

Reservations Module with Exchange Calendar Integration

Using Graph API and OAuth 2.0

Let's Exchange Information for Exchange

Overview

iOFFICE clients have a need to create space bookings in their exchange setup. Our service, iOFFICE, needs to handle these exchange bookings, both new and current. In order to set up a way for clients to be able to get their exchange bookings, we need to have a way to pick up changes in a rooms' calendar. Clients will need to set up an application within Microsoft Azure and supply iOFFICE with the needed values to authenticate and read booking events.

Definitions

Application ID: aka Client ID - the id of the application Directory ID: aka Tenant ID - the id of the directory/tenant Client Secret Value: secret key needed for authentication

Prerequisites:

An Azure Portal user with sufficient permissions to create and edit applications

Steps to Configure:

1. Login to the Azure Portal [<u>https://portal.azure.com/</u>] and click App registrations. If it is not shown on the screen, select More services and search for App registrations.

≡	Microsoft Azure	$\mathcal P$ Search resources, services, and do	cs (G+/)					} ♀ ⊗	? 😊	mfarmer@iofficecorp.o IOFFICE
		Azure services	Users App Services	Virtual machines	Storage SC accounts	SQL QL databases	The second secon	Azure Cosmos DB		5
		Navigate	Resource groups		All resources		Das	shboard		
		Tools Microsoft Learn C* Learn Azure with free online training from Microsoft	Azure Monitor Monitor your apps and infrastructure	C	Security Center Secure your ap infrastructure	ps and	S Co An clo	st Management alyze and optimize ud spend for free	e your	
		Useful links Technical Documentation ♂ Azure Migration Tools	Azure Services ⊡ੈ Find an Azure expert	Reci Quie	ent Azure Updates _D	8	Azure m	ad en the Store	rnon oogle Play	

2. On the App registrations screen, select the option[+ New registration]

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All	services > App registratio	15					
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0	Welcome to the new and in	nproved App registrations (now Generally Available). See what's new and learn more on how it's changed. $ ightarrow$					
A	Il applications Owned	applications					
2	Start typing a name or Ap	plication ID to filter these results					
Di	isplay name	Application (client) ID			Crea	ted On	Certificates & secrets

- 3. Fill out the information that is relevant to your organization on the following page, you will not need a Redirect URI for this application.
- 4. Make a note of the Application and Directory IDs as iOFFICE will need these values to properly authenticate to your setup.

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All services > App registrations > iOFFIC	All services > App registrations > IOFFICE Reservations					
iOFFICE Reservations		* ×				
✓ Search (Cmd+/) «	Delete Endpoints					
Overview	Got a second? We would love your feedback on Microsoft identity platform (previously Azure AD for	r developer). \rightarrow				
Quickstart	Display name : iOFFICE Reservations	Supported account types : My organization only				
Manage	Application (client) ID:	Redirect URIs : Add a Redirect URI Application ID URI : Add an Application ID URI				
💳 Branding	Object ID : (Managed application in : iOFFICE Reservations				
Authentication		*				

On the left, under Manage, select Certificates and secrets and click [+ New client secret]
 , give it a description, ie. iOFFICE and select the length of time for its validity.
 NOTE: It will need to be updated on iOFFICE's side before it has expired if 'Never' is not selected.

Once created, the key will ONLY be available to view this ONE TIME. Copy the value. Keep it secret, keep it safe. Supply this value to iOFFICE

	Client secrets A secret string that the application uses to + New client secret	p prove its identity when requesting a toke	n. Also can be referred to as application passv	word.
Support + Troubleshooting	Description	Expires	Value	Copy to clipboard
	IOFFICE	1/13/2021	f-e	
New support request				

 Now that iOFFICE has all three values needed to authenticate with your service, some permissions are needed. On the left, under Manage, select API permissions. Select [+ Add a permission], and then select Microsoft Graph

✓ Search (Cmd+/) «	🕐 Refresh	Microsoft APIs APIs my organization	uses My APIs				
Overview	Configured permissions Applications are authorized to call APIs when they a	Commonly used Microsoft APIs					
		Microsoft Graph Take advantage of the tremendous amount of data in Office 365, Enterprise Mobility + Security, and Windows 10, Access Azure AD, Excel, Intune, Outdook/Exchange, OneDrive,					
Manage	all the permissions the application needs. Learn mo						
Branding	Branding + Add a permission Grant admin cor		OneNote, SharePoint, Planner, and more through a single endpoint.				
Authentication	API / Permissions name Ty						
Certificates & secrets	✓ Microsoft Graph (1)	Azure DevOps	Azure Service Management	Azure Storage			
Token configuration (preview)	User.Read De	Integrate with Azure DevOps and Azure DevOps server	Programmatic access to much of the functionality available through the Azure	Secure, massively scalable object and data lake storage for unstructured and			
→ → API permissions			portal	semi-structured data			

 iOFFICE needs an application permission granted to be able to read, write, and subscribe to a calendar's events. Select Application permissions, find Calendars, and select Calendars.ReadWrite. Write is needed for subscribing to the events of a calendar.

NOTE: an optional step below will restrict the application permissions to only the rooms you allow.

Search (Cmd+/)	🕐 Refresh	What type of permissions does your application require?
Overview Quickstart	Configured permissions Applications are authorized to call APIs when they a all the permissions the application needs. Learn mo	Delegated permissions Application permissions Your application needs to access the API as the signed-in user. Your application runs as a background service or daemon without a signed-in user.
Manage		Select permissions expand all
🔤 Branding	+ Add a permission Grant admin cor	Type to search
Authentication	API / Permissions name Ty	Permission Admin Consent Required
Certificates & secrets	✓ Microsoft Graph (1)	> AccessReview
Token configuration (preview)	User.Read De	> AdministrativeUnit
API permissions		> Application
Expose an API		> AppRoleAssignment
Owners		> ApprovalRequest
Roles and administrators (Previ		>AuditLog
10 Manifest		> BitlockerKey
Support + Troubleshooting		► ∨ Calendars (1)
Troubleshooting		Calendars.Read Read calendars in all mailboxes () Yes
2 New support request		Calendars.ReadWrite Read and write calendars in all mailboxes O Yes
		> Calls

Each reservable space that will be tracked in iOFFICE will need its own room assignment in Office365 [<u>https://admin.microsoft.com/</u>].

Optional Steps

Permissions

In order to create the subscription/webhook for any given room, application scoped permissions are needed. However, we are aware that this does not work for many organizations as application level permissions grant the ability to edit any of the resources ie. The application permission listed above Calendars.ReadWrite will give the ability to read from ALL users and not just those used for creating bookings/appointments/reservations. Through the Powershell, you can restrict which users the application can access.

Steps:

Note – While Powershell can run on macOS and Linux, I have only had success with the following steps on Windows. See this <u>link</u> for more details, and this <u>link</u> for more information.

1. Following this <u>link</u>, **Install the EXO V2 module.** In Powershell, execute the command *Install-Module -Name ExchangeOnlineManagement*



2. Use this <u>link</u> to connect to Exchange

Sign in to your account	🗙 🗾 Administrator: Windows PowerShell	- 0 ×					
Microsoft	Windows PowerShell Copyright (C) Microsoft Corporation. All rights reserved. Try the new cross-platform PowerShell https://aka.ms/pscore6	Windows PowerShell A Copyright (C) Microsoft Corporation. All rights reserved.					
@iofficecorp.onmicrosoft.com	PS C:\WINDOWS\system32> Install-Module -Name ExchangeOnlineManagement PS C:\WINDOWS\system32> Innort-Module ExchangeOnlineManagement	PS C:\WINDOWS\system32> Install-Module -Name ExchangeOnlineManagement					
Enter password	PS C:\WINDOWS\system32> Connect-ExchangeOnline -UserPrincipalName -UserPrincipalN	<pre>ficecorp.onmicrosoft.com -ShowProgress \$tru</pre>					
Password	The module allows access to all existing remote PowerShell (V1) cmdlets in ad ble cmdlets.	dition to the 9 new, faster, and more relia					
Forgot my password							
Sign in with another account	Get-CASMailbox Get-EXOCASMailbox Get-Kallbox Get-EXOMailbox Get-Mailbox Get-EXOMailbox Get-MobileDevrision Get-EXOMailbox Get-Recipient Get-EXOMailBox/restatistics Get-Recipient Get-EXORecipientPermission Get-Accelpient Get-EXORecipientPermission To get additional information, run: Get-Help Connect-ExchangeOnline or check Send your product improvement suggestions and feedback to exocmdletpreview@set the module, contact Microsoft support. Don't use the feedback alias for problement	nttps://aka.ms/exops-docs nvice.microsoft.com. For issues related to ems or support issues.					

- After the module is installed, import it by executing the command Import-Module ExchangeOnlineManagement and then connect via the command Connect ExchangeOnline UserPrincipalName [microsoftlogin@somedomain.com] -ShowProgress \$true
- 4. You will be prompted to login with your password

 Once connected, you will need to run the following command for each room you wish to set up, see <u>link</u>

New-ApplicationAccessPolicy -Appld [Your App Id Here] -PolicyScopeGroupId [The room you wish to allow] -AccessRight RestrictAccess -Description [Your description here]

PS C:\WINDOWS\system32> Test-ApplicationAccessPolicy -Identity neweastconf@iofficecorp.onmicrosoft.com -AppId				
RunspaceId AppId Mailbox MailboxId MailboxSid AccessCheckResult	: New East Conf 			
PS C:\WINDOWS\syst -AccessRight Restr	em32> New-ApplicationAccessPolicy -Applo ictAccess -Description "Restrict users to members of rooms group"			
RunspaceId : ScopeName : ScopeIdentity : Identity :	New East Conf New East Conf			
AppId : ScopeIdentityRaw : Description : AccessRight : ShardType : IsValid : ObjectState :	Restrict users to members of rooms group RestrictAccess All True Unchanged			
PS C:\WINDOWS\syst	em32> Test-ApplicationAccessPolicy -Identity neweastconf@iofficecorp.onmicrosoft.com -AppId			
RunspaceId AppId Mailbox MailboxId MailboxSid AccessCheckResult	New East Conf			

 You can test to ensure that it worked with the command *Test-ApplicationAccessPolicy - Identity* [The room you wish to allow] - Appld [Your App Id Here]

Note: There is a delay between setting up the rooms, and the permissions propagating out to be used by our service. Setup should take place 24 hours before expected start date.