EWS-calendar connector

User manual

Jan 2022
Version 008A

1.2 Table of Contents

1. Introduction

This document provides installation and deployment information for administrators planning to deploy the **ews-calendar** compatible with Innes digital signage.

The **ews-calendar** is the bridge element allowing the Innes devices to communicate with:

- **Microsoft Exchange Server 2007**
- **Microsoft Exchange Server 2010**
- **Microsoft Exchange Server 2013**
- **Microsoft Exchange Server 2016**
- **Microsoft Exchange Server 2019**
- **Office 365**[1]

[1]*The EWS-calendar connector supports only the basic authentication. Even whether basic authentication, less secured than modern authentication, should be deprecated by the end of 2022 for all customers, Microsoft authorizes the customers to continue to support it. An appendix explains how to maintain the support for the basic authentication to access to your Office 365 server.*

The next steps must be followed to guarantee a correct deployment.

- Add and configure Microsoft Exchange resource accounts
- Install and configure **ews-calendar**
- Configure the view

2. System requirements

The requirements must be met before the installation.

- Fully http or https access to Microsoft Exchange Server 2007, 2010, 2016, Office 365. Make sure that the network configuration doesn't blocks the communication between Innes PlugnCast Server and Microsoft Exchange Server
- Exchange Web Service must be enabled on Microsoft Exchange Server
- Microsoft Exchange Server time and time zone must be set properly

3. Compatibilities

- **Innes PlugnCast Serve**r V2.50.32 (or above)
- **Innes Briva Calendar** V2.0.0 (or above)

4. Installation

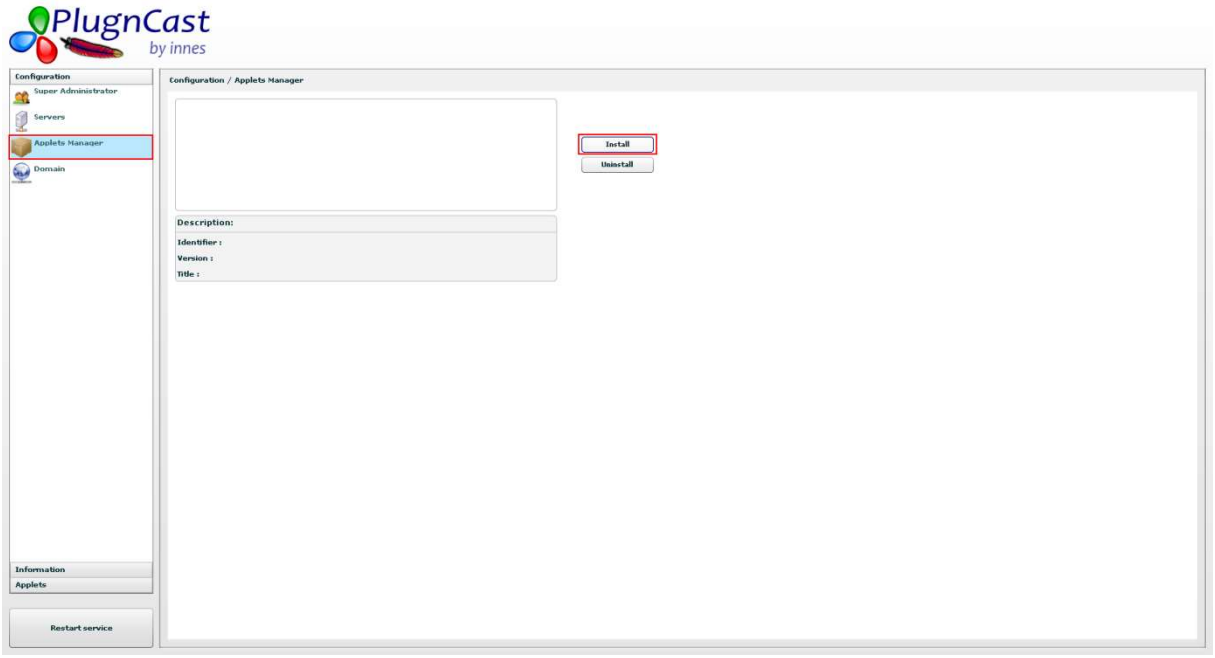
Go to the Innes **PlugnCast Server** Web Interface with your Web browser.

http://**<host>**/.configuration

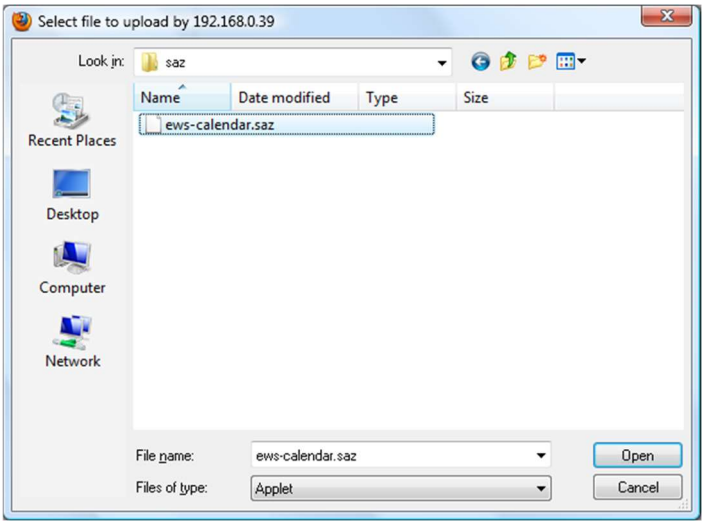
The **<host>** is the IP address or DNS of your Innes PlugnCast Server.

Log-in as *Super Administrator* profile.

Go to **Applets Manager** and click **Install** button.



Select your *ews-calendar.saz* file and follow the installation steps.



5. Configuration

The configuration file *configuration.xml* for **ews-calendar** is located here:

<Innes PlugnCast Data Folder>\Server\.accounts***<domain>***\.applets\.ews-calendar\configuration.xml

The ***<Innes PlugnCast Data Folder>*** is the data folder of Innes PlugnCast.

The <domain> is your currently domain.

Examples:

In these examples ***<domain>*** value is **my_company.com**

Vista Example:

C:\Users\Public\Documents\Innes PlugnCast\Server\.accounts**my_company.com**\.applets\.ews-calendar\configuration.xml

XP Example:

C:\Documents and Settings\All Users\Documents\Innes PlugnCast\Server\.accounts\ **my_company.com**\.applets\.ews-calendar\configuration.xml

The configuration file is auto explained and contains different configuration examples.

After editing the configuration file make sure that it respects the XML specification.

The configuration file must be encoded in UTF-8. Be sure that you editing software don't changes the characters encoding.

Be careful with XML escaping ([1]). Observe the following entities:

- **<** represents **<**
- **>** represents **>**
- **&** represents **&**
- **'** represents **'**
- **"** represents **"**

The configuration of ews-calendar has two parts: Server Configuration and Calendar Configuration.

[1] For detailed information http://www.w3.org/TR/xml-entity-names/ or http://en.wikipedia.org/wiki/List_of_XML_and_HTML_character_entity_references

5.1. XML configuration: MS-Exchange server

It is possible to configure multiple servers in the configuration file. If multiple servers are configured, be sure that the id attribute of each server is unique.

Within the tag <scc:servers>, take a look to the *Example 1* in the configuration file. This example is disabled, to enable it, remove the xml commentary tags at the beginning and the end of the block.

Comment in xml file:

```
<!-- Example 1: -->
<!--<scc:server>
…
</scc:server>-->
```

Uncommet in xml file:

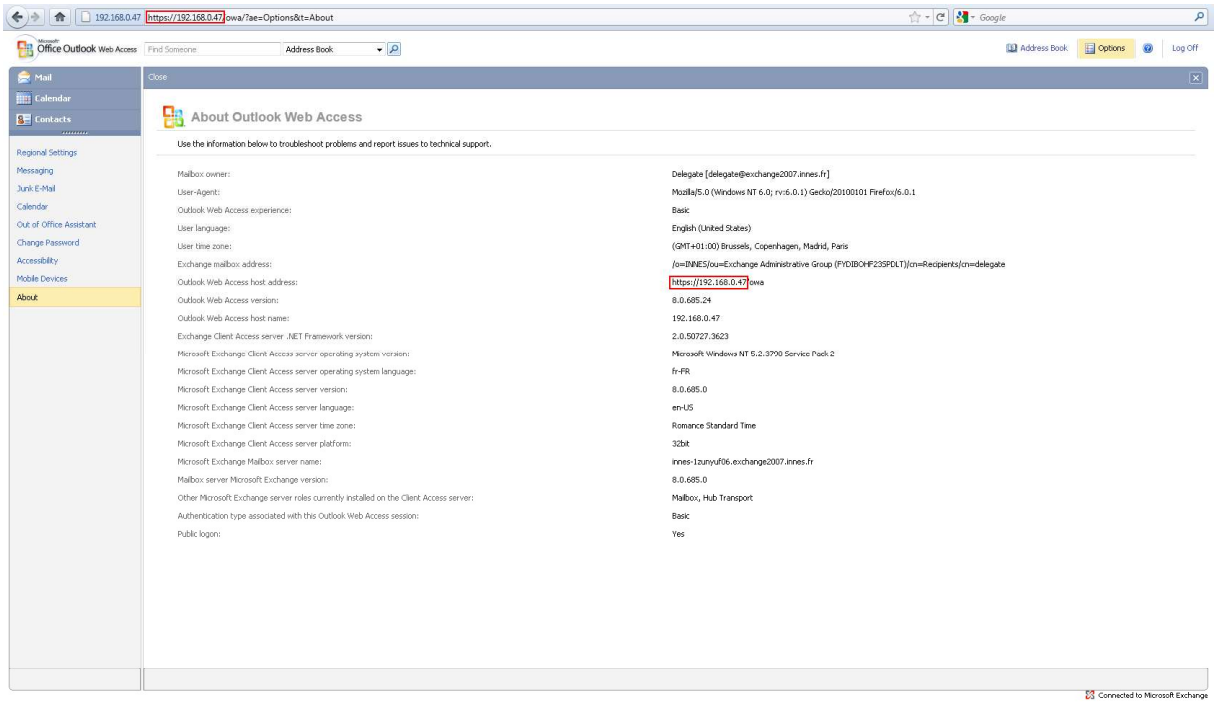
```
<!-- Example 1: -->
<scc:server>
…
</scc:server>
```

Server baseuri:

The baseuri is formed like this: **<protocol>**://**<host>**.

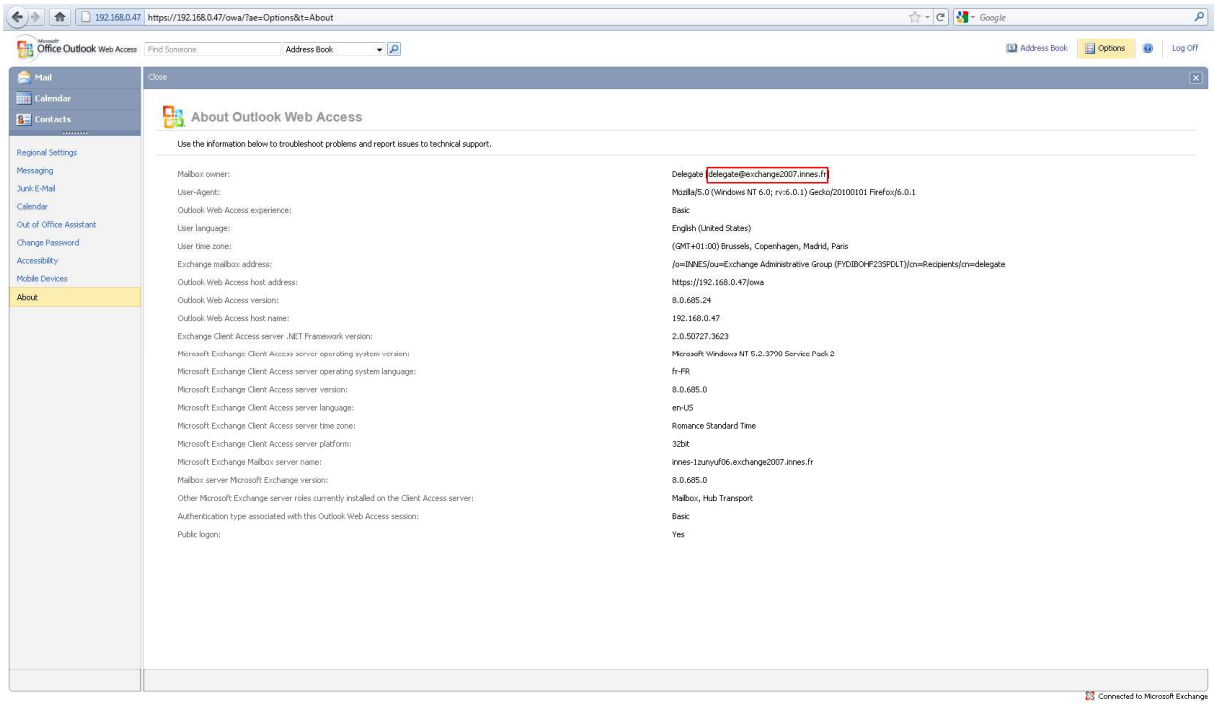
Note that the baseuri is used to connect to the Microsoft Exchange Server via EWS, the connection URL is ***<protocol>://<host>/EWS/Exchange.asmx***

In the next example the baseuri is **https://192.168.0.47**.



Server username:

The username is the delegate account. In the next example the username is **delegate@exchange2007.innes.fr**.



Note: If a local exchange domain is used in your architecture, use this domain instead. For example, if *.local is the local exchange domain the username to configure is **delegate@exchange2007.innes.local**

Server password:

The delegate account password.

Server authentication Scheme:

The access authentication scheme to use against the Exchange server. The default value is **ntlm**. The possible values are:

- *ntlm,*

- *basic,*

- *digest,*

- *gssnegiotate.*

5.1.1. Examples

Example:

```
<scc:server id="serverId" type="ews">
	<scc:baseuri>https://192.168.0.47</scc:baseuri>
	<scc:label>Mon serveur Exchange 2007/2010</scc:label>
	<scc:authentication type="http-authentication">
	<scc:credentials>
		<scc:username>delegate@exchange2007.innes.fr</scc:username>
		<scc:password>pwd</scc:password>
	</scc:credentials>
</scc:authentication>
</scc:server>
```

Example with a local domain:

```
<scc:server id="serverId" type="ews">
	<scc:baseuri>https://192.168.0.47</scc:baseuri>
	<scc:label>Mon serveur Exchange 2007/2010</scc:label>
	<scc:authentication type="http-authentication">
	<scc:credentials>
		<scc:username>delegate@exchange2007.innes.local</scc:username>
		<scc:password>pwd</scc:password>
	</scc:credentials>
</scc:authentication>
```

Example with a Basic Access Authentication:

```
<scc:server id="serverId" type="ews">
	<scc:baseuri>https://192.168.0.47</scc:baseuri>
	<scc:label>Mon serveur Exchange 2007/2010</scc:label>
	<scc:authentication type="http-authentication">
	<scc:scheme>basic</scc:scheme>
	<scc:credentials>
		<scc:username>delegate@exchange2007.innes.local</scc:username>
		<scc:password>pwd</scc:password>
	</scc:credentials>
</scc:authentication>
```

5.2. XML configuration file: room resources, alarm, sensitivity

It is possible to configure multiple calendars in the configuration file. If multiple calendars are configured, be sure that the id attribute of each calendar is unique.

Within the tag <scc:calendars>, take a look to the *Example 1* in the configuration file. This example is disabled, to enable it, remove the xml commentary tags at the beginning and the end of the block.

Disabled:

```
<!-- Example 1: -->
<!--<scc:calendar>
…
</scc: calendar >-->
```

Enabled:

```
<!-- Example 1: -->
<scc: calendar >
…
</scc: calendar >
```

Id attribute:

The id attribute identifies a calendar. It is used lately as a reference to the calendar, we recommend assigning ids easy to remember.

Server attribute:

The server attribute is a reference to a configured server. The server attribute is formed like this: url(**#<serverid>**).

Exemple : ***url(#myServer)***

Resource parameter:

The resource parameter contains the Primary SMTP Address of the room where to retrieve the calendar events.

Multiple resource parameters can be configured in the same <scc:calendar> tag. In this case we assume that these resources have the same delegate account access.

If any resource parameter is configured the default exchange user calendar is used.

If you are planning to deploy a multi-room view on one screen, we highly recommend grouping multiple resource parameters within the same calendar.

The following parameters are optional and for advanced use.

Request window parameter:

The request window parameter specifies the number of days from the present where the calendar events area retrieved. The default value is 7.

Cache persistence parameter:

This parameter specifies the lifetime of the cache in seconds. The default value is 300.

SendCacheOnServerError parameter (available since version V1.10.14):

The default value is false. If this parameter is enabled (value true), the connector sends the calendar from the cache (if present) in case of error while retrieving the new calendar information.

Username parameter:

This parameter allows configuring a different username from the one configured on the server.

Password parameter:

This parameter allows configuring a different password from the one configured on the server.

Label parameter:

The value of this parameter replaces location property of the calendar events.

StartOffset parameter:

This parameter specifies the end offset in seconds of the alarm. Default value is zero.

StartRelated parameter:

This parameter specifies from where the offset is calculated. Default value is “event-start”. The possible values are:

- event-start,
- event-end,
- day-start,
- day-end.

startRelated	startOffset	Result
event-start	-600	An alarm is set 600 seconds (10 minutes) before the start of the event.
day-start	0	An alarm is set at 00:00:00 of the event date.

EndOffset parameter:

This parameter specifies the start offset in seconds of the alarm. Default value is zero.

EndRelated parameter:

This parameter specifies from where the offset is calculated. Default value is *event-end*. The possible values are:

- - event-start,
- - event-end,
- - day-start,
- - day-end.

endRelated	endOffset	Result

event-end	600	An alarm is set 600 seconds (10 minutes) after the end of the event.
day-end	0	An alarm is set at 23:59:59 of the event date.

FilterIsCancelled parameter:

This parameter specifies if cancelled calendar items are filtered. Default value is true.

FilterIsDraft parameter:

This parameter specifies if draft calendar items are filtered. Default value is false.

FilterIsMeeting parameter:

This parameter specifies if meeting calendar items are filtered. Default value is false.

FilterSensitivity parameter:

This parameter specifies which calendar items are filtered according to their sensitivity. The possible values are:

- *Personal,*
- *Confidential,*
- *Private*
- *Normal.*

Default value is null.

- In case MeetingRoom has not to display private meeting,
Add this line
  - ```<param name="filterSensitivity">Personal,Confidential,Private</param>```
inside the tag **scc:calendar id** in
C:\Users\Public\Documents\Innes Briva\Server\.accounts\innes_domaine\.applets\.ews-calendar\configuration.xml
  - ```<scc:calendar id="all_rooms" server="url(#serverId)">```
    - ```<param name="filterSensitivity">Personal,Confidential,Private</param>```
  - ```</scc:calendar>```
- Exchange does not manage properly private attribute (filterSensitivity) when attribute is updated only after meeting creation. To solve the issue, enter the meeting directly with the private option activated

FilterImportance parameter:

This parameter specifies which calendar items are filtered according to their importance. The possible values are:

- *Low,*
- *Normal,*
- *High.*

Default value is null.

5.2.1. Examples

Example for "room@exchange2007.innes.fr" resource:

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
</scc:calendar>
```

Multiple resources:

Multiple resource information can be merged into one calendar. See the example below for *room@exchange2007.innes.fr* and *demo@exchange2007.innes.fr*:

```
<scc:calendar id="all" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="resource">demo@exchange2007.innes.fr</param>
</scc:calendar>
```

RequestWindow:

This example shows how to get a calendar populated with the events between the next two days from the present.

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="requestWindow">2</param>
</scc:calendar>
```

Cache persistence:

For test purposes set `cachePersitence` parameter to zero to avoid cache confusion.

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="cachePersistence">0</param>
</scc:calendar>
```

Label example:

The calendar events will all have *My Room* value in the iCalendar property LOCATION.

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="label">My Room</param>
</scc:calendar>
```

Display events 10 minutes before:

This example shows how to display events 10 minutes (600 seconds) before event starts. The events will disappear at the end of the event. This configuration affects all events.

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="startRelated">event-start</param>
	<param name="startOffset">-600</param>
</scc:calendar>
```

Current and future day events:

This example shows how to display future and current events of the day. The events will disappear at the end of the event. This configuration affects all events.

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="startRelated">day-start</param>
	<param name="startOffset">0</param>
</scc:calendar>
```

Hide events 10 minutes after their end:

This example shows how to display events 10 minutes (600 seconds) before event starts. The events will disappear 10 minutes after the end of the event. This configuration affects all events.

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="startRelated">event-start</param>
	<param name="startOffset">-600</param>
	<param name="endRelated">event-end</param>
	<param name="endOffset">600</param>
</scc:calendar>
```

Enable send calendar cache on server error:

This example shows how to enable sendCacheOnServerError parameter. The connector sends the calendar in the cache (if present) in case of error while retrieving the new calendar information.

```
<scc:calendar id="room" server="url(#plugncast)">
	<param name="resource">.medias/.applets/.calendarui/room.ics</param>
	<param name="sendCacheOnServerError">true</param>
</scc:calendar>
```

Filter personal, confidential and private events:

This example shows how to filter personal, confidential and private events.

```
<scc:calendar id="room" server="url(#serverId)">
	<param name="resource">room@exchange2007.innes.fr</param>
	<param name="filterSensitivity">Personal,Confidential,Private</param>
</scc:calendar>
```

5.3. Test you ews-calendar connector

You can test the whole configuration accessing to the following address:

- http://**<host>**/plugnCast/.applets/.ews-calendar/2ical.php?calendarId=**<calendarId>**

with:

- The **<host>** is the IP address or DNS of your Innes PlugnCast Server.
- The **<calendarId>** is the reference of the calendar to test.

Example:

http://localhost/plugnCast/.applets/.ews-calendar/2ical.php?calendarId=room1

This address returns a.*ics* file that contains the result of the aggregate calendars.

Please, if any error message is displayed check your configuration.

You can also test your configuration by using the console mode of the view.

6. Appendixes

6.1. Appendix 1: Microsoft Exchange accounts and rooms configuration

This section describes how to configure you Microsoft Exchange Accounts to be accessible by **ews-calendar**. This section applies just to the most common configurations, given that different resource configurations can be done by Microsoft Exchange

The following steps must be done for each room.

1. Create a room account in Microsoft Exchange Server ([2])
2. Create a room mailbox for the room account ([3])
3. Configure the account according to the type (3.1 Configure Resource Account or 3.2 Configure User Account).

The configuration of the room account depends on the type of the exchange account. Generally, in Microsoft Exchange 2007 or 2010 the type of the room accounts is **resource**. On the step 3 just one type of configuration should be applied (3.1 Configure Resource Account or 3.2 Configure User Account).

[2] For detailed information about Managing Resource Mailboxes: http://technet.microsoft.com/en-us/library/bb124374%28EXCHG.80%29.aspx

[3] For detailed information: http://technet.microsoft.com/en-us/library/bb124952%28EXCHG.80%29.aspx

6.1.1. Configure resource account

This is the common type of architecture in Microsoft Exchange 2007 or 2010 for room accounts.

The only way to access resource mailboxes is to use a delegate access ([4]).

Create a normal user account that will be used as delegate. Be sure that the user account mailbox is created.

The next steps must be done by using the **Exchange Management Shell**.

Set the exchange user account as a delegate on the room account

Exchange 2007:

```
>Set-MailboxCalendarSettings "<roomname>" –ResourceDelegates:"<username>"
```

Exchange 2010:

```
>Set-CalendarProcessing "<roomname>" –ResourceDelegates "<userPrimarySMTPAddress>"
```

Set room mailbox access rights for the delegate account

Exchange 2007:

```
>Add-MailboxPermission “<roomname>” –AccessRights fullaccess –User:”<username>”
```

Exchange 2010:

```
>Add-MailboxPermission "<roomname>" –AccessRights FullAccess –User:"<username>"
```

Set room mailbox extended rights for the delegate account:

Delegate account must grant the *Receive-As* permission for the room mailbox.

Exchange 2007:

```
>Add-ADPermission –Identity:"<roomname>" –User:"<username>" –ExtendedRights:Receive-As
```

Exchange 2010:

```
>Add-ADPermission –Identity "<roomname>" –User "<username>" –ExtendedRights “receive as”
```

The ***<username>*** is the full name of the delegate account.

---

[4] For detailed information about delegate access: http://msdn.microsoft.com/en-us/library/bb204081%28v=EXCHG.140%29.aspx

The ***<roomname>*** is the full name of the room account.

Example

This example shows how to add a delegate account to the resource, where the delegate account full name is **Delegate** and the resource account full name is **Room A.**

Exchange 2007:

```
>Set-MailboxCalendarSettings “Room A” –ResourceDelegates:”Delegate"
>Add-MailboxPermission “Room A” –AccessRights fullaccess –User:”Delegate”
>Add-ADPermission –Identity:"Room A" –User:"Delegate" –ExtendedRights:Receive-As
```

Exchange 2010:

```
>Set-CalendarProcessing "Room A" –ResourceDelegates "delegate@exchange2010.innes.fr"
>Add-MailboxPermission "Room A" –AccessRights FullAccess –User: "Delegate"
>Add-ADPermission –Identity "Room A" –User "Delegate" –ExtendedRights "receive as"
```

6.1.2. Resource scheduling options

The next steps are optional but highly recommendable.

Automatically accept meeting requests and process cancellations:

```
>Set-MailboxCalendarSettings "<roomname>" -AutomateProcessing:Autoaccept
```

Automatically decline conflicting meeting requests:

```
>Set-MailboxCalendarSettings "<roomname>" -AllowConflicts:0
```

Example

```
>Set-MailboxCalendarSettings "Room A" -AutomateProcessing:Autoaccept
>Set-MailboxCalendarSettings "Room A" -AllowConflicts:0
```

Check configuration

- Default MS Exchange room configuration is optimized to reduce ICS size (default not supporting meeting description, meeting attachments...). To have expected management of attachments and private attribute management, please ensure first with PowerShell that the Exchange or o365 configuration is managing properly this event attributes. On Exchange Server station Open Exchange Management shell and type this command to get Room 1 configuration"
- ```Get-MailboxCalendarSettings "Room 1" | fl``` must returns
  - RemovePrivateProperty = FALSE
  - DeleteAttachments = FALSE
  - AllowRecurringMeetings = TRUE
- If not, please contact your administrator

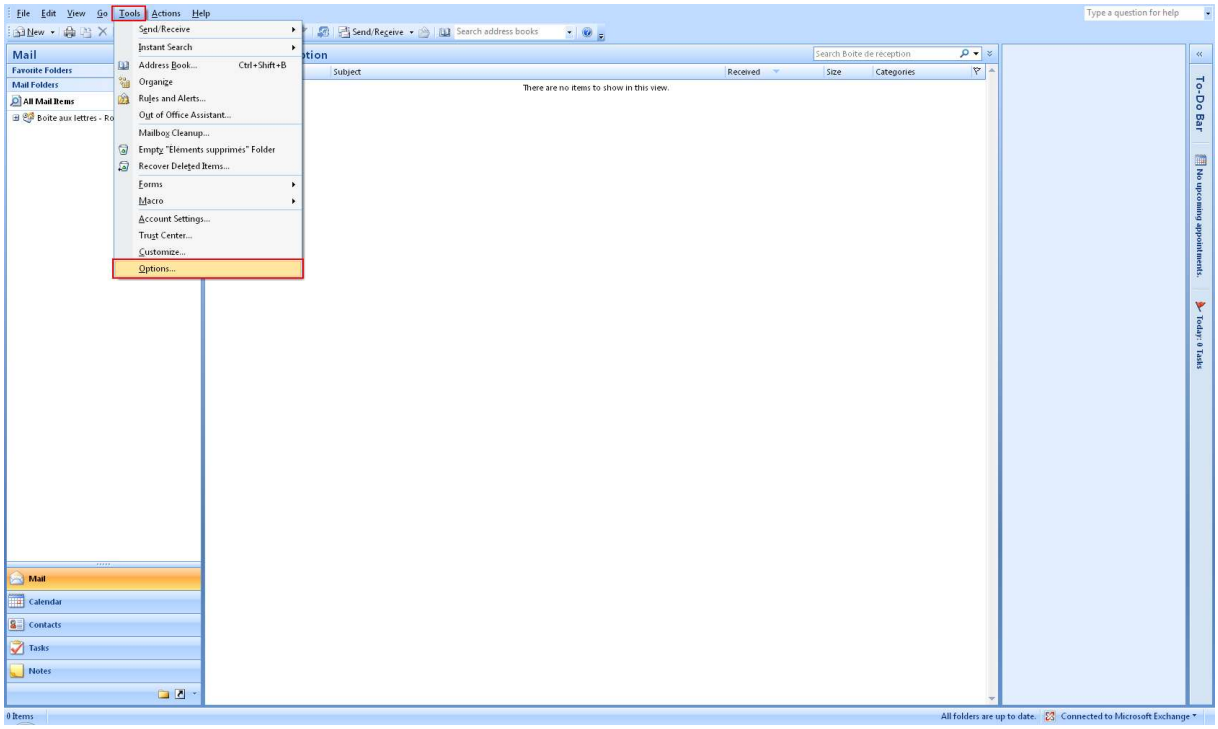
6.1.3. Configure user account

This is not the recommended architecture in Microsoft Exchange 2007 or 2010 for room accounts. Otherwise if your Microsoft Exchange is using this architecture, you can follow the configuration steps describe here.

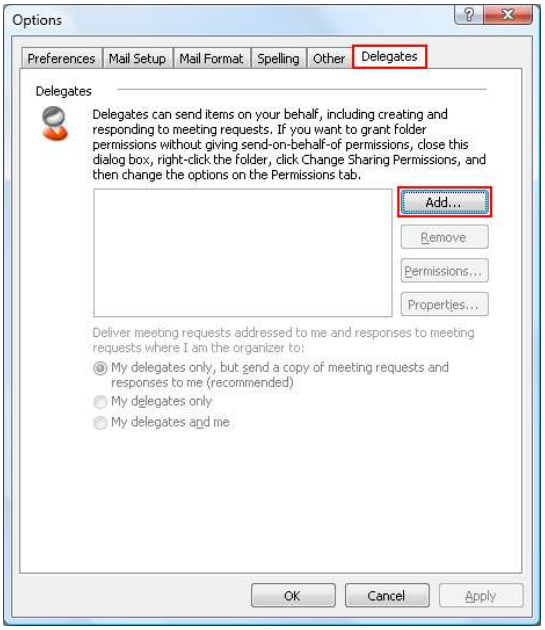
The next steps must be done by using **Microsoft Outlook**.

Open Microsoft Outlook and log-in as the room user account.

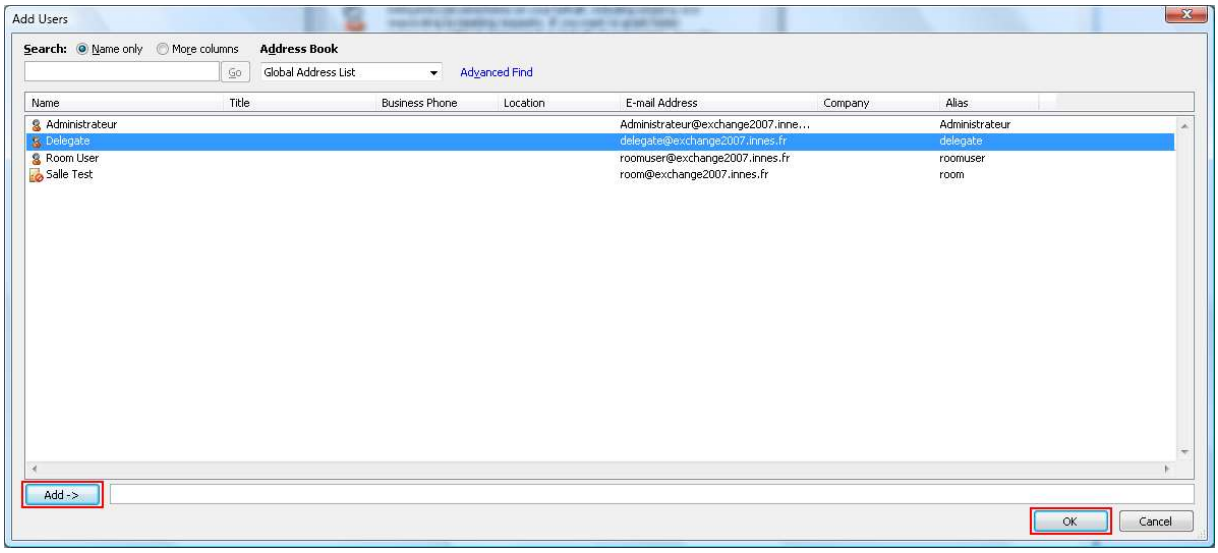
Go to the menu **Tools** and click **Options…**.



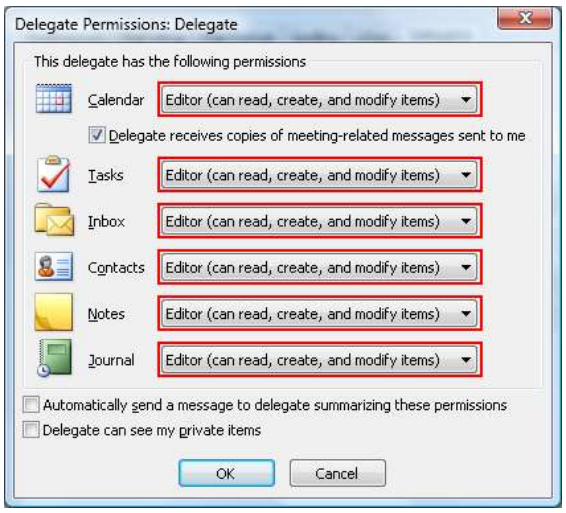
Go to the tab **Delegates** and click **Add…** button.



Select the delegate user account, click **Add->** button, then click **Ok** button.



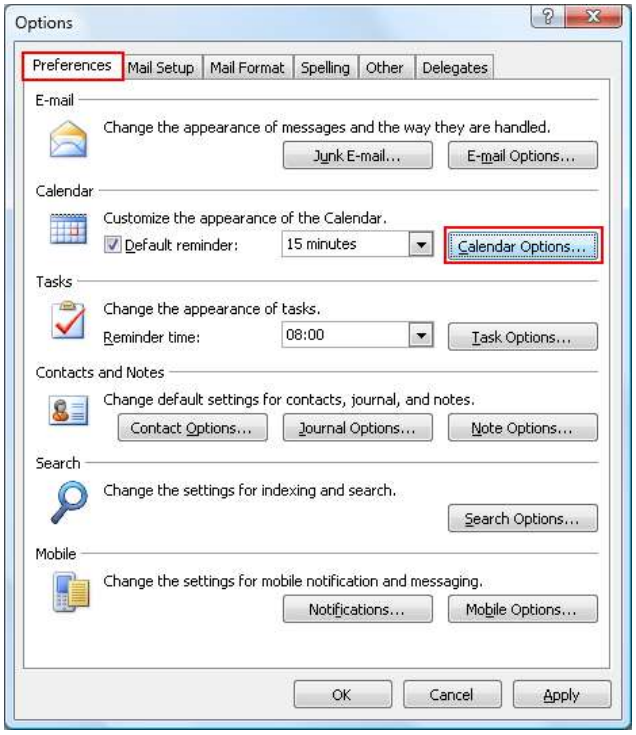
For each option select the permission **Editor (Can read, create or modify items)**. Select **Delegate receives copies of meeting-related messages sent to me** checkbox too, then click **Ok** button.



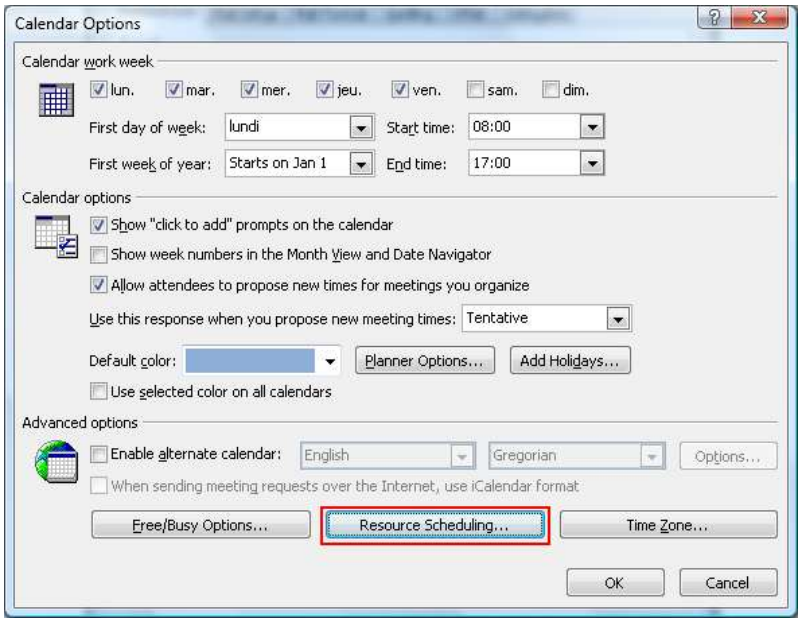
6.1.4. Resource scheduling options

The next steps are optional but highly recommendable.

Go to the tab **Preferences** and click **Calendar Options…** button.

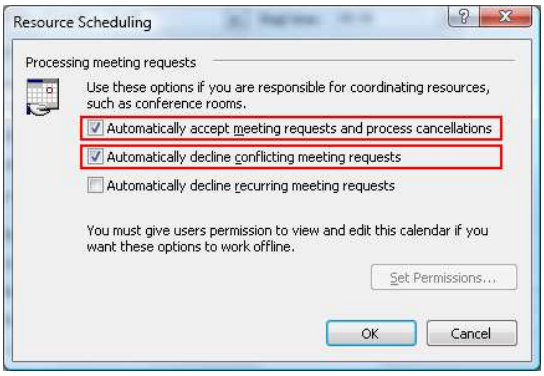


Click on **Resource Scheduling…** button.



Select the checkbox **Automatically accept meeting requests and process cancellations**.

Select the checkbox **Automatically decline conflicting meeting requests**.


Resource Scheduling
Processing meeting requests
Use these options if you are responsible for coordinating resources, such as conference rooms.
Automatically accept meeting requests and process cancellations
Automatically decline conflicting meeting requests
Automatically decline recurring meeting requests
You must give users permission to view and edit this calendar if you want these options to work offline.
Set Permissions...
OK
Cancel

6.2. Appendix 2: turn on the basic authentication to access to your Office 365 server

Since 2021, for security reasons, Microsoft has recently turned off by default the **basic authentication** and turned-on **modern authentication (OAuth 2)** for any new **Office 365** accounts. With this only **modern authentication**, the *ews-calendar* connector cannot work. When launching the *ews-calendar* auto-test URL:

http://<briva-server-ip-addr>/plugnCast/.applets/.ews-calendar/2ical.php?calendarId=<your_calendar_id>&debug=yes

this error is raised:

```
C:\Users\Public\Documents\Innes PlugnCast\Server\.shared\.applets\.ews-calendar\services\EWSProxy.php:382)
in C:\Users\Public\Documents\Innes PlugnCast\Server\.shared\.applets\.ews-calendar\2ical.php on line 47
Error 500 Internal server error. The requested URL returned error: 401
```

Anyway, if the customer accepts the security risks, Microsoft still accepts to keep turned-on, for any **MS-Exchange 365** account, both:

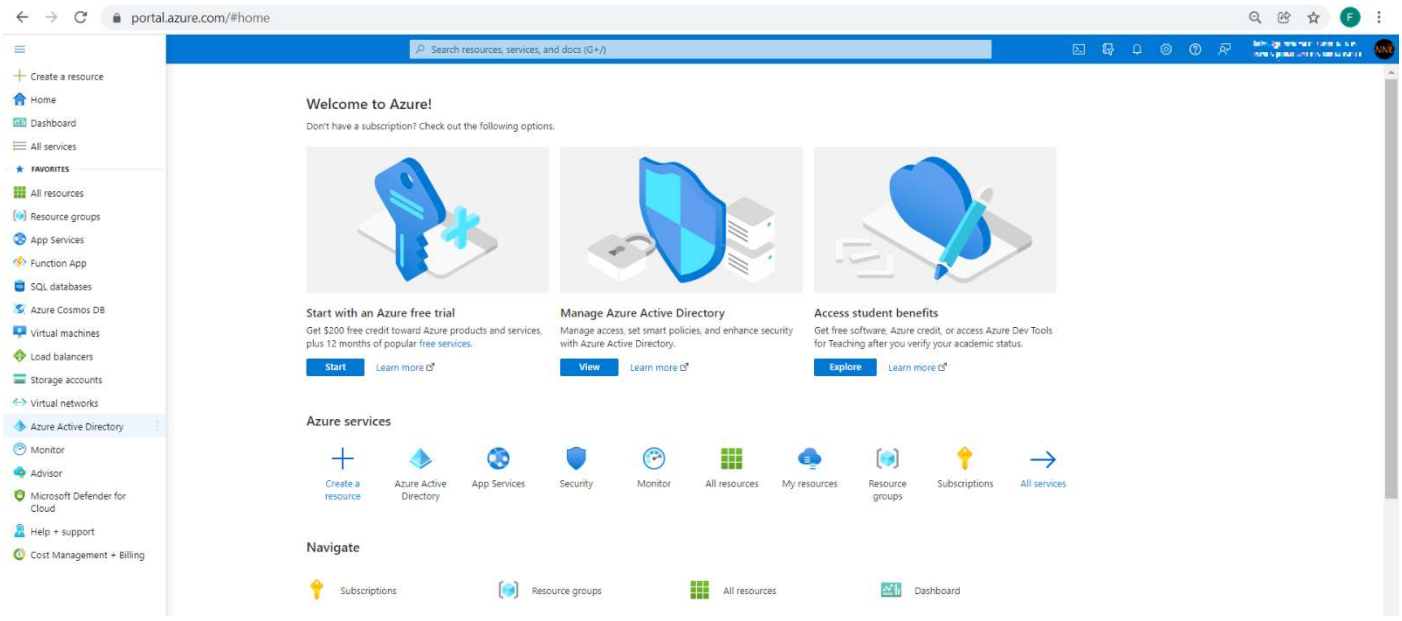
- the **basic authentication** and
- the **modern authentication (OAuth 2)**.

6.2.1. Inactivate security default for your Office 365 server

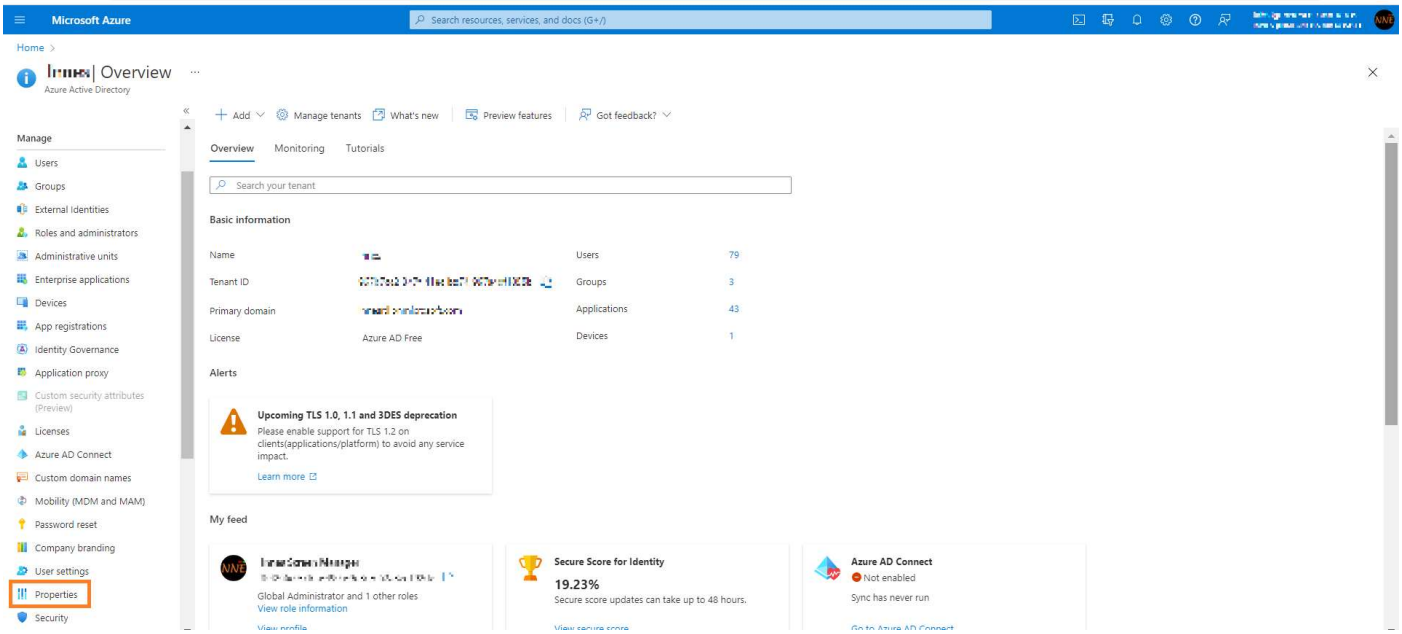
To activate **basic authentication** to access to your Office 365 server, you need first to inactivate **Security defaults**.

Connect on **Microsoft Azure** portal: https://portal.azure.com/

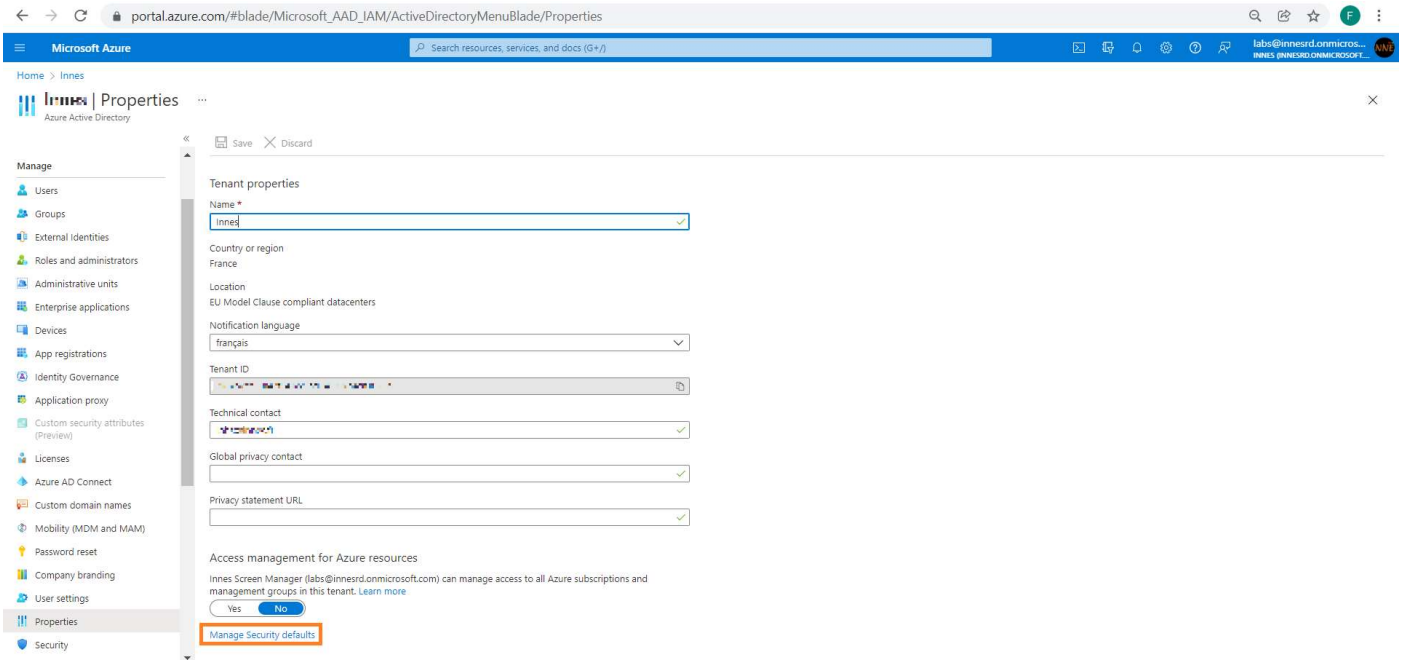
And sign in with your Office 365 account credentials (administrator profile). Click on the left top menu and choose the **Azure Active directory** item.



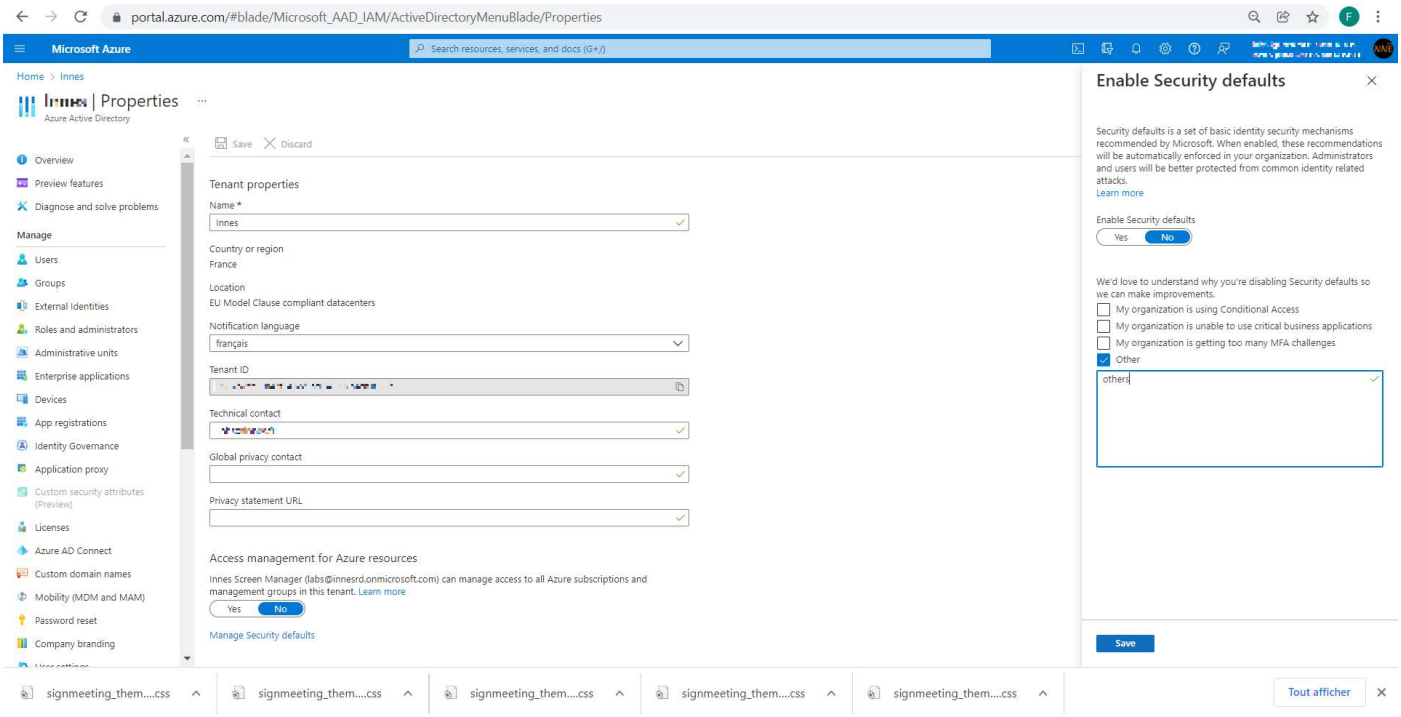
Scroll to the bottom to click on the **Properties** item.


portal.azure.com/#blade/Microsoft_AAD_IAM/ActiveDirectoryMenuBlade/Overview
Microsoft Azure
Search resources, services, and docs (G+/)
Home
Overview
Azure Active Directory
Add
Manage tenants
What's new
Preview features
Got feedback?
Overview
Monitoring
Tutorials
Search your tenant
Basic information
Name
Tenant ID
Primary domain
License
Azure AD Free
Users
79
Groups
3
Applications
43
Devices
1
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 and 1 other roles
View role information
Secure Score for Identity
19.23%
Secure score updates can take up to 48 hours.
Azure AD Connect
Not enabled
Sync has never run
Manage
Users
Groups
External Identities
Roles and administrators
Administrative units
Enterprise applications
Devices
App registrations
Identity Governance
Application proxy
Custom security attributes (Preview)
Licenses
Azure AD Connect
Custom domain names
Mobility (MDM and MAM)
Password reset
Company branding
User settings
Properties
Security

Click on the button **Manage Security defaults.**



On the right, toggle to the right to the **No** value and click on the **Save** button to turn off **Security defaults**.



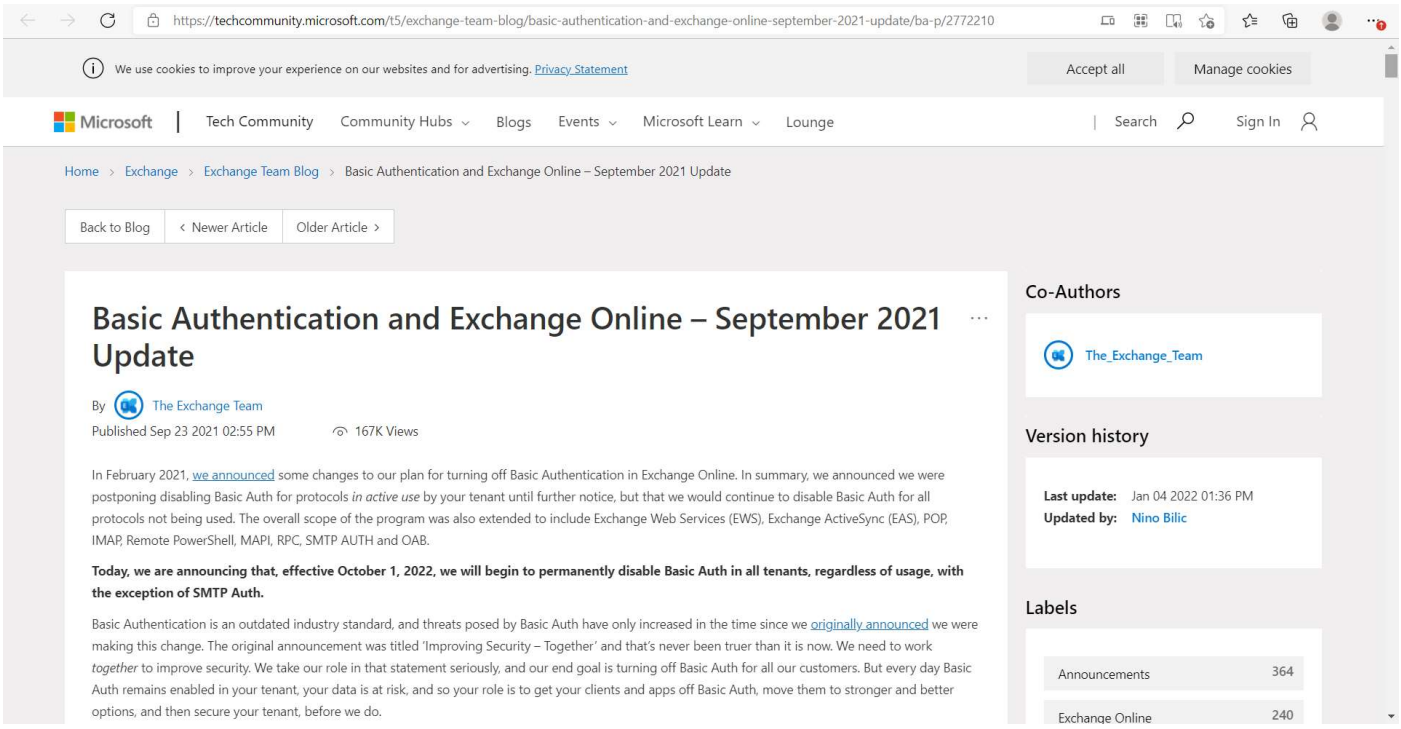
Wait for five minutes, the time for Microsoft to consider the modification.

*To return to **security defaults** activated, toggle the button to the left to the **Yes** value (meaning **basic authentication** inactivated). Given that the ews-calendar connector supports only the **basic authentication**, that means that the ews-calendar connector cannot work when security defaults is **turned-on**.*

6.2.2. Activate the basic authentication for your Office 365 server with the Run Tests tool

This is a Microsoft article explaining a way to activate back the **basic authentication** for your **Office 365** account.

https://techcommunity.microsoft.com/t5/exchange-team-blog/basic-authentication-and-exchange-online-september-2021-update/ba-p/2772210

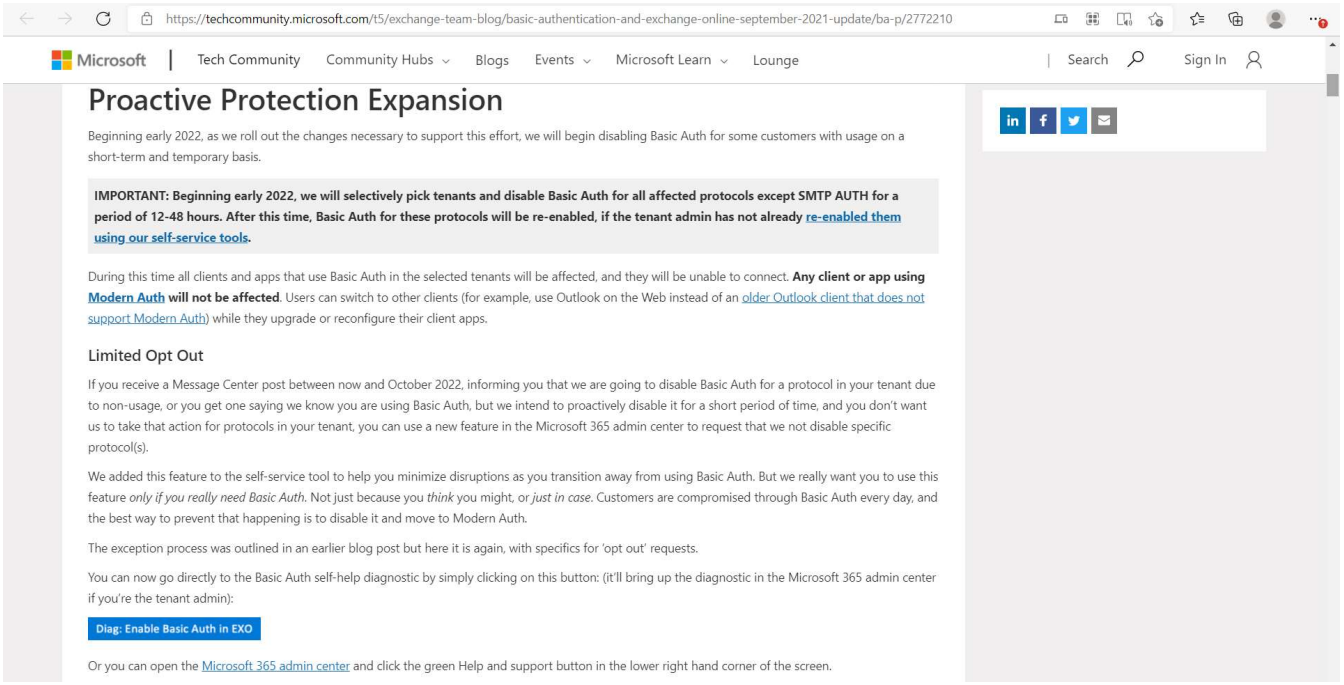


Procedure:

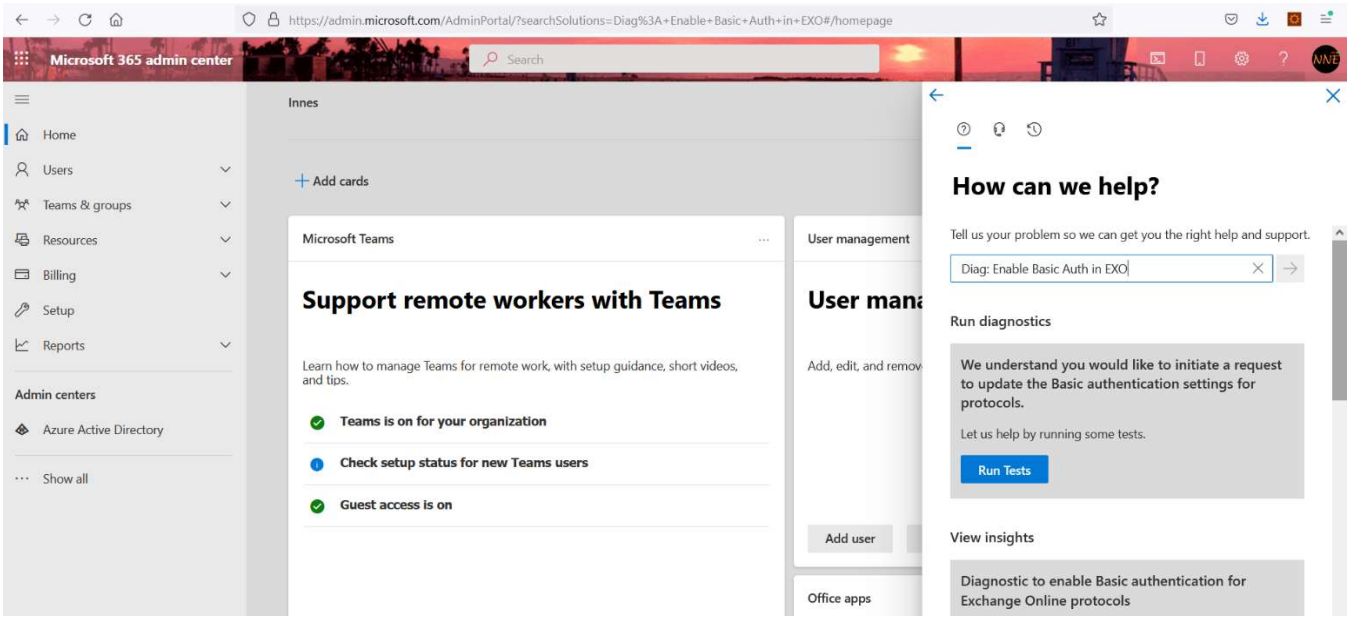
1) On your Web browser, connect to your **Office 365** portal with your account credentials (administrator profile).

2) Scroll in the Microsoft article page to the blue bottom and click on the **Diag: Enable Basic Auth in EXO** button**,** shortcut to following URL: https://admin.microsoft.com/AdminPortal/?searchSolutions=Diag:%20Enable%20Basic%20Auth%20in%20EXO#/homepage.

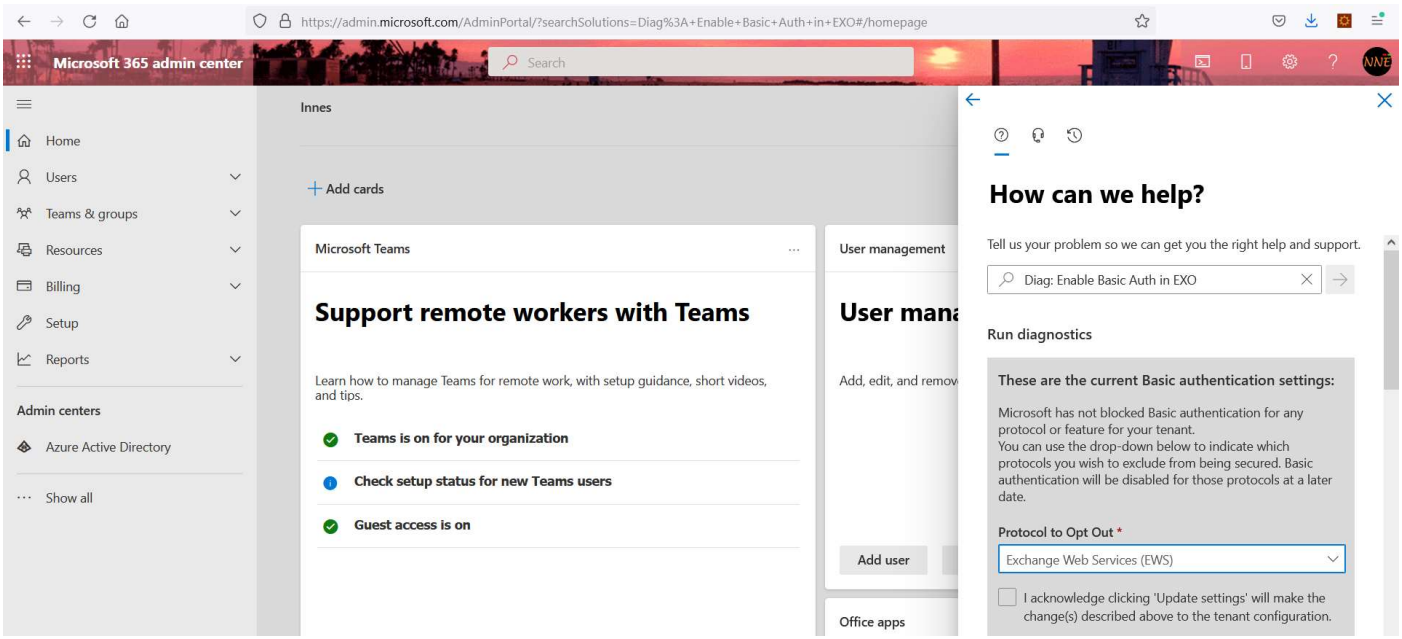
   You can also open this URL directly from your Web browser.



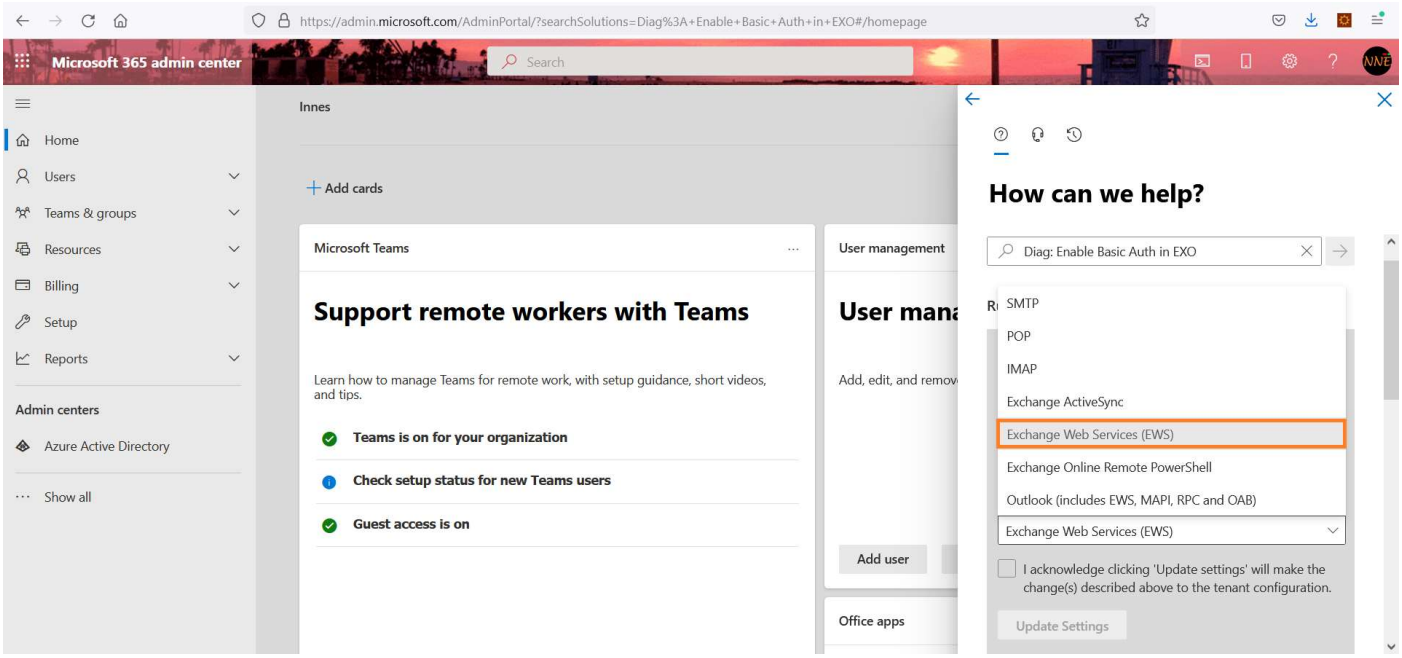
3) Click on the **Run Tests** button



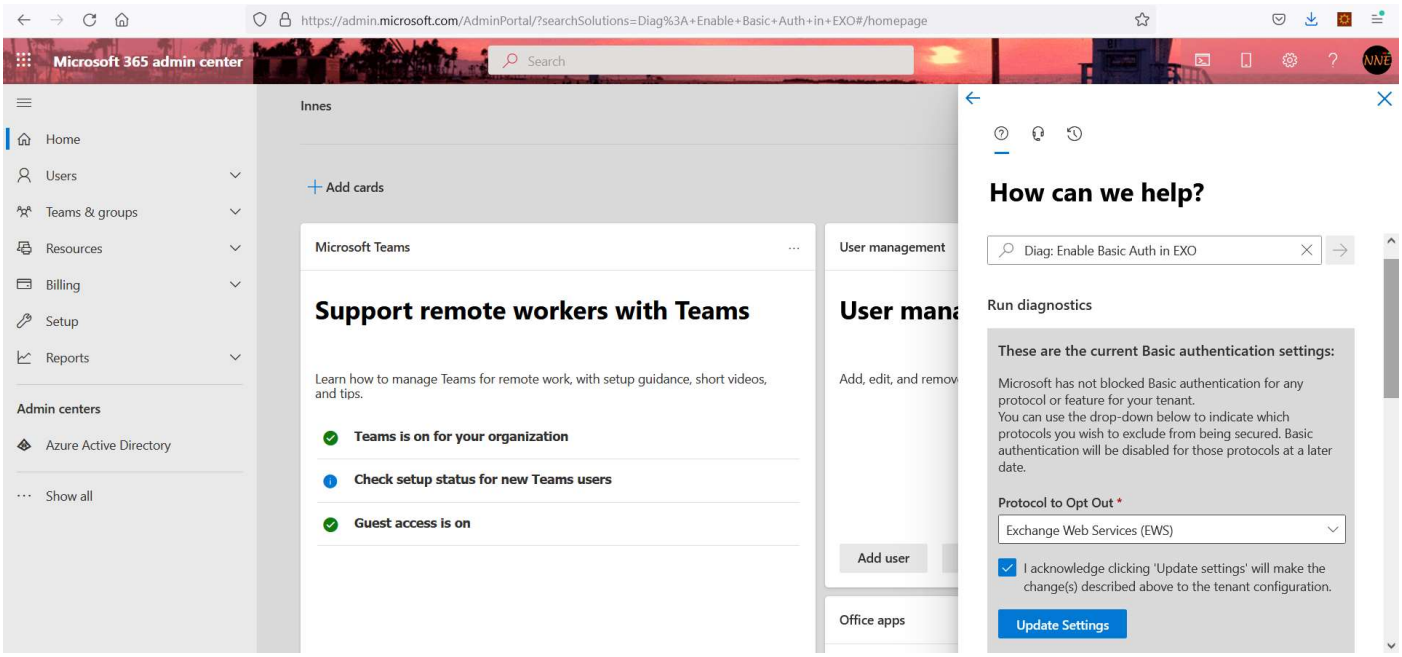
Wait for few seconds. Once the research is completed, open the drop down list to see the **protocols** or **features** you want to support with **Basic Authentication**.



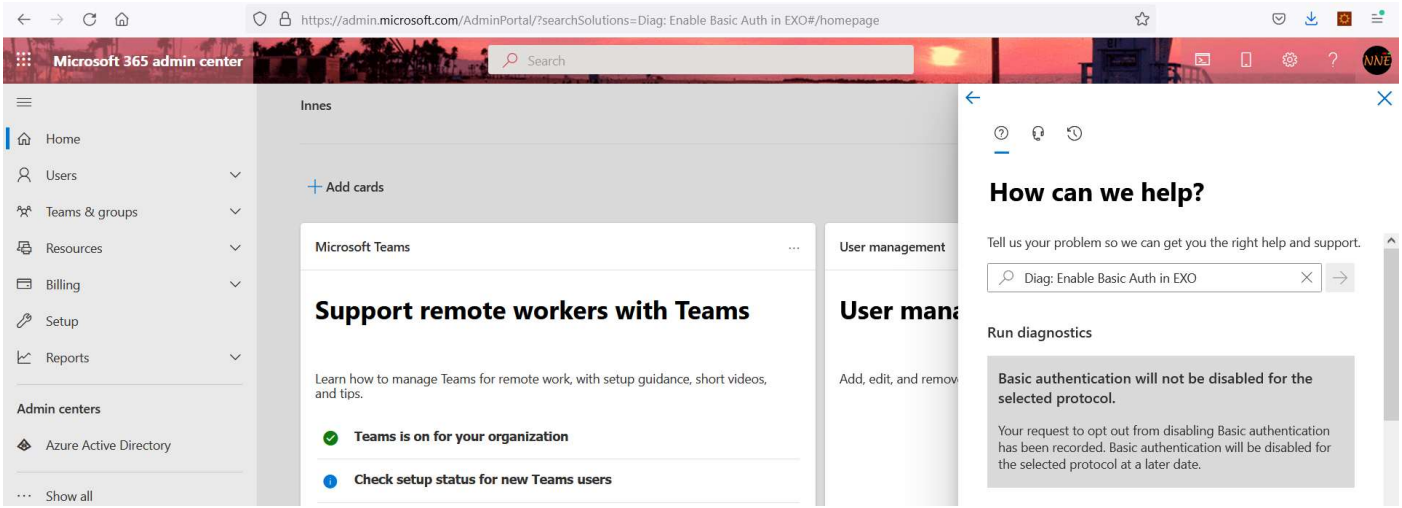
Select the **Exchange Web services** value (used by *ews-calendar* connector).



Check the **I acknowledge clicking on `Update settings` will make the change(s) described above to the tenant configuration** box and click on the **Updates settings.**



A confirmation message is displayed showing that **basic authentication** is now activated for the selected **Exchange Web services** feature.



Wait for few minutes and restart your **Briva server**.