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1 Introduction

1.1 Executive summary

Demand for external collaboration and sharing of documents with 3rd parties is constantly growing. Global initiatives are in the process of selecting tactical solutions due to the lack of strategic, enterprise-wide, easy-to-use external collaboration capabilities.

One of the key priority controls, is to restrict access to company environment, if any domains are identified that do not belong to company client organization, and present a significant risk if on-boarded.

1.2 External collaboration settings

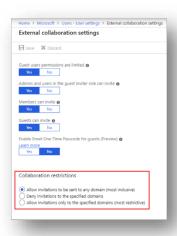
With Azure AD B2B collaboration, a tenant admin can set the following invitation policies:

- Turn off invitations
- Only admins and users in the Guest Inviter role can invite
- Admins, the Guest Inviter role, and members can invite
- All users, including guests, can invite
- Enable Email One-Time Passcode for guests
- Collaboration restrictions

By default, all users, including guests, can invite guest users.

1.3 Scope

This document contains the procedures executed by AAD Administrators, to restrict guest access via controls under the AAD tenant External collaboration settings \rightarrow Collaboration restriction.



1.4 Collaboration restriction settings

You can use an allow list or a deny list to allow or block invitations to B2B users from specific organizations. For example, if you want to block personal email address domains, you can set up a deny

list that contains domains like *gmail.com* and *outlook.com*. Or, if your business has a partnership with other businesses like *contoso.com*, *fabrikam.com*, and *litware.com*, and you want to restrict invitations to only these organizations, you can add *contoso.com*, *fabrikam.com*, and *litware.com* to your allow list.

1.5 Collaboration restriction settings - important considerations

You can create either an allow list or a deny list. You can't set up both types of lists. By default, whatever domains are not in the allow list are on the deny list, and vice versa.

You can create only one policy per organization. You can update the policy to include more domains, or you can delete the policy to create a new one.

The number of domains you can add to an allow list or deny list is limited only by the size of the policy. The maximum size of the entire policy is 25 KB (25,000 characters), which includes the allow list or deny list and any other parameters configured for other features.

This list works independently from OneDrive for Business and SharePoint Online allow/block lists. If you want to restrict individual file sharing in SharePoint Online, you need to set up allow or deny list for OneDrive for Business and SharePoint Online. For more information, see Restricted domains sharing in SharePoint Online and OneDrive for Business.

The list does not apply to external users who have already redeemed the invitation. The list will be enforced after the list is set up. If a user invitation is in a pending state, and you set a policy that blocks their domain, the user's attempt to redeem the invitation will fail.

By default, the Allow invitations to be sent to any domain (most inclusive) setting is enabled. In this case, you can invite B2B users from any organization.

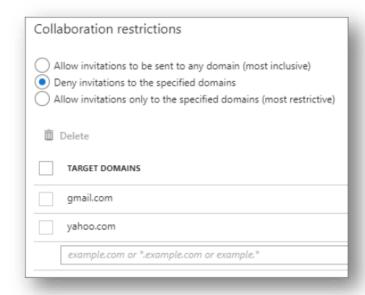
2 Set the allow or deny list policy in the portal

2.1 Add a deny list

This is the most typical scenario, where your organization wants to work with almost any organization, but wants to prevent users from specific domains to be invited as B2B users.

To add a deny list:

- Sign in to the Azure portal.
- Select Azure Active Directory > Users > User settings.
- Under External users, select Manage external collaboration settings.
- Under Collaboration restrictions, select Deny invitations to the specified domains.
- Under TARGET DOMAINS, enter the name of one of the domains that you want to block. For multiple domains, enter each domain on a new line. For example:



• When you're done, click Save.



Note: After you set the policy, if you try to invite a user from a blocked domain, you receive a message saying that the domain of the user is currently blocked by your invitation policy.

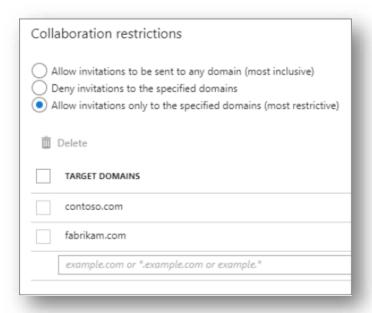
2.2 Add an allow list

This is a more restrictive configuration, where you can set specific domains in the allow list and restrict invitations to any other organizations or domains that aren't mentioned.

If you want to use an allow list, make sure that you spend time to fully evaluate what your business needs are. If you make this policy too restrictive, your users may choose to send documents over email, or find other non-IT sanctioned ways of collaborating.

To add an allow list:

- 1. Sign in to the Azure portal.
- 2. Select Azure Active Directory > Users > User settings.
- 3. Under External users, select Manage external collaboration settings.
- 4. Under Collaboration restrictions, select Allow invitations only to the specified domains (most restrictive).
- 5. Under **TARGET DOMAINS**, enter the name of one of the domains that you want to allow. For multiple domains, enter each domain on a new line. For example:



6. When you're done, click **Save**.



Note: After you set the policy, if you try to invite a user from a domain that's not on the allow list, you receive a message saying that the domain of the user is currently blocked by your invitation policy.

2.3 Switch from allow to deny list and vice versa

If you switch from one policy to the other, this discards the existing policy configuration. Make sure to back up details of your configuration before you perform the switch.

3 Set the allow or deny list policy using PowerShell

3.1 Set-B2BManagementPolicy.ps1 script description

To support single or bulk update of allow/deny domain list, IAM Directory Enablement developed dedicated PowerShell script, which allows following operations on B2BManagementPolicy object:

- Query policy
- Backup existing policy
- Remove existing policy
- Update/Append allowed domain list
- Update/Append blocked domain list

3.1.1 Prerequisites

- Sufficient AAD role to modify B2BManagement policy in target tenant
- AzureAD or AzureADPreview PowerShell module available
- PowerShell must be connected to target tenant before running this script (using Connect-AzureAD cmdlet)

3.1.2 Script parameters

Parameter Name	Туре	Description
-Update -Append	switch	Main switches to inform about action against defined B2BManagement policy object: -Update → replace existing data with new data (erase previous values) -Append → adds data to existing data (unique operation performed)
-AllowList -BlockList	string	Both parameters to specify list of allowed or blocked domains using typical PowerShell array definition, e.g.: -AllowList @('contoso.com','yahoo.com') -BlockList @('google.com','gds.com','wp.pl')
-AllowListFile -BlockListFile	string	Both parameters to specify list of allowed or blocked domains using plain text file (one domain per line) -AllowListFile .\allowed_domains.txt -BlockListFile .\blocked_domains.txt
-Remove	switch	Delete existing B2BManagement policy
-QueryPolicy	switch	Query existing B2BManagement policy (default action if no script parameters provided)
-Backup	switch	Backup existing policy data. Depends on current policy definition, one of two files will be stored in current script location: <tenant name="">-<time stamp="">-BlockedDomains.txt or <tenant name="">-<time stamp="">-AllowedDomains.txt</time></tenant></time></tenant>
-Help	switch	Display detailed script usage

Specification of all possible script executions:

```
Set-B2BManagementPolicy.ps1 -Update -AllowList <String>
Set-B2BManagementPolicy.ps1 -Update -BlockList <String>
Set-B2BManagementPolicy.ps1 -Update -AllowListFile <file name>
Set-B2BManagementPolicy.ps1 -Update -BlockListFile <file name>
Set-B2BManagementPolicy.ps1 -Append -BlockListFile <file name>
Set-B2BManagementPolicy.ps1 -Append -AllowListFile <file name>
Set-B2BManagementPolicy.ps1 -Append -AllowList <String>
Set-B2BManagementPolicy.ps1 -Append -BlockList <String>
Set-B2BManagementPolicy.ps1 -Remove
Set-B2BManagementPolicy.ps1 -QueryPolicy
Set-B2BManagementPolicy.ps1 -Backup
Set-B2BManagementPolicy.ps1 -Help
```



Note: If B2BManagement policy doesn't exist / was accidentally removed, script execution using **-Update** or **-Append** parameters will recreate policy.

3.2 Set-B2BManagementPolicy.ps1 script usage

Please use -help parameter to display detailed script usage.

```
Select Windows PowerShell
PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Help
     :
C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1
  NOPSIS

Helps admin to update the B2BManagementPolicy for Allow/Block domain list for inviting external Users.
Powershell must be connected to target tenant before running this script (using Connect-AzureAD cmdlet).
  NTAX
C:\82BManagementPolicy\Set-82BManagementPolicy.ps1 -Update -AllowList <String[]> [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Update -BlockList <String[]> [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Update -AllowListFile <String[]> [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Update -BlockListFile <String[]> [<CommonParameters>]
    C:\82BManagementPolicy\Set-82BManagementPolicy.ps1 -Append -BlockListFile <String[]> [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Append -AllowListFile <String[]> [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Append -AllowList <String[]> [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Append -BlockList <String[]> [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Remove [<CommonParameters>]
    {\tt C:\B2BManagementPolicy\backslash Set-B2BManagementPolicy.ps1} \  \  [-QueryPolicy] \  \  [<\!CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Backup [<CommonParameters>]
    C:\B2BManagementPolicy\Set-B2BManagementPolicy.ps1 -Help [<CommonParameters>]
 ESCRIPTION
Script developed by IAM Directory Enablement team, to support B2BManagementPolicy object management.
       Provided to the connected to target tenant before running this script (using Connect-AzureAD cmdlet)

Powershall must be connected to target tenant before running this script (using Connect-AzureAD cmdlet)

Powershall must be connected to target tenant before running this script (using Connect-AzureAD cmdlet)
RELATED LINKS
REMARKS
    NRKS
To see the examples, type: "get-help C:\82BManagementPolicy\Set-B2BManagementPolicy.ps1 -examples".
For more information, type: "get-help C:\82BManagementPolicy\Set-B2BManagementPolicy.ps1 -detailed.
For technical information, type: "get-help C:\82BManagementPolicy.Set-62BManagementPolicy.ps1 -full".
 S C:\B2BManagementPolicy> _
```

3.2.1 Query policy

Script execution with **-QueryPolicy** parameter displays current policy definition. This is the default script action if executed without parameters.

3.2.2 Backup existing policy

Script execution with **-Backup** parameter saves current domains list into plain text file (single domain definition per line). It will be either allowed domains list or blocked domains list.

```
Windows PowerShell

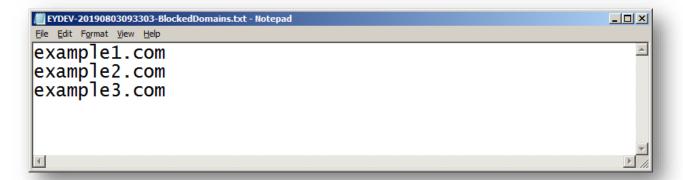
PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Backup

Blocked domains list saved to EYDEV-20190803093303-BlockedDomains.txt

Allowed domains not defined, nothing to backup.

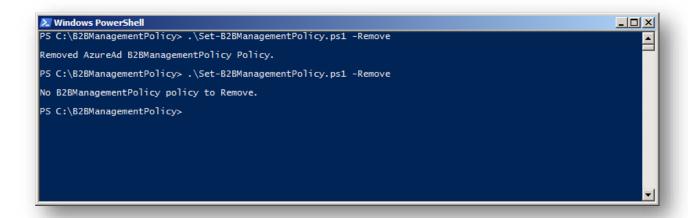
PS C:\B2BManagementPolicy> notepad .\EYDEV-20190803093303-BlockedDomains.txt

PS C:\B2BManagementPolicy>
```



3.2.3 Remove existing policy

Script execution with **-Remove** parameter deletes policy from target tenant.



3.2.4 Update allowed/blocked domain list

Below example of script execution with **-Update**, and **-AllowList** parameters to update policy with new data (erase old values). Same rules applies to **-BlockList** parameter usage. Actions taken:

- Remove current policy
- Update allowed domains list as policy do not exists, script do not display current definition nor asks for confirmation
- Update allowed domain list again overwrite data display current definition, and ask for confirmation to proceed, display final definition.

```
Windows PowerShell
                                                                                                                                 PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Remove
Removed AzureAd B2BManagementPolicy Policy.
PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Update -AllowList @('customer1.com')
Setting AllowedDomainList for B2BManagementPolicy (UPDATE)
New AzureAD Policy:
 Allowed Domains [1]:
                 customer1.com
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Update -AllowList @('customer2.com')
Setting AllowedDomainList for B2BManagementPolicy (UPDATE)
*** Details for the Existing Policy in Azure AD:
 Allowed Domains [1]:

    customer1.com

Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
 ***New Policy Changes:
 Allowed Domains [1]:
                 customer2.com
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
 *** Policy Change
Do you want to continue changing existing policy?

[] N [] Y [?] Help (default is "N"): y

Executing policy change.
New AzureAD Policy:
                customer2.com
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
PS C:\B2BManagementPolicy>
```

3.2.5 Update allowed/blocked domain list from file

Below example of script execution with **-Update**, and **-AllowListFile** parameters to update policy with new data (erase old values). Same rules applies to **-BlockListFile** parameter usage. Both example files holds different domains (two per file). Actions taken:

- Remove current policy (for example clarity, nor required in real scenario)
- Update allow list from first file as policy do not exists, script do not display current definition nor asks for confirmation
- Update allow list again from another file erase old values display current definition, and ask for confirmation to proceed, display final definition.

```
Windows PowerShell
                                                                                                                                           PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Remove
Removed AzureAd B2BManagementPolicy Policy.
PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Update -AllowListFile .\example_domains1.txt
Setting AllowDomainsList for B2BManagementPolicy (UPDATE from file)
New AzureAD Policy:
 Allowed Domains [2]:
 Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
 PS C:\B2BManagementPolicy>.\Set-B2BManagementPolicy.ps1 -Update -AllowListFile .\example_domains2.txt
Setting AllowDomainsList for B2BManagementPolicy (UPDATE from file)
*** Details for the Existing Policy in Azure AD:
 llowed Domains [2]:
                    yahoo.com
google.com
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
 ***New Policy Changes:
                    gmail.com
*gds.ey.com
  urrent policy settings : 'Allow invitations only to the specified domains (most restrictive)'
*** Policy Change
Do you want to continue changing existing policy?
[] N [] Y [?] Help (default is "N"): y
Executing policy change.
 New AzureAD Policy:
 Allowed Domains [2]:
                    gmail.com
*gds.ey.com
 urrent policy settings : 'Allow invitations only to the specified domains (most restrictive)'
PS C:\B2BManagementPolicy> _
```

3.2.6 Append allowed/blocked domain list

Below example of script execution with **-Append**, and **-AllowList** parameters to add new domains definition to existing policy. Same rules applies to **-BlockList** parameter usage. Appending domains defined already do not throw error, as script performs unique operation on target domain list. Actions taken:

- Remove current policy (for example clarity, nor required in real scenario).
- Append new allowed domains as policy do not exists, script do not display current definition nor asks for confirmation.
- Append again new allowed domains (one domain exists already) display current definition, asks for confirmation, display final definition.

```
    Windows PowerShell

                                                                                                                                              PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Remove
Removed AzureAd B2BManagementPolicy Policy.
PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Append -AllowList @('gmail.com','yahoo.com')
Existing AllowDomainList List is empty. Adding the domain list specified.
New AzureAD Policy:
                     gmail.com
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
PS C:\828ManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Append -AllowList @('gmail.com','google.com')
Existing Allowed Domain List: gmail.com yahoo.com
Setting AllowDomainList for B2BManagementPolicy (APPEND).
*** Details for the Existing Policy in Azure AD:
 llowed Domains [2]:
                     gmail.com
yahoo.com
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
  **New Policy Changes:
 llowed Domains [3]:
                     gmail.com
google.com
yahoo.com
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
 ** Policy Change
   you want to continue changing existing policy?
N [] Y [?] Help (default is "N"): y
ecuting policy change.
 New AzureAD Policy:
 Allowed Domains [3]
Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
PS C:\B2BManagementPolicy> _
```

3.2.7 Append allowed/blocked domain list from file

Below example of script execution with **-Append**, and **-AllowListFile** parameters, to add new domains definition to existing policy. Same rules applies to **-BlockListFile** parameter usage. Appending existing domain definition do not throw error, as script performs unique operation on target domain list. Actions taken:

- Remove current policy (for example clarity, nor required in real scenario).
- Append new allowed domains from file as policy do not exists, script do not display current definition nor asks for confirmation.
- Append again new allowed domains from different file (one input domain exists already) display current definition, asks for confirmation, display final definition.

```
    Windows PowerShell

                                                                                                                                                      PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Remove
Removed AzureAd B2BManagementPolicy Policy.
PS C:\B2BManagementPolicy> .\Set-B2BManagementPolicy.ps1 -Append -AllowListFile .\example_domains1.txt
Existing AllowDomainList List is empty. Adding the domain list specified.
 New AzureAD Policy:
  urrent policy settings : 'Allow invitations only to the specified domains (most restrictive)'
PS C:\82BManagementPolicy> .\Set-82BManagementPolicy.ps1 -Append -AllowListFile .\example_domains2.txt
Existing Allowed Domain List: yahoo.com google.com
Setting AllowDomainList for B2BManagementPolicy (APPEND from file).
*** Details for the Existing Policy in Azure AD:
  llowed Domains [2]:
                       yahoo.com
 urrent policy settings : 'Allow invitations only to the specified domains (most restrictive)'
 ***New Policy Changes:
                       gmail.com
*gds.ey.com
yahoo.com
google.com
  urrent policy settings : 'Allow invitations only to the specified domains (most restrictive)'
*** Policy Change
Do you want to continue changing existing policy?

N [] Y [?] Help (default is "N"): y

Executing policy change.
New AzureAD Policy:
 llowed Domains [4]:
                       gmail.com
*gds.ey.com
yahoo.com
google.com
 Current policy settings : 'Allow invitations only to the specified domains (most restrictive)'
PS C:\B2BManagementPolicy>
```

3.3 Common patterns

3.3.1 Modify default policy for the first time

For the first time policy modification, please consider following alternatives:

- Manual policy modification on https://portal.azure.com either allowed domain lists or blocked domains list. This option is viable for small amount of domains.
- Script execution with **-Append** or **-Update** parameter using **-AllowList** or **-BlockList** array definition of target domains. This option is viable for small amount of domains.
- Prepare input file (single domain definition per line in file), and execute script with either -Append
 or -Update parameter. As the policy definition do not hold any data, there is no difference if
 script will be executed with -Append or -Update parameter.

3.3.2 Modify existing policy (replace all data)

Before the change, execute script with **-Backup** parameter. Next execute script with **-Update** parameter, using either array definition or target domains or prepare input file. It is possible to delete all domains definition on portal side, and recreate new definition manually. This option is viable for small amount of domains.

3.3.3 Modify existing policy (remove unwanted data)

Before the change, execute script with -Backup parameter. Next - edit backup file, and remove unwanted domains. Next execute script using -Update parameter, adding either -AllowListFile parameter or -BlockListFile pointing edited file.

Alternatively - login to https://portal.azure.com, and remove unwanted domains from target list.

3.3.4 Modify existing policy (append new data)

Before the change, execute script with -Backup parameter. For new domains addition (to allowed or blocked lists), consider following steps:

- Manual modification of domains list on https://portal.azure.com either allowed or blocked domains. This option is viable for small amount of domains.
- Script execution with **-Append** parameter using **-AllowList** or **-BlockList** array definition of target domains. This option is viable for small amount of domains.
- Prepare input file (single domain definition per line in file), and execute script with **-Append** and **-AllowListFile** or **-BlockListFile** parameters.

3.4 Policy definition limits

As mentioned already in point 1.5, the number of domains you can add to an allow list or deny list is limited only by the size of the policy. The maximum size of the entire policy is 25 KB (25,000 characters). Before policy change, script calculates new data size, and informs about the results:

- Above 24 KB of data script warns, that we are close to the defined limit
- Above 25 KB script output error, but allows to continue, however it is expected that policy change will fail.

3.4.1 Warning

Below script flow with warning message, but successful policy change.

3.4.2 Error

Below script flow with error message, and failed policy change due to policy size over the limit.

