



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

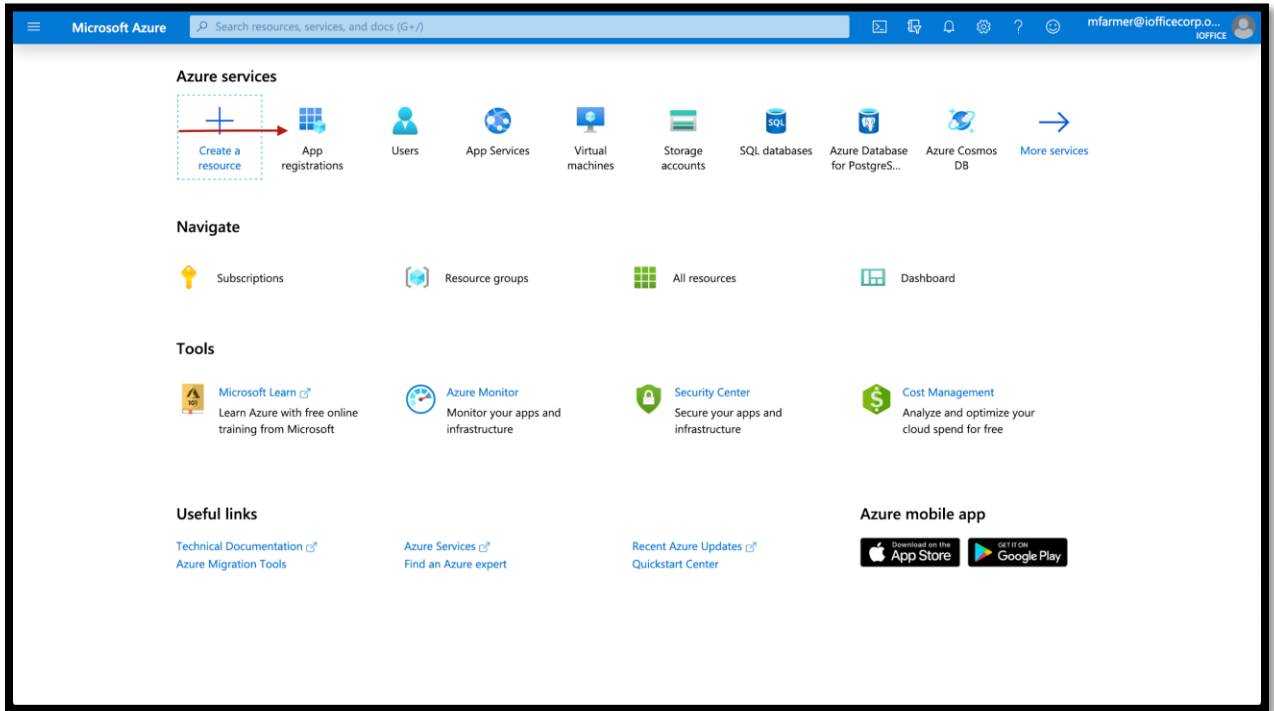
Client Secret Value: secret key needed for authentication

Prerequisites:

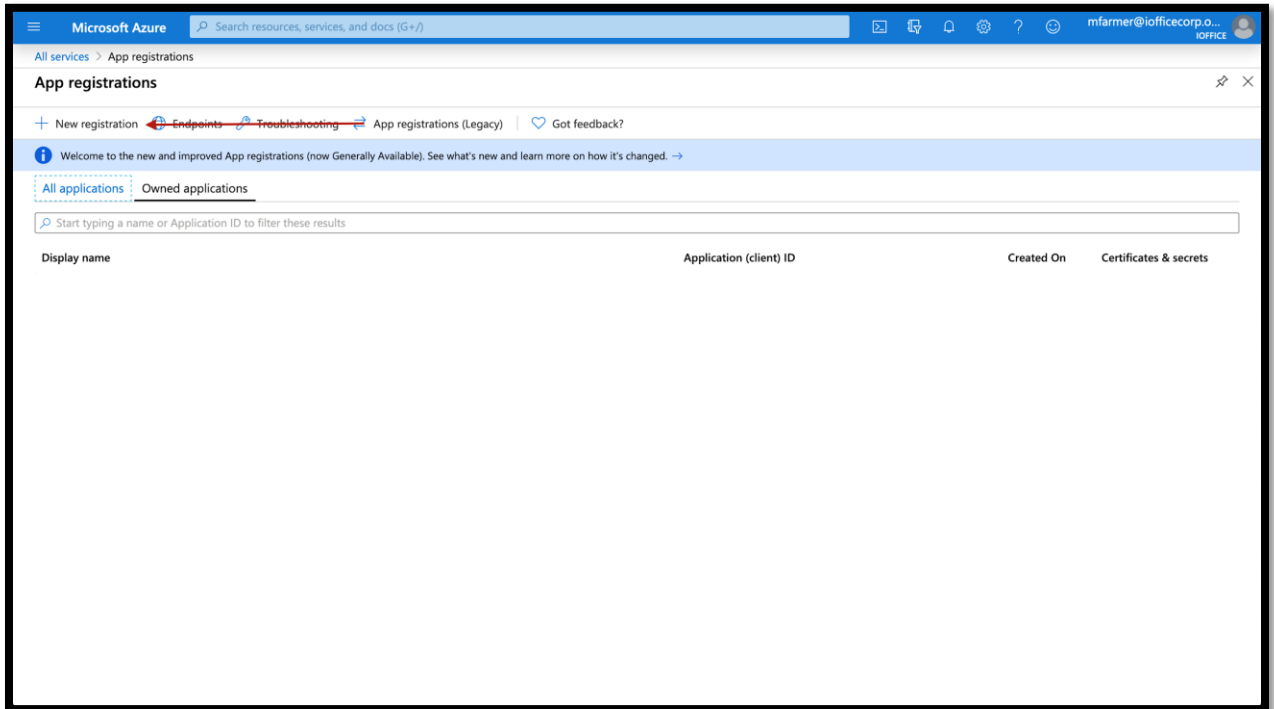
An Azure Portal user with sufficient permissions to create and edit applications

Steps to Configure:

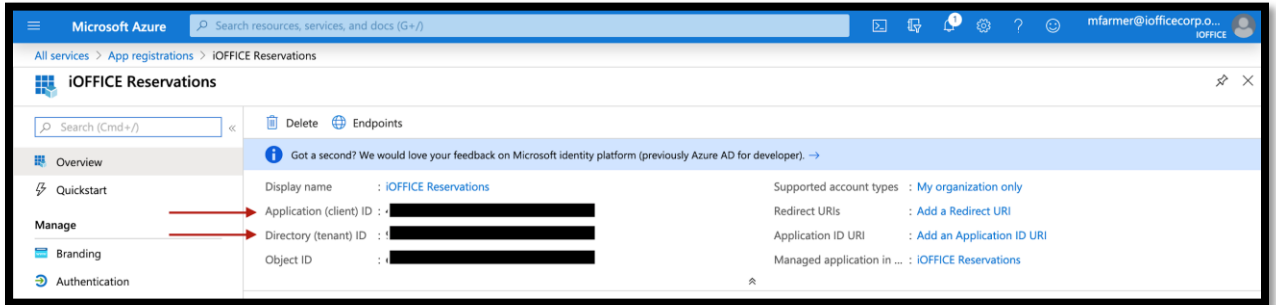
1. Login to the Azure Portal [<https://portal.azure.com/>] and click App registrations. If it is not shown on the screen, select More services and search for App registrations.



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

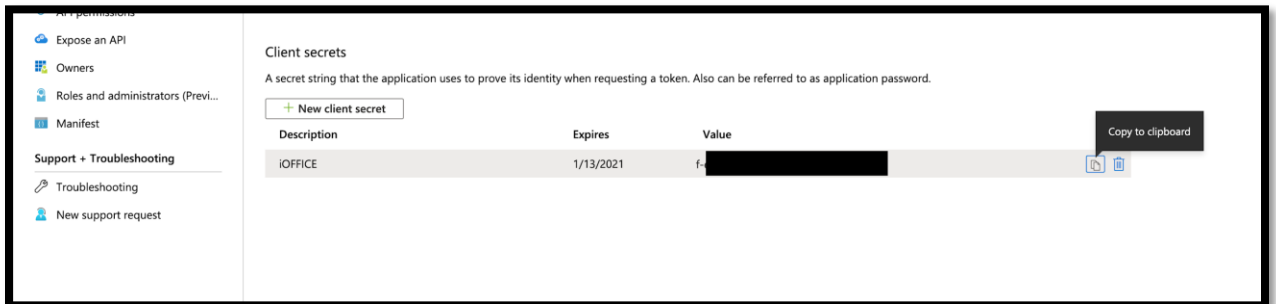


- Fill out the information that is relevant to your organization on the following page, you will not need a Redirect URI for this application.
- Make a note of the Application and Directory IDs as iOFFICE will need these values to properly authenticate to your setup.

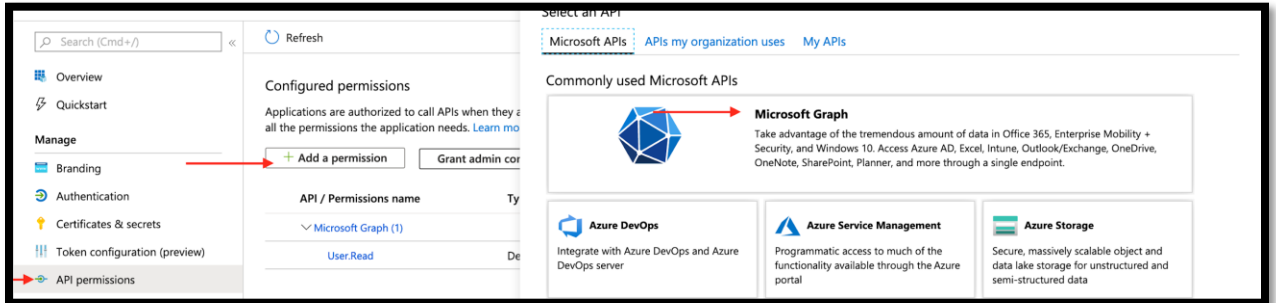


- On the left, under Manage, select Certificates and secrets and click [+ New client secret], give it a description, ie. iOFFICE and select the length of time for its validity. **NOTE:** It will need to be updated on iOFFICE's side before it has expired if 'Never' is not selected.

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

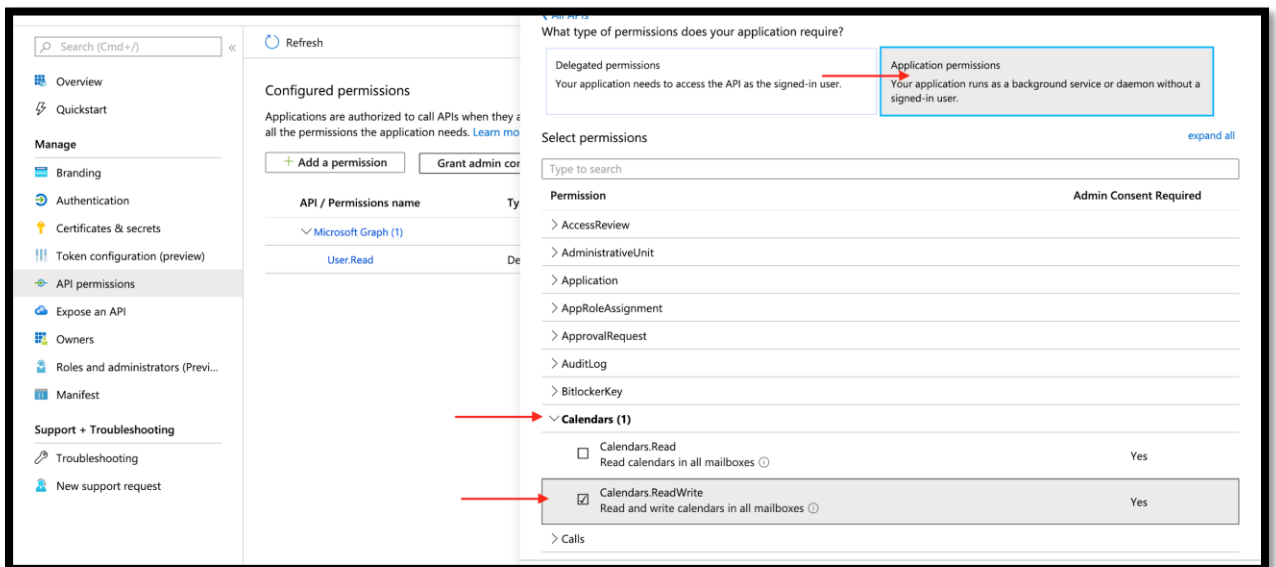


6. Now that iOFFICE has all three values needed to authenticate with your service, some permissions are needed. On the left, under Manage, select API permissions. Select [+ Add a permission], and then select Microsoft Graph



7. 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.



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

Optional Steps

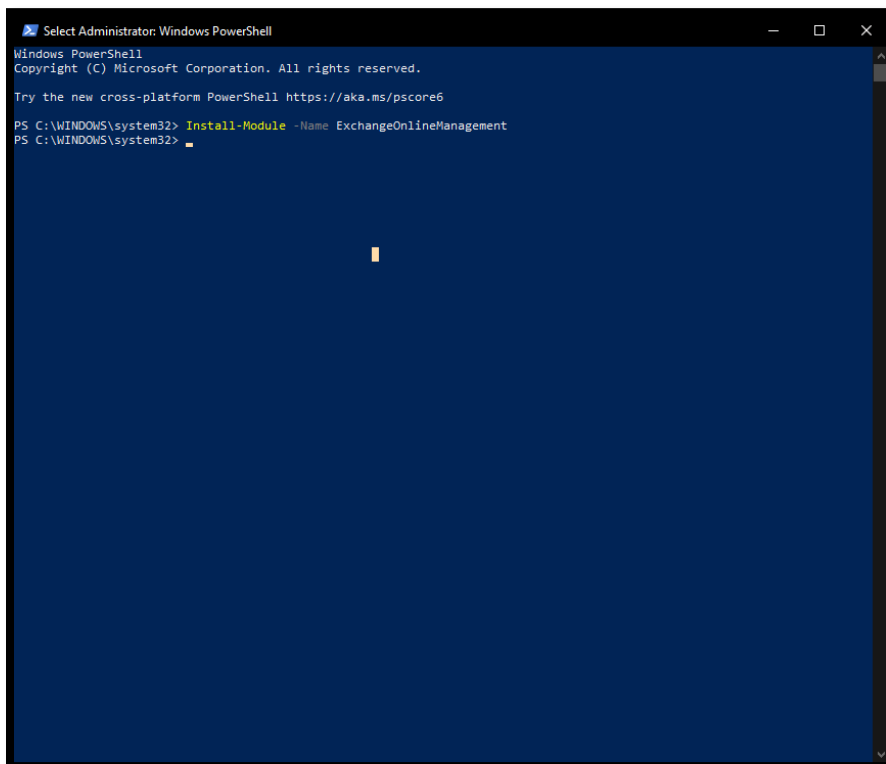
Permissions

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 [link](#) for more details, and this [link](#) for more information.

1. Following this [link](#), **Install the EXO V2 module.** In Powershell, execute the command *Install-Module -Name ExchangeOnlineManagement*

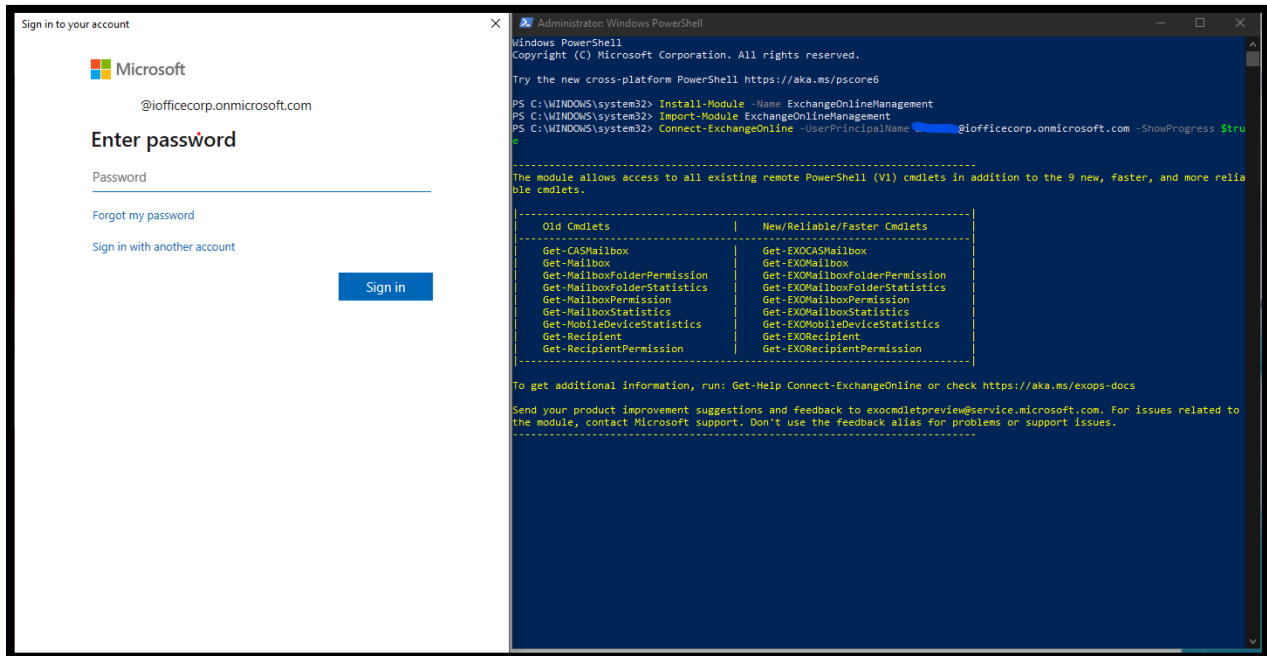


```
Select Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> Install-Module -Name ExchangeOnlineManagement
PS C:\WINDOWS\system32>
```

2. Use this [link](#) to connect to Exchange



3. 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 [link](#)

New-ApplicationAccessPolicy -AppId [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 [redacted]

RunspaceId : [redacted]
AppId      : [redacted]
Mailbox    : New East Conf
MailboxId  : [redacted]
MailboxSid : [redacted]
AccessCheckResult : Denied

PS C:\WINDOWS\system32> New-ApplicationAccessPolicy -AppId [redacted] -PolicyScopeGroupId neweastconf@iofficecorp.onmicrosoft.com
-AccessRight RestrictAccess -Description "Restrict users to members of rooms group"

RunspaceId : [redacted]
ScopeName  : New East Conf
ScopeIdentity : New East Conf
Identity    : [redacted]
AppId      : [redacted]
ScopeIdentityRaw : [redacted]
Description : Restrict users to members of rooms group
AccessRight : RestrictAccess
ShardType   : All
IsValid     : True
ObjectState : Unchanged

PS C:\WINDOWS\system32> Test-ApplicationAccessPolicy -Identity neweastconf@iofficecorp.onmicrosoft.com -AppId [redacted]

RunspaceId : [redacted]
AppId      : [redacted]
Mailbox    : New East Conf
MailboxId  : [redacted]
MailboxSid : [redacted]
AccessCheckResult : Granted
```

- You can test to ensure that it worked with the command
Test-ApplicationAccessPolicy -Identity [The room you wish to allow] -AppId [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.