

*Permido Exchange Online setup guide using PowerShell*

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# Introduction

As a replacement/supplement to the manual setup of Permido Exchange Online, a series of PowerShell commands have been developed, which can be used to automate the setup, so you do not have to do it manually. At the time of writing, the following commands are available:

|  |  |
| --- | --- |
| *Kommando Navn* | *Formål* |
|  |  |
| Start-PEO | Logging on to Exchange Online |
| Start-PEOAutomatedSetup | Runs all commands automatically |
| Add-PEODistributionGroup | Adds Distribution Group |
| Add-PEOOutboundConnector | Adds Outbound Connector |
| Add-PEOInboundConnector | Adds Inbound Connector |
| Add-PEOWhiteListIP | Adds Permido Whitelist IP |
| Add-PEOTransportRuleBypassClutterAndSpamFilterByIPAddress | Adds Transport Rule |
| Add-PEOTransportRulePermidoOutboundForceTLSEnabled | Adds Transport Rule |
| Add-PEOTransportRulePermidoOutboundForceTLSDisabled | Adds Transport Rule |
| Add-PEOTransportRulePermidoInboundSMIMETunnelMailDecrypt | Adds Transport Rule |
| Add-PEOTransportRulePermidoInboundNotificationConversion | Adds Transport Rule |
| Add-PEOTransportRulePermidoOutboundEncryptBySubject | Adds Transport Rule |
| Add-PEOTransportRulePermidoOutboundEncryptByAddin | Adds Transport Rule |
| Add-PEOTransportRulePermidoOutboundRemoveHeader | Adds Transport Rule |

Most of the commands contain default values, so they can be run out of the box without further specification of parameter values. However, it is possible to use custom values ​​by specifying a specific parameter and value.  
  
Some commands require either a ***“UserPrincipalName", ExchangeKey" or "ValidatedDomainName***" value, which cannot be set by default. In this manual, for each command, there will be a table that describes all parameters with types and default values. It will also be stated to what extent a value must be set manually. If the value is not set using a parameter, you will be prompted when running the command.  
  
If you want to set up Permido Exchange Online from scratch, just follow this manual from end to end. If you want to run a specific command, you can easily find the desired command via the table of contents.

Preparing PowerShell

To run the PowerShell commands, the following checklist must be performed:

1. *Extract the PermidoExchangeOnline zip file to a folder in any location.*
2. *Open a PowerShell console. The console must run PowerShell 5. Newer versions of Windows have 2 different PowerShell consoles. One runs version 7, the other 5. If you are in doubt about which version a console is running, you can write the following in the console:****$PSVersionTable*** *You can now read under PSVersion which version of the PowerShell console is being used.*
3. *Now change the current path of the console to point to the folder location where the zip file is extracted.*
4. *The unzipped files can sometimes be locked, so PowerShell will issue a warning. Run the following command to "unlock" them:****Get-ChildItem -Recurse | Unblock-File***
5. *Import the required PowerShell modules by running the following command:****Import-Module ”.\PermidoExchangeOnline.psd1”***
6. *The PowerShell modules are now imported and the setup of Permido Exchange Online can begin.*

# Start-PEO

This command is used to connect to Exchange Online and supports MFA (multifactor authentication).  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *UserPrincipalName* | *String* | *Yes* |  |

As shown in the table above, you must enter a login for a user who has administrative rights in Exchange Online. You will be asked for a login if you do not enter one using parameter input.

***PowerShell syntax :***  
  
***Start-PEO -UserPrincipalName “Logon”***

# Start-PEOAutomatedSetup

This command is used to run all the commands at once, which can be done with advantage if you mostly use standard parameter values ​​(as stated in the manual setup guide). If you need to run the commands individually, just ignore this command and continue the manual.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *ExchangeKey* | *String* | *Yes* |  |
| *DeliveryFormat* | *String* | *No* | *”tunnel,certforced,tlsbasic,notification”* |
| *ValidatedDomainName* | *String* | *Yes* |  |
| *ServerName* | *String* | *No* | *Hook.permido.com* |
| *PermidoWhiteListedIP* | *String* | *No* | *"52.157.207.208"* |
| *KeepPriority* | *Bool* | *No* | *$False* |

As shown in the table above, you must enter an Exchange key and a Validated Domain Name, as these cannot be set by default.  
  
***DeliveryFormat*** has a default value, but if other forms of delivery are desired, this can be specified using parameter input. You can use ***'tunnel'*** for Tunnelmail if you have it, ***'tls'*** for TLS Pro, ***'tlsbasic'*** for TLS Basic, ***'cert'*** for S / MIME, ***'certforced'*** for Forced S / MIME, and ***'notification'*** for Notification. The format is comma-separated, and can look like this:  
  
***”tunnel,tls,notification”***

By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. You can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority. This should only be done if one is sure that the existing rules should have higher priority than the Permido rules. The PowerShell syntax below shows how to use the ***"KeepPriority"*** parameter.

***PowerShell syntax :***  
  
***Start-PEOAutomatedSetup -ExchangeKey “Exchange Key” -ValidatedDomainName “Domain Name” -KeepPriority $True***

# Add-PEODistributionGroup

This command is used to create the distribution group, which is subsequently used when creating transport rules.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *DistributionGroupName* | *String* | *No* | *“Permido Users”* |
| *ValidatedDomainName* | *String* | *Yes* |  |

As shown in the table above, you must enter the name of the domain that you have validated earlier in the manual setup. You will be asked for a ***"ValidatedDomainName"*** if you do not specify a parameter input.  
  
If you wish, you can use another name for the distribution group. In this case, you must enter the new name as a parameter value every time you run a command that creates a transport rule. This manual is made based on the use of default values ​​where possible, so there will be no further reminders about any use of a non-standard name for the distribution group.

***PowerShell syntax :***  
  
***Add-PEODistributionGroup - ValidatedDomainName “Domain Name”***

# Add-PEOOutboundConnector

This command is used to create the Outbound Connector, which is subsequently used when creating transport rules.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *OutboundConnectorName* | *String* | *No* | *"Permido Outbound"* |
| *ConnectorType* | *String* | *No* | *"OnPremises"* |
| *CloudServicesMailEnabled* | *Bool* | *No* | *$True* |
| *TlsSettings* | *String* | *No* | *"DomainValidation"* |
| *TlsDomain* | *String* | *No* | *"hook.permido.com"* |
| *ServerName* | *String* | *No* | *"hook.permido.com"* |
| *IsTransportRuleScoped* | *Bool* | *No* | *$True* |
| *UseMXRecord* | *Bool* | *No* | *$False* |
| *ValidationRecipient* | *String* | *No* | *"accept@hook.permido.com"* |

This command should be run with default parameter values.

***PowerShell syntax :***  
  
***Add-PEOOutboundConnector***

# Add-PEOInboundConnector

This command is used to create the Inbound Connector, which is subsequently used when creating transport rules.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *InboundConnectorName* | *String* | *No* | *"Permido Inbound"* |
| *ConnectorType* | *String* | *No* | *"OnPremises"* |
| *CloudServicesMailEnabled* | *Bool* | *No* | *$True* |
| *RequireTls* | *Bool* | *No* | *$True* |
| *RestrictDomainsToCertificate* | *Bool* | *No* | *$True* |
| *ServerName* | *String* | *No* | *"hook.permido.com"* |
| *SenderDomains* | *String* | *No* | *"\*"* |

This command should be run with default parameter values.

***PowerShell syntax :***  
  
***Add-PEOInboundConnector***

# Add-PEOPermidoWhiteListIP

This command is used to add Permido's whitelisted IP to the ***"Default"*** connection filter policy.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *PolicyName* | *String* | *No* | *"Default"* |
| *PermidoWhiteListedIP* | *String* | *No* | *"52.157.207.208"* |

This command should be run with default parameter values.

***PowerShell syntax :***  
  
***Add-PEOPermidoWhiteListIP***

# Add-PEOTransportRuleBypassClutterAndSpamFilterByIPAddress

This command is used to create the transport rule ***"Bypass Clutter and Spam Filter by IP Address"***.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *No* | *“Bypass Clutter and Spam Filter by IP Address”* |
| *PermidoWhiteListedIP* | *String* | *No* | *"52.157.207.208"* |
| *SetHeaderName* | *String* | *No* | *"X-MS-Exchange-Organization-BypassClutter"* |
| *SetHeaderValue* | *String* | *No* | *"true"* |
| *SpamConfidenceLevel* | *String* | *No* | *"-1"* |
| *Mode* | *String* | *No* | *”Enforce”* |
| *KeepPriority* | *Bool* | *No* | *$False* |

This command should be run with default parameter values.  
  
By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-*** ***PEOTransportRuleBypassClutterAndSpamFilterByIPAddress -KeepPriority $True***

# Add-PEOTransportRulePermidoOutboundForceTLSEnabled

This command is used to create the transport rule ***"Permido Outbound - ForceTLS Enabled"***.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *No* | *”Permido Outbound - ForceTLS Enabled”* |
| *SentToScope* | *String* | *No* | *”NotInOrganization”* |
| *HeaderMatchesMessageHeader* | *String* | *No* | *”X-Permido-ForceTLS”* |
| *HeaderMatchesPatterns* | *Array* | *No* | *”True”* |
| *RouteMessageOutboundRequireTls* | *Bool* | *No* | *$True* |
| *Mode* | *String* | *No* | *”Enforce”* |
| *KeepPriority* | *Bool* | *No* | *$False* |

This command should be run with default parameter values.  
  
By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-PEOTransportRulePermidoOutboundForceTLSEnabled -KeepPriority $True***

# Add-PEOTransportRulePermidoOutboundForceTLSDisabled

This command is used to create the transport rule ***"Permido Outbound - ForceTLS Disabled"***.  
  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *No* | *”Permido Outbound - ForceTLS Disabled”* |
| *SentToScope* | *String* | *No* | *”NotInOrganization”* |
| *HeaderMatchesMessageHeader* | *String* | *No* | *”X-Permido-ForceTLS”* |
| *HeaderMatchesPatterns* | *Array* | *No* | *” False”* |
| *SetHeaderName* | *String* | *No* | *” TLS-Required”* |
| *SetHeaderValue* | *String* | *No* | *"No"* |
| *Mode* | *String* | *No* | *”Enforce”* |
| *KeepPriority* | *Bool* | *No* | *$False* |

This command should be run with default parameter values.  
  
By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-PEOTransportRulePermidoOutboundForceTLSDisabled -KeepPriority $True***

# Add-PEOTransportRulePermidoInboundSMIMETunnelMailDecrypt

This command is used to create the transport rule ***"Permido Inbound - S / MIME + Tunnelmail decrypt"***.  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *Nej* | *”Permido Inbound - S/MIME + Tunnelmail decrypt”* |
| *SentToScope* | *String* | *Nej* | *”NotInOrganization”* |
| *SentToMemberOf* | *String* | *No* | *”Permido Users ”* |
| *MessageTypeMatches* | *String* | *No* | *”Encrypted”* |
| *SetHeaderName* | *String* | *No* | *”X-Permido-Options”* |
| *ExchangeKey* | *String* | *Yes* |  |
| *RouteMessageOutboundConnector* | *String* | *No* | *”Permido Outbound”* |
| *ExceptIfHeaderMatchesMessageHeader* | *String* | *No* | *"X-Permido-Processed"* |
| *ExceptIfHeaderMatchesPatterns* | *Array* | *No* | *"True"* |
| *Mode* | *String* | *No* | *"Enforce"* |
| *StopRuleProcessing* | *Bool* | *No* | *$True* |
| *KeepPriority* | *Bool* | *No* | *$False* |

As shown in the table above, you must enter the Exchange key that was created earlier in the manual setup. You will be asked for an ***"ExchangeKey"*** if you do not enter one using parameter input.  
  
By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-PEOTransportRulePermidoInboundSMIMETunnelMailDecrypt -ExchangeKey “Exchange Key”***

# Add-PEOTransportRulePermidoInboundNotificationConversion

This command is used to create the transport rule ***"Permido Inbound - Notification Conversion"***.

The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *No* | *"Permido Inbound - Notification Conversion"* |
| *SentToScope* | *String* | *No* | *"InOrganization"* |
| *SentToMemberOf* | *String* | *No* | *”Permido Users ”* |
| *HeaderMatchesMessageHeader* | *String* | *No* | *"x-permido-is-notification"* |
| *HeaderMatchesPatterns* | *Array* | *No* | *"True"* |
| *SetHeaderName* | *String* | *No* | *"X-Permido-Options"* |
| *ExchangeKey* | *String* | *Yes* |  |
| *RouteMessageOutboundConnector* | *String* | *No* | *"Permido Outbound"* |
| *Mode* | *String* | *No* | *"Enforce"* |
| *StopRuleProcessing* | *Bool* | *No* | *$True* |
| *KeepPriority* | *Bool* | *No* | *$False* |

As shown in the table above, you must enter the Exchange key that was created earlier in the manual setup. You will be asked for an ***"ExchangeKey"*** if you do not enter one using parameter input.  
  
By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-PEOTransportRulePermidoInboundNotificationConversion -ExchangeKey “Exchange Key”***

# Add-PEOTransportRulePermidoOutboundEncryptBySubject

This command is used to create the transport rule ***"Permido Outbound - Encrypt by Subject"***.

The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *No* | *"Permido Outbound - Encrypt by Subject"* |
| *SentToScope* | *String* | *No* | *"NotInOrganization"* |
| *FromMemberOf* | *String* | *No* | *”Permido Users ”* |
| *SubjectContainsWords* | *Array* | *No* | *"#k#"* |
| *SetHeaderName* | *String* | *No* | *"X-Permido-Options"* |
| *ExchangeKey* | *String* | *Yes* |  |
| *DeliveryFormat* | *String* | *No* | *”tunnel,certforced,tlsbasic,notification”* |
| *RouteMessageOutboundConnector* | *String* | *No* | *"Permido Outbound"* |
| *ExceptIfHeaderMatchesMessageHeader* | *String* | *No* | *"X-Permido-Processed"* |
| *ExceptIfHeaderMatchesPatterns* | *Array* | *No* | *"True"* |
| *Mode* | *String* | *No* | *"Enforce"* |
| *StopRuleProcessing* | *Bool* | *No* | *$True* |
| *KeepPriority* | *Bool* | *No* | *$False* |

As shown in the table above, you must enter the Exchange key that was created earlier in the manual setup. You will be asked for an ***"ExchangeKey"*** if you do not enter one using parameter input.  
  
***DeliveryFormat*** has a default value, but if other forms of delivery are desired, this can be specified using parameter input. You can use ***'tunnel'*** for Tunnelmail if you have it, ***'tls'*** for TLS Pro, ***'tlsbasic'*** for TLS Basic, ***'cert'*** for S / MIME, ***'certforced'*** for Forced S / MIME, and ***'notification'*** for Notification. The format is comma-separated, and can look like this:  
  
***”tunnel,tls,notification”***

By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-PEOTransportRulePermidoOutboundEncryptBySubject -ExchangeKey “Exchange Key”***

# Add-PEOTransportRulePermidoOutboundEncryptByAddin

This command is used to create the transport rule ***"Permido Outbound - Encrypt by Addin"***.  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *No* | *"Permido Outbound - Encrypt by Addin"* |
| *SentToScope* | *String* | *No* | *"NotInOrganization"* |
| *FromMemberOf* | *String* | *No* | *”Permido Users ”* |
| *SubjectContainsWords* | *Array* | *No* | *"#k#"* |
| *HeaderMatchesMessageHeader* | *String* | *No* | *"X-Permido-Encrypt"* |
| *HeaderMatchesPatterns* | *Array* | *No* | *"True"* |
| *SetHeaderName* | *String* | *No* | *"X-Permido-Options"* |
| *ExchangeKey* | *String* | *Yes* |  |
| *DeliveryFormat* | *String* | *No* | *”tunnel,certforced,tlsbasic,notification”* |
| *RouteMessageOutboundConnector* | *String* | *No* | *"Permido Outbound"* |
| *ExceptIfHeaderMatchesMessageHeader* | *String* | *No* | *"X-Permido-Processed"* |
| *ExceptIfHeaderMatchesPatterns* | *Array* | *No* | *"True"* |
| *Mode* | *String* | *No* | *"Enforce"* |
| *StopRuleProcessing* | *Bool* | *No* | *$True* |
| *KeepPriority* | *Bool* | *No* | *$False* |

As shown in the table above, you must enter the Exchange key that was created earlier in the manual setup. You will be asked for an ***"ExchangeKey"*** if you do not enter one using parameter input.  
  
***DeliveryFormat*** has a default value, but if other forms of delivery are desired, this can be specified using parameter input. You can use ***'tunnel'*** for Tunnelmail if you have it, ***'tls'*** for TLS Pro, ***'tlsbasic'*** for TLS Basic, ***'cert'*** for S / MIME, ***'certforced'*** for Forced S / MIME, and ***'notification'*** for Notification. The format is comma-separated, and can look like this:  
  
***”tunnel,tls,notification”***

By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-PEOTransportRulePermidoOutboundEncryptByAddin -ExchangeKey “Exchange Key”***

# Add-PEOTransportRulePermidoOutboundRemoveHeader

This command is used to create the transport rule ***"Permido Outbound - Remove Header"***.  
The following parameters are used by the command:

|  |  |  |  |
| --- | --- | --- | --- |
| ***Parameter Name*** | ***Type*** | ***Needs value input*** | ***Parameter Default Value*** |
|  |  |  |  |
| *TransportRuleName* | *String* | *No* | *"Permido Outbound - Remove Header"* |
| *SentToScope* | *String* | *No* | *"NotInOrganization"* |
| *HeaderMatchesMessageHeader* | *String* | *No* | *"X-Permido-Encrypt"* |
| *HeaderMatchesPatterns* | *Array* | *No* | *"False","True"* |
| *RemoveHeader* | *String* | *No* | *"X-Permido-Processed"* |
| *Mode* | *String* | *No* | *"Enforce"* |
| *KeepPriority* | *Bool* | *No* | *$False* |

This command should be run with default parameter values.  
  
By default, transport rules will have their priority changed after creation so that they will be first in the list, and thus have a higher priority than existing rules. One can use the parameter ***"KeepPriority"*** to enforce that the existing rules will retain their higher priority.

***PowerShell syntax :***  
  
***Add-PEOTransportRulePermidoOutboundRemoveHeader***