Qeedji

User manual 001A

briva_calendar-ews 1.11.11

Legal notices

1.11.11 (001A_en)

Rights and Responsibilities

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The conception and specifications of the product may change without prior notice, and this applies to hardware, embedded software and this guide. Consumable items accessories may slightly differ than herein described as Qeedji is depending on the evolutions of its suppliers. This document contains confidential information; it can't be disclosed to any third parties without prior written authorization of Qeedji.

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WEEE Directive

This symbol means that your end of life equipment must not be disposed of with household waste but must be deposited at a collection point for waste electrical and electronic equipment or to your reseller. This will benefit the environment. In this context, a system for collecting and recycling has been implemented by the European Union

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1.1 Introduction

The `Briva-calendar EWS` solution is allowing to connect periodically to your `Microsoft Exchange` calendar or to your `Office 365` calendar to gather the events of the day for one or several resources calendars and output them into:

- an *.ics* calendar, compliant with *Internet Calendar Scheduling* RFC,
- a *.xml* calendar, propriety format. For further information, refer to the chapter § Appendix: .xml calendar format.

This document explains how to install and configure the `EWS-calendar` connector on the `Briva-calendar` server so that it can connect:

- to your `Microsoft Exchange Server` calendar and
- to your `Office 365` calendar.

Briva-calendar server compatibility

The `EWS-calendar` connector must be installed on a `Briva-calendar server` 2.10.10.

1.2 Microsoft Exchange and Office 365

Calendar compatibility

- `Microsoft Exchange Server` 2007 to 2019
- `Office 365`

For `Microsoft Exchange Server` :

- the *Web services* must be enabled,
- the `Microsoft Exchange Server` must be on time, configured with a suitable time zone.

> ☛ *The Web services must be activated on `Microsoft Exchange Server` with the same suitable authentication mode used by the EWS connector.*

Authentication compatibility

The `EWS-calendar` connector supports these authentications:

- `Basic` authentication,
- `Azure AD` authentication (`OAuth2`), called also *modern* authentication.

Both authentications `Basic` and `Azure AD` are still supported in `Office 365` :

- For any new `Office 365` users, the default authentication activated is `Azure AD` ,
- For existing `Office 365` users, the authentication activated may be either `Azure AD` or `Basic` .

Resources email accounts and delegate email account

To work with `Briva-calendar EWS` , it is required to have one resource email account for each `Microsoft Exchange` resource (or per `Office 365` resource). Each resource calendar must be controlled by a same *delegate* email account user.

If not already done, you must create and configure the resources email accounts and the *delegate* email account with `powershell` commands. To see some *Powershell* commands examples, refer to the chapter § Appendix: Resource email and delegate email accounts creation with Powershell.

1.3 Briva-calendar server installation

If not already done, download the Briva-calendar server 2.10.10 then execute *Innes Briva Server Setup V2.10.10.exe* on a `MS-Windows Server` computer to install it. The `MS-Windows Server` computer must be available on your local network.

The `Briva-calendar server` is by default installed in this directory:

- `C:\Program Files (x86)\Innes Briva`

The user data for the `Briva-calendar server` are stored by default in this directory:

- `C:\Users\Public\Documents\Innes Briva`

`Briva-calendar server` (*C:\Program Files (x86)\Innes Briva\Server\bin\httpd.exe*) starts automatically on port *80* when the `MS-Windows server` starts.

The `start` and `stop` shortcuts, available on MS-Windows App panel, allows to start or stop the `Briva-calendar server`.

List of calendar connectors installed

`Briva-calendar server` can support several types of calendar connector at a time.

When the `Briva-calendar server` is started, the `Briva-calendar server` Web configuration page is available with this URL:

- `http://<myBrivaCalendarServer_login>:<myBrivaCalendarServer_password>:<myBrivaCalendarServer_port>@myBrivaCalendarServer_domain_or_IPV4_addr>/.configuration/`

For example

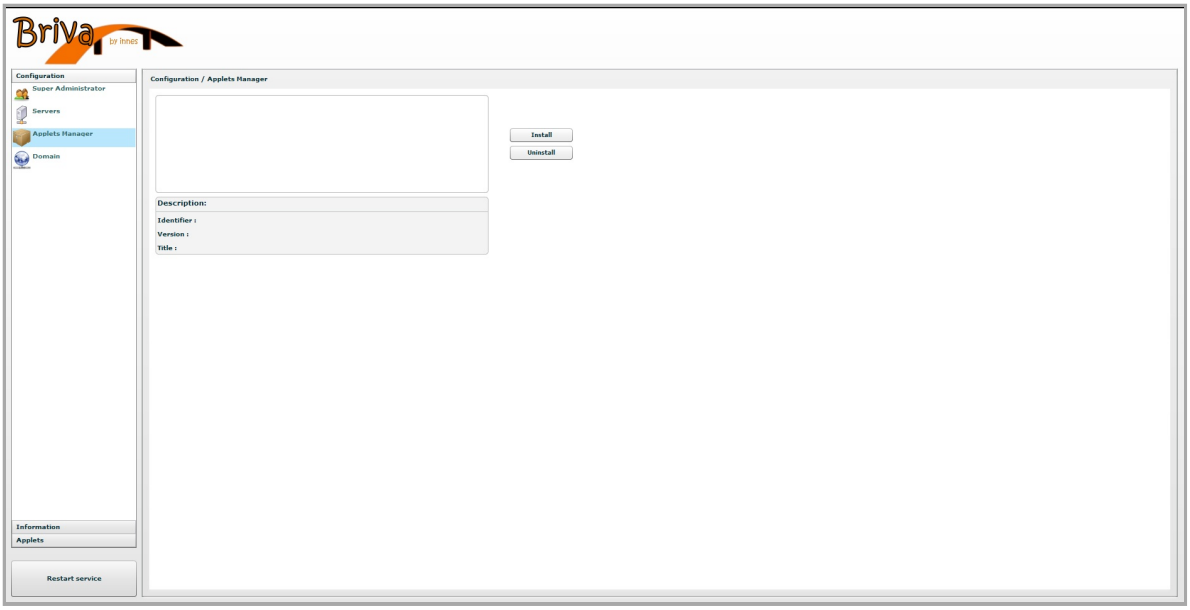
- `http://admin:admin@192.168.2.69/.configuration/`

> ☛ *The default credential to connect as administrator is `admin / admin`.*
>
> ☛ *It is advised to use DNS to access to your `Briva-calendar server`.*
>
> ☛ *To open the `Briva-calendar server` Web configure page, the browser must support the flash technology. If you have not, contact `support@innes.pro` who should help to find one.*

Click on the `Applets Manager` tab. The `Configuration / Applets Manager` pane, displayed on the right, lists all the calendar connectors installed.

To know the version of a calendar connector, click on the appropriate calendar connector installed and check the `Description` pane just below displaying information about the connector:

- `identifier`,
- `version`,
- `title`.



Click on the `Domain` tab. Click on `New` to create a domain (for example: *myDomain*).

1.4 EWS calendar connector installation

Open the `Briva-calendar server` Web configure page, available with this URL:

- `http://<myBrivaCalendarServer_login>:<myBrivaCalendarServer_password>:<myBrivaCalendarServer_port>@myBrivaCalendarServer_domain_or_IPV4_addr>/.configuration/`

For example

- `http://admin:admin@192.168.2.69/.configuration/`

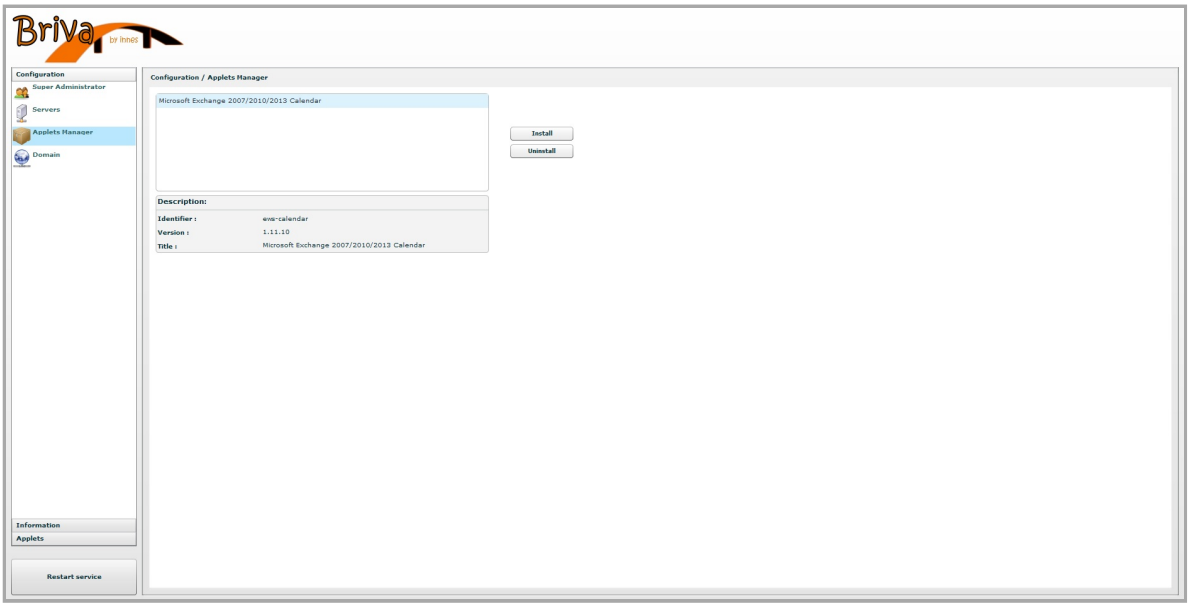
Click on the `Applets Manager` tab. The `Configuration / Applets Manager` pane, displayed on the right, lists all the calendar connectors installed.

If already installed, select the `Microsoft Exchange 2007/2010/2013 Calendar` connector and check that the version is *1.11.10* (or above). Otherwise:

- download the latest EWS connector (.saz),
- click on the `Install` button,
- select the *ews-calendar-1.11.10.saz* and click on the `Open` button.

Wait a couple of time.

Click on the `Microsoft Exchange 2007/2010/2013 Calendar` connector installed and in the `Description` pane just below, check that the `version` is *1.11.10*.



When successfully installed:

- these files are available in this directory `C:\Users\Public\Documents\Innes Briva\Server\.accounts\<mydomain>\.applets\.ews-calendar\` :
  - *configuration.xml*,
  - *2ical.php*,
  - *2xml-daycalendar.php*.
- these files are available in this directory `C:\Users\Public\Documents\Innes Briva\Server\.shared\.applets\.ews-calendar\` :
  - *2ical.php*,
  - *2xml-daycalendar.php*.

1.5 EWS calendar connector configuration

To configure the `EWS calendar connector` , edit the `C:\Users\Public\Documents\Innes Briva\Server\.accounts\<mydomain>\.applets\.ews-calendar\configuration.xml` file to fill the required information to connect to your `Microsoft Exchange Server` to connect to your `Office 365` .

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

> ⚠ Do modify the `configuration.xml` file by matching the XML syntax.
>
> ⚠ The file editor, allowing to make modifications in the `configuration.xml` file, must keep the characters encoded in UTF-8.

Modification of the configuration.xml to connect to your Microsoft Exchange Server or to your Office 365

The upper part of the *configuration.xml* (tag `<scc:server>`) allows to configure the connexion to your `Microsoft Exchange Server` or to your `Office 365` .

The connector is able to connect to several `Microsoft Exchange Server` machine or `Office 365` accounts at a time with only one *configuration.xml* file. In this case, a unic `serverId` value must be created for each `Microsoft Exchange Server` or each `Office 365` server.

In the *configuration.xml*, uncomment the block from `<scc:server>` to `</scc:server>` and fill with your data:

```
<scc:server>
…
</scc:server>
```

This is a `serverId1` example with a `Microsoft Exchange Server` , available in your local network with the IPV4 address 192.168.1.100, supporting the `Basic` authentication:

```
<scc:server id="serverId1" type="ews">
    <scc:baseuri>http://192.168.1.100</scc:baseuri>
    <scc:label>myExchangeServer2016</scc:label>
    <scc:authentication type="http-authentication">
        <scc:scheme>basic</scc:scheme>
        <scc:credentials>
            <scc:username>myDelegate@exchange2016.contoso.pro</scc:username>
            <scc:password>myPassword</scc:password>
        </scc:credentials>
    </scc:authentication>
</scc:server>
```

This is a `serverId2` example with `Office 365` supporting the `Basic` authentication:

```
<scc:server id="serverId2" type="ews">
    <scc:baseuri>https://outlook.office365.com</scc:baseuri>
    <scc:label>MyOffice365</scc:label>
    <scc:authentication type="http-authentication">
        <scc:scheme>basic</scc:scheme>
        <scc:credentials>
            <scc:username>myDelegate@contoso.onmicrosoft.com</scc:username>
            <scc:password>myPassword</scc:password>
        </scc:credentials>
    </scc:authentication>
</scc:server>
```

This is a `serverId3` example with `Office 365` supporting the `Azure AD` authentication:

```
<scc:server id="serverId3" type="ews">
    <scc:baseuri>https://outlook.office365.com</scc:baseuri>
    <scc:label>MyOffice365</scc:label>
    <scc:authentication type="ms-azure-ad">
        <scc:scheme>ms-oauth-app</scc:scheme>
        <scc:credentials>
            <scc:username>            <scc:username>myDelegate@contoso.onmicrosoft.com</scc:username>
@contoso.onmicrosoft.com</scc:username>
            <scc:tenant-id>00000000-0000-0000-0000-000000000000</scc:tenant-id>
            <scc:client-id>00000000-0000-0000-0000-000000000000</scc:client-id>
            <scc:client-secret>mySecretxxxxxxxxyyyyyzzzzzz</scc:client-secret>
        </scc:credentials>
    </scc:authentication>
</scc:server>
```

Modification of the configuration.xml to create a calendarId supporting your resources calendars

A `calendarId` is the name of the the calendar you have to create to gather the event of one or several resources calendars. At leat one `calendarId` must be created.

In the *configuration.xml*, several `calendarIds` can be created. All the `calendarId` created must have different values.

A calendar is created inside the `<scc:calendars>` tag with these tags:

- the value *myCalendarId* is a free text value,
- the value *myServerId* must match one of the serverId defined above.

```
<scc:calendars>
    <scc:calendar id="myCalendarId1" server="url(#myServerId1)">
    ...
    </scc:calendar>
    <scc:calendar id="myCalendarId2" server="url(#myServerId2)">
    ...
    </scc:calendar>
</scc:calendars>
```

This is an example of calendars tag with three calendarId:

- *rooms12*,
- *roomsw1w2*,
- *roomsw3w4*,

It is assumed in the example that:

- the resources account emails used inside tags are respectively available and properly configured in the `Microsoft Exchange Server` or `Office 365` whose id (example `url(#serverId1)`) is specified just above,
- the resources calendar are shared properly with the same delegate account email with read/write access granted.

```
<scc:calendars>
    <scc:calendar id="rooms_1_2" server="url(#serverId1)">
        <param name="resource">room1@exchange2016.contoso.pro</param>
        <param name="resource">room2@exchange2016.contoso.pro</param>
        <param name="cachePersistence">300</param>
        <param name="startRelated">day-start</param>
        <param name="endRelated">day-end</param>
    </scc:calendar>
    <scc:calendar id="rooms_w1_w2" server="url(#serverId2)">
        <param name="resource" value="Room 1 (Custom label)">web_room1@contoso.onmicrosoft.com</param>
        <param name="resource">web_room2@contoso.onmicrosoft.com</param>
        <param name="cachePersistence">300</param>
        <param name="startRelated">day-start</param>
        <param name="endRelated">day-end</param>
    </scc:calendar>
    <scc:calendar id="rooms_w3_w4" server="url(#serverId3)">
        <param name="resource">web_room3@contoso.onmicrosoft.com</param>
        <param name="resource">web_room4@contoso.onmicrosoft.com</param>
        <param name="cachePersistence">300</param>
        <param name="startRelated">day-start</param>
        <param name="endRelated">day-end</param>
    </scc:calendar>
</scc:calendars>
```

FilterSensitivity parameter

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

- *Personal*[1],
- *Confidential*[1],
- *Private*,
- *Normal*.

[1] *Available on `Microsoft Exchange Server` only.*

```
<scc:calendar id="rooms_1_2" server="url(#serverId)">
<param name="filterSensitivity">Personal,Confidential,Private</param>
</scc:calendar>
```

> ☛ *Microsoft Exchange Server does not manage properly the private `filterSensitivity` attribute when it is updated after meeting creation. To solve the issue, enter the meeting directly with the private option activated.*

FilterImportance parameter

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

- *Low*[1],
- *Normal*,
- *High*[1].

```
<scc:calendar id="rooms_1_2" server="url(#serverId)">
<param name="filterImportance">Normal,High</param>
</scc:calendar>
```

[1] *Available on `Microsoft Exchange Server` only.*

Room label rename

In the example, the resource name (ex: *web_room12345678*, name given by IT department) is overwritten by a friendly custom label (ex: *Room 115*).

```
 <scc:calendar id="rooms_w1_w2" server="url(#serverId2)">
    <param name="resource" value="Room 115">web_room12345678@contoso.onmicrosoft.com</param>
    <param name="resource">web_room2@contoso.onmicrosoft.com</param>
    <param name="cachePersistence">300</param>
    <param name="startRelated">day-start</param>
    <param name="endRelated">day-end</param>
</scc:calendar>
```

Working day

To not support the events outside the working range, uncomment the block like explained.

```
<scc:generalsettings>
    <!-- Working day (Occurrence=1)-->
    <scc:workingday>
        <!-- define the start and end time slot of the working day -->
        <param name="dayStartTime">7:59</param>
        <param name="dayEndTime">19:01</param>
    </scc:workingday>
</scc:generalsettings>
```

1.6 EWS calendar connector's output URL

To test succesfully the `Briva-calendar EWS` with your computer and get the event of the day:

- the resource email accounts must be created succesfully in your calendar system,
- the delegate email account must be created succesfully in your calendar system,
- the `configuration.xml` file of the `ews-calendar` connector must be properly configured:
  - calendar system datasource with appropriate:
    - calendar system `URL`
    - calendar system `authentication` type:
      - `Basic` :
        - `delegate account email` value,
        - `password` value,
      - `Azure AD` :
        - `client secret` value,
        - `client ID` value,
        - `tenant ID` value,
        - `delegate account email` value,
    - `calendarId` value, gathering the events of the day for or several resources calendars,
    - `alarms` .

Ensure that no network software product or network device prevent your computer to communicate with the `Briva-calendar EWS` .

URL to get the .ics calendar

This is the URL syntax to get an *.ics* calendar file output by the connector:

- `http://<BrivaCalendarServer_domain_or_ipv4_addr>/plugnCast/.applets/.ews-calendar/2ical.php?calendarId=<calendarId>`

URL to get the .xml calendar

This is the URL syntax to get an *.xml* calendar file output by the connector:

- `http://<BrivaCalendarServer_domain_or_ipv4_addr>/plugnCast/.applets/.ews-calendar/2xml-daycalendar.php?id=<calendarId>`

2.1 Contacts

For further information, please contact us by e-mail:

- **Technical support**: support@innes.pro,
- **Sales department**: sales@innes.pro.

Refer to the `INNES` Website for FAQ, application notes, and software downloads: https://www.innes.pro/


```
INNES SA
5A rue Pierre Joseph Colin
35700 RENNES

Tel: +33 (0)2 23 20 01 62
Fax: +33 (0)2 23 20 22 59
```

3.1 Appendix: Resource email and delegate email accounts creation with Powershell

Configuration using powerShell

On a MS-Windows computer, launch `powershell` with administrator rights.

> ☛ *SSL is requested by the `powerShell` client. If the SSL error is raised, unencrypted traffic is disabled in the client configuration. A temporary solution consists in disabling the SSL for the `powershell` session. In this case: type the following command lines.

```
cd WSMAN:\localhost\Client
set-item .\allowunencrypted $true
set-item .\trustedhosts IPAddressofyourpowershellclientcomputer
```

Execute Powershell commands for MS-Exchange online (o365)

On a MS-Windows computer, open `powershell` command with administrator rights and execute these commands:

```
Set-executionpolicy unrestricted
$LiveCred = Get-Credential
```

Enter your `MS-Exchange` online (o365) login credentials then type:

```
$Session = New-PSSession -ConfigurationName Microsoft.Exchange -ConnectionUri
https://ps.outlook.com/powershell/ -Credential $LiveCred -Authentication Basic -AllowRedirection
Import-PSSession –Verbose $Session
```

Create a delegate account

For security reasons, the `MS-Exchange` administrator must avoid granting *read/write* access to all the users for all the resources.

> ☛ *One of the `MS-Exchange` recommendations is to remain compliant with the `MS-Exchange` workflow and be able to connect with a delegate user account, and not with a resource account. Consequently, the `EWS calendar` connector requires to use a delegate account having its own mailbox account. The login credentials (Id and/or password) of the delegate account are then used in the `configuration.xml` file of the `EWS calendar` connector. Read/write rights must be granted on the required resource calendar (and nothing else). It is important to give an appropriate specific name for this delegate account to be identified easily by all users. With `MS-Exchange` online (o365), no additional license is required for the delegate account.*

The configuration of the `MS-Exchange` mainly consists in creating a delegate account which can read/write on the required room resources calendar. Once the delegate account is created and the delegation for all the resources is done, the rooms resources appear in the list of resources in the `MS-Exchange` web interface.

Create the delegate account used by `EWS calendar` connector:

- for `MS-Exchange` 2013-2016-2019 and `MS-Exchange` online (o365):

```
New-Mailbox -Alias Innes-delegate -Name "Innes-delegate" -FirstName "Innes" -LastName "Delegate”
-DisplayName "Innes-Delegate" -MicrosoftOnlineServicesID "delegate@mydomain.onmicrosoft.com"
-Password (ConvertTo-SecureString -String "1234abcd” -AsPlainText -Force) -ResetPasswordOnNextLogon $false
```

- For `MS-Exchange` 2007/2010:

```
New-Mailbox -Alias "Innes-delegate" -Name "Innes-delegate" -FirstName "Innes" -LastName "Delegate"
-DisplayName " Innes-Delegate" –UserPrincipalName "Innes-Delegate@mycompany.com" -Password
(ConvertTo-SecureString -String "1234abcd" -AsPlainText -Force) -ResetPasswordOnNextLogon $false
```

Resource creation: new mailbox for the resource

```
New-Mailbox -Name "Room ABC" -Room
```

Resource default configuration: auto-accept, organizer in subject, display subject, working hours

```
Set-CalendarProcessing -Identity "Room ABC" -AutomateProcessing AutoAccept
-AddOrganizerToSubject $false -DeleteSubject $false
-ScheduleOnlyDuringWorkHours $true
```

Resource calendar working hours

```
Set-MailboxCalendarConfiguration "Room ABC" -WorkingHoursStartTime 08:00:00
-WorkingHoursEndTime 19:00:00 -Workdays Weekdays -WeekStartDay Monday
-WorkingHoursTimeZone "Central Europe Standard Time"
```

Resource calendar access granting for the delegate account

- for `MS-Exchange` 2013-2016-2019 and `MS-Exchange` online (o365)

```
Add-MailboxPermission -Identity RoomABC@mydomain.onmicrosoft.com -User "Innes-Delegate"
-AccessRights FullAccess -InheritanceType All –automapping $true
```

- for `MS-Exchange` 2007/2010

```
Add-MailboxPermission -Identity RoomABC@mydomain.com -User "Innes-Delegate"
-AccessRights FullAccess -InheritanceType All –automapping $true
```

In this example, a delegate account *Innes-Delegate@mycompany.onmicrosoft.com* has been created using password *1234abcd*. The delegate account can handle the room *RoomABC@mycompany.onmicrosoft.com*.

> ☛ *Ensure under IIS that the `MS-Exchange` Web Services (used by ews-calendar) uses the same authentication mode: Basic, NTLM (Windows), or Digest.*

Keep event's description in calendar

If the displaying of the event description is required, ensure that the event description is not deleted for the meetings in the resource mailboxes. To not remove description from the meetings for a given room:

- for `MS-Exchange` 2010/2013/2016/2019 and `MS-Exchange` online (o365)

```
Set-CalendarProcessing "Room 1" –DeleteComments $False
```

`

- for `MS-Exchange` 2007

```
Set-MailboxCalendarSettings "Room 1" –DeleteComments $False
```

Keep event's attachment in calendar

If the displaying of the event's attachment is required, ensure that the event's attachments are not removed automatically from the resource calendar:

- for `MS-Exchange` 2010/2013/2016/2019 and `MS-Exchange` online (o365)

```
Set-CalendarProcessing "Room 1" –DeleteAttachments $False
```

- for `MS-Exchange` 2007

```
Set-MailboxCalendarSettings "Room 1" –DeleteAttachments $False
```

> ☛ *Only The .gif, .png and .jpg format are supported as event attachment.*

Event autoaccept

When a meeting is created, it is stored both in the delegate calendar and in the resource calendar. The event booking must be in *AutoAccept* mode so that the event is automatically stored in the resource calendar without waiting confirmation. Check the *AutoProcessing* value by calling this Powershell command for resource:

```
Get-MailboxCalendarSettings "<Room_name>" | fl
```

Display resource event with only some privacy levels

To handle *private*/*confidential*/*personal* privacy levels, type this command for all your resources.

```
Set-CalendarProcessing "Room 2" –RemovePrivateProperty $False
```

3.2 Appendix: Azure AD application creation with Azure AD portal

You can create your Azure Active Directory (or AAD) application by following this Microsoft tutorial https://docs.microsoft.com/en-us/graph/auth-register-app-v2.

A procedure example is shown here after by connecting to the *Microsoft Azure* portal.

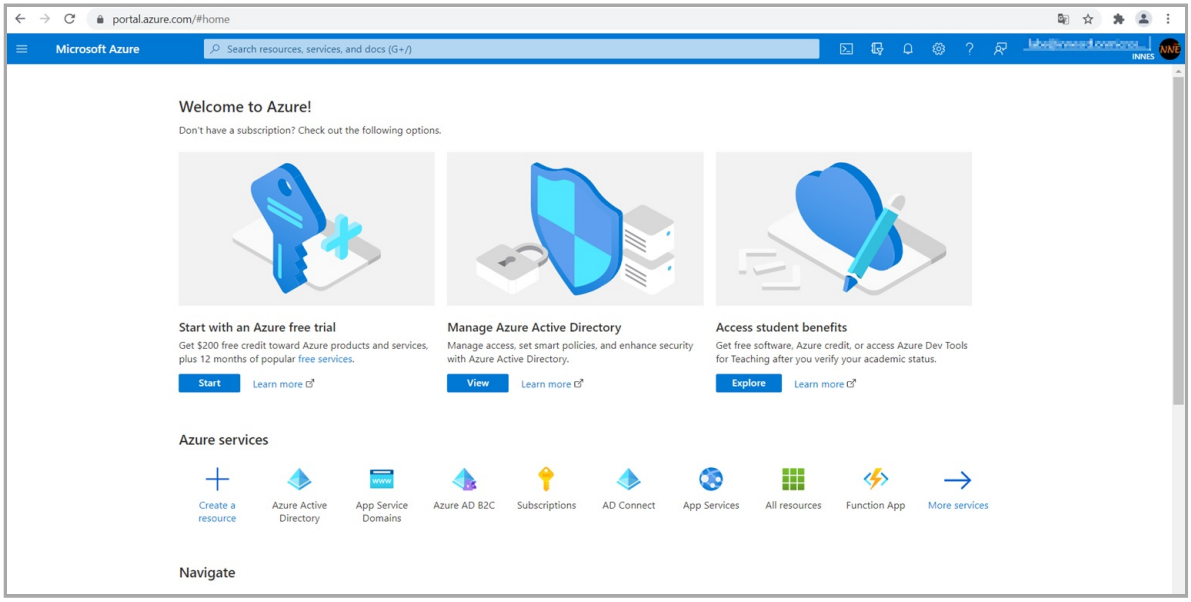
This procedure allows to generate you own ID and SECRET required in the App:

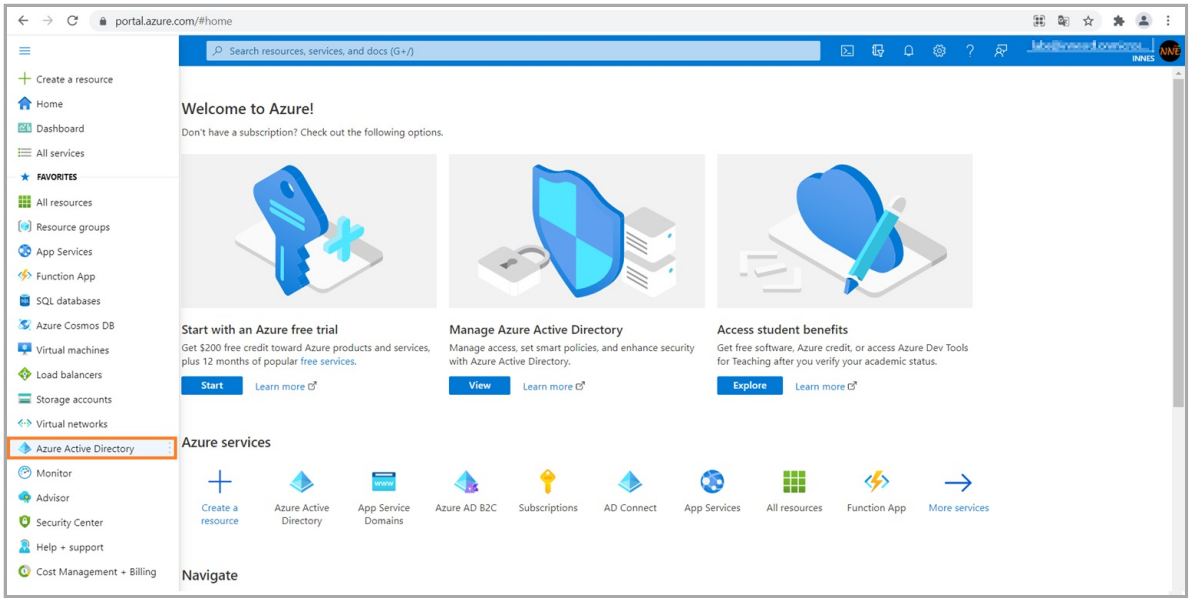
- `Application (client) ID`,
- `Directory (Tenant) ID`,
- `Client secret`.

> ☛ *If you want to follow the PowerShell scripts procedure instead of following the procedure by connecting to the `Azure AD` portal, only `PowerShell script for Azure Active Directory Application support 1.10.13 (and above)` is supported. For further information, refer to the chapter § Appendix: Azure AD Application PowerShell module.*

Connect on Microsoft Azure portal: https://portal.azure.com/ and sign in with your EWS administrator account login credentials.

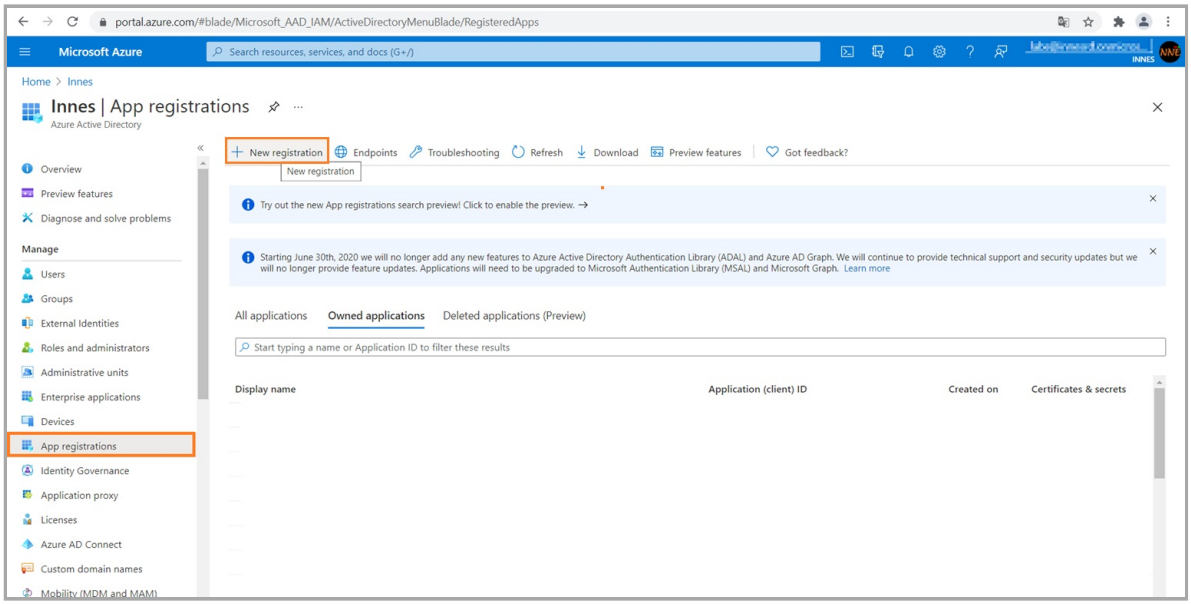
Click on the left top menu and choose the `Azure Active directory` item.





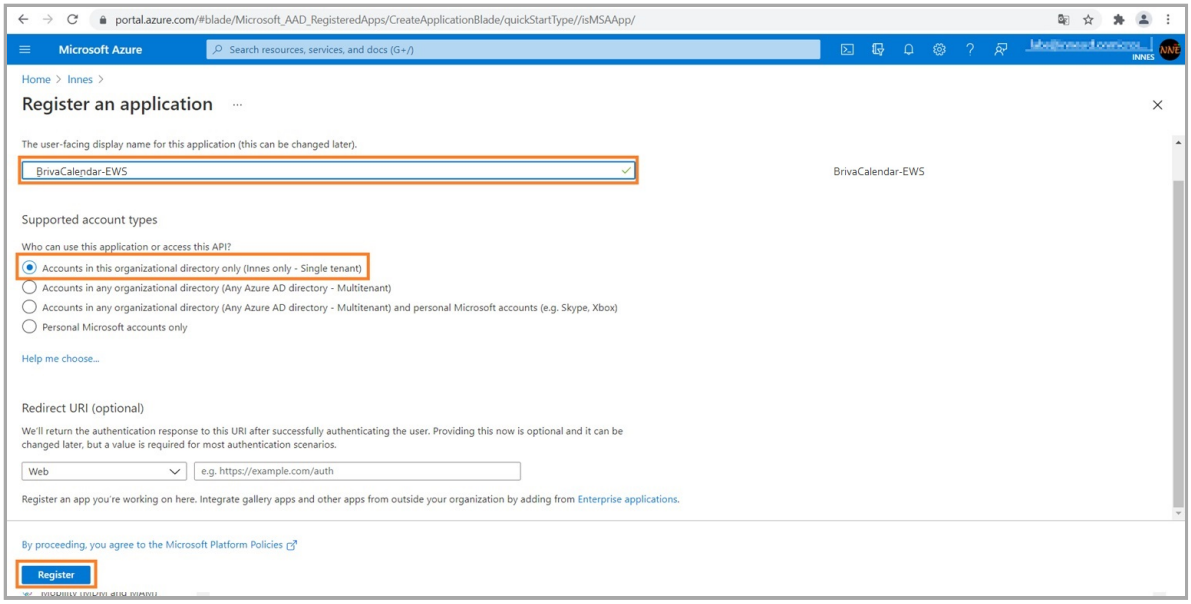
Application (client) ID and directory (Tenant) ID

On the App registrations menu, click on *New registration* `https://portal.azure.com/#blade/Microsoft_AAD_IAM/ActiveDirectoryMenuBlade/RegisteredApps` .

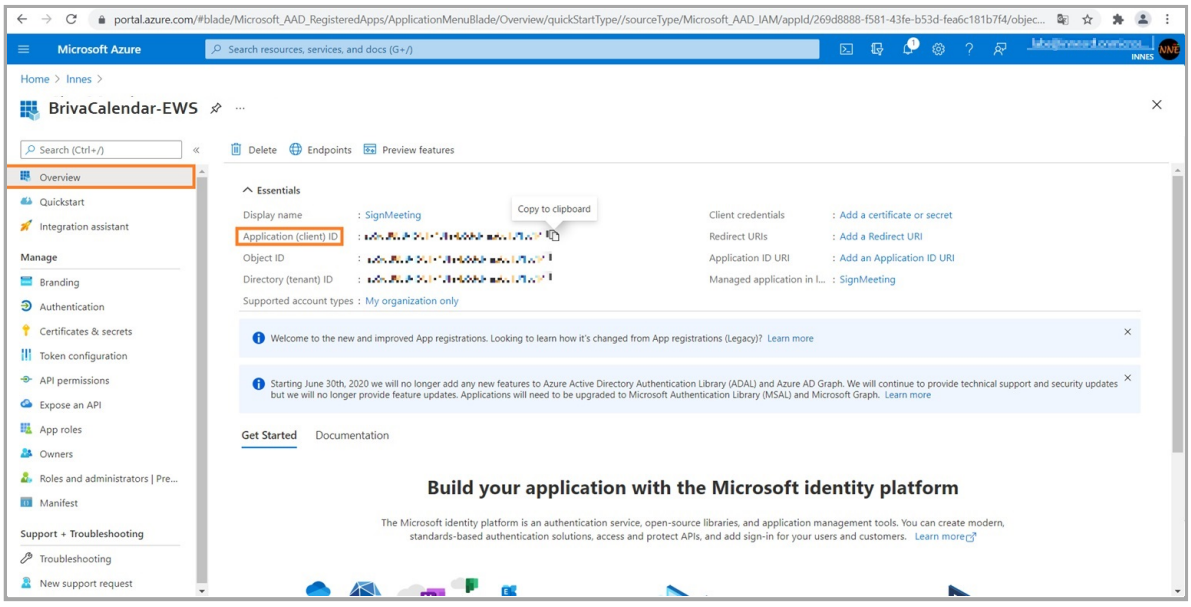


Enter an application name (e.g.: *BrivaCalendar-EWS*),

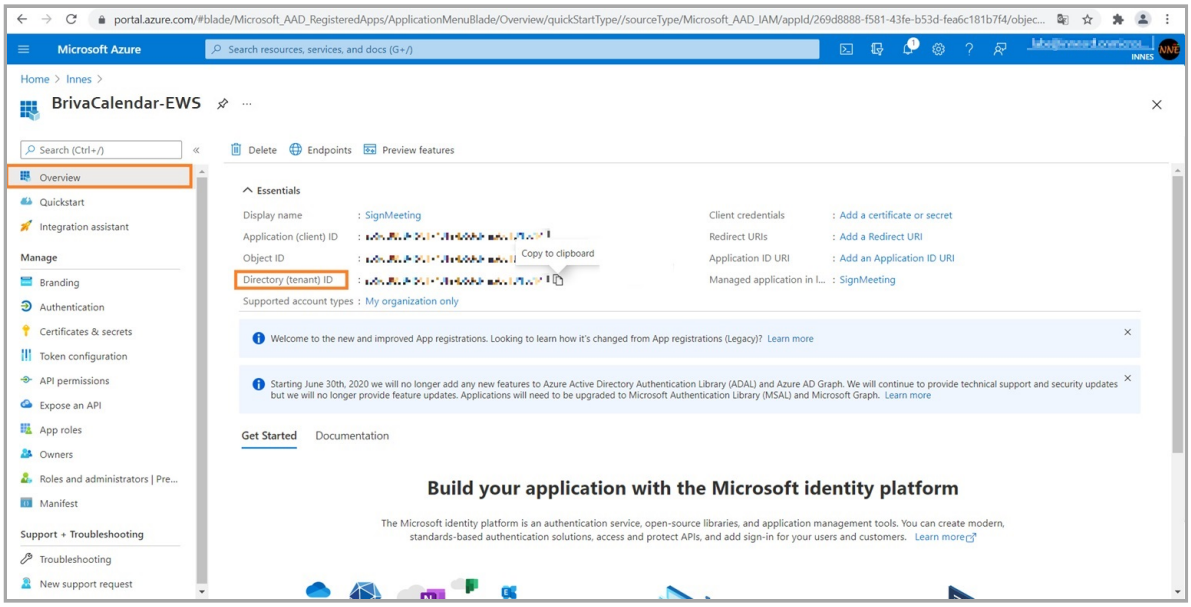
Select the appropriate Account in the organisation directory only (organisation only – Single tenant) radio button, and click on the Register button.



In the Overview menu, copy to clipboard the Application (client) ID value, the 1st value required in App configuration tab and store it preciously.

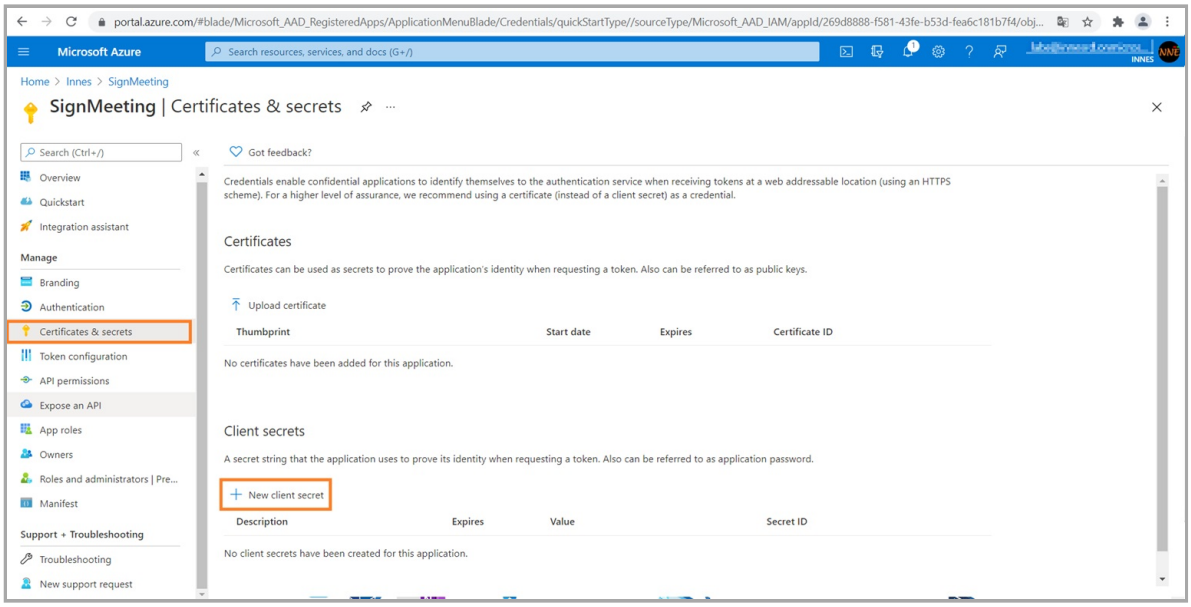


In the Overview menu, copy to clipboard the Directory (tenant) ID value, the 2nd value required in App configuration tab and store it preciously.

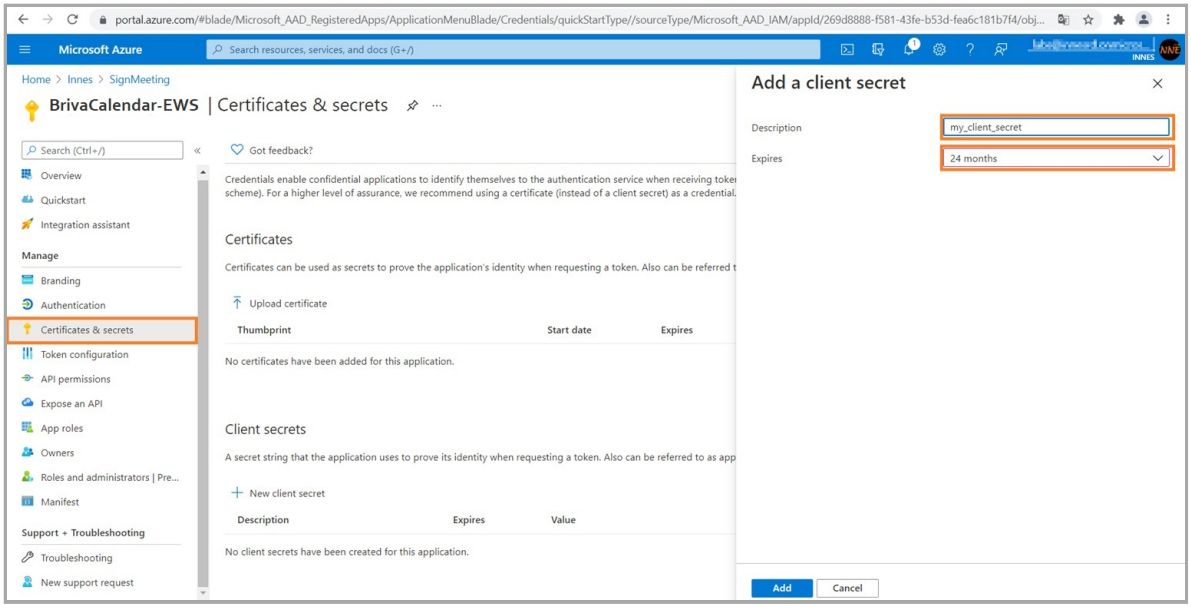


Client secret

In the `Certificates & secrets` menu, click on the `New client secret` button.

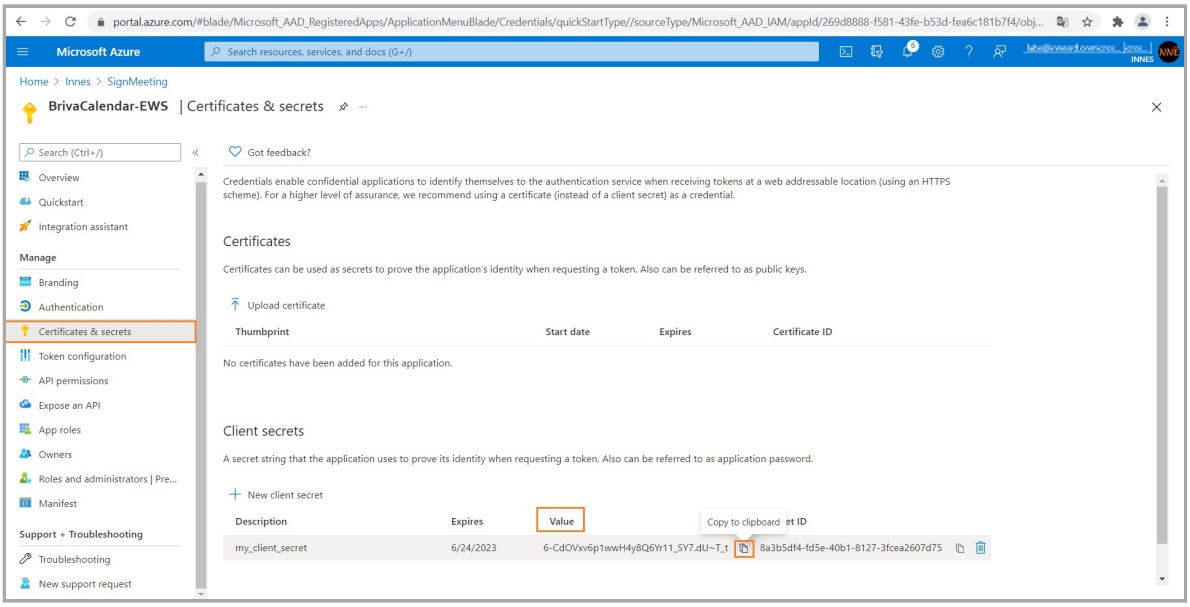


Enter a name (e.g.: *my_secret_key*) and click on the Add button.



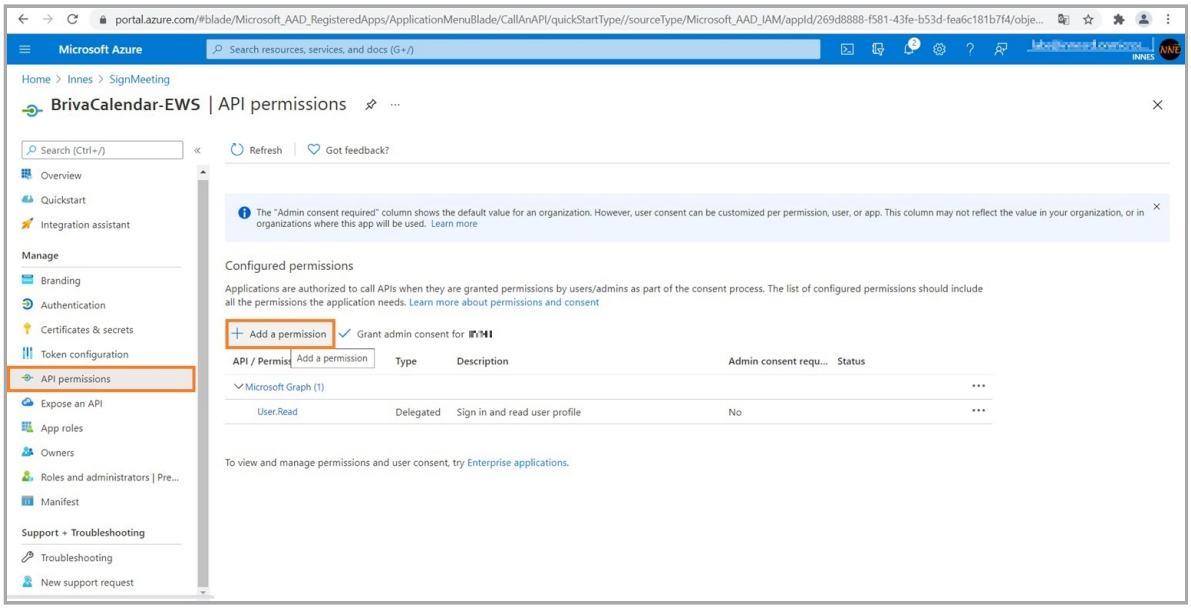
Copy into clip board the client secret value, the 3rd input for the App configuration tab and store it preciously.

> ⚠ Do it right now because the client secret value is not visible anymore as soon as you click on a new Web page.

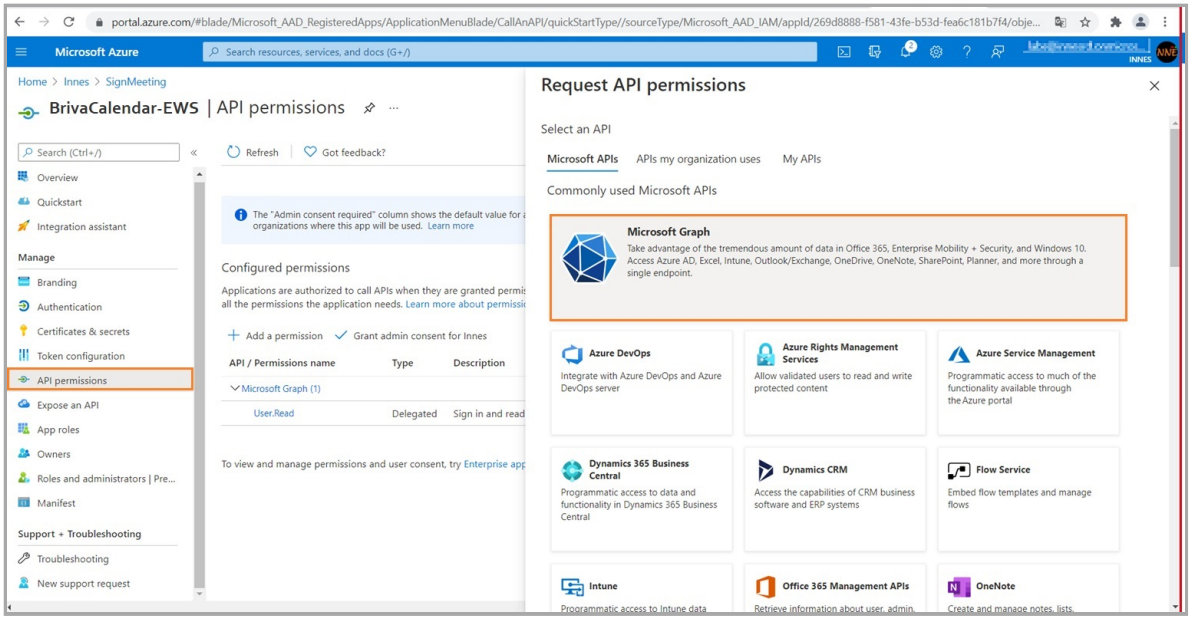

portal.azure.com/#blade/Microsoft_AAD_RegisteredApps/ApplicationMenuBlade/Credentials/quickStartType//sourceType/Microsoft_AAD_IAM/appId/269d8888-f581-43fe-b53d-fea6c181b7f4/obj...
Microsoft Azure
Search resources, services, and docs (G+/)
Home > Innes > SignMeeting
BrivaCalendar-EWS | Certificates & secrets
Search (Ctrl+/)
Overview
Quickstart
Integration assistant
Manage
Branding
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators | Pre...
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Got feedback?
Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.
Certificates
Certificates can be used as secrets to prove the application's identity when requesting a token. Also can be referred to as public keys.
Upload certificate
Thumbprint
Start date
Expires
Certificate ID
No certificates have been added for this application.
Client secrets
A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.
New client secret
Description
Expires
Value
Copy to clipboard
my_client_secret
6/24/2023
6-CdOVxv6p1wwH4y8Q6Yr11_SY7.dU~T_t
8a3b5df4-fd5e-40b1-8127-3fcea2607d75

Grant permissions

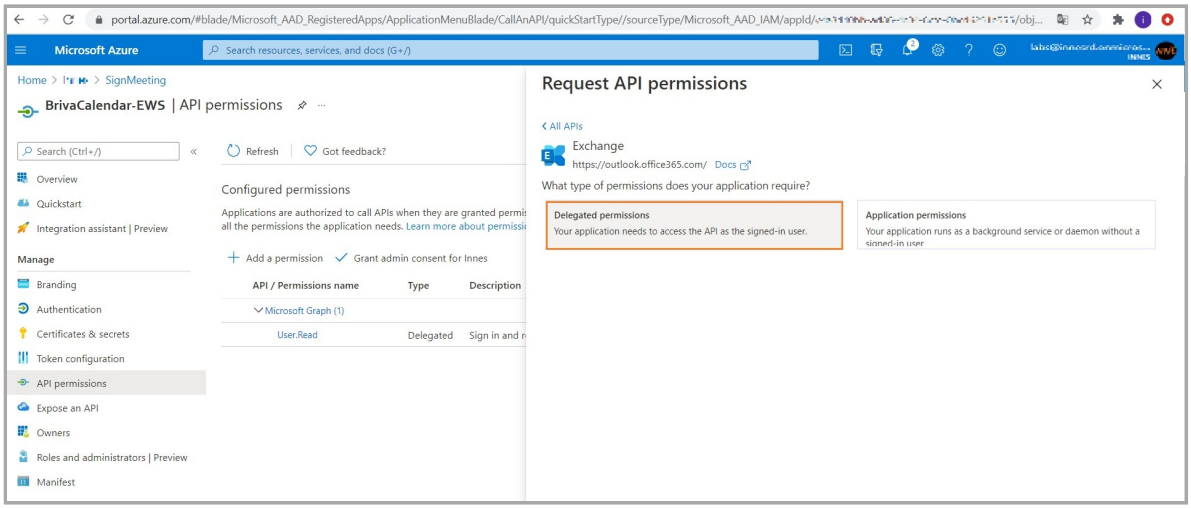
In the API permissions menu, click on the Add a permission button.



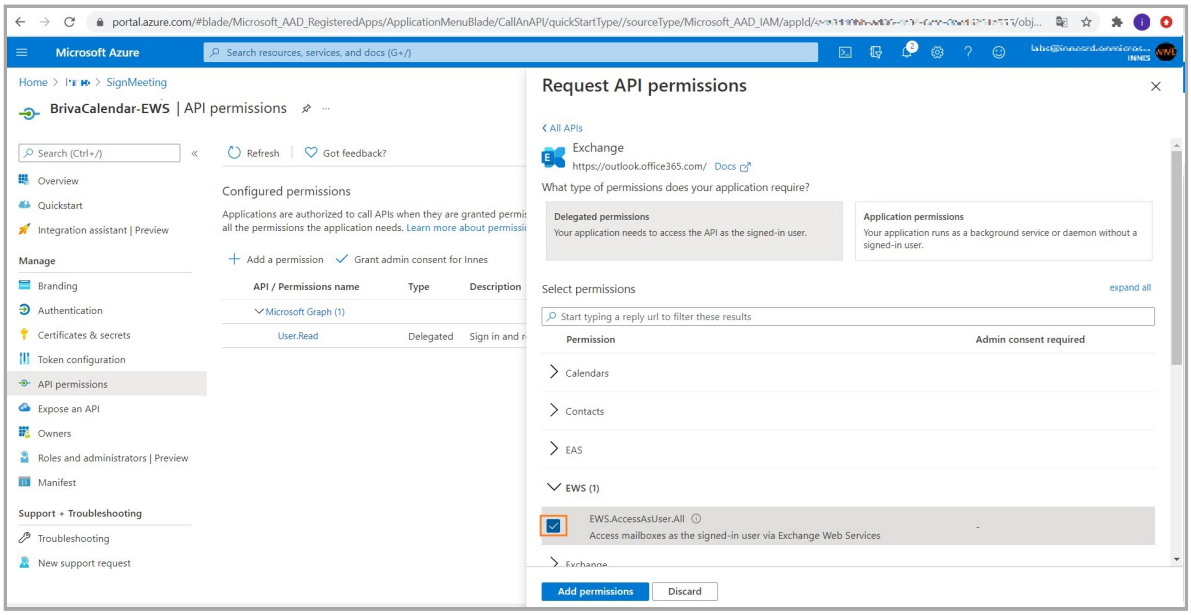
Select the `Microsoft Graph` button.



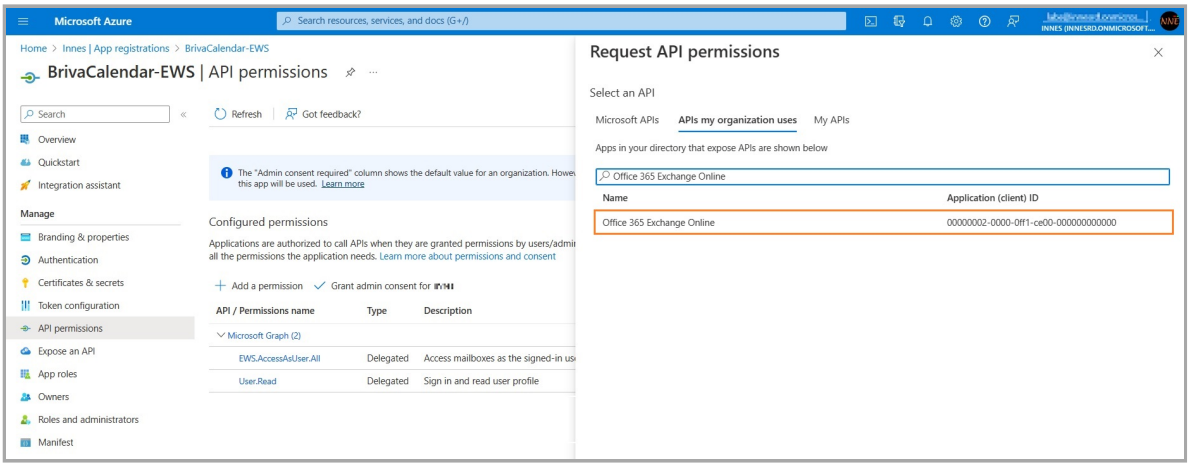
Select the `Delegated permissions` button.



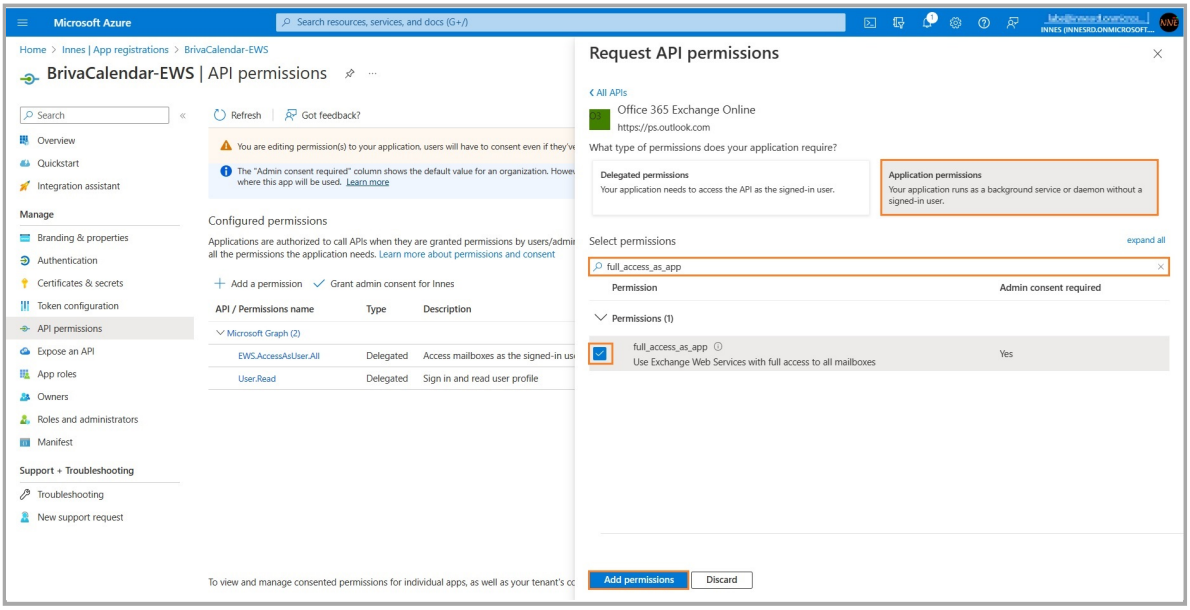
In the EWS item, check the `EWS.AccessAsUser.All` item. Then click on the `Add permissions` button.



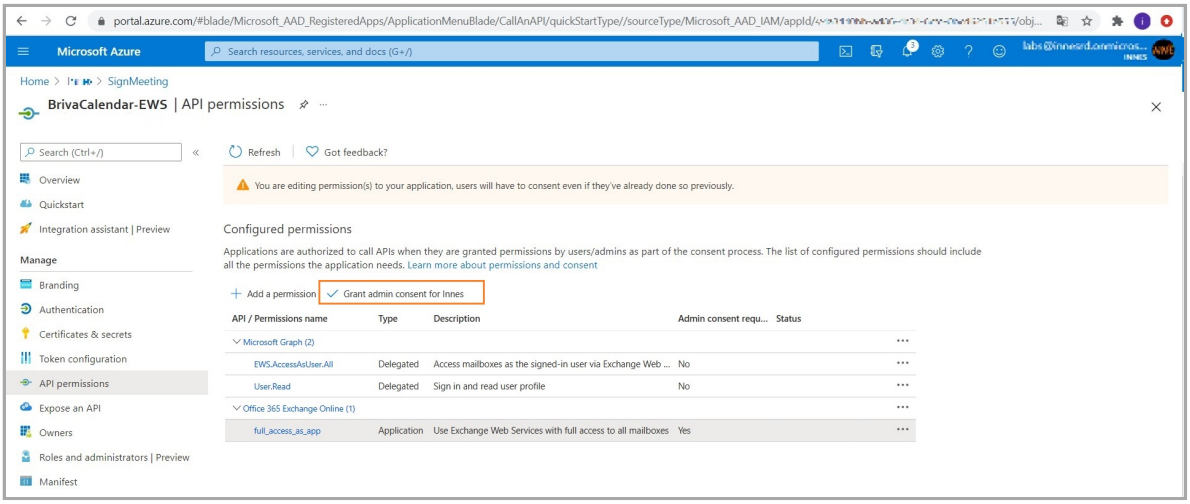
Click on the `APIs my organization uses` tab. Then in the filter input, enter the *Office 365 Exchange Online* filter value. Click on the `Office 365 Exchange Online` button.



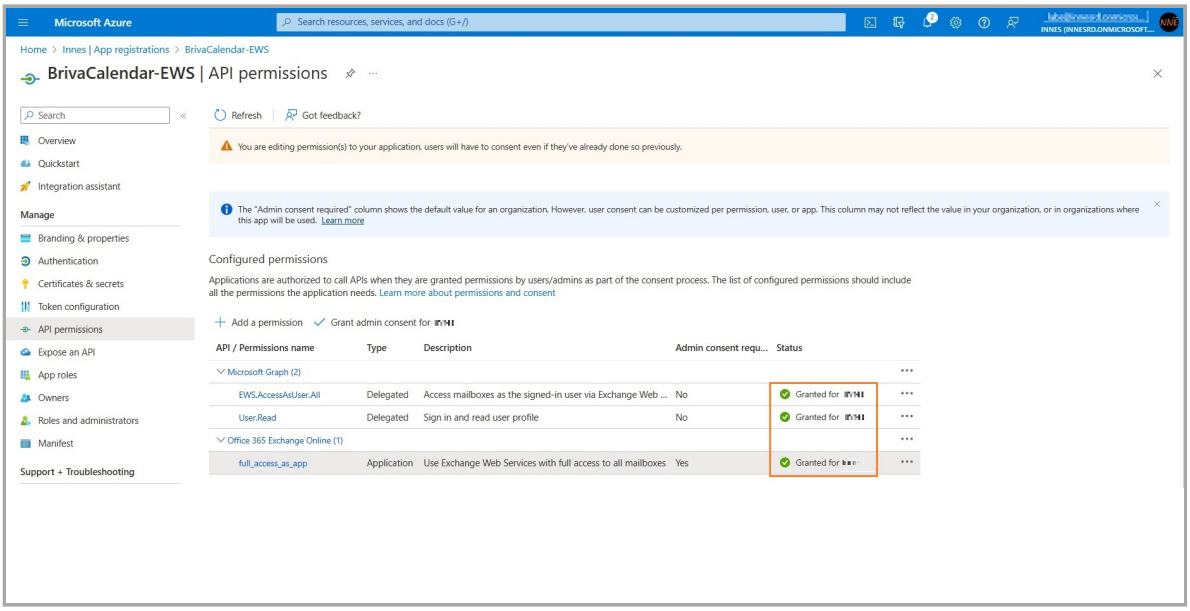
Click on the `Application permissions` button. Then in the filter input, enter the *full_access_as_app* filter value. Check the `full_access_as_app` permissions checkbox.



Click then on the `Grant admin consent for <your_organisation>` button.



Now the permissions are granted.



> ☛ *The `EWS.AccessAsUser.All` permission allows to authenticate with the delegate account: https://docs.microsoft.com/en-us/exchange/client-developer/exchange-web-services/how-to-authenticate-an-ews-application-by-using-oauth#configure-for-delegated-authentication.*

3.3 Appendix: Azure AD Application creation with PowerShell module

> ⚠ To support BrivaCalendar-EWS 1.11.10, the PowerShell script for Azure Active Directory Application support (`Powershell_Innes_AAD`) must be 1.10.15 (or above).

Download the PowerShell script for Azure Active Directory Application support `Powershell_Innes_AAD-1.10.15.zip` from the Innes Site Web then follow the instructions below.

Compatibility

The `Powershell_Innes_AAD-1.10.15.zip` PowerShell script for *Azure Active Directory* application is compatible with `PowerShell` 5.X (deployed on Windows 10).

Introduction

This set of *Powershell* functions allows to:

- create an *Azure Active Directory* application, with the `New-AADApplication` function,
- remove an *Azure Active Directory* application, with the `Remove-AADApplication` function.

These functions are defined in the `PSAAD` PowerShell module stored in the `Modules\PSAAD\` directory.

The result of the *Powershell* functions is also stored in a JSON file.

Edit the file and store preciously the values which could be required for your application:

- the `clientId` value,
- the `tenantId` value,
- the `clientSecret` value.

Security

By default, the execution of local *Powershell* scripts are not allowed. You can change their execution rights by changing the *PowerShell* security policy. This modification has to be done once with the `Set-ExecutionPolicy` *Powershell* function. Your organisation may have to change it according to your security rules.

For example, to authorize the execution of all scripts, launch a *Powershell* console with administrator rights, and type:

```
PS > Set-ExecutionPolicy -ExecutionPolicy Unrestricted -scope CurrentUser
```

For further information, look at the cmdlet `Set-ExecutionPolicy` help page.

If you cannot allow the execution of unsigned local scripts, you can install the provided certificate in the list of authorized root certificates with the command:

```
PS > cd <your_path_to_the_scripts>\Powershell_Innes_AAD\Certificate\
PS > Import-PfxCertificate -FilePath InnesCodeSigningRootCA_1.pfx -CertStoreLocation ../..
cert:\CurrentUser\Root -Password $(ConvertTo-SecureString "1234" -AsPlainText -Force)
```

To import the .pfx certificate, you can also use the MS-Windows application `certmgr.msc` , select the `Trusted Root Certification Authorities` , right clic on `All Tasks` , select the `Import` item, select the file and enter the password `1234` . When ended, close the current Powershell console.

Prerequisite

Install the AzureAD module

Install the *AzureAD* module with the command below:

```
PS > Install-Module -name AzureAD -scope CurrentUser
```

Dependency

If this message is prompted, enter `Y` .

```
The NuGet supplier is required to continue
PowerShellGet requires the NuGet vendor, version 2.8.5.201 or later, to interact with the repositories.
The NuGet provider must be available in "C:\Program Files\PackageManagement\ProviderAssemblies" or ../..
"C:\Users\<username>\AppData\Local\PackageManagement\ProviderAssemblies".
You can also install the provider NuGet by executing the command "Install-PackageProvider -Name NuGet ../..
-MinimumVersion 2.8.5.201 -Force". Do you want that PowerShellGet installs and imports the NuGet provider now?
[Y] Yes [N] No [S] Suspend [?] Help (default is "Y"):
```

If this message is prompted, enter `Y` .

```
Unapproved repository
You install the modules from an unapproved repository. If you approve this repository, ../..
change its InstallationPolicy value by running the Set-PSRepository command applet. ../..
Do you really want to install From PSGallery ?
[Y] Yes [T] Yes for all [N] No [U] No for all [S] Suspend [?] Help (default is "N"):
```

Usage

To use one of the *Powershell* modules, you have to define the environment variable for PSAAD. You have 3 possibilities:

1. Either copy the directories under `Modules\` into a standard *Powershell* module installation directory, for example `C:\Program Files\WindowsPowerShell\Modules` . Then launch a *Powershell* console.
2. Or redefine the search variable for *Powershell* modules (the `$Env:PSModulePath` *Powershell* variable) each time you will use theses functions. In this case, launch a *Powershell* console, and type the line below, adapting it to your path. Each time you launch a new *Powershell* console, you need to enter it again.

Example:

```
PS > $Env:PSModulePath="$Env:PSModulePath;C:\Program Files (x86)\WindowsPowerShell\Modules"
```

3. Or redefine the search variable for *Powershell* modules in the Windows environment variables. For that, add the path `<your_path_to_the_scripts>\Powershell_Innes_AAD\Modules` to the environment variable `PSModulePath` . Then, launch afterwards a *Powershell* console.

To use the functions or get help, you must then import the module(s) with the `Import-Module` function. Example:

```
PS > Import-Module PSAAD
```

Depending on how your get the scripts, you may have this following warning:

```
Security Warning Run only scripts that you trust. While scripts from the Internet can be useful, ../..
this script can potentially harm your computer. Do you want to run \server\scripts\my.ps1? ../..
[D] Do not run [R] Run once [S] Suspend [?] Help (default is "D"):
```

To avoid this message, you can unblock the script files (to do only once):

```
PS > cd <your_path_to_the_scripts>\Powershell_Innes_AAD\
PS > dir -Recurse | Unblock-File
```

The `Get-Command` function allows you to list the functions defined in a module. Example:

```
PS > Get-Command -Module PSAAD
```

Answer example:

```
CommandType     Name                       Version    Source
-----------     ----                       -------    ------
Function        New-AADApplication     1.10.14    PSAAD
Function        Remove-AADApplication  1.10.14    PSAAD
```

You can get help on each function of the module by using the standard cmdlet `Get-Help` with options:

- `-detailed` ,
- `-full` ,
- `-examples` .

Example:

```
PS > Get-Help -detailed New-AADApplication
```

```
NAME
    New-AADApplication

SYNOPSIS
    This function creates a Azure Active Directory application.


SYNTAX
    New-AADApplication [[-Credential] <PSCredential>] [[-tenantId] <String>] [-appName] <String> [-authorizations]
    <String[]> [[-LogFile] <String>] [<CommonParameters>]


DESCRIPTION
    This function creates a Azure Active Directory application.


PARAMETERS
    -Credential <PSCredential>
        Credential (admin profile) used to create the Azure Active Directory application. If absent, a dialog is
        displayed in the browser to enter the credentials.

    -tenantId <String>
        Azure Active Directory Tenant Id of the tenant in which the application has been created. This parameter is
        not mandatory. If absent, the tenantId is retrieved automatically after the credentials have been entered in
        the dialog.

    -appName <String>
        Name of the Azure Active Directory application.

    -authorizations <String[]>
        Authorization type:
       -  "signcom_m365" : to access to OneDrive and Web sites for SignCom application
        - "signmeeting_ews": to access to MS-Exchange room mailbox resources for SignMeeting MS-Exchange application
        - "signmeeting_m365": to access to M365 room mailbox resources for SignMeeting-M365 application
        - "briva_calendar_ews": to access to MS-Exchange room mailbox resources for Briva Calendar EWS application
        - "m365_room": to access to M365 room mailbox resource for SBL10e m365_room application
        - "m365_user": to access to M365 user presence resource for SBL10e m365_user application
        - "powerbi": to access to Power BI report

    -LogFile <String>
        Log file path

    <CommonParameters>
        This cmdlet supports the common parameters: Verbose, Debug,
        ErrorAction, ErrorVariable, WarningAction, WarningVariable,
        OutBuffer, PipelineVariable, and OutVariable. For more information, see
        about_CommonParameters (https:/go.microsoft.com/fwlink/?LinkID=113216).

    -------------------------- EXAMPLE 1 --------------------------

    PS C:\>$result = New-AADApplication -appname "my-App-Label" -authorizations "Authorization type"

    A consent request will be sent in 30 seconds in your browser.
    You must log into an administrator account of your organization and grant the necessary permissions.
    PS C:\>$result
    Name                           Value
    ----                           -----
    clientId                       xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
    objectId                       xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
    spId                           xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
    name                           my-App-Label
    tenantId                       xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
    clientSecret                   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

REMARKS
    To see the examples, type: "get-help New-AADApplication -examples".
    For more information, type: "get-help New-AADApplication -detailed".
    For technical information, type: "get-help New-AADApplication -full".
```

Example to create an Azure Active Directory application for Briva Calendar EWS

```
PS > $briva_calendar_ews = New-AADApplication -appname "BrivaCalendar-EWS"  -authorizations "briva_calendar_ews"
```

> ☛ *Don't use space characters inside the appname else an error could be returned.*
>
> ☛ *Don't use an already existing Appname else an error is returned.*
>
> ⚠ Clicking on a Powershell window can suspend the command. In this case click again in the window to resume the command.*

A login popup is displayed . Enter once your EWS login credentials. This message is then displayed in a *Powershell* context.

```
You must log into an administrator account of your organisation and grant the necessary permissions.
A consent request will be sent within 30 seconds in your browser.
```

After thirty seconds, a login popup should be prompted (`https://login.microsoftonline.com/`) automatically in your default Web browser.

Enter again your EWS login credentials.

A new popup message with the *Permission requested, review for your organisation* title is prompted in your Web browser.

Click on the `Accept` button. Then a message is displayed in your Web browser showing that the consent is successful: *Success of the consent request.*

You can view the data of the created application by typing the following command :

```
PS > $brivacalendar_ews
Name                           Value
----                           -----
clientId                       xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
objectId                       xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
spId                           xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
name                           BrivaCalendar-EWS
tenantId                       xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
clientSecret                   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

The result of the *Powershell* function is also stored in a JSON file: `brivacalendar_ews.json`.

Edit the file and store preciously the values required for your application:

- the `clientId` value,
- the `tenantId` value,
- the `clientSecret` value.

Example to delete an Azure Active Directory application

```
PS > Remove-AADApplication -appname "BrivaCalendar-EWS"
```

A login popup is opened. Enter your EWS credentials. In case the values do not allow BrivaCalendar-EWS to work properly, check in Azure portal that the application has been created succesfully and the rights are properly granted. If not, wait for a while, the rights granting may take several hours.

3.4 Appendix: .xml calendar format

This is an example of *.xml* calendar output by the briva_calendar-ews (1.11.10 or above) with the URL syntax:

- `http://<BrivaCalendarServer_domain_or_ipv4_addr>/plugnCast/.applets/.ews-calendar/2xml-daycalendar.php?id=<calendarId>`

For example:

- `http://192.168.1.100/plugnCast/.applets/.ews-calendar/2xml-daycalendar.php?id=room_1_2_3`

```
<?xml version="1.0" encoding="utf-8"?>
<calendar>
    <event>
        <summary>myEvent1</summary>
        <description>myDesc1</description>
        <location>Room 1</location>
        <organizer>myDelegateAccount@contoso.com</organizer>
        <attendees>stefan.schmidt@contoso.com, john.smith@contoso.com</attendees>
        <date>26/12/2022</date>
        <timeslot>00:00 - 01:00</timeslot>
    </event>
    <event>
        <summary>myEvent2</summary>
        <description>myDesc2</description>
        <location>Room 2</location>
        <organizer>myDelegateAccount@contoso.com</organizer>
        <attendees>john.smith@contoso.com</attendees>
        <date>26/12/2022</date>
        <timeslot>01:00 - 02:00</timeslot>
    </event>
    <event>
        <summary>event3</summary>
        <description>myDesc3</description>
        <location>Room 3</location>
        <organizer>myDelegateAccount@contoso.com</organizer>
        <attendees>stefan.schmidt@contoso.com</attendees>
        <date>26/12/2022</date>
        <timeslot>02:00 - 03:00</timeslot>
    </event>
</calendar>
```

3.5 Appendix: .ics calendar format

The *.ics* format output by the briva_calendar-ews is compliant with the `Internet Calendaring and Scheduling` RFC.

3.6 Appendix: Alarm and cache persistency

Alarm

Several alarms combinations can be created to:

- display or not the incoming events,
- display or not the events that are over,
- display events `<n>` minutes before they happen,
- display events until `<n>` minutes they are over.

This alarm combination allows to display all the events of the day:

```
<scc:calendars>
    <scc:calendar id="room1" server="url(#serverId)">
        <param name="startRelated">day-start</param>
        <param name="endRelated">day-end</param>
    </scc:calendar>
</scc:calendars>
```

This alarm combination allows to display only events happening now:

```
<scc:calendars>
    <scc:calendar id="room1" server="url(#serverId)">
        <param name="startRelated">event-start</param>
        <param name="endRelated">event-end</param>
    </scc:calendar>
</scc:calendars>
```

This alarm combination allows to display events 3600 seconds before they happen and until 3600 seconds after they are over:

```
<scc:calendars>
    <scc:calendar id="room1" server="url(#serverId)">
        <param name="startRelated">event-start</param>
        <param name="startOffset">-3600</param>
        <param name="endRelated">event-end</param>
        <param name="endOffset">3600</param>
    </scc:calendar>
</scc:calendars>
```

This alarm combination allows to display all the events of the day except those that are not yet started:

```
<scc:calendars>
    <scc:calendar id="room1" server="url(#serverId)">
        <param name="startRelated">day-start</param>
        <param name="endRelated">event-end</param>
    </scc:calendar>
</scc:calendars>
```

This alarm combination allows to display all the events of the day except those that are over:

```
<scc:calendars>
    <scc:calendar id="room1" server="url(#serverId)">
        <param name="startRelated">event-start</param>
        <param name="startOffset">-600</param>
        <param name="endRelated">day-end</param>
    </scc:calendar>
</scc:calendars>
```

Cache persistency parameter

The connector considers that during the cache duration (in seconds), there is no need to refresh the *calendarId* calendar. The default cache value is 300.

```
<param name="cachePersistence">300</param>
```

When the cache is not defined, the connector refreshes the calendar every minute.

3.7 Appendix: XML entities

Here are some XML entities:

XML entities	description
`<`	<
`>`	>
`&`	&
`&apos;`	'
`&quot;`	"

3.8 Appendix: Turn on the basic authentication (obsolete)

Since 2021, for security reasons, Microsoft has recently turned off by default the `Basic` authentication and turned-on the `Azure AD` authentication (OAuth2 or modern authentication) for any new Office 365 accounts.

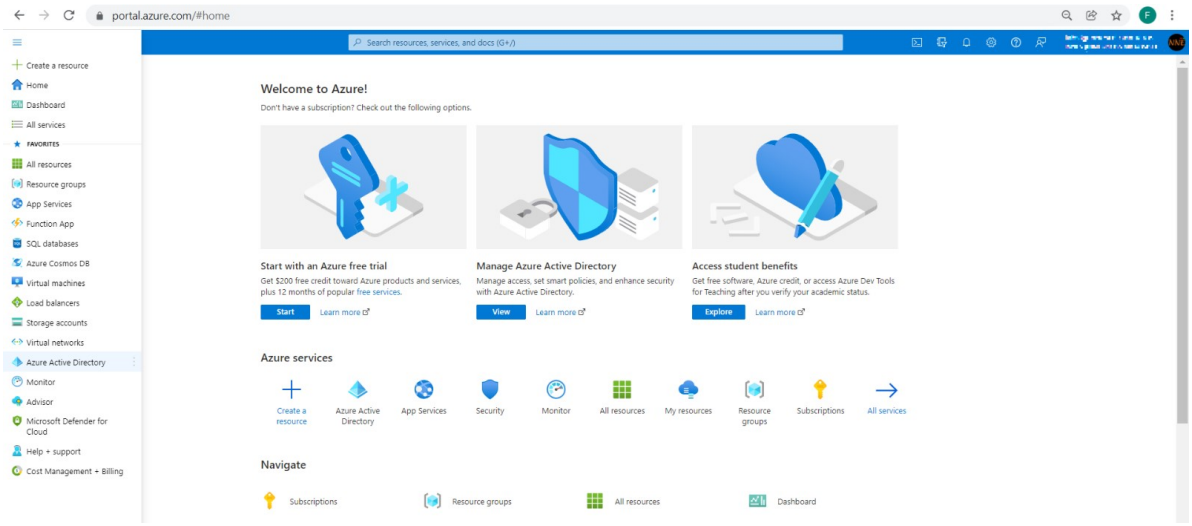
Anyway, if the customer accepts the security risks, Microsoft still accepts to keep turned-on, for any MS-Exchange 365 account, both:

- the `basic` authentication and
- the `Azure AD` (`OAuth 2` or modern authentication).

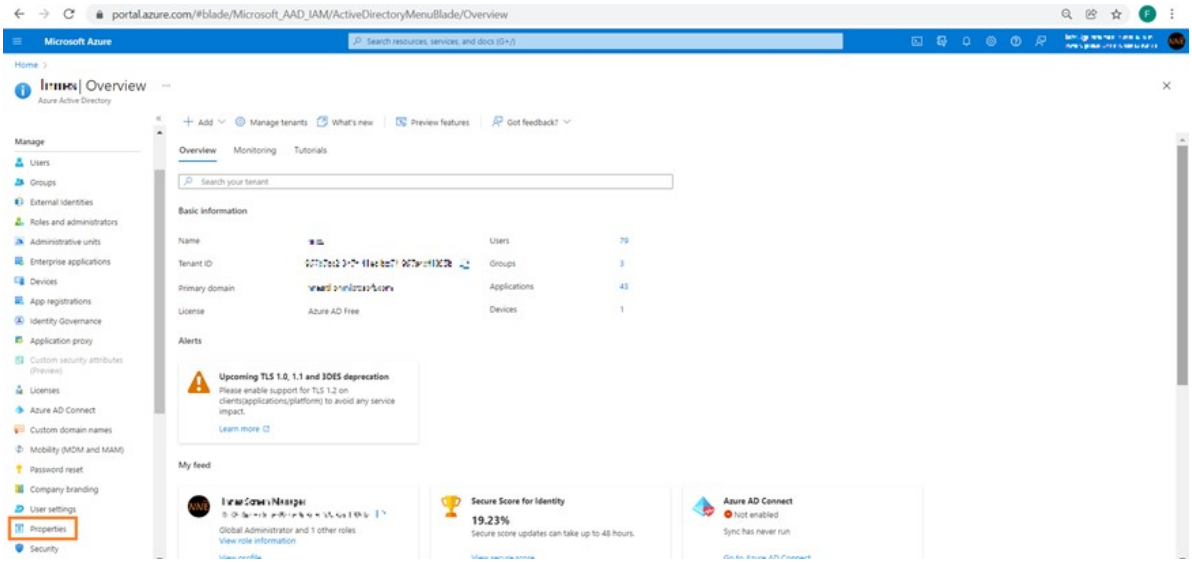
Inactivate security default for your Office 365 server

To activate the `basic` authentication to access to your Office 365 server, you need first to inactivate Security default:

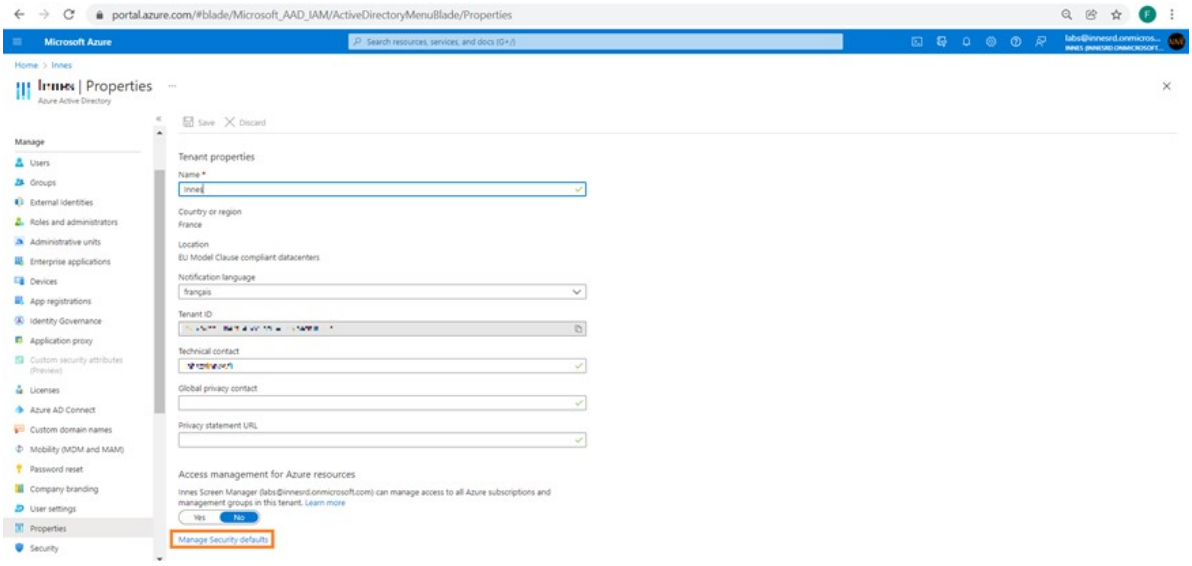
- connect on Microsoft Azure portal: `https://portal.azure.com/` .
- sign in with your Office 365 account credentials (administrator profile)
- click on the left top menu and choose the *Azure Active directory* item.



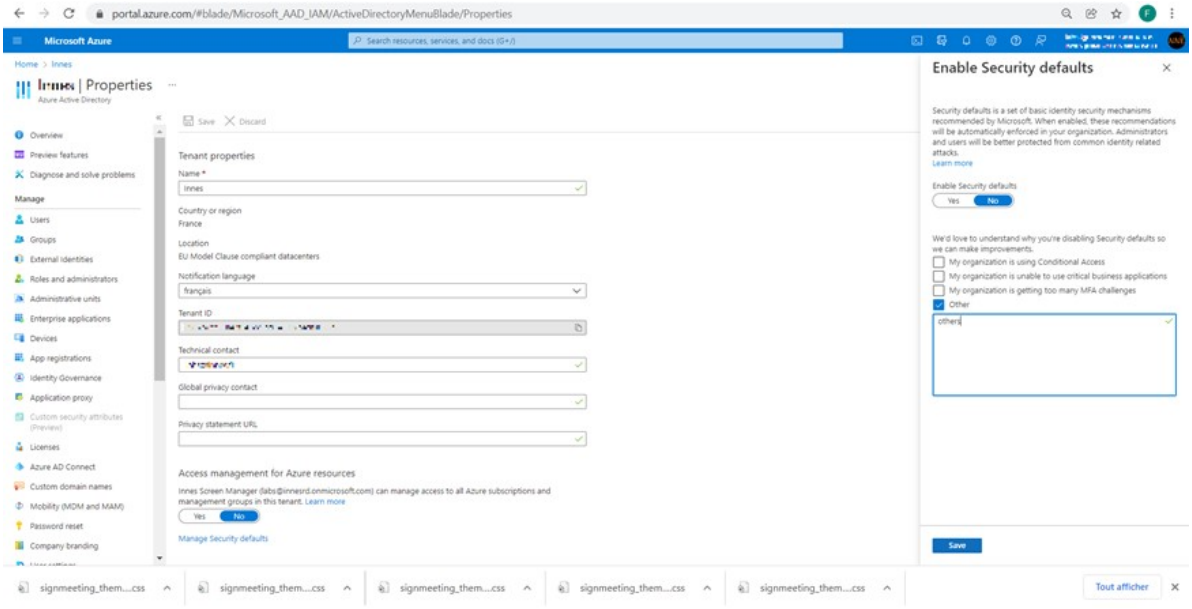
- scroll to the bottom to click on the *Properties* item.



- click on the button *Manage Security defaults*.



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

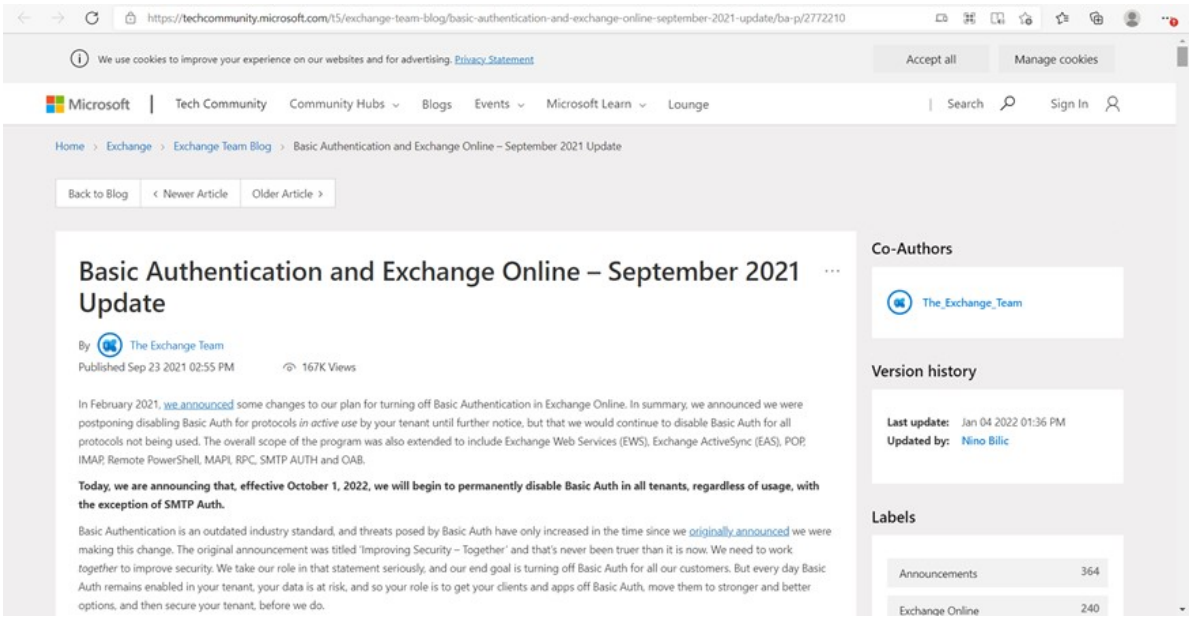


Wait for five minutes, the time for Microsoft to consider the modification.

To return to *security defaults* activated, toggle the button to the left, meaning to the *Yes* value (meaning `basic` authentication inactivated).

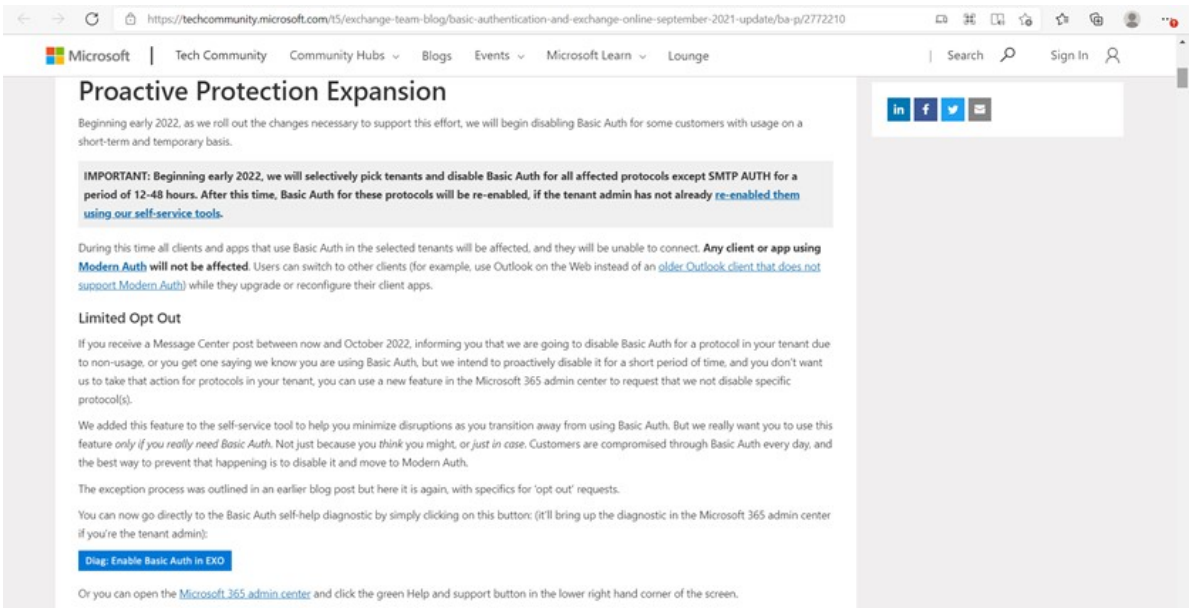
Activate the basic authentication for your Office 365 server with the Run Tests tool

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

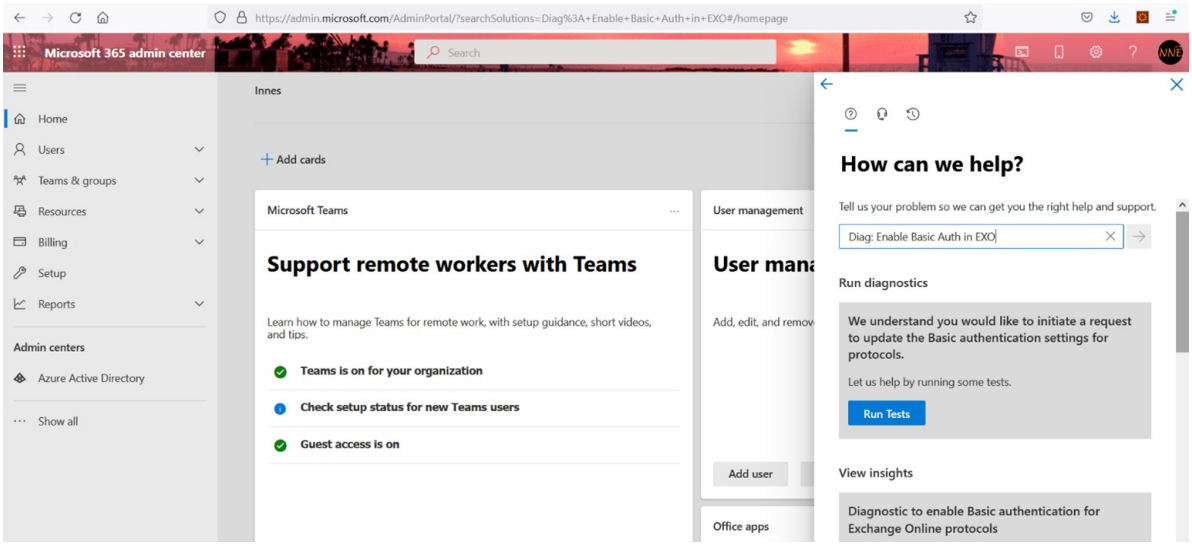


Procedure:

- on your Web browser, connect to your Office 365 portal with your account credentials (administrator profile).
- 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`

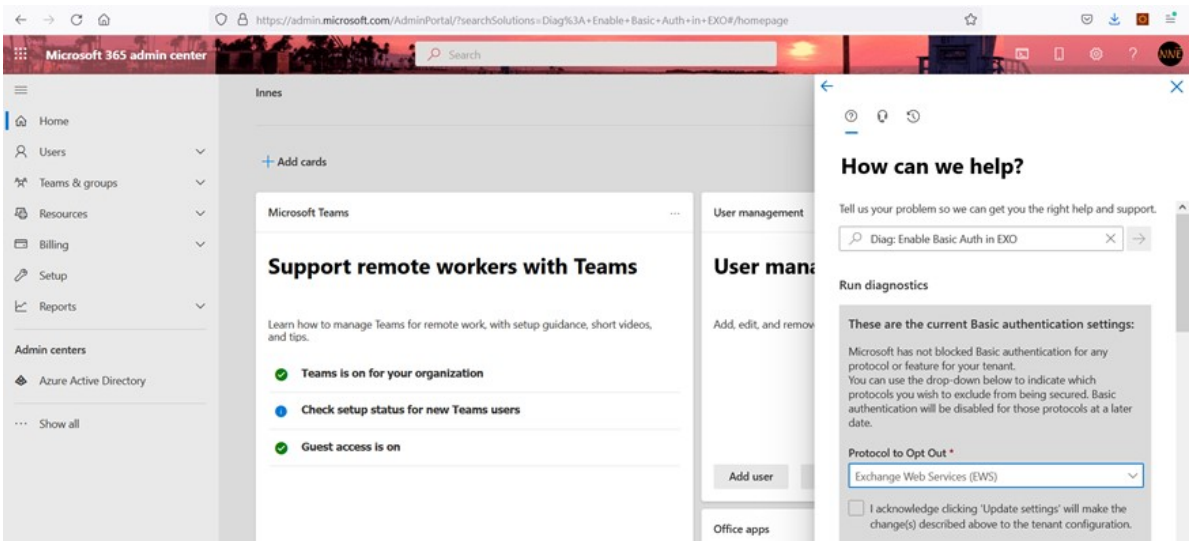


Click on the *Run Tests* button

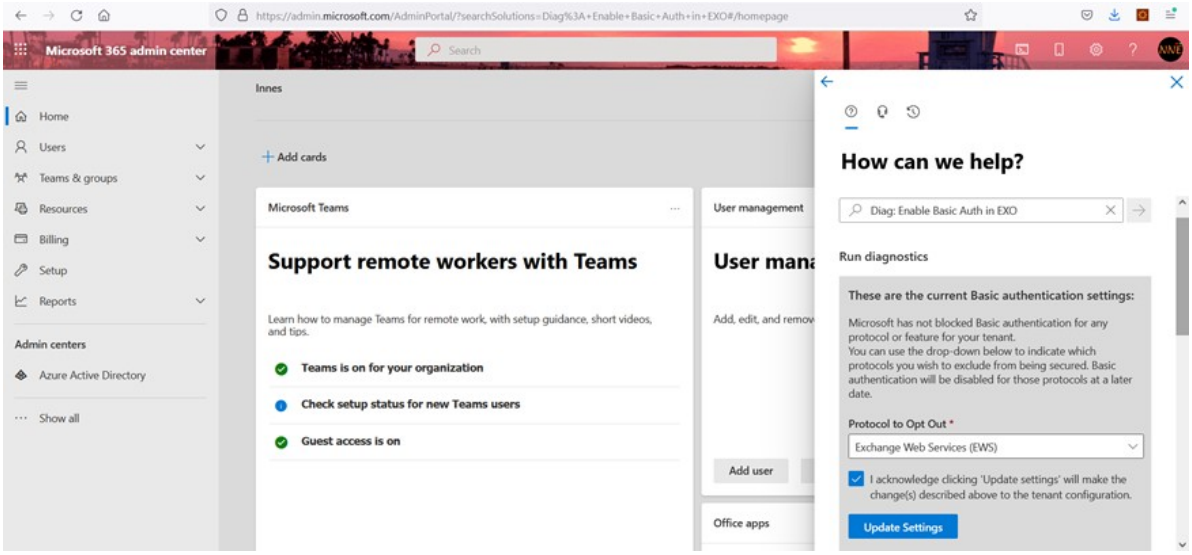


Wait for few seconds. Once the research is completed, open the drop down list to see the protocols or features you want to support with the `Basic` Authentication.

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



Check the option *I acknowledge clicking on* `Update settings` *will make the change(s) described above to the tenant configuration* checkbox then click on the *Update settings* button. 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 calendar` server.