MS Exchange Scheduling v2.0

for v7.0 or later

⚠️ Important changes are listed in Document Revision History at the end of this document.

Contents

What is the MS Exchange Scheduling add-on?

The MS Exchange Scheduling add-on creates system schedules based on Microsoft® Exchange room reservations.

IT considerations

The following information may be useful to network administrators.

Client	Server	Default Port	Traffic	Authentication
MS Exchange Scheduling add-on	Microsoft® Exchange® 2010 (or later) on-prem server with Exchange Web Services enabled	TCP/IP 443	Microsoft® Exchange web services SOAP API secured with TLS	Basic
-or-				
MS Exchange Scheduling add-on	Office® 365 Exchange®	TCP/IP 443	Microsoft® Graph web services RESTful API secured with TLS	OAuth 2.0

During configuration, the add-on retrieves room lists from the Exchange server for the user to select. During regular operation the add-on retrieves room reservations for the selected rooms every 30 minutes.

We recommend you obtain dedicated credentials for the add-on to use to communicate with the Microsoft® Exchange web services server. Credentials are stored to a file by this add-on and secured using AES-128 encryption.

NOTE These credentials must have appropriate privileges to export room lists and room reservations, but no more.

Requirements

- You are running a v7.0 or later system with the latest cumulative patch applied.
- You have downloaded exchangescheduling.addon.
- You have purchased and downloaded the MS Exchange Scheduling license.
- Your system is backed up regularly to ensure the add-on's data is also backed up.
- If you wish to perform scheduling through Outlook®, you must run a version of Outlook® that is compatible with the version of Exchange you are using.

See "Installing an Add-on User Guide" for the following:

- Installing an add-on
- Applying a license
- Running an add-on
- Upgrading an add-on

Basic Authentication: Dedicating a Microsoft® Exchange service account

When using an on-premises Microsoft Exchange Server, we recommend that you have a dedicated Microsoft® Exchange service account for the add-on to use to communicate with the Exchange Web Services (EWS) server. The service account must have appropriate privileges to retrieve the desired room lists and room availability information (see below).

Since Microsoft® Exchange configurations can vary widely across different installations, the procedure to establish such a service account can also vary. Below is one possible example of a procedure that a Microsoft® Exchange administrator might follow to create such a service account.

1 Create a service account in the Forest that the Exchange Organization resides in.

2 Enable a mailbox for the service account.

3 If you want to restrict the account to certain rooms, create a Management Scope with a *recipientRestrictionFilter*.

4 Create a Management Role Assignment for the service account.

5 Assign it *ApplicationImpersonation* rights with a *custom recipient* write scope.

   NOTE Base the write scope on the Management Scope you created in Step 3.

See *Configuring the Exchange Web Services Connection* (page 3) for more about how to use your service account information to configure the application.

OAuth 2.0 Authentication: Registering the application

When using Office 365 Exchange, you must register the MS Exchange Scheduling add-on application on Microsoft Azure to obtain OAuth 2.0 client credentials.

NOTE As of October 1, 2022, Microsoft no longer supports basic authentication on Office 365.   After that, the add-on must be connected to Office 365 using OAuth 2.0 authentication.

Register the MS Exchange Scheduling add-on application on Microsoft Azure with the following permissions:

- Calendars.Read
- Place.Read.All
- User.Read.All

See *Configuring the Exchange Web Services Connection* (page 3) for more about how to use your service account information to configure the application.

Using Room Lists in Microsoft® Exchange

To present a list of rooms for configuration, the MS Exchange Scheduling add-on queries the Microsoft® Exchange server for Room Lists. The Room Lists feature assists the Room Finder functionality in e-mail clients like Microsoft® Outlook.

If rooms are missing from the MS Exchange Scheduling configuration page, it may be because the rooms of interest are not associated with a Room List Distribution Group. In this case, the Exchange administrator can add the rooms to a Room List Distribution Group, or else the rooms must be manually entered in the MS Exchange Scheduling configuration page.

Configuring the Exchange Web Services Connection

On the **Configuration** tab in the MS Exchange Scheduling add-on, select an **Authentication Type** to connect the add-on to the Exchange server. You can select Basic or OAuth2 authentication.

Basic Authentication

1 Enter the values for the fields listed in the table below.
2 Click **Save**.

The add-on immediately attempts to connect using the credentials provided.

NOTE If the connection is successful, the add-on retrieves all available rooms associated with your account. This may take 3 minutes or more depending on the number of rooms you have. Once it is complete, the rooms listed on the **Room Mapping** tab appear.

Field	Enter...
Domain	• If using the *user principal name* (UPN) format: Leave this blank • If NOT using the *user principal name* (UPN) format: The Exchange Service domain
User Name	• If using the *user principal name* (UPN) format: Your user principal email address (Example: *Joeuser@example.abc.com)* • If NOT using the *user principal name* (UPN) format: Your Exchange login name
Password	Your Exchange password
Service URL	The Exchange Service URL provided by your Exchange Server Administrator
Look ahead schedule	A value between 1 and 7 - Schedules are added for this number of days ahead

OAuth2 Authentication

1 Enter the values for the fields listed in the table below.

2 Click **Save**.

The add-on immediately attempts to connect using the credentials provided.

NOTE If the connection is successful, the add-on retrieves all available rooms associated with your account. This may take 3 minutes or more depending on the number of rooms you have. Once it is complete, the rooms listed on the **Room Mapping** tab appear.

Field	Enter...
Client ID	Your public ID
Client Secret	Your password
Tenant	Your globally unique identifier
Look ahead schedule	A value between 1 and 7 - Schedules are added for this number of days ahead

Configuring the Exchange Room Mappings

Use the **Exchange Room Mapping** tab in the MS Exchange Scheduling add-on to create associations between Microsoft® Exchange rooms and system Area, Equipment, or Schedule Groups.

To enable MS Exchange Scheduling at an Area, Equipment, or Schedule Group, a mapping must be created for that location.

TIP If you have a case where multiple rooms are controlled by the same equipment, set up a scheduling group for each room and make the controlling equipment members of each group. This allows you to create a 1-to-1 mapping between the MS Exchange rooms and their corresponding scheduling groups.

Best Practices: Only one scheduling method should be used at any Area, Equipment, or Schedule Group, whether it be from your system application or from this or any other scheduling add-on. Be aware that using more than one scheduling method at a location may yield unexpected results.

To add Exchange Room Mappings

1 In the **Select Meeting Room** pane, select a room you wish to map to a location.

TIP If you do not see the desired room in the list, you can manually enter a meeting room.

2 In the **Select Location** pane, select an item from the tree—the selection can be any area, equipment, or group that can be scheduled.

3 Click **Map.**

4 Verify that the new mapping appears in the **Mapped List** pane below.

NOTE It may take up to 30 minutes for system schedules to be created from newly added mappings.

All trademarks used herein are the property of their respective owners.

MS Exchange Scheduling v2.0   Proprietary and Confidential   © 2022 Carrier. All rights reserved.
Rev. 9/9/2022   A Carrier Company
4

TIPS

- The MS Exchange Scheduling add-on enables system scheduling based upon room availability that you have as indicated by Microsoft® Exchange.
- If a room has been added in the Microsoft® Exchange system but does not appear in the **Room** list, click **Refresh Rooms.**

NOTE   The add-on will retrieve all available rooms associated with your account. This may take 3 minutes or more depending on the number of rooms you have. Once it is complete, you will see the rooms listed on the **Room Mapping** tab.

To remove Exchange Room Mappings

1   Select any mappings in the **Mapped List** pane to remove.

TIP   Check the checkbox in the table header to select or un-select all mappings in the list.

NOTE   When you click the checkbox, only the room mappings that are currently displayed are selected.

2   Click **Delete** in the lower left of the window.

3   Click **OK.**

NOTE   If an item in the **Mapped List** pane is red, either the Room or the mapped location has been removed.

Manually entering a Meeting Room

1   In the **Room Address** field, enter either a room name or the location's email address.

2   Click **Add Room**.

To remove a manually entered room

1   Locate the room in the table.

2   Click **Delete** (🗑) on the room's row to delete.

Scheduling rooms using Microsoft® Outlook®

After you have configured the add-on and mapped the rooms, users can create meetings and specify locations as they normally would in Microsoft® Outlook®.

TIPS

- All schedules that you create in Microsoft® Outlook® appear in your system with a description containing the email address of the corresponding Exchange room.
- We recommend that you use Optimal Start in your logic to ensure that the room reaches the desired temperature before the start of the scheduled reservation.

NOTES

- All schedules that you create in Outlook are assigned a priority of Override; this can not be changed.

- If you have Optimal start in your logic, it will perform as usual whether the schedule is configured in Outlook® or in your system.

- It may take up to 30 minutes for a newly scheduled, updated, or deleted schedule to be reflected in the system. For example, if a meeting is deleted in Outlook more than 30 minutes prior to its start time, its schedule will be deleted from your system as well.

All trademarks used herein are the property of their respective owners.

MS Exchange Scheduling v2.0
Rev. 9/9/2022

Proprietary and Confidential

© 2022 Carrier. All rights reserved.
A Carrier Company

6

Document revision history

Important changes to this document are listed below. Minor changes such as typographical or formatting errors are not listed.

Date	Topic	Change description	Code*
9/9/22	OAuth 2.0 Authentication: Registering the application	Updated registering instructions	X-PM-LO-R-LO
9/1/22	IT Considerations	Full rewrite	X-PM-LO-R-LO
	Requirements	Full rewrite	
	Basic Authentication: Dedicating a Microsoft® Exchange service account	Removed note	
	OAuth 2.0 Authentication: Registering the application	New topic	
	Configuring the Exchange Web Services Connection	Added Authentication Type	
	Configuring the Exchange Room Mappings	Updated note to step 1	
5/13/22	Configuring the Exchange Room Mappings	Added note to step 1	X-PM-LO-R-LO
7/14/21	Dedicating a Microsoft® Exchange service account	Added note regarding OAuth authentication	X-PM-LO-O-LO
12/3/20	Requirements Cover	Updated version support	A-D
2/28/20	Legalese	All rights reserved statement	A-D
10/10/18	IT considerations	Corrected references to Microsoft® Exchange	A-TS-RD-E-KK

* For internal use only