used by Outlook to download address book copy

```
Set-OabVirtualDirectory -Identity "$Server\OAB (Default Web Site)" -InternalURL https://$BaseURL/OAB -ExternalUrl https://$BaseURL/OAB
```

ActiveSync – For mobile device connections

```
Set-ActiveSyncVirtualDirectory -Identity "$Server\Microsoft-Server-ActiveSync (Default Web Site)" -InternalURL https://$BaseURL/Microsoft-Server-
```

```
ActiveSync -ExternalURL https://$BaseURL/Microsoft-Server-ActiveSync
```

(Exchange) Web Services (EWS)

```
Set-WebServicesVirtualDirectory -Identity "$Server\EWS (Default Web Site)" -InternalURL https://$BaseURL/EWS/Exchange.asmx -ExternalURL https://
```

```
$BaseURL/EWS/Exchange.asmx
```

Exchange Control Panel (ECP)

```
Set-ECPVirtualDirectory -Identity "$Server\ECP (Default Web Site)" -InternalURL https://$BaseURL/ECP -ExternalUrl https://$BaseURL/ECP
```

AutoDiscover – Used by Outlook to discover where to connect to for a mailbox as well as other configuration information

```
Set-ClientAccessServer $Server -AutoDiscoverServiceInternalUri https://$BaseURL/Autodiscover/Autodiscover.xml
```

MAPI – Used by Outlook to connect to mailbox

```
Set-MAPIVirtualDirectory -Identity "$Server\MAPI (Default Web Site)" -InternalURL $BaseURL/MAPI -ExternalURL https://$BaseURL/MAPI
```

List all Exchange cmdlets: `Get-Command | Where source -like $Env:ComputerName*`

Mailbox Databases

List Databases:

```
Get-MailboxDatabase
```

```
Get-MailboxDatabase -Server EX01
```

Remove existing Databases:

```
Remove-MailboxDatabase DB01
```

```
Get-MailboxDatabase DB01 | Remove-MailboxDatabase
```

Move an existing Database:

```
Move-DatabasePath -Identity DB01 -EDBFilePath E:\Databases\DB01\DB01.edb -LogFolderPath F:\Logs\DB01
```

Create new Databases:

```
New-MailboxDatabase -Name "DB01" -EdbFilePath E:\Databases\DB01\DB01.edb -Server Ex01
```

Change settings on existing Databases:

```
Set-MailboxDatabase DB01 -DeletedItemRetention 10.00:00:00
```

Additional Configuration

PageFile: Set-CIMInstance cmdlet

Event Logs: Limit-EventLog cmdlet

Server PowerManagement: Powercfg.exe

NIC PowerManagement: Registry entry
PnPCapabilities

TCP Keep Alive: Registry – 'KeepAliveTime'

TLS Capabilities (1.x): Registry

SSL 3.0 Disabled: Registry entry

Windows Core Configuration

Sconfig.Cmd:

Option 1: Domain membership

Option 2: Computer name

Option 5: Windows Updates

Option 8: Network settings

Option 9: Date and Time

Option 11: Windows Activation

Get-Help / Commands

Find Exchange Cmdlets:

```
Get-ExCommands
```

Get Help for One Cmdlet:

```
Get-Help <cmdlet> <operator>
```

(i.e.) `Get-Help Get-Mailbox -Full`

Mount/Dismount Mailbox Databases

```
Dismount-Database DB01
```

```
Mount-Database DB01
```

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Distribution Groups

Distribution Groups in Exchange 2019 come in two different varieties – Dynamic and Static and can be used for groups of users or rooms.
** (Examples separated by '/') **

Distribution Groups

```
Disable-DistributionGroup 'Temp Workers – Satellite Office 4 – Summer 2019'  
Enable-DistributionGroup 'Temp Workers – Satellite Office 1'  
Get-DistributionGroup -ManagedBy Damian / Get-DistributionGroup Sales* / Get-DistributionGroup -OrganizationalUnit Users  
New-DistributionGroup -Name 'Help Desk Operators' / New-DistributionGroup -Name 'Admins' -Type Security  
Remove-DistributionGroup 'Help Desk Operators' / Get-DistributionGroup Test* | Remove-DistributionGroup  
Set-DistributionGroup 'HR Department' -MaxReceiveSize 10MB -MailTip 'HR is limited to 10MB emails'
```

Dynamic Distribution Groups

```
Get-DynamicDistributionGroup / Get-DynamicDistributionGroup -OrganizationUnit 'Groups'  
New-DynamicDistributionGroup -Name 'Chicago Office' -RecipientFilter {(RecipientType -eq 'UserMailbox') -and (Office -eq 'Chicago')}  
New-DynamicDistributionGroup -Name 'Executives' -RecipientFilter {(RecipientType -eq 'UserMailbox') -and (CustomAttribute1 -eq 'Exec')}  
Remove-DynamicDistributionGroup 'Chicago Office'  
Set-DynamicDistributionGroup 'Executives' -ManagedBy 'Bert'
```

Distribution Group Membership

```
Add-DistributionGroupMember -Identity 'Research Group' -Member FSJurgeon  
$Members = Get-DistributionGroupMember -Identity $Group  
Remove-DistributionGroupMember 'Help Desk' -Member Damian  
Get-DistributionGroup Test* | Remove-DistributionGroupMember -Member Damian  
Update-DistributionGroupMember -Identity 'IT Department' -Members Sam,Donna,Frank,Dave
```

Full Exchange Server 2019 PowerShell Book – <https://PracticalPowershell.com>
Exchange Server Blog (EHLO): [Http://aka.ms/ehlo](http://aka.ms/ehlo)

Room Lists

Room lists are special Distribution Groups used in Exchange to organize groups of rooms for Outlook users when they search for rooms.

Create Room List based on Rooms with a particular name:

```
$Members = Get-Mailbox -Filter {Name -Like "Chicago*"} | Where {$_.RecipientTypeDetails -eq "RoomMailbox"}  
New-DistributionGroup -Name "ChicagoMeetingRooms" -DisplayName "Chicago Meeting Rooms" -RoomList -Members $Members
```

Create Room List based on Rooms located in one physical location:

```
$Members = Get-Mailbox -Filter {Office -eq "Headquarters"} | Where {$_.RecipientTypeDetails -eq "RoomMailbox"}  
New-DistributionGroup -Name "HeadquartersMeetingRooms" -DisplayName "Headquarters Meeting Rooms" -RoomList -Members $Members
```

Display all Room Lists:

```
Get-DistributionGroup -RecipientTypeDetails RoomList
```

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Helpful Tips

Use tab to autocomplete cmdlets
Tab through parameters to see all available
Check for latest module version
Read latest Microsoft Docs for Exchange
Read Exchange MVP blogs for more tips



More On PowerShell

Windows PowerShell Blog
<https://devblogs.microsoft.com/scripting/>

Script Center
technet.microsoft.com/scriptcenter

PowerShell Tips of the Week
www.practicalpowershell.com/blog

PowerShell Team – GitHub
<https://github.com/powershell>

User Mailboxes

Mailbox Management

Connect, Disable, Enable, Get, New, Remove, Set-Mailbox

List all mailboxes in Exchange environment:

```
Get-Mailbox -ResultSize Unlimited
```

List all mailboxes in OU, Database or Server:

```
Get-Mailbox -Database "<database name>" / Get-Mailbox -Server <Server>
```

Create New Mailbox

```
New-Mailbox Damian -password p@ssword -UserPrincipalName damian@domain.com
```

Create new mailbox for existing user:

```
Enable-Mailbox -Identity <user>
```

Disable mailbox (not delete):

```
Disable-Mailbox -Identity Dom.Rigel -Confirm:$False
```

Remove mailbox (*deletes Active Directory user object*):

```
Remove-Mailbox -Identity Dom.Rigel -Confirm:$False
```

Other Mailbox Management Cmdlets

A variety of cmdlets and options exists to manage mailboxes. Some are listed below:

Set mailbox quotas

```
Set-mailbox administrator -IssueWarningQuota 8GB -ProhibitSendQuota 10GB -
```

```
ProhibitSendReceiveQuota 12GB
```

Set users Out of Office:

```
Set-MailboxAutoReplyConfiguration Administrator -AutoReplyState Enabled
```

Set user's Junk Mail configuration:

```
Set-MailboxJunkEmailConfiguration -Identity Gene.Ricks@Domain.Com -
```

```
TrustedSendersAndDomains fabrikam.com
```

```
Get-MailboxJunkEmailConfiguration -Identity Gene.Ricks@Domain.Com
```

Configure mailbox regional settings:

```
Set-MailboxRegionalConfiguration -Identity "Hans de Vries" -Language nl-nl -DateFormat
```

```
"dd-MM-yy" -LocalizeDefaultFolderName -TimeZone "W. Europe Standard Time"
```

Mailbox Sizes

```
Get-Mailbox | Get-MailboxStatistics | Ft Name,TotalItemSize
```

Add a retention policy to an existing mailbox

```
Set-Mailbox Damian -RetentionPolicy 'Corporate Retention Policy'
```

Manage Mailbox Folder Settings

List folder permissions (Calendar in this case):

```
Get-MailboxFolderPermission Damian:\Calendar
```

Add permissions to a folder

```
Add-MailboxFolderPermission 'Damian:\Contacts' -User John -AccessRights Editor
```

Remove an *existing* folder permission:

```
Add-MailboxFolderPermission 'Damian:\Calendar' -User Administrator
```

Modify existing Folder permissions:

```
Set-MailboxFolderPermission 'Damian:\Contacts' -User John -AccessRights FullAccess
```

Archive Mailboxes

Archive Mailbox Management

Managing Archive mailboxes uses the same cmdlets as a regular mailbox, but requires the '-Archive' switch. Sample tasks for archive mailboxes:

Find all archive mailboxes:

```
Get-Mailbox -Archive -ResultSize Unlimited
```

Find archive mailboxes in a specific database:

```
Get-Mailbox -Database "<database name>" -Archive
```

Find archive mailboxes on a specific server:

```
Get-Mailbox -Server <Server> -Archive
```

Change Settings (Location)

```
Set-Mailbox -Archive
```

Add an archive:

```
Enable-Mailbox Administrator -Archive / Enable-Mailbox -Identity Administrator -Archive
```

Remove a user's archive:

```
Remove-Mailbox -Archive
```

```
Get-Mailbox <user> -Archive | Remove-Mailbox
```

Archive Quota Settings

```
Set-Mailbox <user> -ArchiveQuota 10GB -ArchiveWarningQuota 9GB
```

Archive mailbox sizes:

```
Get-Mailbox -Archive | Get-MailboxStatistics | Ft Name,TotalItemSize
```

Move Archive Mailbox(es) to new Database

```
Get-Mailbox Damian -Archive | New-MoveRequest -TargetDatabase DB04
```

```
Get-Mailbox -Archive | New-MoveRequest -TargetDatabase ArchiveDB01
```

System Mailboxes

Exchange has a series of system mailboxes that are needed for various internal operations. Typically these are moved when a newer server version is added or if a server where the mailboxes reside will be decommissioned:

List System Mailboxes

```
Get-Mailbox -Arbitration
```

```
Get-Mailbox -Monitoring
```

```
Get-Mailbox -Auditlog
```

```
Get-Mailbox -AuxAuditlog
```

Move These mailboxes to a new server/database:

```
New-MoveRequest -arbitration -TargetDatabase NewDB01
```

```
Get-Mailbox -Arbitration | New-MoveRequest -TargetDatabase NewDB01
```

System Mailbox that contains Offline Address book :

```
Get-Mailbox -Arbitration | Where {$_.PersistedCapabilities -Like '*oab*'} | Ft Name,Server
```

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Non-User Mailboxes

Room Mailboxes

```
Get-Mailbox -RecipientTypeDetails 'RoomMailbox'  
Get-Mailbox *ConferenceRoom* -RecipientTypeDetails RoomMailbox  
New-Mailbox 'Large Conference Room' -Room -ResourceCapacity 100  
Remove-Mailbox 'Large conference Room'  
Get-Mailbox *Chicago* -RecipientTypeDetails RoomMailbox | Remove-Mailbox  
Set-Mailbox 'Medium Conference Room' -LitigationHoldEnabled $True -Capacity 55  
Disable-Mailbox 'Small Conference Room'  
Enable-Mailbox 'Small Conference Room'  
Set-CalendarProcessing LargeConferenceRoom -AutomateProcessing AutoAccept
```

Equipment Mailboxes

```
Get-Mailbox -Filter {RecipientTypeDetails -eq "EquipmentMailbox"}  
New-Mailbox Projector1 -Equipment  
Set-Mailbox Projector1 -ModerationEnabled $True -ModeratedBy Damian
```

Shared Mailboxes

Shared mailboxes are special mailboxes where users have access to the mailbox, but the AD Account is disabled, preventing direct login/mailbox access.

```
Get-Mailbox -Filter {RecipientTypeDetails -eq "SharedMailbox"}.  
New-Mailbox 'Suggestion Box' -Shared  
Get-Mailbox 'Test*' -RecipientTypeDetails 'SharedMailbox' | Remove-Mailbox  
Remove-Mailbox 'Suggestion Box'  
Disable-Mailbox 'Suggestion Box'
```

Linked Mailboxes

A linked mailbox is a mailbox with a disabled user account in the Exchange environment (i.e. the resource forest).

```
$RemoteCred = Get-Credential accountforest\administrator  
New-Mailbox -Name "Sjon Lont" -LinkedDomainController dc.accountforest.com -  
LinkedMasterAccount accountforest\Sjon.Lont -LinkedCredential $RemoteCred
```

Full Exchange Server 2019 PowerShell Book – <https://PracticalPowershell.com>

Server Management

Exchange Certificates provide secure communications for SMTP and IIS connections.

Enable a new certificate for Exchange Services:

```
Enable-ExchangeCertificate -Thumbprint <ThumbPrint> -Services SMTP,IIS,POP  
Enable-ExchangeCertificate -Server Ex01 -Thumbprint <ThumbPrint> -Services SMTP
```

Export an existing Exchange certificate for backup or copy to another server:

```
Export-ExchangeCertificate -Thumbprint  
28578A7923D5696AA92FA7DF4E4FF8ED4611FAB6 -FileName "c:\cert\cert.pfx" -  
BinaryEncoded -Password (ConvertTo-SecureString -String 'c3rt123' -AsPlainText -Force)
```

List certificates by server or Thumbprint:

```
Get-ExchangeCertificate -Server Ex01/Get-ExchangeCertificate -Thumbprint <ThumbPrint>
```

Import a certificate for later usage:

```
Import-ExchangeCertificate -Server $Server -FileName "\\FS01\Cert\Exchange2019.pfx" -  
Password (ConvertTo-SecureString -String '3xch@ng31sb35t' -AsPlainText -Force)
```

Create a new certificate for Exchange 2019:

```
New-ExchangeCertificate
```

Remove an existing Certificate by the Thumbprint value:

```
Remove-ExchangeCertificate -Thumbprint 28578A7923D5696AA92FA7DF4E4FF8ED4611FAB6  
Remove-ExchangeCertificate -Thumbprint <Thumbprint> | Remove-ExchangeCertificate
```

Database Availability Groups (DAG) are groups of Exchange 2019 servers used to provide high availability for mailbox databases.

Get Database Availability Groups:

```
$DAGServers = (Get-DatabaseAvailabilityGroup).Servers  
Get-DatabaseAvailabilityGroup 'ChiDAG-01 | FI
```

Create a new Database Availability Group:

```
New-DatabaseAvailabilityGroup -Name NYCDAG01-WitnessDirectory c:\FSW -WitnessServer FS01
```

Remove an existing Database Availability Group:

```
Remove-DatabaseAvailabilityGroup 'ChiDAG-01
```

Restore DAG for Disaster Recovery purposes:

```
Restore-DatabaseAvailabilityGroup -Identity CorpDAG -ActiveDirectorySite NYC
```

Start a server in a DAG:

```
Start-DatabaseAvailabilityGroup CHIDAG01 -MailboxServer CHIEX01
```

Stop an exiting DAG when a server is offline:

```
Stop-DatabaseAvailabilityGroup NYCDAG01 -MailboxServer NYCEX01 -ConfigurationOnly
```

Add Exchange server to DAG

```
Add-DatabaseAvailabilityGroupServer SFCDAG01 -MailboxServer SFCEX02
```

Remove Exchange server from DAG

```
Remove-DatabaseAvailabilityGroupServer ORL -MailboxServer ORLEX01
```

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Mail Transport

Accepted Domains

Accepted Domains are domains for which Exchange will answer SMTP deliveries for. If a domain is not defined and an email delivery is attempted for that domain, it will be rejected. Defining these domains is important.

Create a new Accepted Domain:

```
New-AcceptedDomain -DomainName PracticalPowerShell.com -DomainType  
Authoritative -Name PracticalPowerShell
```

List all Accepted Domains:

```
Get-AcceptedDomain
```

Remove an existing Accepted Domain:

```
Remove-AcceptedDomain PracticalPowerShell
```

Change settings on an existing Accepted Domain:

```
Set-AcceptedDomain PracticalPowerShell -DomainType InternalRelay
```

RFC 822 Check for Postmaster Address

```
Foreach ($Domain in (Get-AcceptedDomain).DomainName) {  
$Postmaster = 'Postmaster@'+$Domain  
$Check = Get-Recipient $Postmaster -ErrorAction SilentlyContinue  
If (!$Check) {Write-Host $Postmaster" does not exist." -ForegroundColor Yellow}  
If ($Check) {Write-Host $Postmaster" does exist" -ForegroundColor Cyan} }
```

Journaling

Enable this to copy email messages to a central location.

Create a New Journaling Rule

```
New-JournalRule -Name "FinancialPlanners" -JournalEmailAddress 'FP-Journal' -Scope  
Global -Recipient 'planners@domain.com' -Enabled $True
```

Remove an existing Journal Rule:

```
Remove-JournalRule -Name "FinancialPlanners"
```

List any current Journal Rules:

```
Get-JournalRule
```

Disable an existing Journal Rule:

```
Disable-JournalRule -Name "FinancialPlanners"
```

Enable an existing Journal Rule:

```
Enable-JournalRule -Name 'FinancialPlanners'
```

Journal Rule Collections

With these cmdlets, we can export entire collections of Journal rules and import to a new Exchange Servers or for backup purposes.

Export:

```
$Output = Export-JournalRuleCollection  
Set-Content -Path "C:\Temp\AllJournalRules.xml" -Value $Output.FileData -Encoding Byte
```

Import:

```
[Byte[]]$Data = Get-Content -Path "C:\Temp\AllJournalRules.xml -Encoding Byte -  
ReadCount 0  
Import-JournalRuleCollection -FileData $Data
```

Connectors

Proper mail flow is important in Exchange Server 2019. There are many PowerShell cmdlets for managing these connectors and many types of connectors.

Receive Connector(s)

Receive connectors receive emails from other Exchange servers, printers, applications or remote mail servers to route emails to local mailboxes or relay to external recipients.

List Receive Connector(s) in Exchange (All or for one server):

```
Get-ReceiveConnector
```

```
Get-ReceiveConnector -Server EX01
```

Create new Receive Connector:

```
New-ReceiveConnector 'Internal Relay' -TransportRole FrontendTransport -Usage Custom  
-RemoteIPRanges 10.0.0.0/16 -Bindings 10.0.1.1:25
```

Remove existing Receive Connectors:

```
Remove-ReceiveConnector 'EX02\Internal Relay'
```

Change settings on an existing Receive Connector:

```
Set-ReceiveConnector 'EX02\Internal Relay' -ProtocolLoggingLevel Verbose
```

Send Connector(s)

By default, Exchange 2019 has no send connectors. Use these cmdlets to manage send connectors in Exchange 2019:

List Send Connectors (all or by server):

```
Get-SendConnector
```

```
Get-SendConnector 'Internet Mail'
```

Create New Send Connectors:

```
New-SendConnector 'Internet Mail' -AddressSpace '**'
```

Remove existing Send Connectors:

```
Remove-SendConnector 'Research Server'
```

Change settings on an existing Send Connector (add a domain):

```
Set-SendConnector 'Bank Partner' -AddressSpace bankdomain1.com,bankdomain2.com
```

IntraOrganization Connector(s)

IntraOrganization Connectors can connect dispersed Exchange environments across Forest boundaries (for example). Hybrid Configuration Wizard also uses this for connect Exchange 2019 to Exchange Online (do not do this manually).

List all IntraOrganization Connectors:

```
Get-IntraOrganizationConnector
```

Create new IntraOrganization Connectors

```
New-IntraOrganizationConnector -DiscoveryEndpoint https://mail.domain.com -Name  
SubsidiaryConnector -TargetAddressDomains powershellgeek.com
```

Remove an existing IntraOrganization Connector:

```
Remove-IntraOrganizationConnector -Identity SubsidiaryConnector
```

Change settings on an existing IntraOrganization Connector:

```
Set-IntraOrganizationConnector SubsidiaryConnector -Enabled $False
```

```
Set-IntraOrganizationConnector SubsidiaryConnector -TargetAddressDomains FunToys.com
```

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Mail Transport

Transport Rules

Transport Rule control mail flow and provide administrators control for certain mail types, mail flows or

List all Transport Rules:

```
Get-TransportRule
```

Create New Transport Rules [Example 1]:

```
New-TransportRule -Name "ZIP Block" -AttachmentNameMatchesPatterns zip -GenerateIncidentReport "Damian@Domain.Com" -IncidentReportOriginalMail IncludeOriginalMail -DeleteMessage $True -SetAuditSeverity Medium
```

Create New Transport Rules [Example 2]:

```
New-TransportRule -SentToScope 'NotInOrganization' -ApplyHtmlDisclaimerLocation 'Append' -ApplyHtmlDisclaimerText 'This email is for its intended recipient. If you are not the recipient, please delete this email immediately.' -ApplyHtmlDisclaimerFallbackAction 'Wrap' -Name 'Legal Required Disclaimer' -StopRuleProcessing:$false -Mode 'Enforce' -RuleErrorAction 'Ignore' -SenderAddressLocation 'Header' -ExceptIfSubjectOrBodyContainsWords 'This email is for its intended recipient'
```

Disable and existing Transport Rule:

```
Disable-TransportRule 'Test Keyword block rule'
```

Change settings on an existing Transport Rule:

```
Set-TransportRule 'Inbound HR eMail' -SetAuditSeverity Medium
```

Remove an existing Transport Rule:

```
Remove-TransportRule "ZIP Block"
```

Compliance / DLP

```
New-DlpPolicy -Name "Big Box Personal Info" -Template "Big Box PII"  
New-DlpPolicy -Name "Japanese Subsidiary Finance Data" -Template "Japan Financial Data"
```

```
New-PolicyTipConfig -Name en\NotifyOnly -Value 'This message contains private information that should not be shared outside of this company.'
```

Create Document Fingerprint (for HR) and use in a Transport Rule:

```
$HRDoc1 = Get-Content "C:\Documents\HR\EmployeePII-Form.docx" -Encoding Byte
```

```
$HRDoc1_Fingerprint = New-Fingerprint -FileData $HRDoc1 -Description "Employee PII Form"
```

```
New-DataClassification -Name "HR Confidential Form 1" -Fingerprints $HRDoc1_Fingerprint -Description "Message contains confidential employee information."
```

```
Set-DataClassification -Name "HR Confidential Form 1" -Fingerprints $HRDoc1_Fingerprint
```

```
New-TransportRule -Name 'Notify: External Recipient BigBox confidential' -RejectMessageReasonText 'This file is restricted and may not be emailed outside the company.' -Mode Enforce -SentToScope NotInOrganization -MessageContainsDataClassification @{Name='HR Confidential Form 1'}
```

Full Exchange Server 2019 PowerShell Book – <https://PracticalPowershell.com>

Edge Transport Role

Edge Subscription(s)

Create the Edge Subscription XML File (run on Edge Transport Server):

```
New-EdgeSubscription -FileName "C:\Subscriptions\EdgeServerSubscription.xml"
```

Import XML on Exchange server in the AD Site:

```
New-EdgeSubscription -FileData ([byte[]]$(Get-Content -Path "C:\Subscriptions\EdgeServerSubscription.xml" -Encoding Byte -ReadCount 0)) -Site "Corp"
```

Remove Edge Subscription:

```
Remove-EdgeSubscription -Identity ChiEdge01
```

Address Rewriting

Add a new Address Rewrite Entry:

```
New-AddressRewriteEntry -Name LittleBox -InternalAddress LittleBox.Com -ExternalAddress BigCorp.Com -ExceptionList "rnd.littlebox.com,sales.littlebox.com" -OutboundOnly $True
```

```
New-AddressRewriteEntry -Name "LittleBox to BigCorp address rewrite." -InternalAddress LittleBox.com -ExternalAddress BigCorp.Com
```

Remove and existing Address Rewrite Entry:

```
Get-AddressRewriteEntry LittleBox | Remove-AddressRewriteEntry
```

Protection Configuration

Below are some sample cmdlets for inbound message hygiene:

```
Add-IPAllowListEntry -IPAddress 157.166.168.213
```

```
Add-IPAllowListProvider -Name "Spamhaus" -LookupDomain swl.spamhaus.org -AnyMatch $True
```

```
Add-ContentFilterPhrase -Phrase "Project X" -Influence GoodWord
```

```
Remove-ContentFilterPhrase -Phrase "Free credit report"
```

```
Set-ContentFilterConfig -ByPassedSenders John@TechCenter.Com
```

```
Set-ContentFilterConfig -ByPassedSenderDomains PowerShellGeek.Com  
Get-SenderIDConfig
```

```
Set-SenderFilterConfig -BlockedDomains BobsSpamService.Com -
```

```
BlankSenderBlockingEnabled $True -Action StampStatus -
```

```
RecipientBlockedSenderAction Delete
```

```
Get-RecipientFilterConfig
```

```
Set-RecipientFilterConfig -BlockedRecipients Administrator@tap.com -BlockListEnabled $True -RecipientValidationEnabled $True
```

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Public Folders

Mail disable an existing mail enabled Public Folder

Disable-MailPublicFolder

Mail enable a Public Folder

Enable-MailPublicFolder \Sales\OutsideSales -HiddenFromAddressListsEnabled \$True

List existing mail enabled Public Folders

Get-MailPublicFolder | Where Alias -eq 'Research'

Change setting on a mail enabled Public Folder

Set-MailPublicFolder \Marketing -RequireSenderAuthenticationEnabled \$true

List any Public Folders [below lists all non-system Public Folders]

Get-PublicFolder '\' -Recurse

Create a new Public Folder in an existing Public Folder mailbox:

New-PublicFolder -Name OutsideSales -Mailbox PFMailbox03 -Path \Sales

Remove an existing Public Folder

Remove-PublicFolder \Sales\OutsideSales

Change settings on an existing Public Folder-MaxItemSize

Set-PublicFolder OutsideSales -ProhibitPostQuota 10GB -MaxItemSize 100MB

List the statistics from a Public Folder migration request

Get-PublicFolderMigrationRequestStatistics PFMigration1

Retrieve an existing Public Folder move requests

Get-PublicFolderMoveRequest

Create a new Public Folder migration request

\$Folders = (Get-PublicFolder \IT -Recurse).Identity

New-PublicFolderMoveRequest -TargetMailbox PFMailbox03 -Folders \$Folders

Remove an existing Public Folder move request

Remove-PublicFolderMoveRequest

Change settings on an existing Public Folder migration request

Set-PublicFolderMoveRequest -DomainController DC01 -SuspendWhenReadyToComplete \$true

Suspend Public Folder move requests

Get-PublicFolderMoveRequest | Suspend-PublicFolderMoveRequest

Retrieve details on existing Public Folder move requests

Get-PublicFolderMoveRequestStatistics

Update Public Folder hierarchy

Get-Mailbox -PublicFolder | Update-PublicFolderMailbox -SuppressStatus

List any current Public Folder migration requests

Get-PublicFolderMigrationRequest

Move Public Folders from Exchange 2010 to 2013/6/9

New-PublicFolderMigrationRequest PFMigration1 -SourceDatabase (Get-PublicFolderDatabase -Server <Source server name>) -CSVData (Get-Content <Folder to mailbox map path> -Encoding Byte)

Remove an existing Public Folder migration request

Remove-PublicFolderMigrationRequest PFMigration1

Resume a suspended Public Folder migration request

Resume-PublicFolderMigrationRequest PFMigration1

Change settings on an existing Public Folder migration request

Set-PublicFolderMigrationRequest -Identity PFMigration1 -BadItemLimit 5 -PreventCompletion \$True

Suspend and existing Public Folder migration request

Suspend-PublicFolderMigrationRequest PFMigration1 -SuspendComment 'Migration suspended due to space issues 2022/09/01.'

List migration statistics for Public Folder moves

Get-PublicFolderMailboxMigrationRequest | Get-PublicFolderMailboxMigrationRequest | ft TargetMailbox,Status*,*Transferred,PercentComplete -Auto

Retrieve Public Folder item level details

Get-PublicFolderItemStatistics -Identity "\Marketing\Reports" | Select Subject, LastModificationTime, ItemType, MessageSize

Retrieve Public Folder sizes

Get-PublicFolder \ -Recurse | Get-PublicFolderStatistics | ft Name,FolderPath,*size

Retrieve Public Folder mailbox diagnostic information

Get-PublicFolderMailboxDiagnostics -Identity PFMailBox01 -IncludeHierarchyInfo

Add a user permission to an existing Public Folder

Add-PublicFolderClientPermission -Identity "\IT\Projects" -User Jimmy -AccessRights PublishingEditor

Retrieve permissions on an existing Public Folder

Get-PublicFolderClientPermission -Identity \IT\Projects

Remove an existing permission assigned to a Public Folder

Remove-PublicFolderClientPermission -User Jimmy -Identity \IT\Projects

IMAP / POP

List any existing Policy Tips

Get-PolicyTipConfig

Create new Policy Tip

New-PolicyTipConfig -Name 'en\NotifyOnly' -Value 'The message has been blocked by Big Corp corporate qualifications.'

Remove any existing Policy Tips

Remove-PolicyTipConfig 'en\NotifyOnly'

Change settings on an existing Policy Tip

Set-PolicyTipConfig 'en\NotifyOnly' -Value 'The message has been blocked by Big Box Corporation'

NOTE: Only one policy type per type, for example, one for en/ and one for fr/ and so on.

Email Messaging

Retrieve OWA settings for a mailbox

```
Get-MailboxMessageConfiguration damian@powershellgeek.com
```

Change OWA setting for a mailbox

```
Set-MailboxMessageConfiguration Jimmy -PreferAccessibleContent $True
```

Export a message in a Queue on Exchange server

```
Get-Message -Queue EXLAB02-EX01\Unreachable | Suspend-Message
```

```
Get-Message -Queue EXLAB02-EX01\Unreachable | Export-Message
```

List messages in Queue

```
Get-Message -Server NAEXSRV01
```

Drain messages from server and redirect them to another server for delivery:

```
Redirect-Message -Server NAExchSrv01 -Target NAExchSrv02
```

Remove an email from a queue

```
Get-Message -Server NAEXSRV01 | Where Status -eq Suspended | Remove-Message
```

Resume delivery attempt of a message in a queue

```
Get-Message -Server NAEXSRV01 | Where Status -eq Suspended | Resume-Message
```

Prevent delivery of a message in a queue

```
Suspend-Message -Queue EXLAB02-EX01\Unreachable
```

List all custom system messages [DSNs, non-delivery reports, NDRs or bounce messages]

```
Get-SystemMessage
```

Create a new custom system message:

```
New-SystemMessage -QuotaMessageType ProhibitSendMailbox -Language en -Text 'Your mailbox has exceeded the maximum size of 10GB. Please reduce the size of your mailbox.'
```

Remove an existing custom system message:

```
Remove-SystemMessage 'en\ProhibitSendMailbox'
```

Change settings on an existing custom system message:

```
Set-SystemMessage 'en\ProhibitSendMailbox' -Text 'Your mailbox has exceeded the maximum size of 20GB. Please reduce the size of your mailbox.'
```

Locate email sent in Exchange

```
Get-MessageTrackingLog -Sender damian@powershellgeek.com -Recipients dave@practicalpowershell.com -Start 10/1/22 -End 10/7/22 -Server EXSRV01A
```

Find a specific tracking report, which is then fed to the Get-MessageTrackingReport

```
$Messages = Search-MessageTrackingReport -Identity Jimmy -Sender damian@mmcug.com -BypassDelegateChecking
```

Get more detail on message deliveries (fed from Search-MessageTrackingReport cmdlet)

```
Get-MessageTrackingReport -Identity $Messages.MessageTrackingReportID -ReportTemplate Summary -BypassDelegateChecking
```

Create message in a users mailbox, Drafts folder

```
New-MailMessage -Body 'Important Announcement' -Subject 'Announcement'
```

Retrieve all existing message classifications

```
Get-MessageClassification
```

Create a new message classification [used in Transport Rules]

```
New-MessageClassification -Name 'Notifications' -DisplayName 'Notification Messages' -SenderDescription 'Notification email' -ClassificationID 6942d504-a158-4d09-b420-e796bcf2f6c8
```

Remove an existing Message Classification

```
Remove-MessageClassification 'Notifications'
```

Change settings in an existing notification

```
Set-MessageClassification 'Notifications' -SenderDescription 'IT Reporting emails.'
```

Policy Tips

List any existing Policy Tips

```
Get-PolicyTipConfig
```

Create new Policy Tip

```
New-PolicyTipConfig -Name 'en\NotifyOnly' -Value 'The message has been blocked by Big Corp corporate qualifications.'
```

Remove any existing Policy Tips

```
Remove-PolicyTipConfig 'en\NotifyOnly'
```

Change settings on an existing Policy Tip

```
Set-PolicyTipConfig 'en\NotifyOnly' -Value 'The message has been blocked by Big Box Corporation'
```

NOTE:

Only one policy type per type. For example one policy for en/ and one for fr/ and so on.

Exchange Server 2019 - PowerShell Quick Reference

(v 1.03)

Mailbox Migrations

Complete a suspended or stopped migration batch

Complete-MigrationBatch 'Server cleanup'

List details on migration batches created in the EMC

Get-MigrationBatch | where WorkflowStage -eq 'Processing'

Create new migration batch

New-MigrationBatch -Local -Name Batch01 -CSVData ([System.IO.File]::ReadAllBytes("C:\Moves\Batch01.csv")) -TargetDatabases DB01

Remove an existing migration batch

Remove-MigrationBatch 'Batch01'

Change settings on an existing migration batch

Set-MigrationBatch -BadItemLimit 10 -LargeItemLimit 2

Start an existing migration batch

Start-MigrationBatch 'Server cleanup'

Stop an existing migration batch

Stop-MigrationBatch 'New server move'

Retrieve migration configuration

Get-MigrationConfig

Change migration configuration

Set-MigrationConfig -MaxNumberOfBatches 200

List current migration endpoints

Get-MigrationEndpoint

Remove an existing migration endpoint

Remove-MigrationEndpoint

Create a new migration endpoint

New-MigrationEndpoint -Name RemoteMoveEndpoint -ExchangeRemoteMove -Autodiscover -EmailAddress damian@powershellgeek.com -Credentials (Get-Credential PowerShellGeek\damian)

Change settings on an existing migration endpoint

Set-MigrationEndpoint RemoteMoveEndpoint -MaxConcurrentMigrations 100 -RemoteServer mail.powershellgeek.com

Test an existing migration endpoint

Test-MigrationServerAvailability -Endpoint RemoteMoveEndpoint

List general statistics on all moves in progress

Get-MigrationStatistics

Retrieve migration statistics for an individual move

Get-MigrationUserStatistics jimmy@mmcug.com

List all user mailbox moves (failed in example)

Get-MigrationUser -Status Failed

Remove existing user mailbox moves

Remove-MigrationUser damian@powershellgeek.com

Change settings on an existing user mailbox move

Set-MigrationUser damian@powershellgeek.com -BadItemLimit 15

Start an existing user mailbox move

Start-MigrationUser damian@powershellgeek.com

Stop an existing user mailbox move

Stop-MigrationUser damian@powershellgeek.com

Miscellaneous Tips

Permissions required to run PowerShell cmdlet

```
$Permissions = Get-ManagementRole -Cmdlet New-Mailbox
$Permissions | Foreach {Get-ManagementRoleAssignment -Role $_.Name -Delegating
$false | Format-Table -Auto Role, RoleAssigneeType, RoleAssigneeName}
```

Retrieve DNS records for domain

```
$AcceptedDomains = (Get-AcceptedDomain).Domain | Sort Domain
Foreach ($AcceptedDomain in $AcceptedDomains) {
$MXRecord = Resolve-DnsName $AcceptedDomain -Server $DNSServer -Type MX
$PTRRecord = Resolve-DnsName $AcceptedDomain -Server $DNSServer -Type PTR
$TXTRecords = Resolve-DnsName $AcceptedDomain -Server $DNSServer -Type TXT
Foreach ($TXTRecord in $TxtRecords){If ($TXTRecord.strings -like '*spf*'){ $TxtRecord |
Out-File $Destination -Append }}
$DMARCName = "_dmarc."+$AcceptedDomain
$DMARCRecord = Resolve-DnsName $DMARCName -Server $DNSServer -Type Txt
```

Miscellaneous Tips

PowerShell Editor

Visual Studio Code to replace the PowerShell ISE tool (deprecated)

PowerShell Gallery

Find-Module *exchange* -Repository PSGallery

Other Modules

DSC – xExchange

Exchange Health Check:

<https://microsoft.github.io/CSS-Exchange/Diagnostics/HealthChecker/>

Tools (external to PowerShell)

SMTPDiag

<http://www.powershellgeek.com/wp-content/uploads/2020/03/SmtpDiag.zip>

ExPerfwiz.ps1

<https://github.com/microsoft/ExPerfWiz>

CalcMsgAverage.ps1

<https://github.com/cunninghamp/Get-MailboxReport.ps1>

Full Exchange Server 2019 PowerShell Book

<https://PracticalPowershell.com>