

## How to set up Microsoft365 datasource

Document revision 1.7

### Description

This guide explains how to add an Office365 data source in Manage for TEOS. From version 2.1 and above TEOS will use the OAuth 2.0 authentication method to connect to Office 365. Support for basic authentication will end on October 1, 2022.

There are 2 different cases which can be used depending on customer policy, the first two cases are used with a service account which needs to have permissions to read and write in the Room calendars:

### **Case 1: Create your Azure third party with Application permissions (recommended)**

When the policy with service account (which can be seen as user accounts) and require the reset of password every 3 months, it is recommended if accepted to use Azure Application in order to avoid using Office 365 service accounts and use the Tenant ID, Client ID and secret code which can be reset at once and update automatically all the link with the meeting room agendas without having to refresh the password of each service account.

This workflow does not require an Office365 service account.

### **Case 2: Create your own Azure Application for TEOS authentication in Office365**

If case 1 is not allowed by company policies, this because company policies will not allow an external Azure application to retrieve such information.

Because of this TEOS has a second case which can be used, with this workflow you configure your own Azure application. This guide will explain how the Azure application can be created and how the custom keys can be configured in case you want to setup an Office365 data source please see the related items at the bottom of this manual.

An Office365 service account is required.

A single service account can be used to setup 20 rooms.

# Requirements

- Administrator access to the Office365 environment
- Manage for TEOS 3.2 for the Azure AD application workflow
- Administrator access to the TEOS server
- Case 1 - Using a custom Azure application: Ability to create an Azure application within the Office365 environment of the company. Application Tenant ID, Client ID and secret code and Service accounts are required. Application permission is required to use this method
- Case 2 – Using the TEOS Azure application: Have a service account available and an Office365 Admin account with privileges to set the permissions to allow the default Azure application for TEOS. Service account (one service account per 20 resources)
- Case 3 - Using a custom Azure application: Ability to create an Azure application within the Office365 environment of the company. Application Tenant ID, Client ID and secret code (with permission delegation) and Service accounts are required (one service account per 20 resources)
- Work in all type of devices, BRAVIA, Tablets for TEOS and Player for TEOS
- Can be used in Digital Signage, Room Booking, Meeting Display etc.

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# 1. Needs for TEOS synchronization with Office365

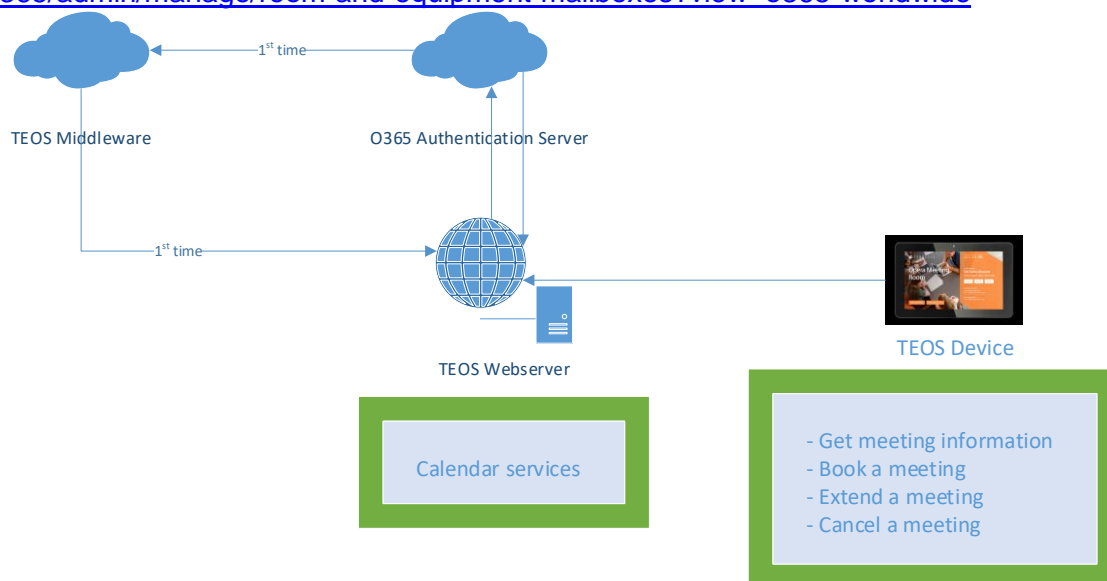
With TEOS you can create data sources, a data source can retrieve information from an external location. This information can be shown dynamically within your presentation. With the Office365 data source you can retrieve meeting information from the Office365 platform, this way you can display information from specific rooms or specific user calendars.

Room resources can be created in the admin part of Office365, user calendars can be created within specific accounts. During the process of creating the data source you can enter the credentials of the account which has access to the calendar. For a room this will be a service account which is delegated for the room, for a user calendar you can use the login credentials of the specific user account. Chapter 4 describes how a service account can be set as a delegate for your room.

To retrieve the information from the Office365 platform an internet connection is required on the TEOS server. The following hostnames should be accessible from the TEOS server to retrieve the information from the Office365 platform:

- outlook.office365.com
- login.microsoftonline.com
- Auth.teosmanage.com
- Graph.microsoft.com

For more information please visit this page: <https://docs.microsoft.com/en-gb/microsoft-365/admin/manage/room-and-equipment-mailboxes?view=o365-worldwide>



Additionally, you can enable/disable some attributes for your Office365 room resources, more information regarding this can be found at chapter 6. Please follow chapter 2 in case you will use the TEOS Azure application in case you prefer to create your own Azure application continue with chapter 3.

## Case 1 – Using a custom Azure application with application permission

Used most of the time in companies as it is the most flexible between security and configuration/maintenance of the connection between TEOS and Microsoft365 room accounts. Important to not forget to renew the Secret Key when needed from the Application and report the new key value in TEOS interface

1. Sign in with your account to portal.azure.com
2. Select Azure Active Directory.



3. When logged in into azure portal, go to Azure Active Directory

Welcome to Azure!

Don't have a subscription? Check out the following options.



#### Start with an Azure free trial

Get \$200 free credit toward Azure products and services, plus 12 months of popular free services.

[Start](#)

[Learn more](#)



#### Manage Azure Active Directory

Manage access, set smart policies, and enhance security with Azure Active Directory.

[View](#)

[Learn more](#)



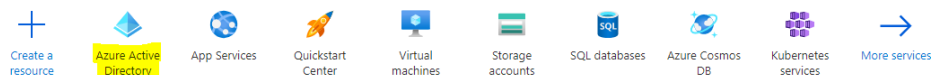
#### Access student benefits

Get free software, Azure credit, or access Azure Dev Tools for Teaching after you verify your academic status.

[Explore](#)

[Learn more](#)

#### Azure services



4. Go to the left column and click on app registrations to be able to create you TEOS application

Home > Sony France | Overview

Azure Active Directory

Overview Monitoring Tutorials

Search your tenant

**Basic information**

Property	Value	Count
Name	Sony France	Users: 32
Tenant ID	[redacted]	Groups: 1
Primary domain	teosdemo.nl	Applications: 2
License	Azure AD Free	Devices: 11

**Alerts**

**Upcoming TLS 1.0, 1.1 and 3DES deprecation**  
Please enable support for TLS 1.2 on clients(applications/platform) to avoid any service impact.  
[Learn more](#)

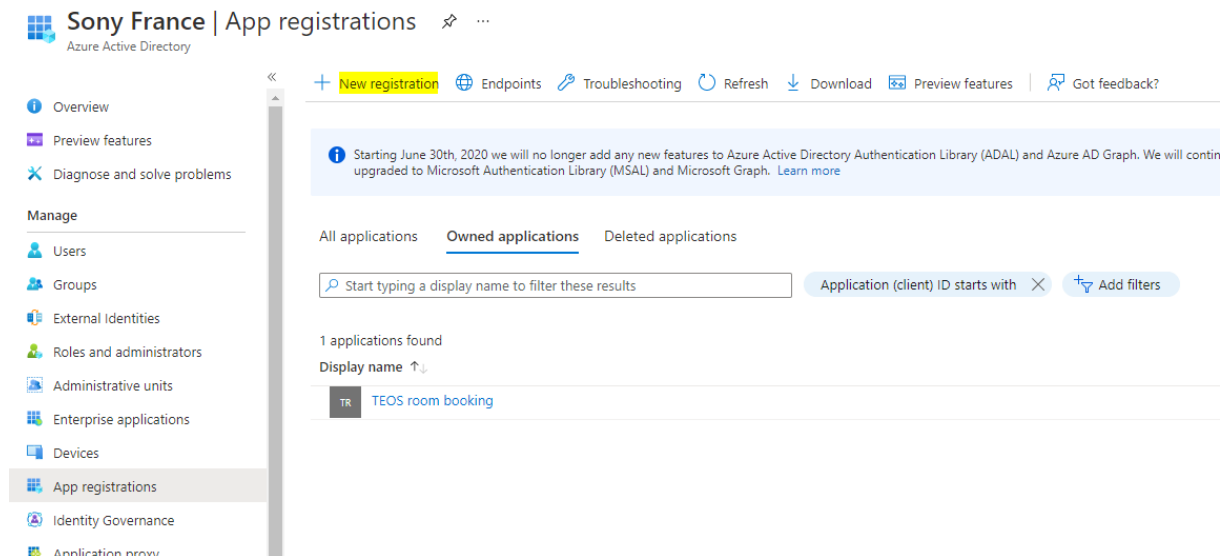
**My feed**

**Global Administrator**  
View role information  
[View profile](#)

**Secure Score for Identity**  
3.85%  
Secure score updates can take up to 48 hours.  
[View secure score](#)

**Azure AD Connect**  
Not enabled  
Sync has never run  
[Go to Azure AD Connect](#)

Under app registrations press “New registration” and define a name for the App.



Define a name that you can easily recognize for a region or a country or where you will use the rooms/users. For Azure AD synchronization only, no need to add a redirect URI, the redirect URI is used mainly for Office365 rooms management and for our TEOS Employee App and Mobile App

Register an application ...

\* Name  
The user-facing display name for this application (this can be changed later).

TEOS-AzureAD ✓

Supported account types

Who can use this application or access this API?

☒ Accounts in this organizational directory only (Sony France only - Single tenant)

☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)

☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

☐ Personal Microsoft accounts only

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web e.g. https://example.com/auth ✓

Register an app you're working on here. Integrate gallery apps and other apps from outside your organization by adding from [Enterprise applications](#).

By proceeding, you agree to the [Microsoft Platform Policies](#) ☐

Register

URL redirect for TEOS Manage (room booking):

<https://auth.teosmanage.com/connect/office365.aspx>

<https://auth.teosmanage.com/connect/office365v2.aspx>

URL redirect for TEOS Manage (employee app/mobile apps):

<https://auth.teosmanage.com/connect/office365-employee.aspx>

<https://auth.teosmanage.com/connect/office365-employeev2.aspx>

You can go to authentication menu under the left column to review the redirect URIs

The screenshot shows the Azure AD Authentication page. On the left is a navigation menu with options like Overview, Quickstart, Integration assistant, Manage, Branding & properties, Authentication (highlighted), Certificates & secrets, Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, and Manifest. The main content area is titled 'Web Redirect URIs'. It contains a text input field with the URL 'https://auth.teosmanage.com/connect/office365.aspx' and a checkmark icon. Below it are three more input fields with URLs: 'https://auth.teosmanage.com/connect/office365v2.aspx', 'https://auth.teosmanage.com/connect/office365-employee.aspx', and 'https://auth.teosmanage.com/connect/office365-employeev2.aspx'. Each has a trash icon to its right. There is an 'Add URI' link below the list. Further down, there is a section for 'Front-channel logout URL' with a text input field containing 'e.g. https://example.com/logout' and a checkmark icon. Below that is a section for 'Implicit grant and hybrid flows' with a paragraph of text and a link to 'Learn more about tokens'.

When you pressed to register, go then to API permissions, and start to add permissions by pressing “add a permission” and select Microsoft graph

The screenshot shows the Azure AD API permissions page. On the left is the same navigation menu as before. The main content area is titled 'API permissions'. It shows a list of permissions for the 'Microsoft Graph' API. The list has columns for 'API / Permissions name', 'Type', 'Description', and 'Admin consent required'. The permissions listed are: 'Calendars.Read', 'Calendars.Read.Shared', 'Calendars.ReadWrite', 'Calendars.ReadWrite.All', 'Calendars.ReadWrite.Shared', 'Directory.Read.All', 'Group.Read.All', 'GroupMember.Read.All', 'OnlineMeetings.ReadWrite.All', 'User.Read.All', and 'User.ReadWrite.All'. The 'Add a permission' button is highlighted. To the right of the list, there are two boxes: 'Delegated permissions' and 'Application permissions'. The 'Application permissions' box is selected. Below the list, there is a link to 'To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try Enterprise applications.' and buttons for 'Add permissions' and 'Discard'.

Select if your permission is an application type permission or a delegated permission (in Azure AD it is only Application permissions)

## Request API permissions

< All APIs

Microsoft Graph  
https://graph.microsoft.com/ Docs

What type of permissions does your application require?

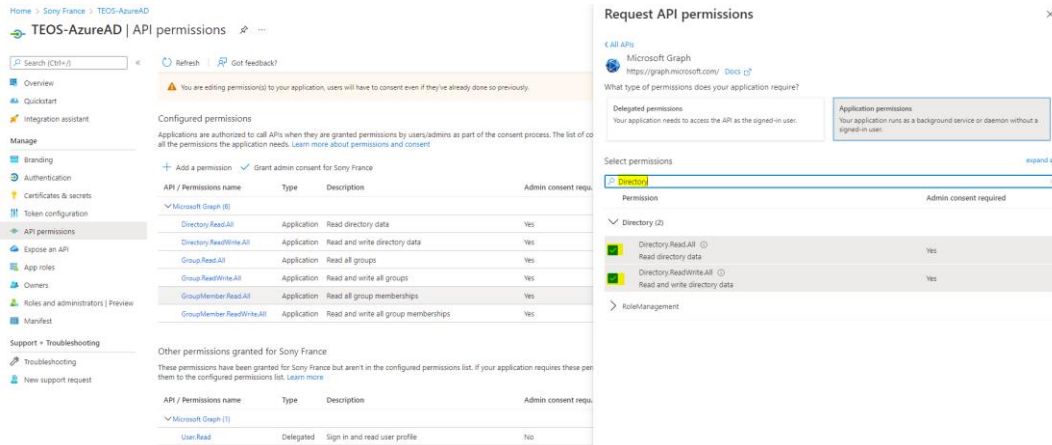
### Delegated permissions

Your application needs to access the API as the signed-in user.

### Application permissions

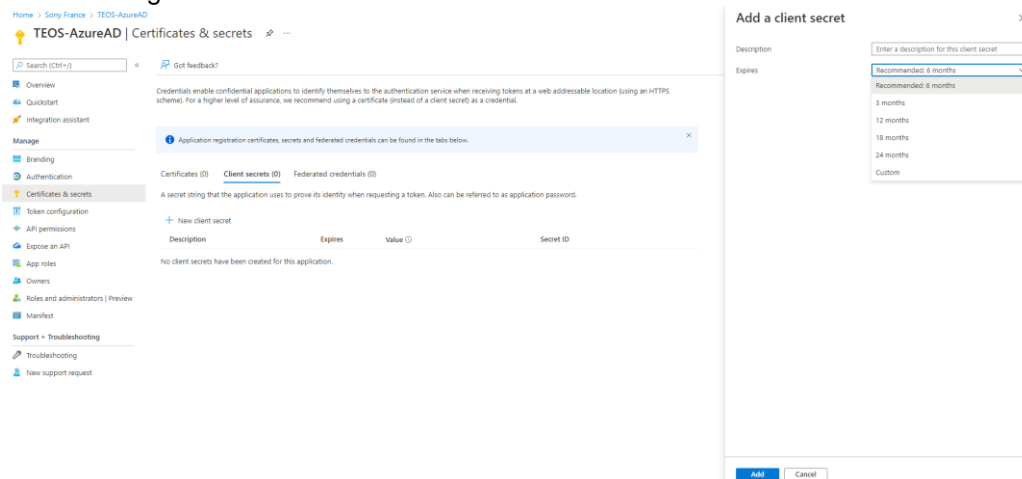
Your application runs as a background service or daemon without a signed-in user.

You can then search by the name of the requested permission and select the checkbox to add it

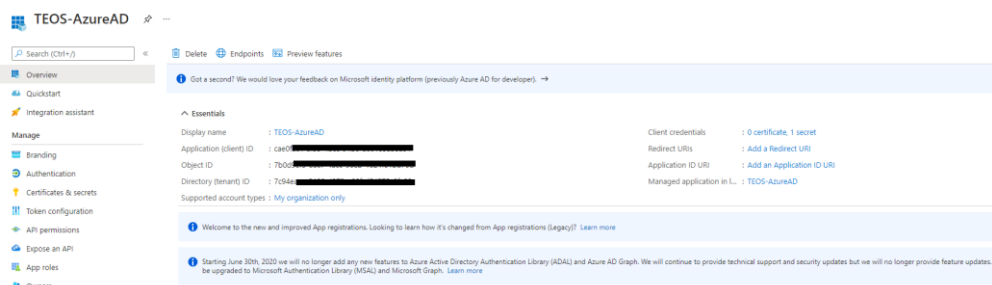


You can refer to the next sections to check what are the permissions needed.

After adding all the permission, you need to get a Client Secret that we will use by TEOS together with the Tenant ID and Client ID to be able to get the data. For that go to “Certificates & secrets” which on the left column. You can define under this section the expiration tie for the Client Secret (maximum 2 years). Copy then the value generated.



You can you then to your overview the find again the Client ID, Tenant ID on top of the Client Secret (value).



**To get TEOS working with O365 resources (rooms for example) without having to create a service account and using GraphAPI, you need under the Azure application to allow the following permissions:**

Permission name	Type	Description
<b>Calendars.Read</b>	Application	Read calendars in all mailboxes
<b>Calendars.ReadWrite</b>	Application	Read and write calendars in all mailboxes
<b>User.Read.All</b>	Application	User details of the room resource to identify it



An Application Access Policy can be created for scoping the calendars usage only with the meeting room email resources. For that you can consult the page from Microsoft about how to configure it in powershell with Azure: This access policy can scope the access for TEOS Azure Application to only the specific security group where the room resources can be scoped. This to be able to only use the ReadWrite Application accesses only with the scope and not all the emails under the tenant, even if only what is setup in TEOS can be managed.

## PowerShellCopy

### New-ApplicationAccessPolicy

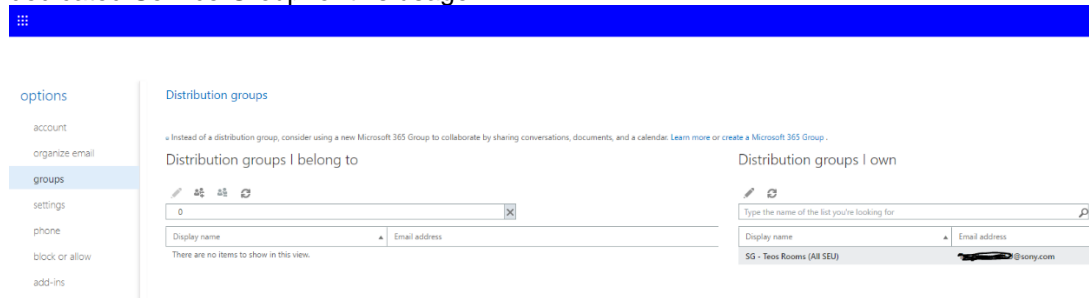
```
-AccessRight <ApplicationAccessPolicyRight>
-AppId <String[]>
-PolicyScopeGroupId <RecipientIdParameter>
[-Confirm]
[-Description <String>]
[-WhatIf]
[<CommonParameters>]
```

<https://learn.microsoft.com/en-us/powershell/module/exchange/new-applicationaccesspolicy?view=exchange-ps>

When a security group is setup, it is possible to give access to a user to add or remove the email address in the security group from the exchange admin panel.

Under <https://admin.exchange.microsoft.com/>, an access policy can be accessed (after creating in Azure AD which can scope the resources which can be used with the Application permission. Follow the URL here to setup an access policy : <https://learn.microsoft.com/en-us/powershell/module/exchange/new-applicationaccesspolicy?view=exchange-ps>

For that under Groups > Distribution groups which are created by Admin in Azure AD search for the dedicated Service Group for this usage.



## Double click on the Service Group

SG - Teos Rooms

Go to membership and add or remove the resource which can enter in the scope of the Application. After adding the room resource the Application will have permission together with TEOS to read and write and in that case only for the meeting rooms calendars.

## SG - Teos Rooms (All SEU)

general

ownership

membership

membership approval

message approval

email options

Members:

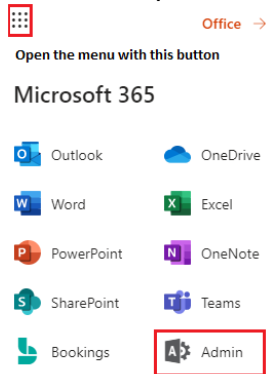
+ -

Save Cancel

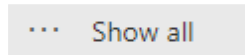
Create and configure a user as a delegate for your room resources

1. Login with an administrator account into: <https://login.microsoftonline.com>

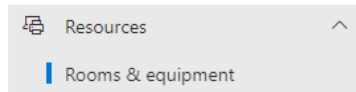
2. Please open the menu from the left corner and then select "Admin"



3. Please select "Show all" on the menu on the left side.



4. Then select "Resources > Rooms & Equipment"



5. In this window you can create your room resources. Once you have created all the rooms please proceed with step 6.

6. Select the room, for example: [room01@teos.support](mailto:room01@teos.support)

Name	Email	Type
Room01	room01@teos.support	Room

7. Please select "Edit" beneath "Delegates":

## Delegates (1)

TEOS Support

[Edit](#)

8. Please add the service account you want to use for setting up your data sources and add it as a delegated user. Next select “Save Changes”.

You have successfully configured a delegated user for your room resource, please note that it might take up to 24 hours before the changes are fully active and processed by Office365.

### Permission needed for O365 calendar of Employee app

To get TEOS Employee app working with O365 resources (desks for example) without having to create a service account and using GraphAPI, you need under the Azure application to allow the following permissions:

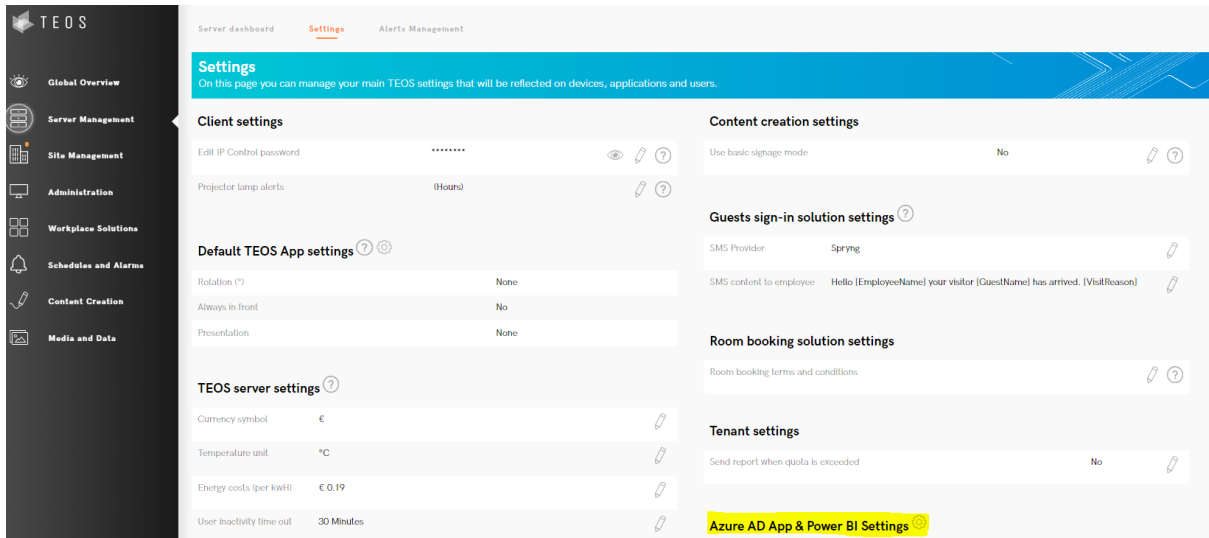
Permission name	Type	Description
<b>Calendars.ReadWrite</b>	Delegated	Have full access to user calendars
<b>Calendars.ReadWrite.Shared</b>	Delegated	Read and write user and shared calendars
<b>User.readwrite.all</b>	Delegated	Sign in and read user profile
<b>OnlineMeetings.ReadWrite.All</b>	Application	Allows the app to read and write Teams meetings (optional)

### Recap of all the permissions required with more details

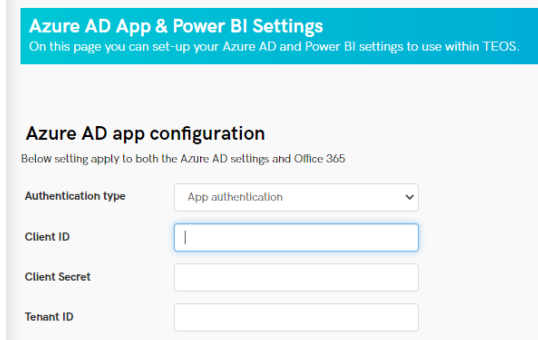
Permission name (Graph API)	Type	Description
<b>Calendars.Read</b>	Application	For Booking panels: read/display the booking into the booking panel
<b>Calendars.ReadWrite</b>	Application	For Booking panels: allow the booking from the booking panel on the room resource calendar
<b>User.read.all</b>	Application	For Booking panels: Required to localize the email address of the room calendar resources into TEOS
<b>Calendars.ReadWrite</b>	Delegated	For the user booking App: In order to be able from the web application/ mobile application of TEOS, user will need to login with his O365 calendar account in the web application and mobile in order to see his spaces booking done in outlook into the applications. This application is focusing into the space using together with O365 booking style
<b>Calendars.ReadWrite.Shared</b>	Delegated	For the user booking Application and web portal, the application needs to be able to get room calendars information's in order to filter accordingly the availabilities to the user application
<b>User.readwrite.all</b>	Delegated	For the user booking Application and web application, this permission will allow the user to login within the application only and allow him also to write on his O365 calendar using his user name. No other usage is done with this permission
<b>Directory.read.all</b>	Application	Tool User management: For the possibility to synchronize users with the tool and reading the Group ID/ Group name identified in the tool. This to automatically define the groups of users who will use the tool and to use the Azure AD authentication
<b>Group.read.all</b>	Application	Tool User management: For the possibility to synchronize users with the tool and reading the Group ID/ Group name identified in the tool. This to automatically define the groups of users who will use the tool and to use the Azure AD authentication
<b>GroupMember.read.all</b>	Application	Tool User management: For the possibility to synchronize users with the tool and reading the Group ID/ Group name identified in the tool. This to automatically define the groups of users who will use the tool and to use the Azure AD authentication
<b>User.read.all</b>	Application	Tool User management: For the possibility to synchronize users with the tool and reading the Group ID/ Group name identified in the tool. This to automatically define the groups of users who will use the tool and to use the Azure AD authentication

5. You finished the steps for setting up the Azure application, the keys you have created need to be configured in TEOS Manage. This can be done as followed:

Server Management > Settings > Office 365 & Power BI Settings



For the app usage, select under authentication “App Authentication”. Insert then the Client ID, Tenant ID, and secret code value of the third-party account you created for TEOS.



Once this has been done you are able to create Office365 Datasources using your own Azure application in TEOS Manage.

## Add Office365 data source in Manage for TEOS

1. To add an Office365 data source you need to navigate to the “Media and Data” menu. To go here click on the “Media and Data” icon:



2. Next navigate to the tab labeled “External Data”:



3. Select the button “New Data source” to add a new data source.



4. In the window fill in a name for your data source, click on Office365 and click on the “Next” button.

New datasource

Please fill in a name for your datasource:

Select which type of datasource you would like to add:

Social media

Facebook

Twitter

Instagram

Yammer

Data sources

Yahoo Weather

PowerBI

Flickr

Custom sources

XML

RSS/XML

Agenda

Office 365

Google Calendar

Exchange

TEOS Calendar

Office App

Education

Scientia

CELCA

NEXT

5. The screen which will be shown depends on the chosen workflow:

**Case 1:** If this is the first Office365 data source you will be forwarded to the login page where you need to specify Office365 administrator credentials to approve the application. Afterwards you can log-out and specify the service account credentials.

**Case 2:** Login with your Office365 service account credentials.

**Case 3:** You will be forwarded automatically to the next step as this workflow does not require a service account.

6. In the dropdown menu you can select to either use a calendar from the user or if you want to use a Room resource. After selecting the desired type press “Save”

Edit datasource

Type

SAVE

Rooms

Calendars

Rooms



Select if you have set up your appointments in a calendar or if you set up rooms to add appointments to



7. If you select calendars, select your desired calendar in the new window and press "Save"

#### Edit datasource

Please select below from which calendars you would like to show the appointments.

If you intend to use this datasource in our meetingroom solution, please don't select any calendars. You will be able to select the calendars you want to use in the meetingroom solution when you add a player to that solution.

Calendar(s):

Select a calendar

SAVE

8. If you selected "Rooms", fill in the email address for the room resource and press "Save"

#### Edit datasource







Please fill in the email address of the room from which you would like to show the appointments.

Room:

room01@teosmanage.com

SAVE

9. You will then be able to see your resource created with the service account used and the resource name

     	room01@teosdemo.nl	Name: Gaël BERTIN Email: gael.bertin@teosdemo.nl Room: room01@teosdemo.nl	31-05-2022
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You have now successfully created your Office365 datasource.

## Case 2 – Using the TEOS Service accounts

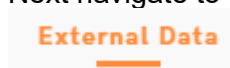
When you decide to use the TEOS Azure application no additional configurations are required, the keys for the TEOS Azure application are configured as default. This means that the TEOS Azure application will be used in case you create Office365 data sources without making any changes.

**Make sure you have one service account for 20 meeting room email address and the service account has all the permissions (delegation) to read/write in the calendars of the meeting rooms**

1. To add an Office365 data source you need to navigate to the “Media and Data” menu. To go here click on the “Media and Data” icon:



2. Next navigate to the tab labeled “External Data”:



3. Select the button “New Data source” to add a new data source.



4. In the window fill in a name for your data source, click on Office365 and click on the “Next” button.

New datasource

Please fill in a name for your datasource:

Select which type of datasource you would like to add:

Social media	Data sources	Custom sources
Facebook Twitter Instagram Yammer	Yahoo Weather PowerBI Flickr	RSS/XML
Office 365 Google Calendar Exchange TEOS Calendar Office App	Education Scientia Celcat	

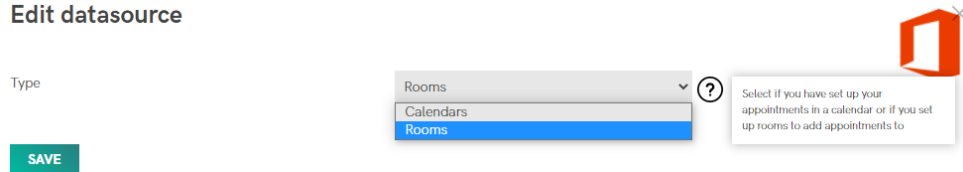
**NEXT**

5. In case this is the first Office365 data source you create based on the Oauth2.0 protocol you will see an administrator approval page, this is the part where an administrator needs to grant the TEOS application access to the Office365 environment. Once this has been granted you will be able to configure the room/calendar for your datasource.

**Please notice you only have to login once to grant the permissions for the Azure TEOS application, every data source you will create afterwards will not show this screen. After granting the permissions please log-out of the administrator account and make sure you are logged in with the service account when you create the data source.**

6. In case this is not the first data source based on OAuth2.0 or in case you are using a custom Azure application you will be re-directed to the Microsoft login page, here you can login using your service account which has permissions to the room/calendar.
7. In the dropdown menu you can select to either use a calendar from the user or if you want to use a Room resource. After selecting the desired type press "Save"

#### Edit datasource



Type

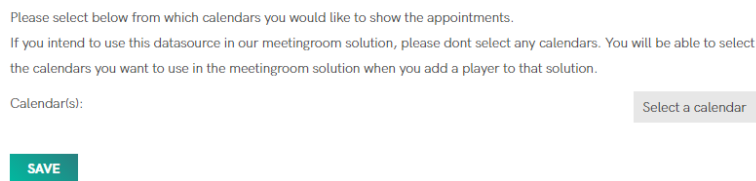
Rooms  
Calendars  
Rooms

SAVE

Select if you have set up your appointments in a calendar or if you set up rooms to add appointments to

8. If you select calendars, select your desired calendar in the new window and press "Save"

#### Edit datasource



Please select below from which calendars you would like to show the appointments.

If you intend to use this datasource in our meetingroom solution, please don't select any calendars. You will be able to select the calendars you want to use in the meetingroom solution when you add a player to that solution.

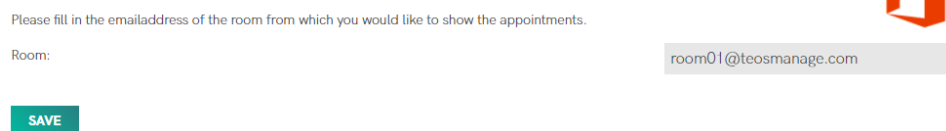
Calendar(s):

Select a calendar

SAVE

If you selected "Rooms", fill in the email address for the room resource and press "Save"

#### Edit datasource



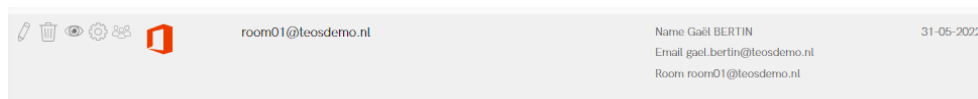
Please fill in the emailaddress of the room from which you would like to show the appointments.






Room:

room01@teosmanage.com

SAVE

10. You will then be able to see you resource created with the service account used and the resource name



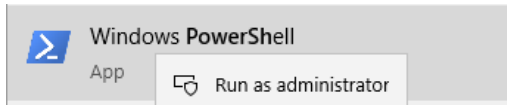
    	room01@teosdemo.nl	Name Gaël BERTIN Email gael.bertin@teosdemo.nl Room room01@teosdemo.nl	31-05-2022
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You have now successfully created your Office365 datasource.

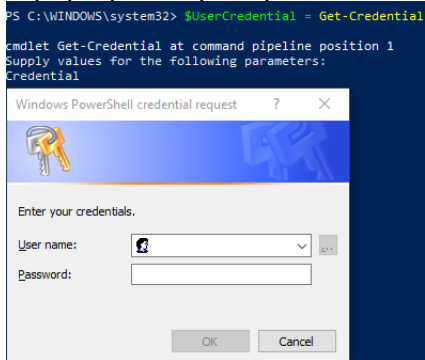


## 2. Configure Office365 room properties with PowerShell

1. Search for PowerShell on your local machine, right mouse click the program and run it as an administrator

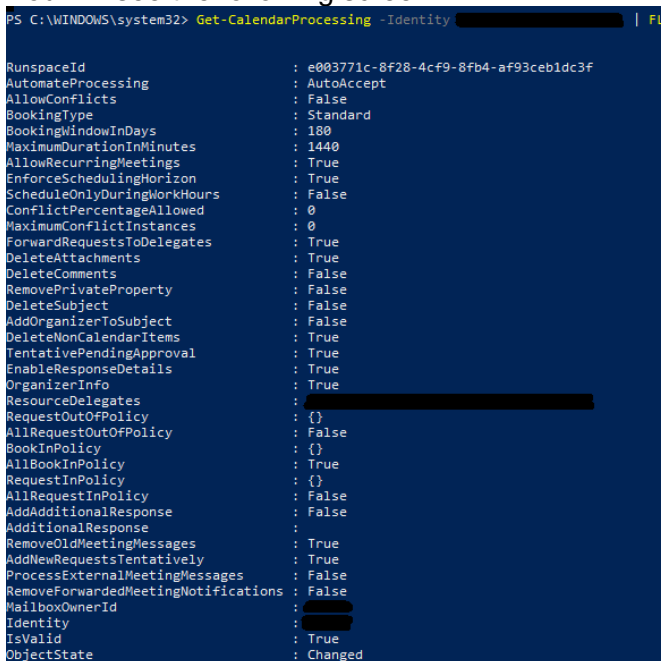


2. Fill in the following command: `$UserCredential = Get-Credential`  
A pop-up will open, please fill in your Office365 credentials with administrator permissions



3. Fill in the following command:  
`$Session = New-PSSession -ConfigurationName Microsoft.Exchange -ConnectionUri https://outlook.office365.com/powershell-liveid/ -Credential $UserCredential -Authentication Basic -AllowRedirection`
4. Afterwards fill in the following command:  
`Import-PSSession $Session -DisableNameChecking`
5. Now you will be able to look into the properties of your rooms, to check the properties please use the following command: `Get-CalendarProcessing -Identity <EmailAddressOfTheRoom> | FL`

You will see the following screen:



6. To configure the room correctly please use the following command:  
Set-CalendarProcessing -Identity <EmailAddressOfTheRoom> -DeleteSubject \$false -  
AddOrganizerToSubject \$false -DeleteComments \$false -RemovePrivateProperty \$false

**-DeleteSubject:** If this option is enabled it would remove the original subject from the appointments

**-AddOrganizerToSubject:** if this is disabled it adds the meeting subject. By default, the organizer is set to the subject

**-DeleteComments:** Disabling this option makes sure the descriptions in the appointments are retained

**-RemovePrivateProperty:** If this option is enabled it would remove the private property from the appointments, making the contents visible again.

### 3. Other examples of configurations within Office365 (option)

#### ' Set resource to type room

```
set-Mailbox -Identity room@ucworkspace.com -Type room
```

Generic

#### ' Set Invitation Processing to AutoAccept.

```
Set-CalendarProcessing -Identity room@ucworkspace.com -AutomateProcessing
```

```
AutoAccept
```

Generic

#### ' Optionally Allow External meeting invitations to be accepted from the room

```
set-CalendarProcessing -Identity room@ucworkspace.com -
```

```
ProcessExternalMeetingMessages $true
```

Generic

#### ' Optionally add room resource to the distribution list

```
DistributionGroupMember meetingroom -Member meetingroom
```

Generic

#### ' Optionally restrict the visibility of meetings from Outlook to Free/Busy or LimitedDetails

```
Add-MailboxFolderPermission -Identity qltesting@ucworkspace.com:\Calendar -User
```

```
Default - AccessRights AvailabilityOnly Add-MailboxFolderPermission -Identity
```

```
qltesting@ucworkspace.com:\Calendar -User Default - AccessRights LimitedDetails
```

Generic

#### ' Optionally to restrict double booking

```
Set-calendarprocessing -Identity room@ucworkspace.com -allowconflicts $false
```

Generic

In Office365 these settings can be modified using Powershell.

Source:

<https://quicklaunch.ucworkspace.com/support/solutions/articles/3000083696-how-to-configure-an-exchange-room-account>

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