

Qeedji

User manual

DMB400

5.11.12 001A



Legal notice

DMB400 5.11.12 (001A_en)

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Product information

Product design and specifications are subject to change at any time and 'Qeedji' reserves the right to modify them without notice. This includes the hardware, the embedded software and this manual, which should be considered as a general guide to the product. The accessories supplied with the product may differ slightly from those described in this manual, depending on the developments of the various suppliers.

Precautions for use

Please read and heed the following warnings before turning on the power: - installation and maintenance must be carried out by professionals. - do not use the device near water. - do not place anything on top of the device, including liquids (beverages) or flammable materials (fabrics, paper). - do not expose the device to direct sunlight, near a heat source, or in a place susceptible to dust, vibration or shock.

Warranty clauses

The 'Qeedji' device is guaranteed against material and manufacturing defects for a certain duration. Check the device warranty duration value at the end of the document. These warranty conditions do not apply if the failure is the result of improper use of the device, inappropriate maintenance, unauthorized modification, operation in an unspecified environment (see operating precautions at the beginning of the manual) or if the device has been damaged by shock or fall, incorrect operation, improper connection, lightning, insufficient protection against heat, humidity or frost.

WEEE Directive



This symbol means that your appliance at the end of its service life must not be disposed of with household waste, but must be taken to a collection point for waste electrical and electronic equipment or returned to your dealer. Your action will protect the environment. In this context, a collection and recycling system has been set up by the European Union.

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Part I

Description and installation

1.1 Introduction

This manual explains how to install and configure your DMB400 device.

Recommendations and warnings

This device is designed to be used indoor.

This device is intended to work with the power supply unit. This power supply unit must be connected to a mains socket conforming to standard NF C 15-100. If the AC power cable is damaged, it must be replaced. It is possible to order a power supply unit replacement by sending a request to the email address sales@eedji.tech.

This device is a Class A device. In a residential environment, this device may cause radio interference. In this case, the user is asked to take appropriate measures.

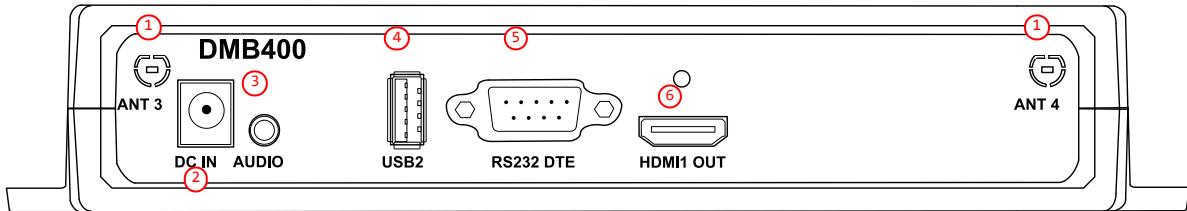
Content of the package

| Items | Description | Quantity |
|-------------------|--|----------|
| Device | DMB400 device with Gekkota embedded. | 1 |
| Power supply unit | 12 V power supply unit with cable of 1.2 m. | 1 |
| Labels | One on the cardboard packaging and another one at the back of the product. <i>Additional label can be present in case build-in options.</i> | 2 |
| WLAN antennas | To be screwed on the dedicated WLAN locations. <i>Provided with the device when it is supporting the WLAN option.</i> | 2 |

 In this documentation, the unit of measurement for dimensions is done in millimeters followed by its equivalent value in inches.

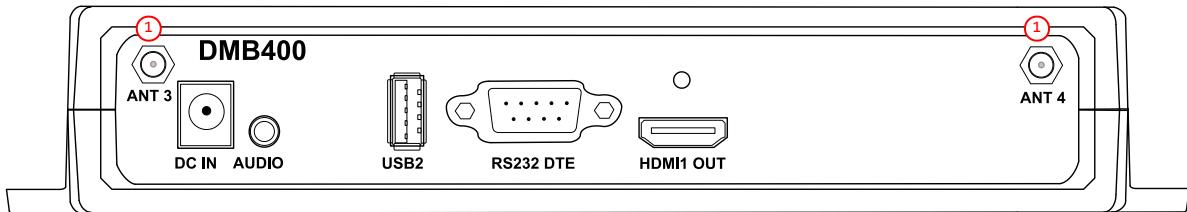
1.2 Getting started

Device front face



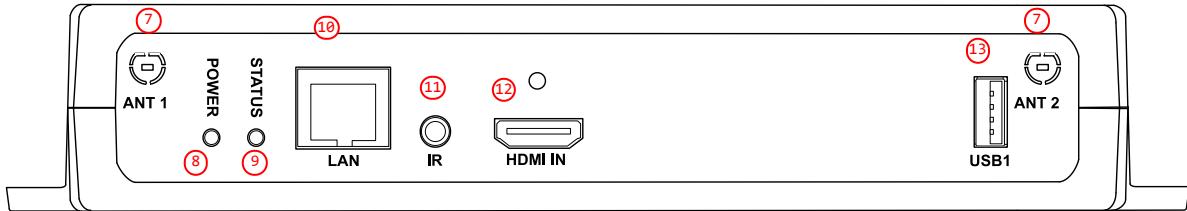
- ① Antennas locations,
- ② Power supply connector,
- ③ Audio connector,
- ④ USB2 3.0 connector,
- ⑤ RS232 DTE connector,
- ⑥ HDMI output connector.

Device front face with the WLAN option



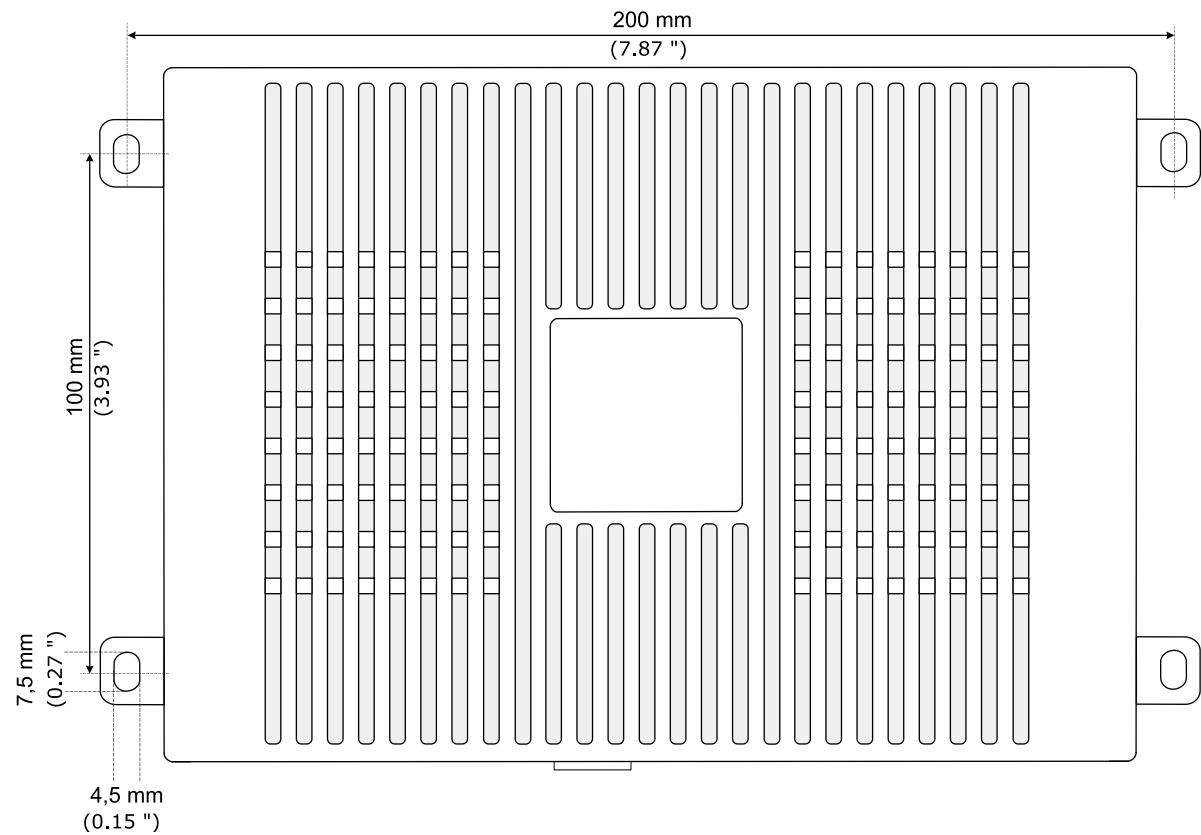
- ① Location of the 2 WLAN antennas to screw.

Device rear face

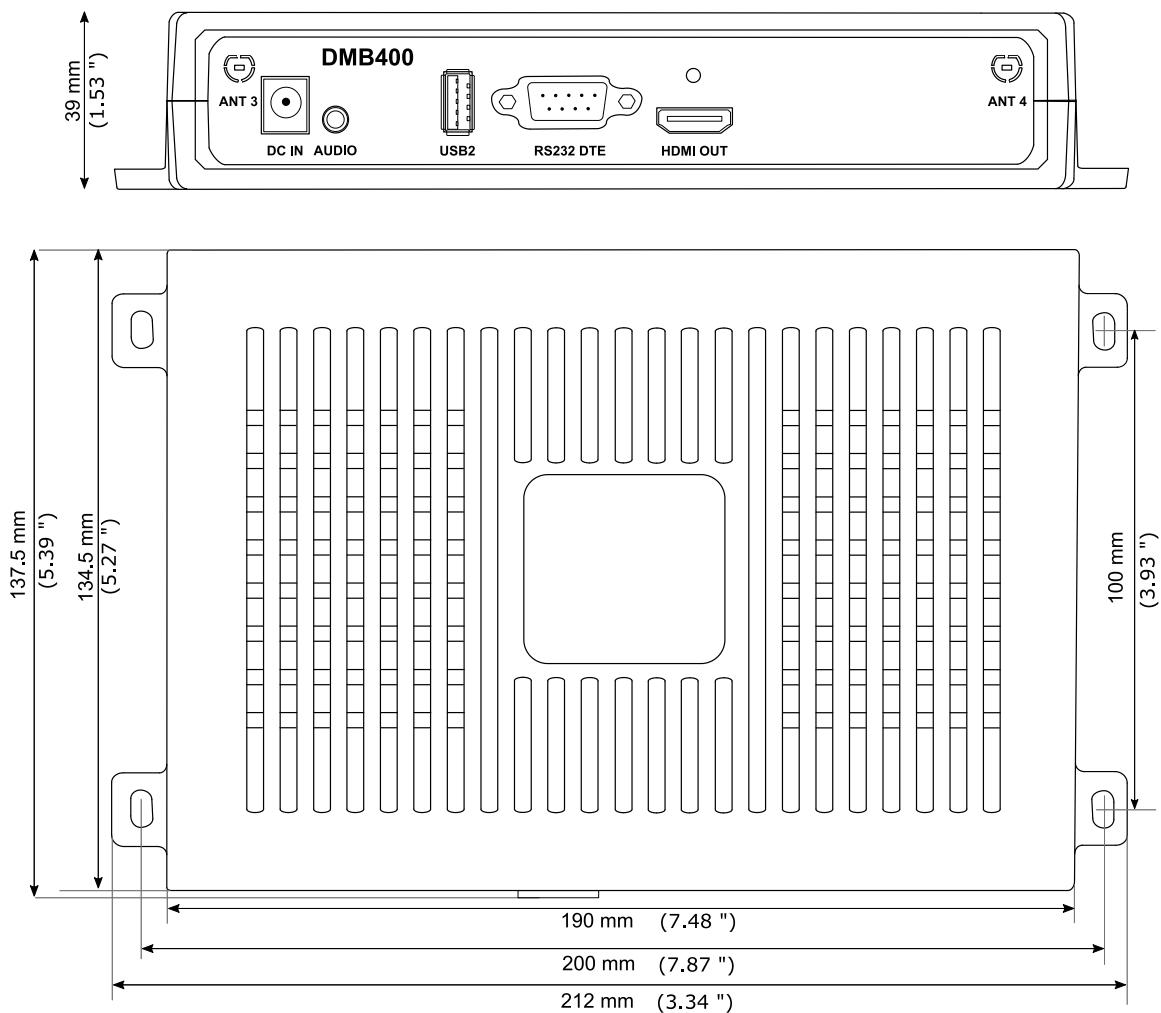


- ⑦ Antenna location,
- ⑧ Power supply red LED,
- ⑨ Status green LED,
- ⑩ LAN RJ45 connector,
- ⑪ GPIO/Infrared connector,
- ⑫ HDMI input connector,
- ⑬ USB1 2.0 connector.

1.2.1 Device fixture



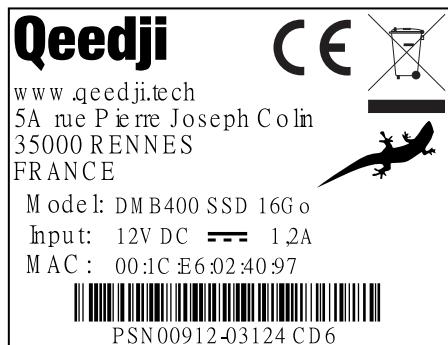
1.2.2 Device dimensions



1.2.3 Labelling

Product label

The model of the device, the power supply characteristics, the serial number (PSN) and the MAC address are written on a label stuck on the case.



Packingbox label

This is the label stuck also on the packingbox. It is showing information on:

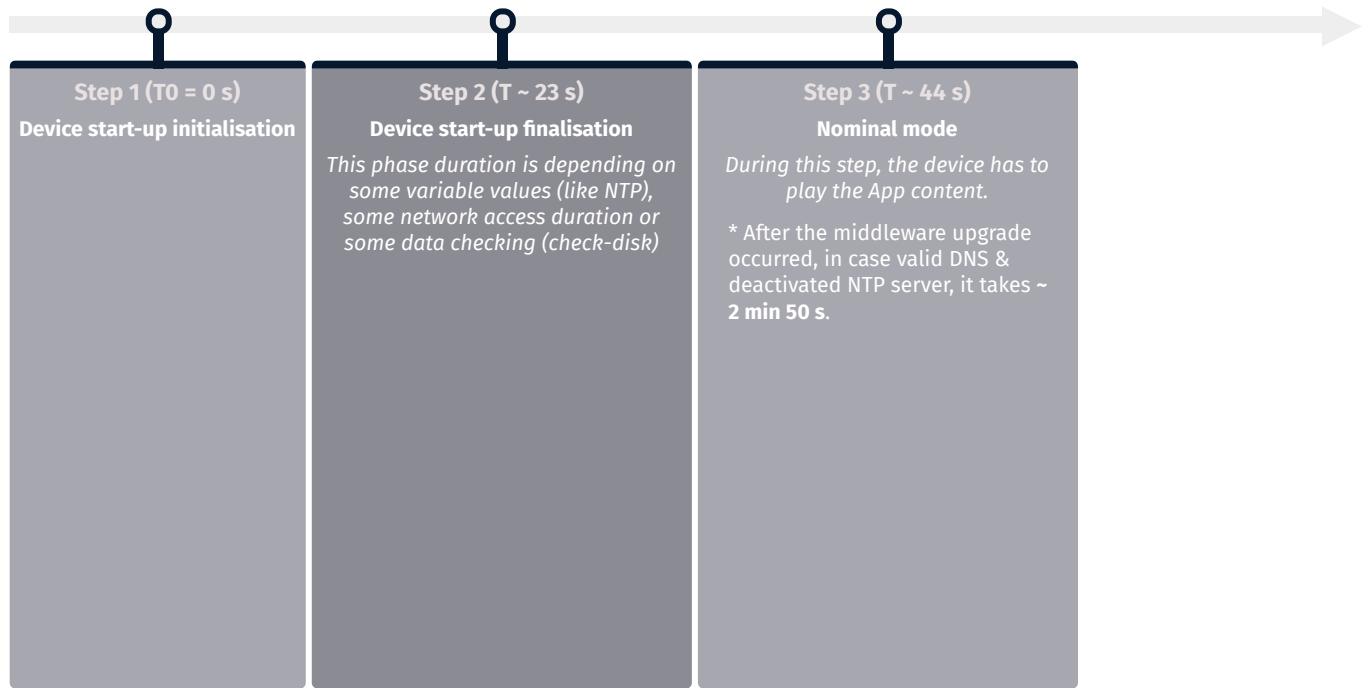
- the device model,
- the serial number (PSN).



Some additional labels may be present in case of built-in options.

 *The serial number of the device could be requested in case of technical support.*

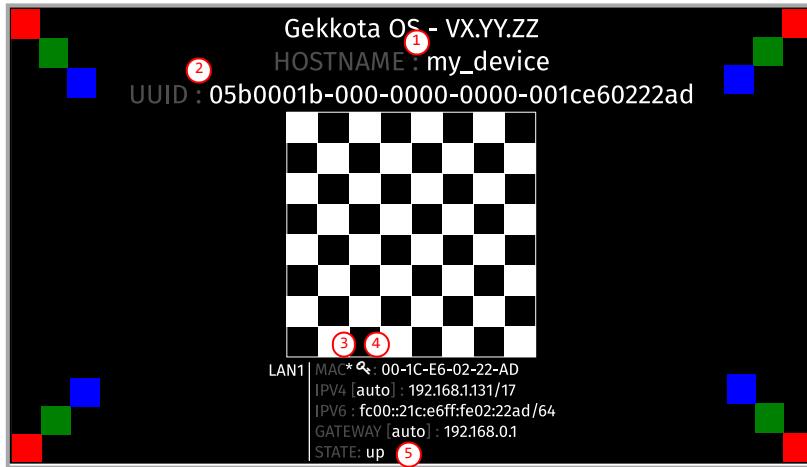
1.2.4 Device start-up steps



1.2.5 Test card

When the `Test card` App launching at device start-up is activated, the device displays alternatively one test pattern content per network interface supported by the device every ten seconds and this for one minute. The test pattern displays important information to assist in the device configuration.

This is an example of test pattern content that is displayed when the `test card` is activated.



- The `*` star pictogram is showing the chosen identification method in the device. It can be `HOSTNAME` ①, `UUID` ② or `MAC` ③. In the example, the star is showing the `MAC` identification method (default value).
- The `key` pictogram ④ is showing the MAC address value associated to the Gekkota license key.
- The `up` STATE ⑤ is meaning that the network interface currently showed is alive. If the STATE is `down`, the network interface is not alive.
- When the test card is activated, the content of the App is not displayed. To play the App again, you must deactivate the `Test card`.

The `Test Card` can be deactivated by using the device configuration Web user interface.

If the CEC is activated on your display device, and the CEC pass-through feature is fully supported by your display device, the test card content can be displayed or undisplayed thanks to the display device remote control with these key sequence:

- [left, right, left, right] key pressed in less than ten seconds.
 - Your display device must support a remote control and supports properly the CEC.
 - So that your remote control key presssing is taken into account, ensure that there is no OSD menu or OSD banner displayed over the content.
 - For SAMSUNG display devices, the CEC activation is often made by activating the `Anynet` feature.
 - For LG monitors, the CEC activation is often made by activating the `Simplink` feature.
 - In case the key sequence is not more taken into account, some display devices may require to unselect then select again the HDMI input on which the device is connected to force a `CEC_Set_Input_Source` before applying the key sequence. Some others may require to refresh the `Anynet` peripherals with the `TOOLS` key of the remote control.

If you have an USB keyboard connected to an USB hub, the same key sequence is supported:

- [left, right, left, right] key pressed in less than ten seconds.

This user preference needs to be set to `true` to support the test card displaying/undisplaying thanks to an USB keyboard:

- `innes.player.mire.key-event.*.authorized`.

These user preferences need to be set to `true` to support the test card displaying/undisplaying by CEC thanks to display device's remote control:

- `innes.player.mire.key-event.*.authorized`,
- `system.connector.*.*.cec.cec_1.enabled`.

1.3 LEDs behaviour

LED POWER behaviour (power on device)

| State | Information |
|-------|---|
| Red | OK: Power supplied |
| Off | Error: Power supply issue ¹ |

LED LAN behaviour (power on device)

| State | Information |
|----------|---|
| Off | There is no network traffic on the Ethernet connector. |
| Blinking | The blinking frequency is indicating the data rate on Ethernet connector. |

LED STATUS behaviour depending on device start-up steps

• Step 1: Device start-up initialisation

| State | Information |
|-------------------|---|
| Green: continuous | OK |
| Always Off | Error: Power supply issue ¹ |

• Step 2: Device start-up finalisation

| State | Information |
|---|---|
| Off | OK. This step duration can be from several seconds to several minutes. |
| Green blinking: 1 second duration flash and periodicity every 2 seconds | Error: Boot issue ¹ |

• Step 3: Nominal mode

| State | Information |
|---|--|
| Green blinking: 1 very short flash (300 ms) spaced 4 seconds apart | OK |
| Green blinking: 2 very short and consecutive flashes (300 ms) spaced 4 seconds apart | Warning: Fail Soft Mode Level 1 Frequent device reboot detected (for example 4 times in less than ½ hour) Message is displayed on the screen: «Fail Soft Mode: waiting for new content ». The instability has been caused probably by a content media not supported yet by the Gekkota OS. Consequently, to prevent any further reboot, the content has been invalidated. The message displayed on the screen indicates that a new publication is needed to go ahead. ² |
| Green blinking: 3 very short and consecutive flashes (300 ms) spaced 4 seconds apart | Warning: Fail Soft Mode Level 2 Frequent device reboot detected (for example 4 times in less than ½ hour) Content is purged Message is displayed on the screen «Fail Soft Mode: waiting for new content ». The instability has been caused probably by a content not supported yet by system or one user preference which has been modified. Consequently, to prevent any further reboot, the content has been invalidated and user preferences (saved before unexpected reboot) have been restored. The message displayed on the screen indicates that a new publication is needed to go ahead. ² |
| Green blinking: 4 very short and consecutive flashes (300 ms) spaced 4 seconds apart | Warning: Check disk The device has detected memory corruption on content storage. The media storage is being repaired. This repair step is called Check-Disk and its duration can be several minutes. During this step, a message “checking the file system of data partition in progress” is displayed on the screen. ³ |
| Green blinking: 5 very short and consecutive flashes (300 ms) spaced 4 seconds apart | Warning: errors on system partition The user has to connect to device Web user interface, go to <i>Maintenance > Tools</i> menu, and click on the <i>Format</i> or <i>Repair</i> button to solve the problem. ³ |
| Green blinking: 6 very short and consecutive flashes (300 ms) spaced 4 seconds apart | Warning: a middleware upgrade is pending During this phase, no content is played on the device, do not switch OFF the device. |
| Green blinking: 7 very short and consecutive flashes (300 ms) spaced 4 seconds apart | Error: write problem on the storage For an unknown reason, your storage space isn't usable any more. ³ |
| Off | Error. ¹ |

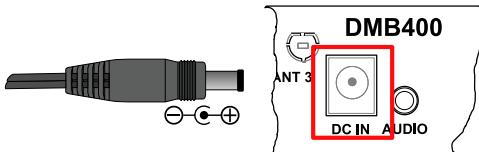
¹ If the problem persists in despite of an appropriate power-supply, contact support@qeedji.tech.

² If the problem persists, it is recommended to find out the media not supported yet by the system and remove it from content.

³ If the problem persists after a partition repairing, contact support@qeedji.tech.

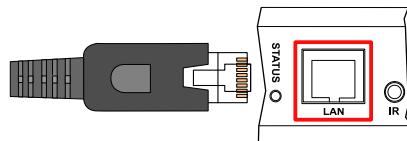
1.4 Connectors pin-out

Power supply connector (12 V DC - 1.2 A)



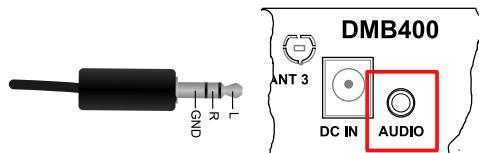
LAN connector

Ethernet RJ-45. 10/100/1000 BaseT. It is recommended to use shielded cables.



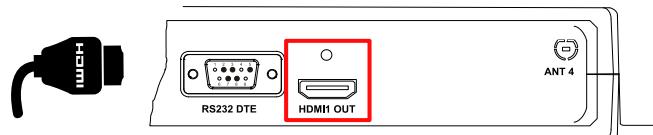
Audio Jack 3.5 mm connector (stereo L+R)

It is recommended to use cables whose length is less than 3 meters.



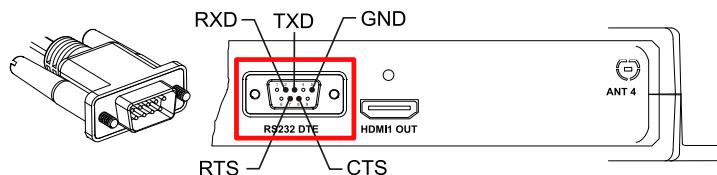
Video output connector (HDMI 2.0)

This connector is used to connect a screen or video projector.



RS232 DTE connector

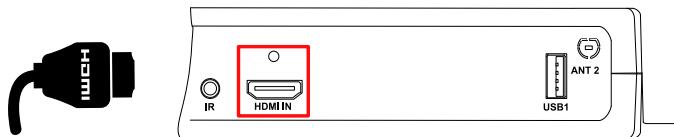
It is recommended to use cables whose length is less than 3 meters.



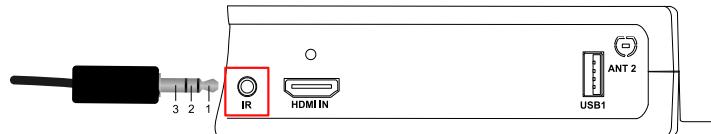
RS232 DTE connector pin-out:

| Nº | Function |
|----|----------|
| 1 | CD |
| 2 | RXD |
| 3 | TXD |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | - |

Video input connector (HDMI 1.4)



Jack 3.5 mm connector (GPIO1/IR)



| Nº | Name | Write/Read | Control |
|----|-------------------------|------------|-----------|
| 1 | Voltage reference 3.3 V | | |
| 2 | GPIO1 | IN or OUT | CPU/GPIO1 |
| 3 | Ground | | |

Electrical features

| | Vin min | Vin max | VOH min | VOL max | VIH min | VIL max |
|-------|---------|---------|---------|---------|---------|---------|
| GPIO1 | -0.5 V | 3.6 V | 2.9 V | 0.4 V | 2.0 V | 0.8 V |

The 3.3 V pin must not be used as power supply, but rather as a reference voltage.

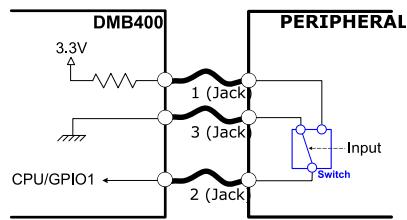
Along the device booting, the GPIO1 is configured as input during some seconds. And then after the system startup, the GPIO1 is operational.

The GPIO has a weak pull-up.

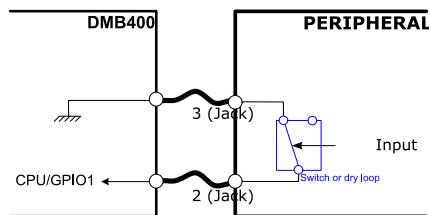
It is not recommended to hotplug/unplug the GPIO1 connector, which could damage the device.

Principle schematics for several use cases

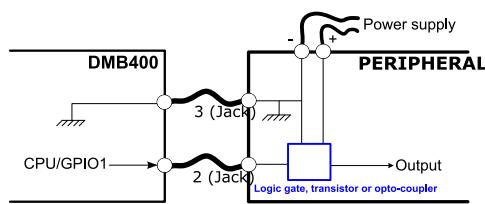
Three wires input configuration for GPIO1:



Two wires input configuration for GPIO1:



Output configuration for GPIO1:



Configuration

GPIO1 connector configuration can be done by editing the user preferences using the device configuration Web user interface or with a configuration script. The GPIO1 configuration part for this script is described here:

How to configure the Jack 3.5 mm connector:

```
//Set Jack 3.5 mm mode infrared
if (aDirection == "disable")
{
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io uart_1.enabled", true);
}
else //Set Jack 3.5 mm mode GPIO
{
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io uart_1.enabled", false);
}

// Set the Jack 3.5 mm direction: input or output
if (aDirection == "out")
{
    Services.prefs.setBoolPref("innes.app-profile gpio-input.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("innes.app-profile gpio-output.jack35-gpio_1.jack35_1.*.authorized", true);
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.jack35-gpio_1.enabled", true);
}
else if (aDirection == "in")
{
    Services.prefs.setBoolPref("innes.app-profile gpio-input.jack35-gpio_1.jack35_1.*.authorized", true);
    Services.prefs.setBoolPref("innes.app-profile gpio-output.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.jack35-gpio_1.enabled", true);
}
else if (aDirection == "disable")
{
    Services.prefs.setBoolPref("innes.app-profile gpio-input.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("innes.app-profile gpio-output.jack35-gpio_1.jack35_1.*.authorized", false);
    Services.prefs.setBoolPref("system.connector.jack35_1.1.io.jack35-gpio_1.enabled", false);
}
```

Part II

Applicative user interface

2.1 Applicative user interface

The DMB400 device supports a Web user interface that can be accessed with a Web browser. The supported Web browsers are: Google Chrome , Mozilla Firefox , MS-Edge (Chromium) .

It is available from the URL: http://<device_IP_addr>/ .

The default credentials values, put at factory, to access to the device Web user interface are:

- login: admin ,
- password: admin .

The URL falls automatically into the applicative user interface: http://<device_IP_addr>/.playout/ . This pane allows to watch the App content:



WebDAV directories

Clicking on the parent directory provides access to the root of the device's WebDAV server, which provides access to directories, among other things:

- [.playlog/](#) : location to store data for mediometry,
- [.resources/](#) : location to store the resources of the device Web user interface,
- [.software/](#) : location to store .frm middleware for updates,
- [.status/](#) : location to store the device status file `status.xml`,
- [.upnp/](#) : location to store `device.xml` device status for UPnP detection,
- [.assets/](#) : location to store some of the resources of the device Web user interface,
- [.playout/](#) : location to store the App when deployed on the device,
- [.log/](#) : location to store the application logs, when they are activated.

Part III

Administration console user interface

3.1 device configuration Web user interface

The DMB400 device supports a device configuration Web user interface that can be accessed with a Web browser. The supported Web browsers are: Google Chrome , Mozilla Firefox and MS-Edge (Chromium) .

It is available from the URL: http://<device_IP_addr>/ .

The default credentials values, put at factory, to access to the device Web user interface are:

- login: admin ,
- password: admin .

The URL falls automatically into the applicative user interface¹. At the top right corner, click on the Administration Console button.



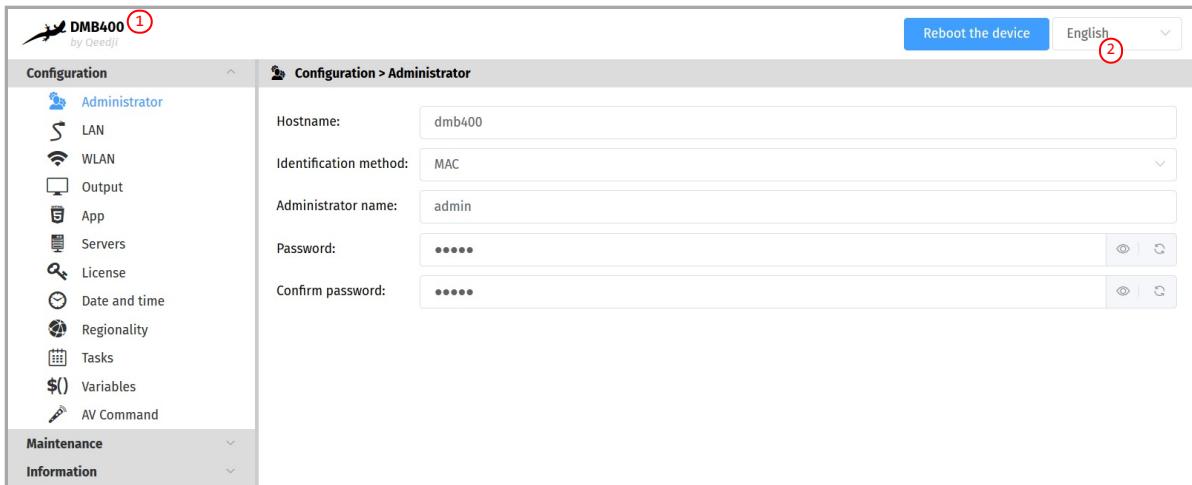
¹ For further information, refer to the chapter § [Applicative user interface](#).

With the button at the top right corner ①, choose the language in which your device Web user interface needs to be displayed. The supported languages are:

- English,
- Spanish,
- German,
- French.

It is desirable that your device DMB400 device is on time. When possible, do synchronize it with an NTP server.

This is the device configuration Web user interface.



After you have changed and saved all your settings in the different panes, be sure to perform a device restart by clicking on the Reboot the device ② button so that your changes are fully reflected.

Click on the device logo ① at the left top corner to return to the applicative user interface.

If the device does not respond to its IP address, either the device power supply is unplugged, or the Ethernet cable is not connected, or the network configuration is not properly adjusted. To solve the problem, if your computer and local network supports IPV6, connect an Ethernet cable on the device and connect to the device Web user interface with its IPV6 address, which can be found on the test pattern displayed on the screen.

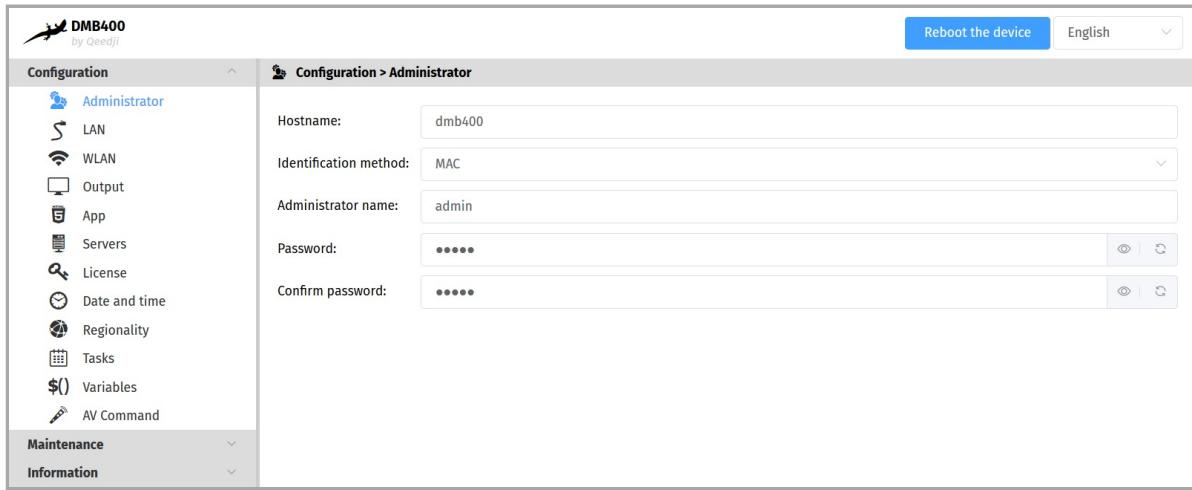
For example, for the MAC address value: ``00-1c-e6-02-1e-45``,
In a Web browser, enter the URL: [http://\[fc00::21c:e6ff:fe02:1e45\]/.admin/](http://[fc00::21c:e6ff:fe02:1e45]/.admin/)

To obtain the application note reminding some notions about IPV6 configuration, refer to the appropriate application note on the [Qeedji Website](#).

3.1.1 Configuration > Administrator

In the Configuration tab, select the **Administrator** menu to change:

- the Hostname ,
- the login credentials:
 - Administrator name ,
 - Password ,
- the device identification method:
 - MAC (default),
 - Hostname ,
 - UUID .



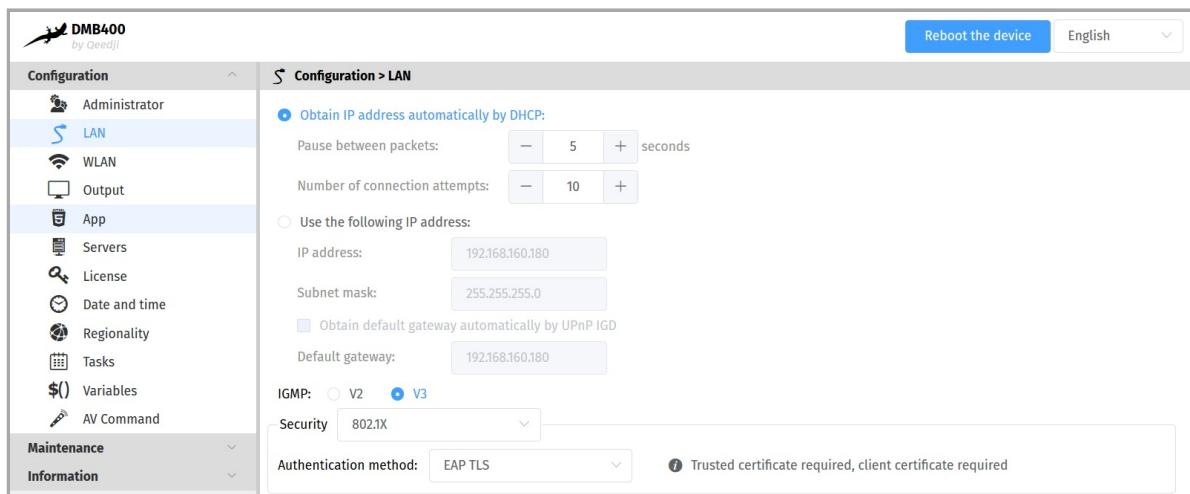
☞ It is recommended that you enter one unique *Hostname* value for each device. In case several DMB400 devices are located in different buildings or geographical locations, we recommend that you enter hostname values with information about the building and the location (e.g. *HALL-RD-Paris-1*).

For security reasons, it may be useful to change the login credentials values. Please keep them in a safe place afterwards.

☞ The same login credentials are used to access to the WebDAV server and to use Web services.

3.1.2 Configuration > LAN

In the Configuration tab, select the **LAN** menu to set up the network configuration of the **LAN** interface of your device.



The connection to the device configuration Web user interface with the device IPV6 address, computed from the device MAC address value, is supported. For example, if the LAN MAC address of the device is *00-1c-e6-02-27-bf*, type the URL [http://\[fe80::21c:e6ff:fe02:22ad\]/](http://[fe80::21c:e6ff:fe02:22ad]/) or type [http://\[fc00::21c:e6ff:fe02:22ad\]/](http://[fc00::21c:e6ff:fe02:22ad]/) in a Web browser. The routable prefix is depending on your network configuration.

If your device is not located in a secure network, select:

- security: *None*.

If your device is located and properly declared in a secure network, select *802.1x*, then select an *802.1x* authentication method supported by your RADIUS server:

- security: *802.1x*.

■ In the context of a secure network, your device must be first declared in your dedicated RADIUS server with a user *Login / password*. Given that the login credentials used by Qeedji devices for all the 802.1X authentication methods are the LAN MAC address value of the DMB400 device, any new Qeedji device entry must be registered in your RADIUS server with these specific values with the format *abcdefabcdef / abcdefabcdef* for a MAC address *ab-cd-ef-ab-cd-ef*. Some identification methods may require you add a *trusted certificate*, used by your RADIUS server and/or a *client certificate*, generated with the MAC address of your device, the radius users credentials and the trusted certificate of the RADIUS server; For further information, please contact your IT department.

■ When using a 802.1X certificate with an expiration date, in case your device is not on time or when the expiration date has expired, the device is not able to access to the network anymore. To work around, you have to insert one USB stick containing a specific configuration script to set either a new certificate or update the device date and time.

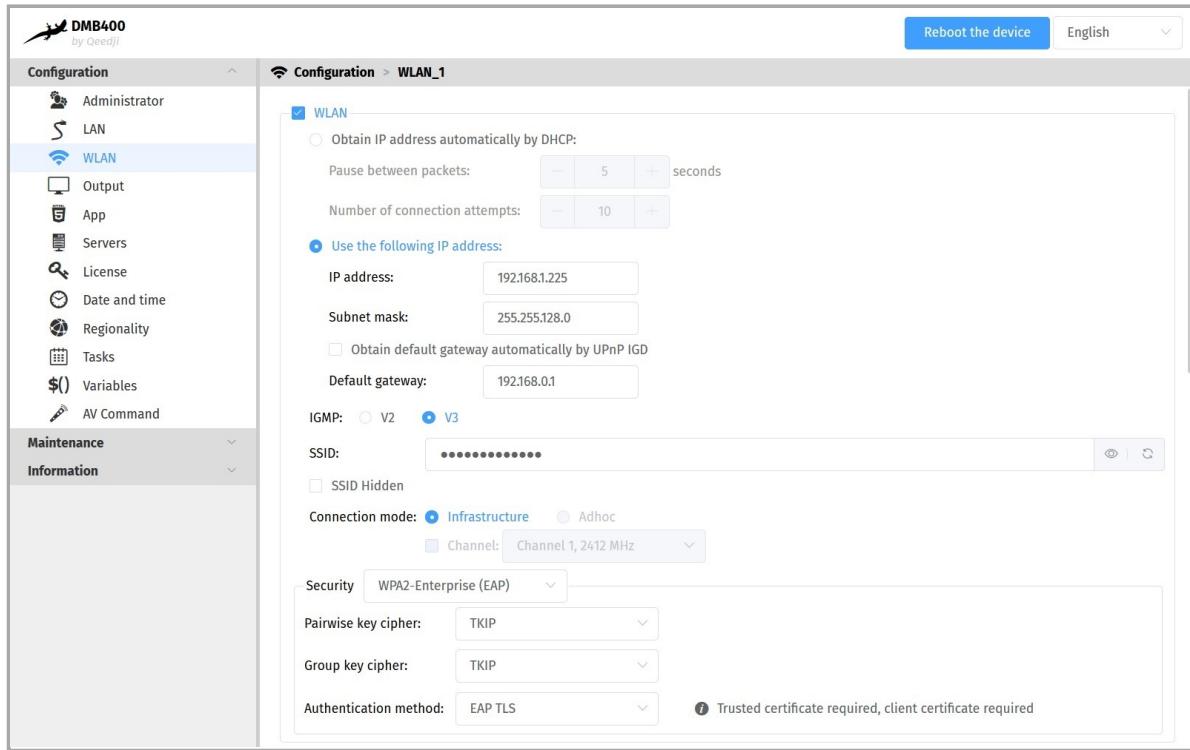
■ The device supports the UPnP and can be for example detected automatically in the local network environment of your computer.

■ By default, the device is configured with DHCP activated. In case the DHCP server is not available, after the DHCP timeout, the device ends up using the static IP address whose default value is 192.168.0.2 when it has never been changed yet by the user. It is recommended to set an appropriate IP address, netmask and gateway if this case would happen.

3.1.3 Configuration > WLAN

In the Configuration tab, select the **WLAN** menu to set up the network configuration of the **WLAN** interface on your device.

☞ The **WLAN** menu is only displayed when the **WLAN** option is supported by your device.



- Connection mode :
 - Infrastructure : Allows to establish a WIFI connection between your device and a WIFI router:
 - Security :
 - None,
 - WEP,
 - WPA-Personal (PSK),
 - WPA2-Personal (PSK),
 - WPA-Enterprise (EAP),
 - WPA2-Enterprise (EAP).
 - Adhoc : Allows to establish a direct WIFI connection between your device and e.g. your computer, without using a router.
 - Security :
 - None,
 - WEP.

The **SSID Hidden** option tells to the device whether or not the SSID value is broadcasted over the network by your WIFI router. It also allows to deduce the subset of pair key encryption and group key encryption modes supported.

The maximum lengths for WLAN crypto keys are:

- for **WEP** key:
 - 26 hexadecimal characters max.
- for **WPA-Personal (PSK)** and **WPA2-Personal (PSK)** keys:
 - 63 ASCII characters max.

☞ TKIP pair (or group) key encryption is not supported if the router is in IEEE 802.11n mode.

☞ Some computer OS version may not support **Adhoc** connection. For further information, contact your IT department.

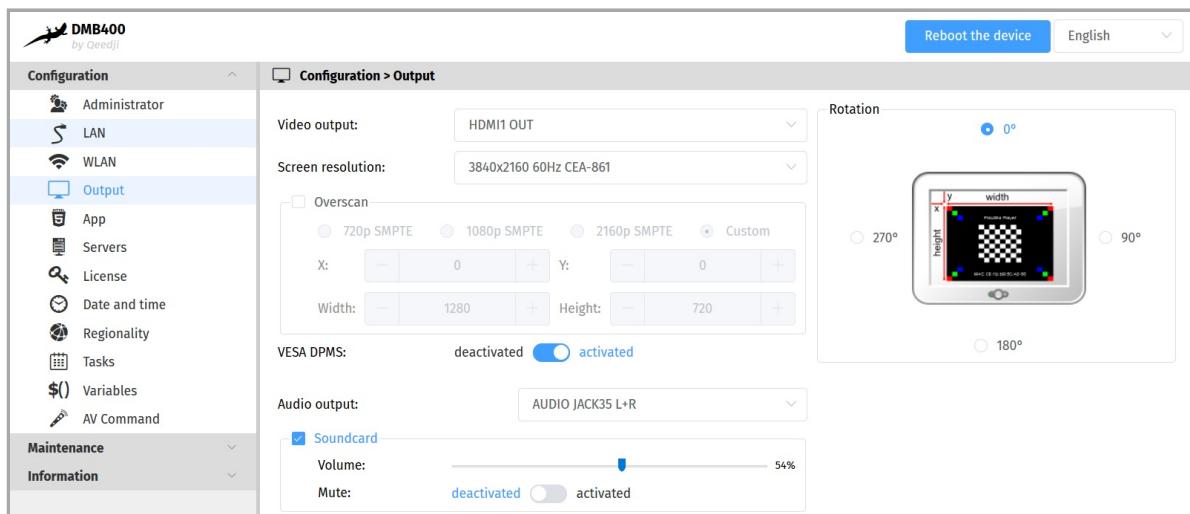
☞ Selecting the **WPA-Enterprise (EAP)** or **WPA2-Enterprise (EAP)** security implies that your device is located in a secure network, and therefore connects to a properly configured WIFI router with a dedicated RADIUS server.

☞ In the context of a secure network, your device must be first declared in your dedicated RADIUS server with a user **Login / password**. Given that the login credentials used by Qeedji devices for all the 802.1X authentication methods are the LAN MAC address value of the DMB400 device, any new Qeedji device entry must be registered in your RADIUS server with these specific values with the format **abcdefabcdef / abcdefabcdef** for a MAC address **ab-cd-ef-ab-cd-ef**. Some **identification methods** may require you add a **trusted certificate**, used by your RADIUS server and/or a **client certificate**, generated with the MAC address of your device, the radius users credentials and the trusted certificate of the RADIUS server; For further information, please contact your IT department.

The **WLAN** interface activation is not checked by default.

3.1.4 Configuration > Output

In the Configuration tab, select the **Output** menu to configure, among other things, the unit's video and audio output.



- **Screen resolution :**
 - Resolution : 96x96 to 3840x2160.
 - Mode : SMPTE, VESA, CEA-861, SONY, SAMSUNG, CGV CPLINE AV-HD, PC, DENSITRON, XGA, LESTEL, LINSN, ...
 - Frequency : 25 Hz, 30 Hz, 45 Hz, 60 Hz, 50 Hz.
 - **Overscan :**
 - 720p SMPTE,
 - 1080p SMPTE,
 - 2160p SMPTE,
 - Personalized:
 - X : horizontal origin of the viewport in pixel,
 - Y : vertical origin of the viewport in pixel,
 - Width : width of the viewport in pixel,
 - Height : height of the viewport in pixel.
 - Rotation : 0°, 90°, 180°, 270°.
 - VESA DPMS : **on** (horizontal/vertical sync standby on) or **off** (horizontal/vertical sync standby off) ¹.
 - Audio output : AUDIO JACK35 L+R.
 - option Sound card : allows to activate or deactivate the sound card:
 - Volume : 0.100%,
 - option Mute : **on** (mute) or **off** (mute on).
- ☞** The rotation is not supported for resolutions higher than 1920x1080.
- ☞** Some screens may not support certain display modes. In this case, try another mode with the same resolution.
- ☞** When supported by your screen and your device, if possible use a 60 Hz mode which is the smoothest mode for scrolling text.
- ¹ VESA DPMS sleep and standby output is performed either by a screen sleep task programmed into an App, or by a power management task with the `strongly optimized` mode.
- ☞** Some screen, due to their construction, have been designed with an overscan, which means that the edges of your content send by the media player may not be visible on your screen even when choosing the right optimal resolution for your screen. To alleviate this problem, use the overscan on your *Qeedji* device to slightly reduce the width and height of your viewport. While doing so, it is recommended to display the test pattern of the device.
- ⚠** When using the overscan, for a right configuration of your device, please make sure that your screen is not in `Wall`, `Mozaic` or `Tile` mode.

3.1.5 Configuration > App

In the Configuration tab, select the **App** menu to select how the App must be loaded.

Select the **Third party** radio button to play an App:

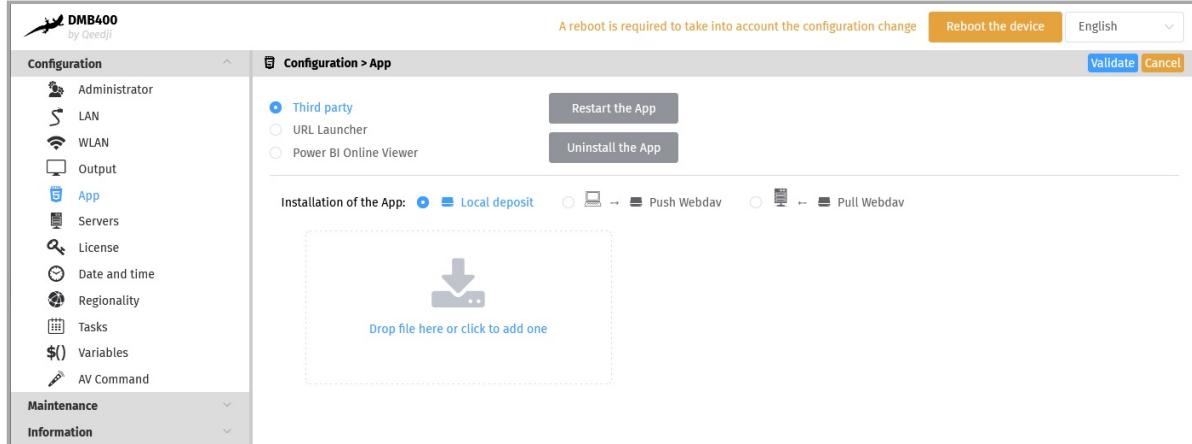
- with the local deposit mode,
- with the Push WebDAV mode,
- with the Pull WebDAV mode.

For each of these modes, you can use the **Uninstall the App** or **Restart the App** buttons at any time to remove the App from the device or restart it respectively.

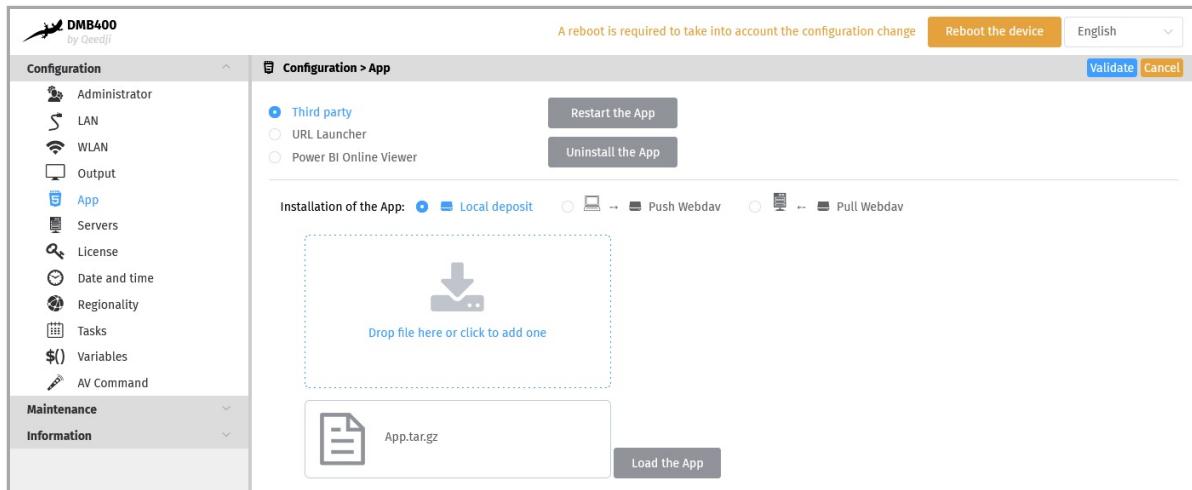
☞ The Restart App OR Uninstall the App cannot work when the Test card is activated.

☞ In order to restart an App, the App must be first loaded on the device.

- **Local deposit :** Allows to load an App from the device Web user interface. The App can start for the first time only after a device reboot.



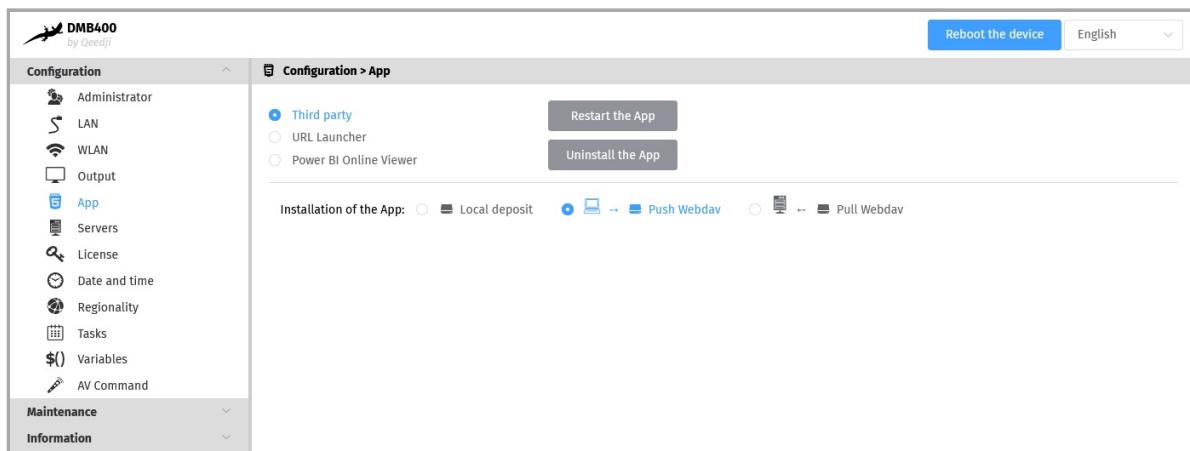
Use the **Drop file here or click to add one** box to drop your App .



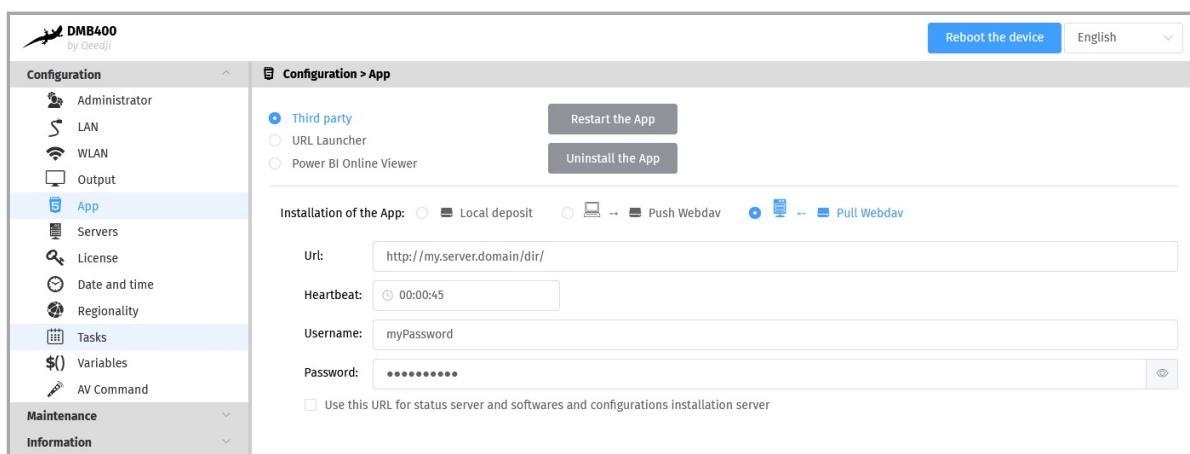
Then click on the **Load the App** button. When the file disappears from the interface, the App is loaded. Restart the device once to start the App.

☞ The development of App is reserved for advanced users with software development skills. The content of the App must contain at least these 2 files `manifest.xml` and `player.html`. Then archive your App in one of the supported formats: `*tar.gz`, `*.zip`, `*.tar`, `*.tgz`. App examples are available at [github SDK-G5 API \(PDF example\)](#). For further information, contact support@qeedji.tech.

- Push WebDAV : Configure the device to receive an App coming from any WebDAV client or from any compatible software suite. Once the App is loaded, it starts immediately.



- To find out which software suites are capable of publishing an App on Qeedji devices, contact support@qeedji.tech.
- Pull WebDAV : allows to configure the device so that it can regularly load or update an App from a remote WebDAV server. Once the App is loaded, it starts immediately.



Fill in the fields below properly:

- URL : URL of the remote server's WebDAV frontal. For example: URL : http://domain:8080/.directory/
- Username/Password : login credential to access to the remote server's WebDAV frontal.
- Heartbeat : in HH:MM:SS format, time period to connect to the remote server (default: 1 minute).
- option: Use this URL for the status server and the software and configuration installation server :
 - if enabled, this option allows, based on the defined URL, to automatically set the URLs of the remote servers for:
 - middleware upgrade and configuration scripts distribution:
 - URL + .setup/ suffix,
 - the diffusion of the device status:
 - URL + .devices-status/ suffix.
 - if disabled, this allows to set specific remote server URLs.

To find out which software suites are able to publish on a remote server, an App supporting Qeedji devices, contact support@qeedji.tech.

The user preference `innes.app-profile.addon-manager.*.*.*.http-downloader.validity-calendar` allows to store the content of an ICAL file defining the validity range for triggering middleware upgrade and configuration scripts.

The user preference `innes.app-profile.manifest-downloader:g3.*.*.*.validity-calendar` allows to store the content of an ICAL file defining the validity range for device content updates.

The user preference `innes.launcher.status.validity-calendar` allows to store the content of an ICAL file defining the validity range for the diffusion of the device status (status.xml).

To find out which software suites are able to publish on a remote server, an App supporting Qeedji devices, contact support@qeedji.tech.

Select the **URL Launcher** radio button then select a **Simple Web server** connection account to launch a Web page hosted on a Web server directory.

In this case, the Web page URL must match this syntax:

- e.g. `http://<myServer_ip_address>:<myServer_port>/<path>` (the directory must contain `index.html`),
- e.g. `http://<myServer_ip_address>:<myServer_port>/<myWebPage>.html`,
- e.g. `https://<myServer_ip_address>:<myServer_port>/<myWebPage>.html`,

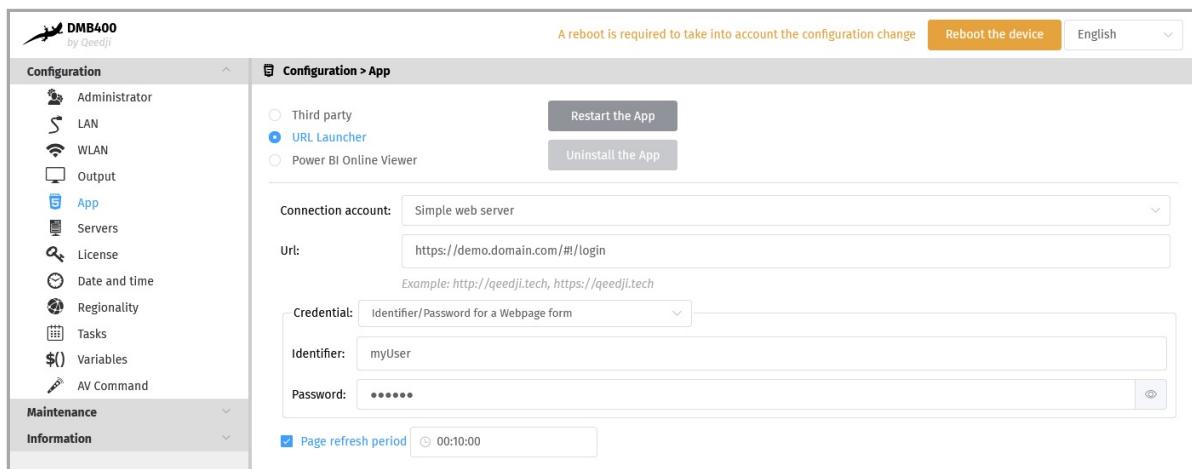
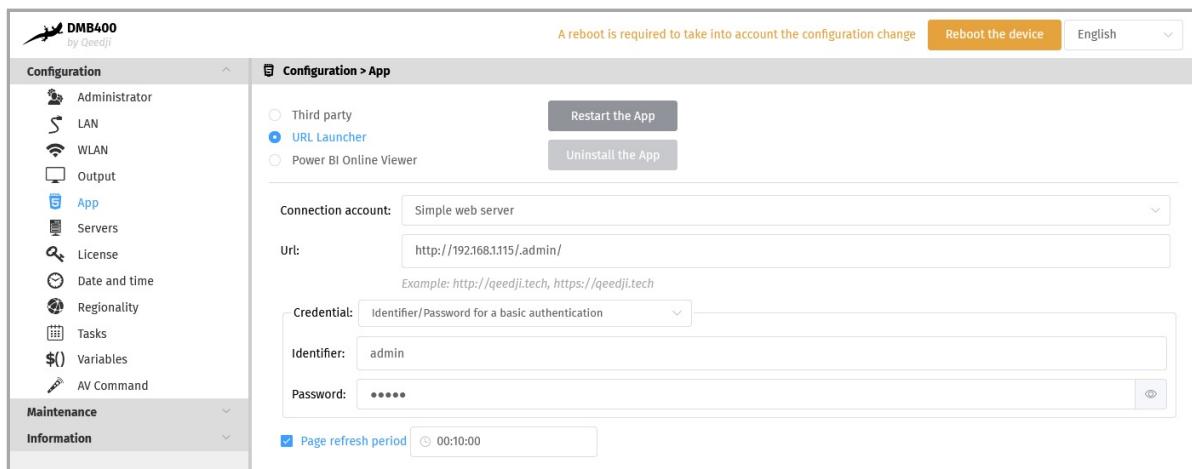
Depending on the Web server URL, choose the appropriate credential type values:

- **None**: the Web page hosted on the Web server does not require a specific authentication,
- **Identifier/password for a basic authentication**: the Web page hosted on the Web server requires a *Basic HTTP authentication*,
- **Domain/Identifier/password for a basic authentication**: the Web page hosted on the Web server requires a *Basic HTTP authentication* and a domain,
- **Identifier/password for a Webpage form**: the Web page hosted on the Web server requires a login page with two credential input: identifier and password,

☞ In case the *Identifier/password for a Webpage form* value is selected while the *Identifier/password for a basic authentication* is expected, an empty content could be displayed on the screen without error message.

☞ In case the *Identifier/password for a basic authentication* value is selected while the *Identifier/password for a Webpage form* is expected, the username and password input in the Web page may be not filled.

The **Page refresh period** input allows to set the duration between two Web pages refresh (default: 00:10:00).



☞ This information message *Error - Unable to Launch URL (error HTTP 0)* could be displayed on the display device when trying to access to a Web server with the https scheme when the appropriate server certificate is not loaded in the device.

☞ In case this information message *Error - Unsupported content type* is displayed on the display device, the URL is probably not consistent (e.g. the `index.html` is missing behind the URL path).

☞ It is advised to play Web pages suitable for the device resolution so that the entire Web page content can be watched on the display device without scrolling the Web page.

☞ SSO authentication is not supported in this version.

☞ In a next version, it will be possible to implement some user scenarios to fill the credential inputs in some specific login input placed in different places of the Web page.

Select the `URL Launcher` radio button then select a `CIFS` connection account to launch a Web page by hosted on a CIFS server directory.

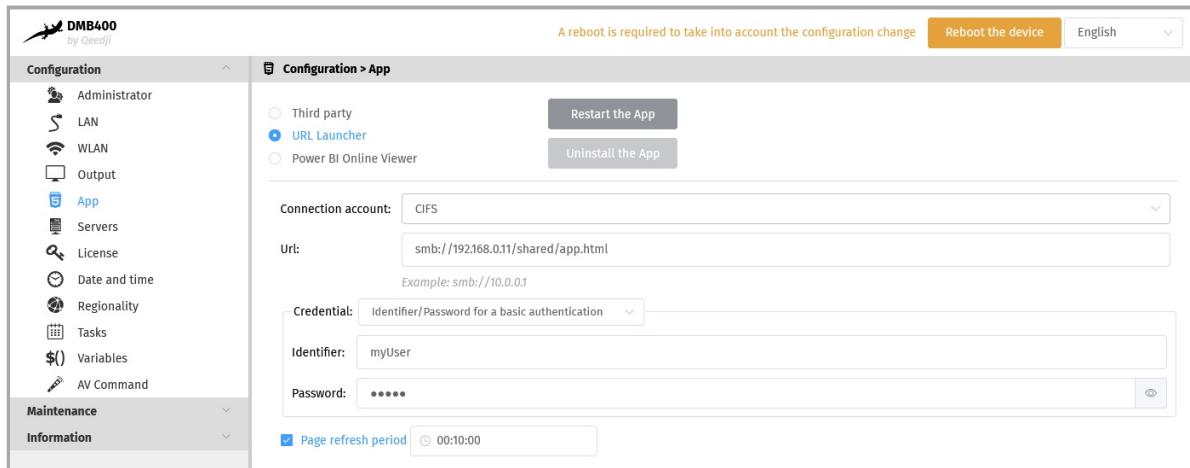
In this case, the Web page `URL` must match this syntax:

- e.g. `smb://<myServer_ip_address>/<myShareDirectory>`¹ (the directory must contain `index.html`),
- e.g. `smb://<myServer_ip_address>/<myShareDirectory>/<myWebPage>.html`¹,

¹ The `NetBIOS` name resolution is not supported in this firmware version. Consequently, immediately after the `smb://` scheme, the URL must contain the server IP address and not a domain name.

The `CIFS` connection account supports these `credential` type values:

- `None`: the viewing of the Web page hosted on a CIFS server directory requires no specific credential,
- `Identifier/password` for a basic authentication: the viewing of the Web page hosted on a CIFS server directory requires a *Basic HTTP authentication*,
- `Domain/Identifier/password` for a basic authentication: the viewing of the Web page hosted on a CIFS server directory requires a *Basic HTTP authentication* and a specific Windows `domain`.



☞ In case this information message `Error - Unable to Launch URL (error SMB 3)` is displayed on the display device, the Web page (.html) hosted in your CIFS server cannot be loaded. Please try with another Web page (.html). In case this information message `Error - Unable to Launch URL (error SMB 1)` is displayed on the display device, the Web page (.html) hosted in your CIFS server cannot be loaded because the credentials are not consistent.

Select the `URL Launcher` radio button then select a `Microsoft 365` connection account to launch a Web page hosted on your `Microsoft 365` shared folder.

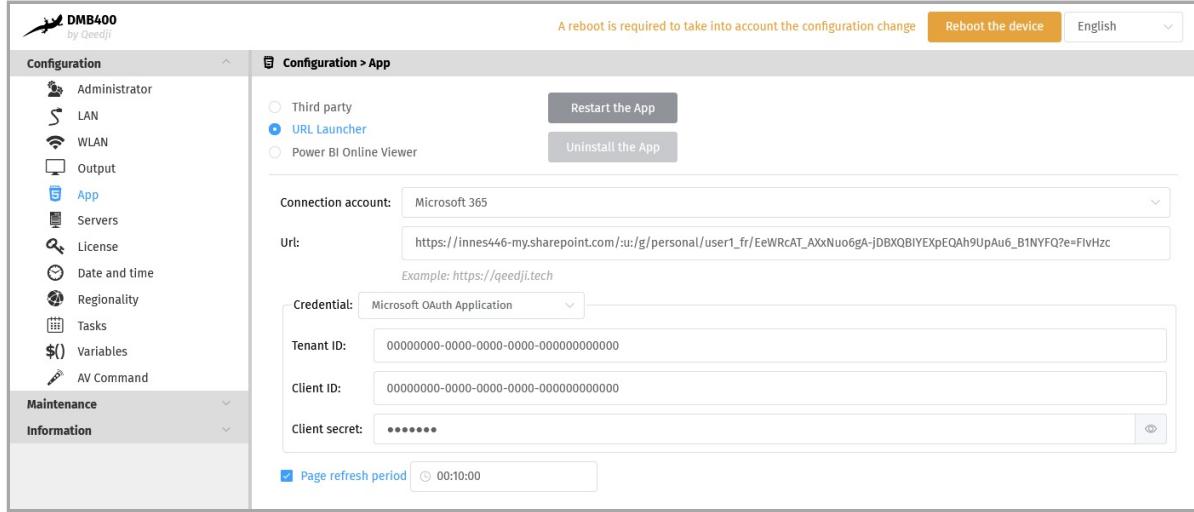
In this case, the `URL` is a link to the Web page hosted on your `Microsoft 365` folder (e.g. sharepoint URL `https://innes446-my.sharepoint.com/:u/g/personal/identifiercompanyfr/ERq0Us037TdHgVh3aUf72WwBhTMrAgNjV94YPfMfA7OW3w?e=HbPwvD`)

Select the `Microsoft OAuth application` `credential` type value then fill the following parameters with those of your Azure AD application allowing to access to your `Microsoft 365` shared folders:

- Tenant ID ¹,
- Client ID ¹,
- Secret ID ¹,

¹ An Azure AD application must be created with your Microsoft 365 account to allow third party application to access to the Web pages hosted in your Microsoft 365 folders. For further information, refer to the chapter § [Appendix: Microsoft Azure AD portal for URL launcher application](#).

The `Page refresh period` allows to set the duration between two following Web pages refresh.



☞ In case this information message is displayed on the display device `Error - Unable to Launch URL (error HTTP 401)`, please check the consistency of the Microsoft 365 identifier and password and the consistency of the Azure AD application `Tenant ID`, `client ID` and `secret ID`.

Select the `Power BI Online Viewer` radio button to display your Power BI report or your Power BI dashboard available with these credential type values:

- Microsoft OAuth User : the Microsoft 365 *identifier* and *password* and these Azure AD application parameters are required to access to the resource (Web page):
 - Tenant ID 1,
 - Client ID 1,
 - Secret ID 1,
 - Username ,
 - Password .
- Microsoft OAuth application : these Azure AD application parameters are required to access to the resource (Web page):
 - Tenant ID 1,
 - Client ID 1,
 - Secret ID 1,

In the `Url` field, paste the URL of:

- your Power BI report:
 - this is a Power BI report URL example:
 - <https://app.powerbi.com/groups/d1119fde-7bb0-4642-b367-898a0450062c/reports/259ddad1-eec8-4003-9b43-290f40e68c5d> / (fake)
- your Power BI dashboard:
 - this is a Power BI dashboard URL example:
 - <https://app.powerbi.com/groups/d2e637a2-268e-4739-93b3-945692cd2c84/dashboards/d01ce209-87cc-4669-a864-33a5b3029b28> / (fake)

¹ An Azure AD application must be created with Microsoft Power BI administration account to allow third party applications to access to the Power BI reports and to the Power BI dashboards stored in your Microsoft Power BI workspace. For further information, refer to the chapter § [Appendix: Microsoft Azure AD portal for Microsoft Power BI application](#).

The `Viewing time of the report pages` allows to set the duration per report page.

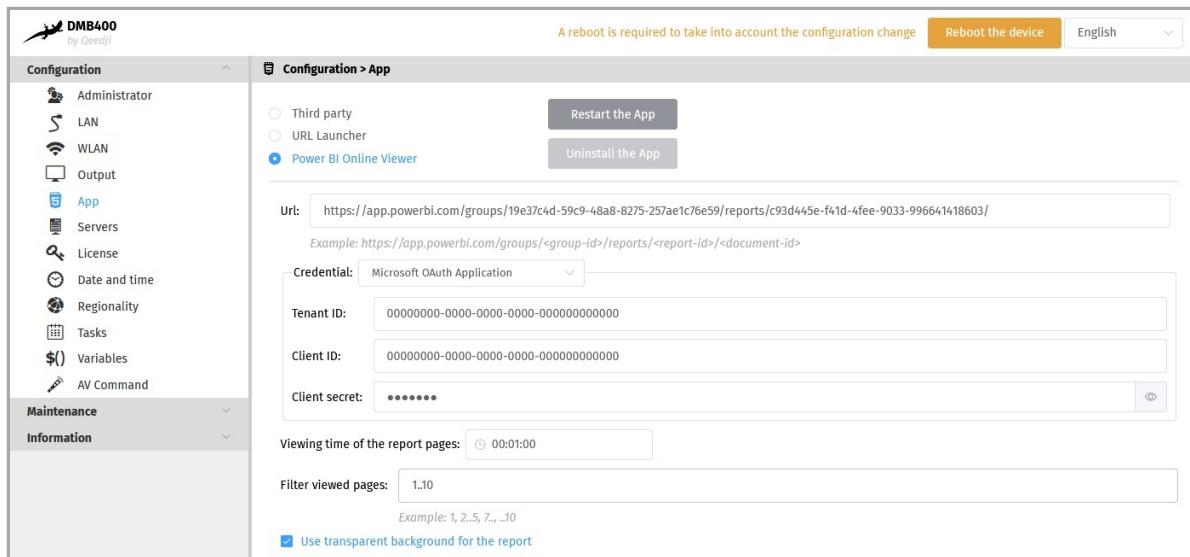
☞ The `Viewing time of the report pages` parameter is not taken into account when visualizing a Power BI dashboard.

The `Filter viewed pages`, when matching the following syntax, allows to display only some of the report pages:

- if no filtering value is set, all the pages of the report are viewed
- e.g. 1..3: allows to display the report from the page 1 to the page 3
- e.g. 1, 5: allows to display only the page 1 and the page 5 of the report
- e.g. 2..: allows to display the report from the page 2 to the last page
- e.g. ..10: allows to display the report from the first page to the page 10

☞ The `Filter viewed pages` parameter is not taken into account when visualizing a Power BI dashboard.

The `Use transparent background` for the report input allows to set activate or not the background transparency for the report. When the transparency is activated, the default browser background color should appear.



☞ the default background color (RGB in hexa) of the device is defined in the `browser.display.background_color` user preference. Its default value is #000000 (black color).

☞ The viewing of reports only available on your Microsoft Power BI Desktop are not supported on the devices. A pro license is required for your Power BI Desktop to publish your report on your Microsoft Power BI workspace.

☞ The information message `Error - Unable to show Power BI report (error HTTP 404)` means that the Azure AD application can not find the workspace. The information message `Error - Unable to show the Power BI report (error HTTP 401)` means that the Azure AD application has found the report but is not allowed to access to it by lack of access rights.

☞ The information message `Error - Unable to show Power BI report (error HTTP0)` means that the device has lost network connectivity.

App supported

The device can support for example:

- *Linear playout App,*
- *Room booking App,*
- *GAP App.*

For further information, contact support@qeedji.tech.

The device is supporting `GAP` App in the `Local deposit` mode and in the `pull WebDAV` mode.

☞ A GAP App is a zip archive, compliant with the boot strap App (e.g. containing for example an `app.html` file and a `manifest.xml` file), which has been renamed with into a `.gap` file extension.

The device can support also for example App coming from Qeedji PowerPoint publisher for media players . Once this PowerPoint Add-on is installed on your computer, it allows to publish a PowerPoint presentation on some of your media players. For further information, refer to the chapter § [Appendix: Qeedji PowerPoint publisher For Media Players](#).

3.1.6 Configuration > Servers

In the Configuration tab, select the **Servers** menu to define the configuration of the servers peripheral to your device.

Configuration > Servers

Status, installation and configurations servers

Status server:

Url:

Heartbeat:

Username:

Password:

Softwares and configurations installation server:

Url:

Heartbeat:

Username:

Password:

DNS Servers

Obtain DNS server address automatically

Use the following DNS server address:

Preferred DNS server:

Alternate DNS server:

DNS suffixes:

NTP time server

NTP Server:

Maximum number of tries:

Maximum waiting time for each try:

Proxy servers

Manual proxy configuration:

HTTP

Address: Port:

Username: Password:

HTTPS

Address: Port:

Username: Password:

FTP

Address: Port:

Username: Password:

No proxy for:

Delivery server Status server Softwares and configurations installation server

Others:

Example: innes.pro, 192.168.0.1/24

Automatic proxy configuration URL:

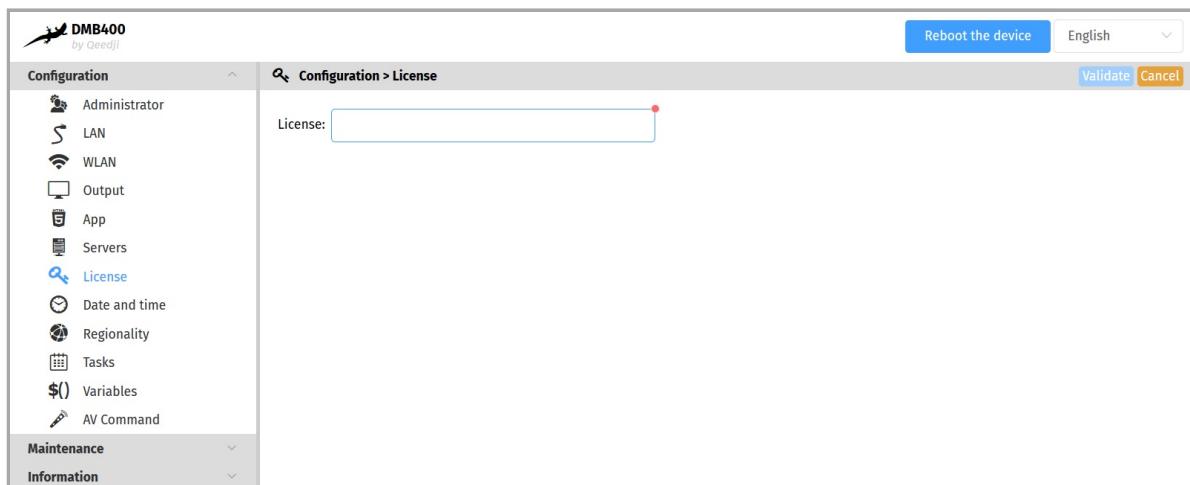
- status, software installation and configuration servers.
 - Status server :
 - URL : URL of the remote server's WebDAV frontend for the broadcast of the `.device-status/status.xml` device status file. For example: `http://domain:8080/.directory/`
 - Username/password : login and password for the remote server's WebDAV frontend connection.
 - Heartbeat : in HH:MM:SS format, period duration of the connection to the remote server (default: 1 minute).
 - Software installation and configuration servers :
 - URL : URL of the remote server's WebDAV frontend for hosting update software and configuration scripts. For example: `http://domain:8080/.directory/`
 - Username/password : login and password for the remote server's WebDAV frontend.
 - Heartbeat : in HH:MM:SS format, period duration of the connection to the remote server (default: 1 minute).
- DNS servers ,
- NTP Time Servers : allows to set a time server in order the device is always on time ¹,

- Proxy server .

¹ If your device does not have access to the Internet, it is possible to turn an MS-Windows computer into a NTP server. For further information, contact your IT department.

3.1.7 Configuration > License

In the Configuration tab, select the **License** menu to view your device license number.

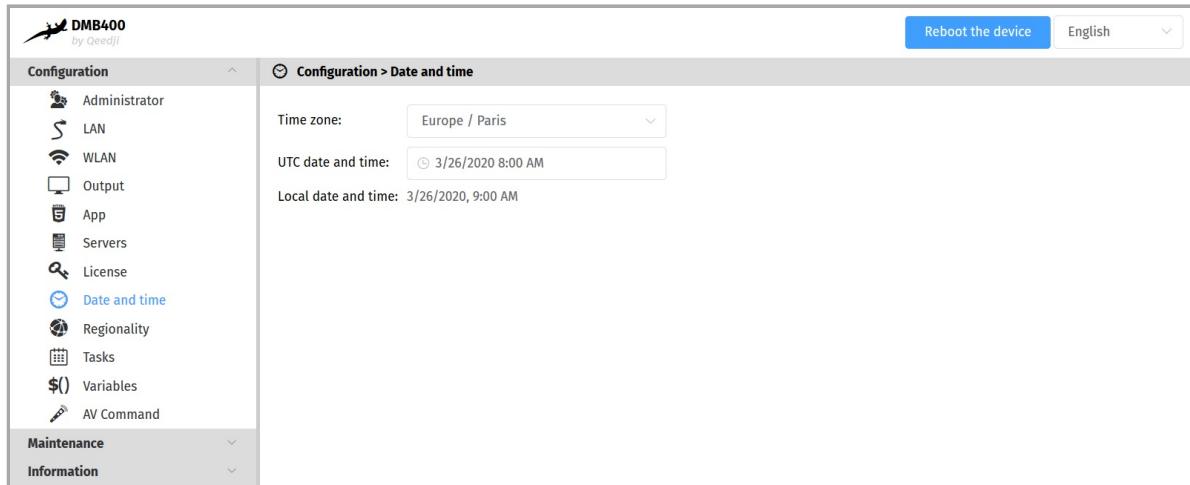


This license number is registered at the factory when the device is ordered. It is then sent to you by e-mail. If it has disappeared due to a handling error or after formatting your device, an error message indicating that the license is invalid will appear on your screen. In this case, please re-enter the license for your device.

3.1.8 Configuration > Date and time

In the Configuration tab, select the **Date and Time** menu to check the time configuration:

- timezone,
- system date of your device (day and time).

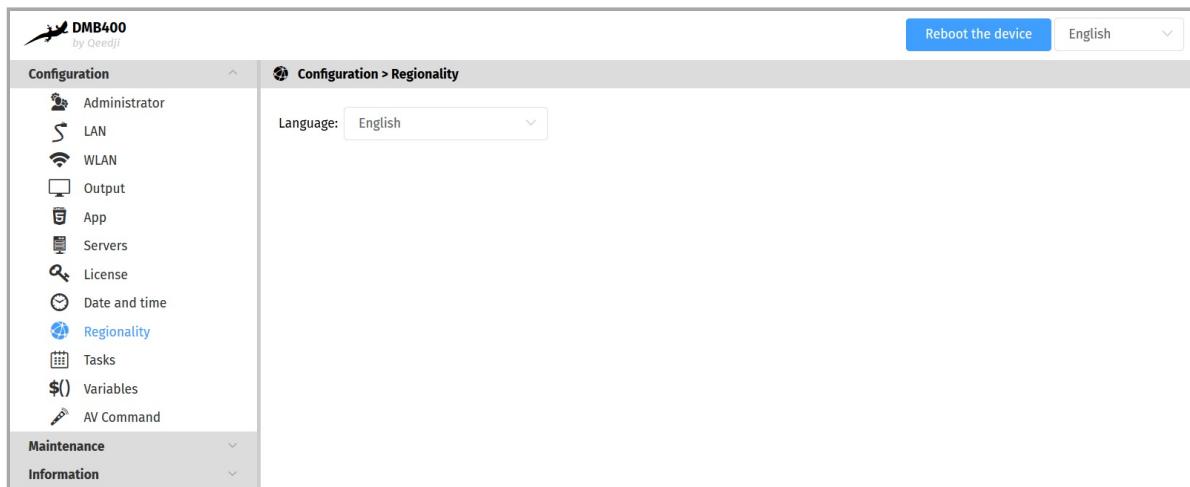


To update the date and time of your device, click on the UTC Date and Time value and then click on the Now button.

- ☞ The Date and time set by the user can be taken into account only if the NTP server is not activated, or if the NTP server is not accessible.
- ☞ Setting a new date and time involves to restart the device immediately. If you have several configuration settings to change, it is advisable to adjust the date and time at last.
- ☞ It is advised that your device is on time. If your device is connected to the Internet, it is advised to synchronize the date and time on a Web NTP server. For further information, refer to the chapter § Configuration > Servers.

3.1.9 Configuration > Regionality

In the Configuration tab, select the **Regionality** menu to choose the language in which information messages or error messages related to the device need be displayed on the screen.



The supported languages are:

- *English*,
- *Spanish*,
- *German*,
- *French*.

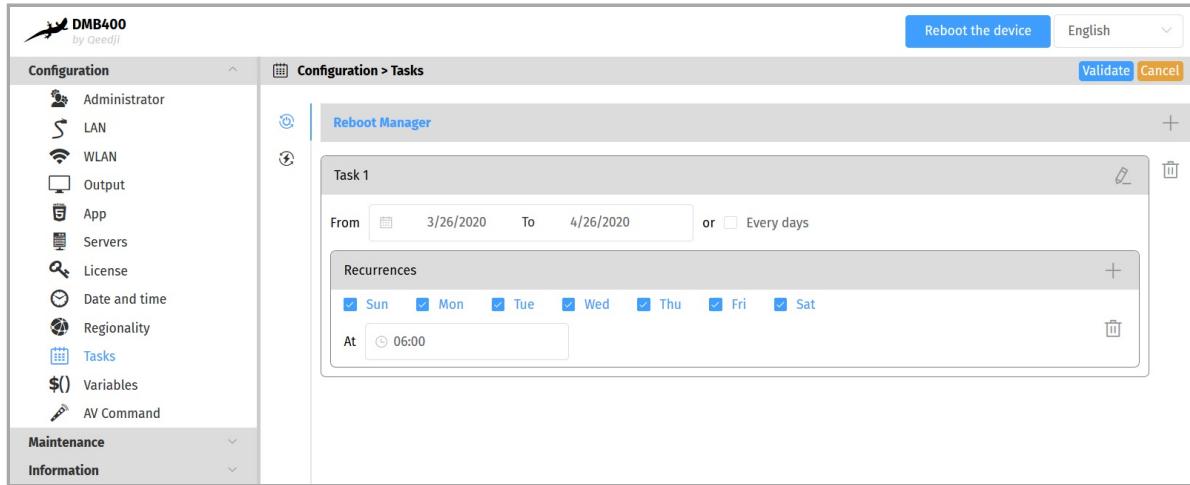
3.1.10 Configuration > Tasks

In the Configuration tab, select the **Tasks** menu to:

- program a reboot manager task,
- program a power manager task for the appliance to reduce the device energy consumption.

Device restart tasks

To create a reboot manager task, click on the  button then click on the  button.



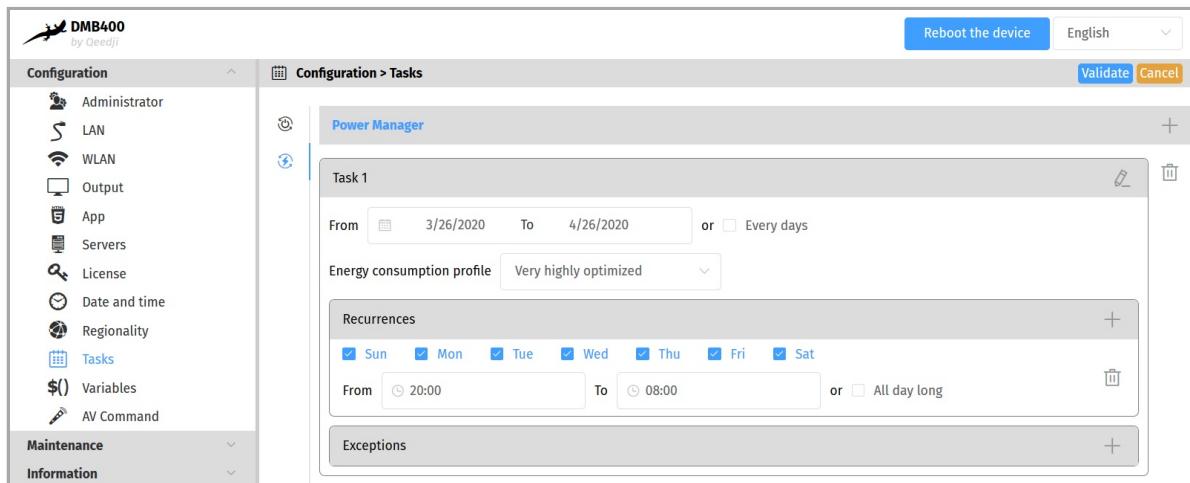
It is therefore possible to program several reboot occurrences whose parameters are stored in an iCAL format in the user preference `innes.reboot-manager.calendar`.

Example of value (iCAL format):

```
BEGIN:VCALENDAR
VERSION:1.0
BEGIN:VEVENT
SUMMARY: Reboot Task 1
DTSTART:20200407T091800
DTEND:20200407T091805
RRULE:FREQ=WEEKLY;BYDAY=MO,TU,WE,TH,FR,SA,SU;UNTIL=20200507T235959
END:VENT
END:VCALENDAR
```

Device power manager task

To create a power manager task, click on the  button then click on the  button.



The possible values programmable in time are

- *Very highly optimized*,
- *Highly optimized*,
- *Optimized means*,
- *Nominal mode*.

It is possible to create several power manager tasks in the same day. These settings for scheduled power level, start time, end time, occurrence, and exception are stored in iCAL format in the user preference `innes.power-manager.calendar`.

Example value (ICAL format):

```
BEGIN:VCALENDAR
VERSION:1.0
BEGIN:VEVENT
SUMMARY:Standby Task 1
X-POWER-MANAGER-LEVEL:MIN
DTSTART:20190805T090000
DTEND:20190805T120000
RRULE:FREQ=WEEKLY;BYDAY=MO,TU,WE,TH,FR,SA,SU;UNTIL=20200416T0000
END:VENT
END:VCALENDAR
```

In this version, here is the state of the device when the power manager is in the *Very highly optimized* state:

| Function | Associated User Preferences |
|--------------------|--|
| Sound: deactivated | <code>innes.power-manager.level.min.<>.mute = true</code> |
| Screen: off | <code>innes.power-manager.level.min.<>.power-mode = 0</code> |
| Volume: 0% | <code>innes.power-manager.level.min.<>.volume = 0</code> |
| Opacity: 100% | <code>innes.power-manager.level.min.<>.opacity = 100</code> |
| Brightness: 0% | <code>innes.power-manager.level.min.<>.brightness = 0</code> |
| Backlight: 0% | <code>innes.power-manager.level.min.<>.backlight = 0</code> |

In this version, here is the state of the device when the power manager is in the *Highly optimized* state:

| Function | Associated User Preferences |
|------------------|---|
| Sound: activated | <code>innes.power-manager.level.low.<>.mute = false</code> |
| Screen: on | <code>innes.power-manager.level.low.<>.power-mode = 1</code> |
| Volume: 10% | <code>innes.power-manager.level.low.<>.volume = 10</code> |
| Opacity: 80% | <code>innes.power-manager.level.low.<>.opacity = 80</code> |
| Brightness: 10% | <code>innes.power-manager.level.low.<>.brightness = 10</code> |
| Backlight: 10% | <code>innes.power-manager.level.low.<>.backlight = 10</code> |

In this version, here is the state of the device when the power manager is in the *Medium Optimized* state:

| Function | Associated User Preferences |
|------------------|--|
| Sound: activated | <code>innes.power-manager.level.high.<>.mute = false</code> |
| Screen: on | <code>innes.power-manager.level.high.<>.power-mode = 1</code> |
| Volume: 80% | <code>innes.power-manager.level.high.<>.volume = 80</code> |
| Opacity: 20% | <code>innes.power-manager.level.high.<>.opacity = 20</code> |
| Brightness: 80% | <code>innes.power-manager.level.high.<>.brightness = 80</code> |
| Backlight: 80% | <code>innes.power-manager.level.high.<>.backlight = 80</code> |

In this version, here is the status of the device when the power manager is in the *Nominal mode* state, meaning the default mode when no other power manager task is running.

| Function | Related User Preferences |
|------------------|---|
| Sound: activated | innes.power-manager.level.max.<>.mute = false |
| Screen: on | innes.power-manager.level.max.<>.power-mode = 1 |
| Volume: 100% | innes.power-manager.level.max.<>.volume = 100 |
| Opacity: 0% | innes.power-manager.level.max.<>.opacity = 0 |
| Brightness: 100% | innes.power-manager.level.max.<>.brightness = 100 |
| Backlight: 100% | innes.power-manager.level.max.<>.backlight = 100 |

- Some running App may automatically not take into account the Power manager task scheduled in the OS. In this case, only the power manager task scheduled in the App is taken into account.
- When there is no running App or when there is a system information message displayed on the display device, the Power manager task programmed in this pane is not taken into account by the middleware.
- The values of these user preferences are all modifiable.

3.1.11 Configuration > Variables

In the Configuration tab, select the **Variables** menu to set variable (or TAG) values for this device.

The screenshot shows the DMB400 configuration interface. On the left, there is a sidebar with icons for various settings like Administrator, LAN, WLAN, Output, App, Servers, License, Date and time, Regionality, Tasks, Variables (which is selected and highlighted in blue), and AV Command. Below this are Maintenance and Information sections. The main panel title is '\$() Configuration > Variables'. It contains a section titled 'Custom device variables:' with five input fields labeled field1 through field5. At the top right of the main panel are 'Reboot the device' and 'English' buttons.

The variable names are:

- field1 ,
- field2 ,
- field3 ,
- field4 ,
- field5 .

These variable values can then be used in Apps to perform specific processing for devices having specific variables values.

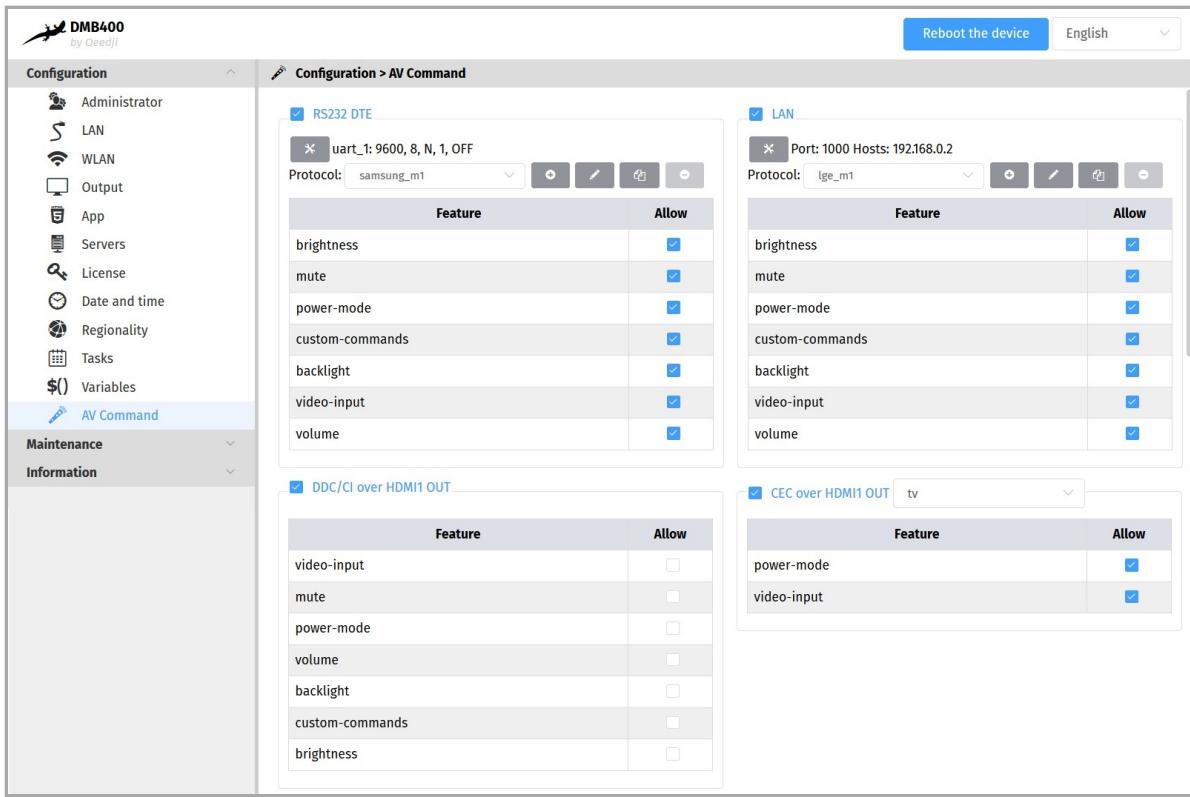
3.1.12 Configuration > AV commands

In the Configuration tab, select the **AV Commands** menu to enable the control of screens by AV (Audio-Video) commands through the connectors:

- RS232 ,
- ETHERNET ,
- HDMI .

| AV Command name | Description |
|------------------------|--|
| <i>brightness</i> | screen brightness control |
| <i>mute</i> | screen mute control |
| <i>power-mode</i> | screen saver control |
| <i>back-light</i> | screen backlight control |
| <i>video-input</i> | screen audio-video source selection control |
| <i>volume</i> | screen volume control |
| <i>custom-commands</i> | control of specific display devices (projectors, ...) via support for user-implemented AV commands |

When the *power-mode* AV control is enabled through the specified connectors, it is automatically used when the App goes into screen saver mode or when a screen saver task is scheduled through the Web-based configuration interface.



Depending on the connectors, not all AV commands are supported.

RS232

For screen control via AV Command RS232 DTE, select the **RS232 DTE** option.

First check in the datasheet that your screen supports AV Command via RS232. Using the screen configuration menu, activate the support of AV Command via RS232 on your screen (example for a SAMSUNG screen: Menu Multicontrol then MDC Connection then select RS232 MDC).

In order for your screen to be able to receive AV commands, connect a crossover serial cable between your device and your screen.

With the **X** button, configure the RS232 interface of your device to match the RS232 configuration of your screen.

Choose the appropriate protocol according to your screen.

First check in the datasheet of your screen or audio-video device which AV Command protocol is supported.

If none of the protocols are suitable, you can create your own protocol with the button **+** or duplicate an existing protocol with the button **copy** and adapt it with your own AV Commands.

LAN

For screen control via AV Command LAN, select the `LAN` option.

With the  button, configure the LAN interface of your device by adding:

- the IP address(es) of the screen(s) to drive,
- the port to be used (for example, port 1015) for sending AV commands.

 Check beforehand in the datasheet that your screen supports AV Command over Ethernet. Using the screen configuration menu, activate the support of AV commands over Ethernet on your screen (for example for a SAMSUNG screen: Menu `Multicontrol` then `MDC Connection` then select `Ethernet MDC`).

 In order for your display to receive AV commands over Ethernet, make sure that your device and display are in the same local network.

Choose the appropriate protocol based on your screen.

 First check in the datasheet of your screen or audio-video device which AV Command protocol is supported.

 If none of the protocols are suitable, you can create your own protocol with the button  or duplicate an existing protocol with the button  and adapt it with your own AV Commands.

DDC/CI on HDMI-OUT

For AV Command DDC/CI screen control through the HDMI-OUT connector, select the `DDC/CI on HDMI-OUT` option.

 Some displays do not support AV Command DDC/CI properly. If your screen does not exit from standby after activating AVCommand despite an App that is properly programmed, consider disabling DDC/CI AV Commands for that screen as it probably does not support standby output AV commands properly.

CEC on HDMI-OUT

For screen control by AV Command CEC through the HDMI connector, select the `CEC on HDMI-OUT` option.

 Some screen do not properly support AV commands by CEC. If your screen does not come out of standby after activating AVCommand despite an App that is properly programmed, consider disabling CEC AV Commands for that screen as it probably does not support standby output AV commands properly.

Next, to control your screen with the AV Controls, load and play an appropriate App. It is possible to create your own App that uses the AVCommand APIs available here: [github AVCommand API](#).

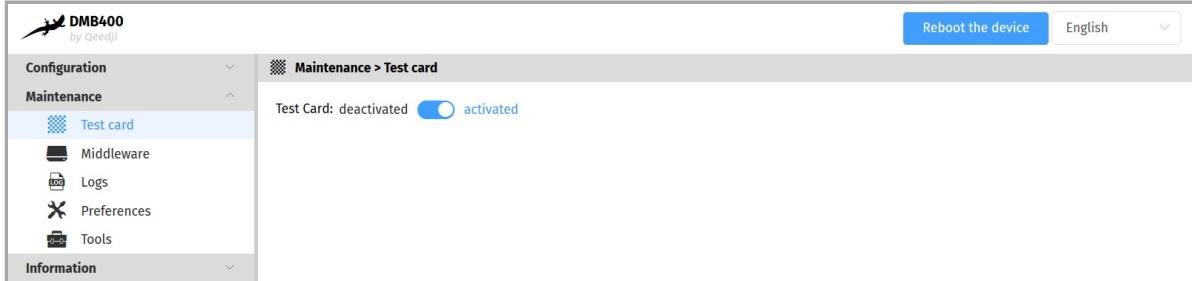
3.1.13 Maintenance > Test card

In the Maintenance tab, select the **Test card** menu to enable or disable the test pattern. The test pattern is often enabled during:

- installing devices on the network,
- the configuration of the output resolution and overscan.

To display the test pattern at device start-up, set the **Test card** toggle button to *activated*. To not display the test pattern App at device start-up, set the **Test card** toggle button to *deactivated*.

☞ The test pattern content is displayed by the DMB400 device at start-up when it is coming straight from factory. For further information about the test pattern content, refer to the chapter § [Test card](#).



☞ When the test card is activated, the content of the App is not played.

Activation of the test pattern through your screen supporting CEC

If your screen supports the CEC¹² on HDMI, you can enable or disable the test pattern by pressing a key combination on the screen's remote control:

- [left Arrow, Right Arrow, Left Arrow, Right Arrow] key combination in less than ten seconds.

☞ Make sure that no menus or banners are displayed on the screen.

☞ Before applying the keystroke combination, some screen requires to unselect and then select the HDMI source of the display to which the device is connected to force a CECSetInput_Source.

¹ For SAMSUNG screen, CEC is usually activated by activating the Anynet function.² for LG screen, CEC is usually activated by using the Simplink key on the remote control.

| Function | Linked User Preference |
|--|--|
| Support for test pattern activation by key combination | innes.player.test.pattern.key-event.*.authorized (default= true) |

☞ The displaying of the IP V6 address value starting with the prefix fe80:: is not supported in the Test Card content. For further information, contact your IT department so that your network is advertising the IP V6 address with another prefix (ex: fc00::).

3.1.14 Maintenance > Files

In the Maintenance tab, select the **Files** menu to see the directories and files hosted at the root directory of the WebDAV server.

| Name | Last modification | Size |
|-------------|--------------------------|----------|
| .admin | - | - |
| .assets | - | - |
| .deposit | - | - |
| .extension | - | - |
| .log | - | - |
| .output | - | - |
| .playlog | - | - |
| .playout | - | - |
| .resources | - | - |
| .software | - | - |
| .status | - | - |
| .upnp | - | - |
| favicon.ico | Aug 30, 2023, 2:06:21 PM | 85.7 Kio |

These are the available WebDAV directories:

- `.admin` : location to store some resources of the device Web user interface
- `.assets` : location to store some of the resources of the device Web user interface,
- `.deposit` : location to store temporarily the App to load
- `.extension` : directory allowing to upload a configuration script to auto-configure the device,
- `.log` : location to store the application logs, when they are activated.
- `.playlog` : location to store data for mediometry
- `.playout` : location to store the App when deployed on the device,
- `.resources` : location to store some other resources of the device Web user interface
- `.software` : directory allowing to upload a `.frm` firmware and upgrade the middleware version of the DMB400 device.
- `.status` : location to store the device status file `status.xml`
- `.upnp` : location to store `device.xml` device status for UPnP detection

Middleware upgrade

The Gekkota middleware can be upgraded by pushing a new firmware file `gekkota_os-dmb300-setup-5.YY.ZZ.frm` in the `.software` directory of the device WebDAV directory (`http://<device-ip-addr>/software`).

Configuration update

The configuration of the device can be updated also by pushing an suitable `.js` configuration script in the `.configuration` WebDAV directory (`http://<device-ip-addr>/extension`) with the Web user interface. In this case, the file pattern must be either:

- `000000000000.js`,
- `configuration.js` or,
- `<device_LAN1_MAC_address>.js` (with ab-cd-ef-ab-cd-ef, the MAC address of the device).

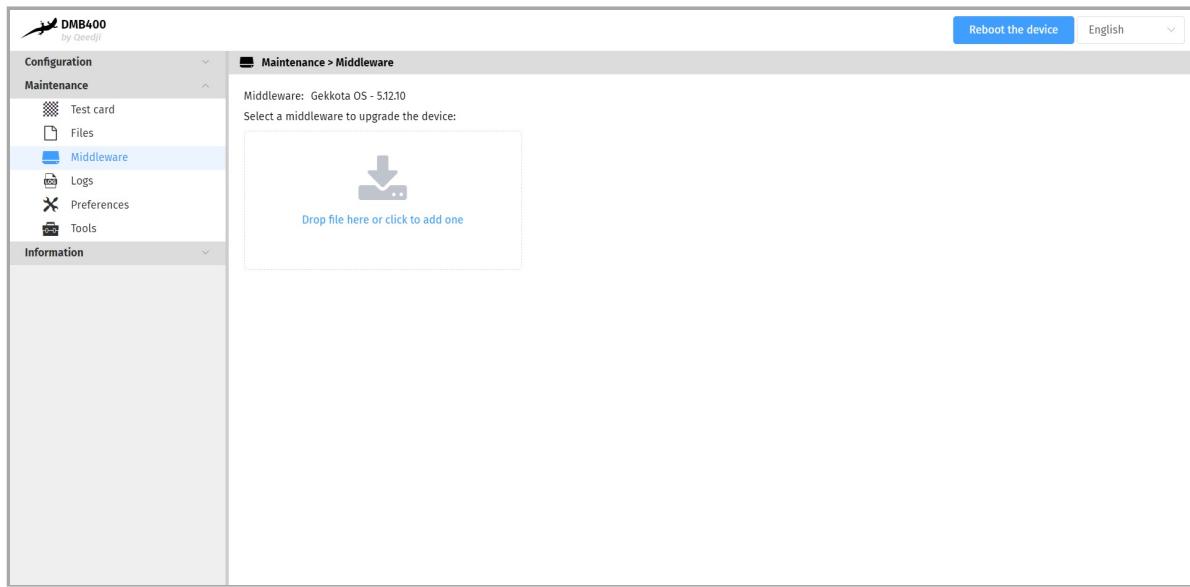
Download the configuration script example from the [Qeedji Website](#) it then:

- edit the `000000000000.js` configuration script and uncomment/modify the appropriate lines according to your needs,
- rename the configuration script if required,
- once saved, drop it in the WebDAV directory like explained above,
- when suitable for your device, save it preciously for future use.

After a `.js` configuration script loading, the device is rebooting automatically once to take the new configuration into account.

3.1.15 Maintenance > Middleware

In the Maintenance tab, select the **Middleware** menu to view the version of the middleware installed on your device.



Corrective and evolutive maintenance software versions are regularly made available on the http://www.innes.pro/en/support/index.php?DMB400/Firmware_and_documentation_for_DMB400. It is therefore advised to regularly update the device middleware. From this website, download the latest version available for your device model. Unzip the .zip archive and get the .frm file.

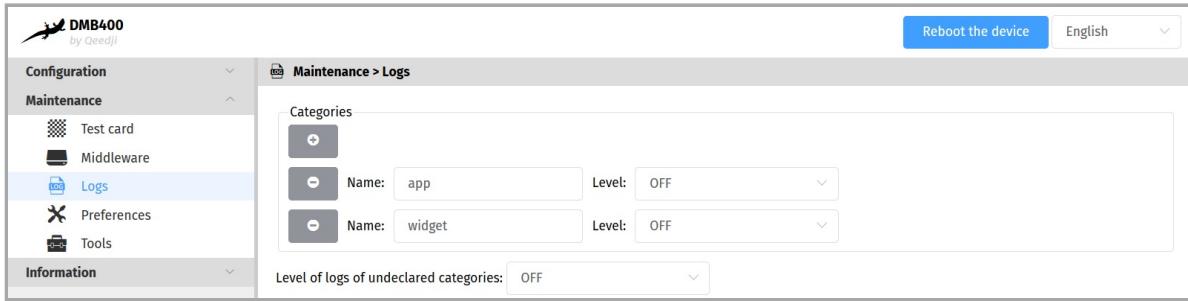
It is possible to upgrade the device from a version Gekkota OS 4.YY.ZZ to a version Gekkota OS 5.YY.ZZ. But it is not possible to downgrade the device from a version Gekkota OS 5.YY.ZZ to a version Gekkota OS 4.YY.ZZ.

Drop your .frm file in the Drop file here location or click on it to add one, then click on the Send button to update the Gekkota os version of your device. Wait a few minutes, the time to load and install the new middleware version. Go back to the device configuration Web user interface and check the new Gekkota os version number of the device.

⚠ Do not electrically disconnect the device during the middleware upgrade. For further information, refer to the chapter § [LED behaviour](#).

3.1.16 Maintenance > Logs

In the Maintenance tab, select the **Logs** menu to activate logs.



The log levels are:

- DEBUG : activation of level logs: ERROR + WARN + DEBUG,
- WARN : activation of level logs: ERROR + WARN,
- ERROR : activation of level logs: ERROR,
- OFF : disabling logs.

Logs are compartmentalized according to software functions such as:

- app : App debug,
- widget : HTML widget debugging,
- network : debug of the network related layer,

☞ These logs may be activated on support request in exceptional debug cases.

☞ These logs can only be interpreted only by software developers who are familiar with the software bricks that have been developed.

Activating the logs with a level other than OFF should only be done after a request from Qeedji support.

⚠ Enabling traces All trace levels of undeclared categories with a DEBUG or WARN level can significantly disrupt the operation of the device.

⚠ After a debug session with support, in nominal operation, all levels should be reset to OFF .

3.1.17 Maintenance > Preferences

In the Maintenance tab, select the **Preferences** menu to view all the preferences.

The filter allows to display only the preferences whose name contains the string entered in the filter. All the preferences have optimal default values. Double click on a preference to change its value.

At the bottom right of the page, the `Restore factory preferences` button resets a subset of preferences allowing the device to reprogram its factory preferences.

Here are some user preferences that may be useful.

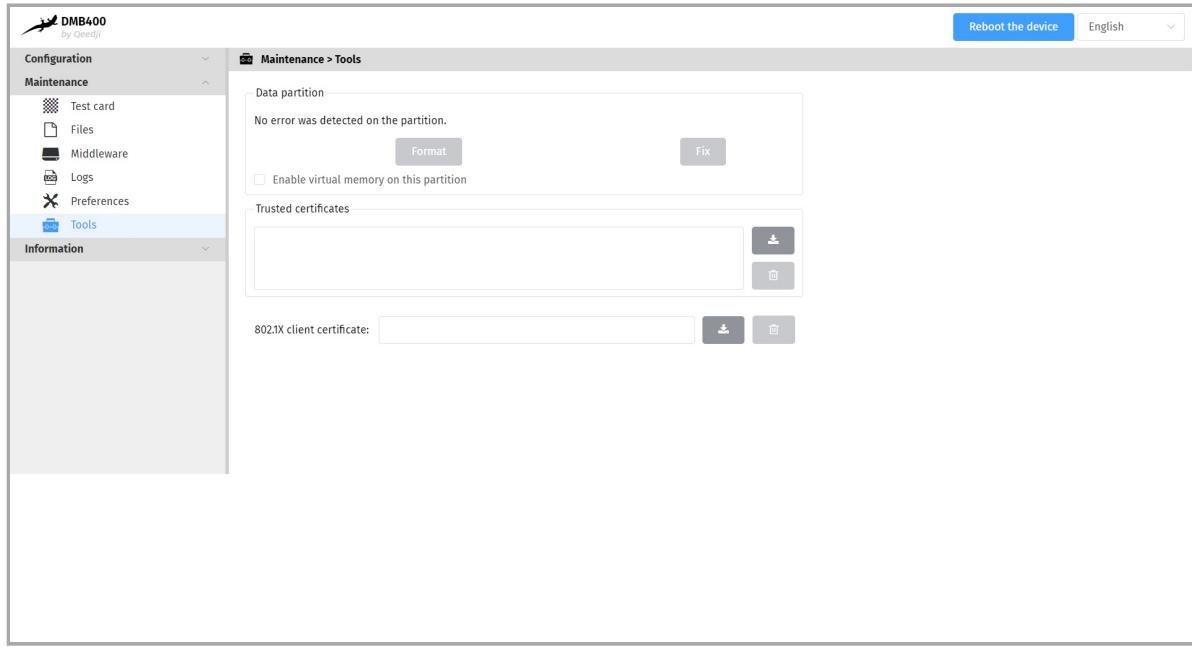
| user preference | value | description |
|--|---|---|
| <code>innes.video.renderer.default</code> | <code>overlay</code> (default value) | Supports 1 UHD video + 1 H265 video simultaneously. This also supports the HDMI input which is treated as an additional video decoding. This allows to process the text scrolling overlay 60Hz. Allows to support video decoding at the HDMI input. Supports the enhanced hardware deinterlacing filter as well as the display of Mpeg-TS interlaced video. |
| <code>innes.video.renderer.default</code> | <code>gpu</code> | Allows to support 2 simultaneous 1080p video decoding + 2 simultaneous 720p decoding or to support interlaced video in very small areas. |
| <code>innes.video.decoding-group.enabled</code> | <code>true</code> | Allows to decode multiple videos at the same time. |
| <code>media.mediasource.enable</code> | <code>false</code> | Disabling the DASH MSE. |
| <code>innes.hid.pointer-event.*.authorized</code> | <code>true</code> | Allows to support for HDMI/USB touchscreens. |
| <code>innes.video.has.max-bitrate</code> | <code>5</code> | (Mbps) setting the maximum bitrate of a DASH Mpeg stream. |
| <code>media.cache_size</code> | <code>16384</code> (default) to <code>65536</code> | (in KB) Allows to support higher bitrate for DASH Mpeg streams. |
| <code>innes.webserver.providers.http.enabled</code> | <code>true</code> | Allows to support access to the device in <code>http://</code> . |
| <code>innes.webserver.providers.https.enabled</code> | <code>true</code> | Allows to support access to the device in <code>https://</code> . |
| <code>system.clock-sync.enable</code> <code>system.clock-sync.ptp.timeout.lock-on-master</code> <code>system.clock-sync.ptp-domain</code> <code>system.clock-sync.source</code> | <code>true</code> <code>30</code> <code>0</code> <code>ptp-l2</code> | Allows to activate the PTP/IEEE1588 synchronization on a master device, PTP/IEEE1588 Master device finding timeout ¹ in seconds (30 by default), PTP/IEEE1588 domain id (0 by default), PTP/IEEE1588 Synchronization modes: <code>ntp</code> (default value) or <code>ptp-l2</code> . |

¹ After this timeout, the DMB400 device becomes PTP/IEEE1588 master device.

3.1.18 Maintenance > Tools

In the Maintenance tab, select the **Tools** menu to:

- Fix errors detected on the SSD card data partition,
- format the SSD card data partition,
- add Trusted certificates,
- add 802.1X client certificate (.p12).



Check the `Enable virtual memory on this partition` option to activate the swap disk on this device. The memory space for swap disk is 512 MB.

☞ The `Enable virtual memory on this partition` option is not activated by default.

☞ When the `Enable virtual memory on this partition` option is changed by the user but there is not enough disk space to allocate the swap disk memory space (512 MB), the `swap` activation value in the `status.xml` device status file remains to the `false` value, meaning that the swap disk stays inactivated in this case. To work around, publish an App containing less medias to free up the required 512 MB memory then restart the device.

The encryption algorithms supported to decrypt the .p12 certificates are:

- 128 bits RC4 with SHA1,
- 40 bits RC4 with SHA1,
- 3 keys 3DES with SHA1 (168 bits),
- 2 keys 3DES with SHA1 (112 bits),
- 128 bits RC2-CBC with SHA1,
- 40 bits RC2-CBC with SHA1.

☞ The `format` and `fix` buttons are only active if the Gekkota OS middleware has actually detected writing or reading errors on the partition.

A message indicates on the screen that an error has occurred on the partition and that a device reboot is necessary.

If the `Fix` button is accessible, clicking on the `Fix` button will repair the content without purging the App. If the problem persists, and the `Format` button is available, clicking on the `Format` button will format the content. It is then necessary to publish again the App.

☞ If the problem persists after formatting the SD card, contact your `Qeedji` support.

3.1.19 Information > Device

In the **Information** tab, select the **Device** menu to view system information about the device.

- **Middleware** : label and version of the embedded middleware,
- **Model** : model of the Qeedji device,
- **Hostname** : name of the device on the network,
- **MAC** : MAC address (value used in particular to generate the license key of the device),
- **UUID** : Universal Unique IDentifier,
- **PSN** : Product Serial Number.
- **HDCP** :
 - *Supported (valid key)*: Indicates that HDCP is supported by the device and that it has a valid HDCP key,
- video output capture on <day date> : last video output capture.

Press the button  to refresh the screenshot.

The width of the screenshot is set by the `innes.screenshot.width-max` preference (default: 960 pixel). If the width of the device's display resolution is less than this value, the width of the screenshot fits this narrower resolution width.

3.1.20 Information > Network

In the **Information** tab, select the **Network** menu to view a summary of the device's network configuration.

The screenshot shows the DMB400 device interface with the 'Information' tab selected. Under the 'Information' tab, the 'Network' menu is chosen. The main content area displays network configuration details:

- Delivery, status and installation servers:**
 - Delivery server (G3): http://custom-domain-url/ Heartbeat: 00:01:00
 - Status server: http://custom-domain-url/.device-status/ Heartbeat: 00:01:00
 - Softwares and configurations installation server: http://custom-domain-url/.setup/ Heartbeat: 00:01:00
- NTP time server:**
 - NTP Server: fr.pool.ntp.org
- LAN_1**
 - Mac address: 00-1C-E6-02-27-BF
 - Ip v4 address: 192.168.1.51/17 [DHCP]
 - Ip v6 address: fc00::21c:e6ff:fe02:27bf/64 [AUTO]
 - Default gateway: 192.168.0.1
 - State: connected
 - DNS Servers: 192.168.0.4, 8.8.8.8, 8.8.4.4
- WLAN_1**
 - Mac address: 00-0E-8E-83-10-F7
 - Ip v4 address: 192.168.1.225/17
 - Ip v6 address:
 - Default gateway: 192.168.0.1
 - State: not connected
 - DNS Servers:

! The displaying of the IP V6 address value starting with the prefix `fe80::` is not supported in this pane. For further information, contact your IT department so that your network is advertising the IP V6 address with another prefix (ex: `fc00::`).

3.1.21 Information > Screens

In the **Information** tab, select the **Screens** menu to view information about the display device connected on the HDMI connector and the rotation angle.

The screenshot shows the DMB400 web interface. On the left, there is a navigation sidebar with sections: Configuration, Maintenance, and Information. Under Information, there are three items: Device, Network, and Screens, with Screens being the selected item and highlighted in blue. The main content area is titled "Information > Screens". It displays "Screen #1" and "Connected: on HDMI1 OUT (hdmi_2)". Below this, there is a large text box containing EDID data:

```
00 FF FF FF FF FF 00 4C 2D 82 0D 01 00 00 00 0E 1A 01 03 80 46 27  
78 2A EE 5F A9 53 47 97 23 1E 4C 58 BF EF 80 71 4F 81 00 81 C0 81 80 95  
00 A9 C0 B3 00 01 01 02 3A 80 18 71 38 2D 40 58 2C 45 00 AD 11 32 00  
00 1E 7F 21 56 AA 51 00 1E 30 46 8F 33 00 AD 11 32 00 00 1E 00 00 00  
FD 00 18 4B 1A 51 11 00 0A 20 20 20 20 20 00 00 00 FC 00 53 79 6E  
63 AD 61 73 74 65 72 0A 20 20 01 C6  
02 03 23 F1 4B 90 1F 05 14 04 13 03 12 20 21 22 23 09 07 07 83 01 00 00  
E2 00 0F 67 03 0C 00 10 00 80 22 01 1D 80 18 71 1C 16 20 58 2C 25 00  
AD 11 32 00 00 9E 01 10 80 D0 72 1C 16 20 10 2C 25 80 AD 11 32 00 00  
9E 01 1D 00 72 51 D0 1E 20 6E 28 55 00 AD 11 32 00 00 1E 01 1D 00 BC  
52 D0 1E 20 B8 28 55 40 AD 11 32 00 00 1E 8C 0A D0 8A 20 E0 2D 10 10  
3E 96 00 AD 11 32 00 00 18 00 00 5F
```

Part IV

Configuration by script

4.1 Configuration by script

The DMB400 device can auto-configure with a configuration script. The configuration script can be either:

- hosted on a remote WebDAV server or
- broadcasted by your DHCP server (code 66) or
- injected through an USB storage device or
- dropped in the device `.extension` WebDAV directory with a WebDAV client.

For further information, refer to the [configuration-by-script](#) application note.

In case the script is containing an error, the syntax error is reported in the `http://<device-ip-addr>/status/status.xml` file.

Part V

Technical information

5.1 Technical specifications

| | |
|---|-----------------------------|
| Model | Manufacturer |
| DMB400 | Qeedji |
| Processors | |
| CPU | Quad core cortex-A9, 1.2GHz |
| GPU | MALI-400 |
| Peripherals | |
| 1x USB 2.0 Host (Low/Full/High Speed) | |
| 1x USB 3.0 Host (Low/Full/High/Super Speed) | |
| 1x Jack 3.5 mm configurable in GPIO or Infrared | |
| 1x RS232 DTE | |
| Storage | |
| Internal Flash Memory for OS | |
| SSD mSata | |
| Middleware | |
| Gekkota OS 4 | |
| Audio output | |
| 1x Jack 3.5 mm connector (analog stereo L+R) | |
| Embedded with HDMI output | |
| Video output | |
| 1x HDMI 2.0 | |
| Display resolutions¹ for video output | |
| 640x480 60Hz, 800x600 60Hz VESA, 1024x768 60Hz VESA, 1024x768 60Hz XGA, 1024x576 60Hz VESA, 1024x576 50Hz VESA, 1024x600 60Hz DENSITRON 84-0188-001T, 1280x720 60Hz CEA-861, 1280x720 50Hz CEA-861, 1280x720 60Hz VESA, 1280x720 50Hz VESA, 1280x720 60Hz SMPTE (720p), 1280x720 50Hz SMPTE (720p), 1280x720 60Hz CEA, 1280x720 50Hz CEA, 1280x720 60Hz SONY, 1280x720 60Hz CGV CPLine AV-HD, 1280x720 60Hz SAMSUNG, 1280x768 60Hz VESA, 1280x768 50Hz VESA, 1280x800 60Hz VESA, 1360x768 50Hz VESA, 1360x768 60Hz VESA, 1376x768 60Hz VESA, 1376x768 50Hz VESA, 1376x768 60Hz PC, 1920x1080 60Hz CEA-861, 1920x1080 50Hz CEA-861, 1920x1080 60Hz VESA, 1920x1080 50Hz VESA, 1920x1080 60Hz SMPTE (1080p), 1920x1080 50Hz SMPTE (1080p), 1920x1080 60Hz CEA, 1920x1080 50Hz CEA, 3840x2160 59.94Hz, 3840x2160 60Hz CEA-861, 3840x2160 50Hz CEA-861, 3840x2160 50Hz VESA, 3840x2160 45Hz VESTEL, 3840x2160 30Hz CEA-861, 3840x2160 25Hz CEA-861, 2560x1440 60Hz CEA-861, 3840x600 60Hz VESA, 1920x540 60Hz VESA, 1920x540 60Hz Samsung, 1920x360 60Hz Iiyama, 1920x300 60Hz VESA, 768x2560 60Hz LINSN, 128x96 60Hz, 112x96 60Hz, 96x96 60Hz, | |
| ¹ The rotation is not supported for the resolution upper than 1920x1080. | |
| Video input | |
| 1x HDMI 1.4b | |
| Preferred resolutions of EDID for Video input | |
| 1920x1080p 59.94Hz, 1920x1080p 60Hz, 1920x1080p 50Hz, 1280x720p 59.94Hz, 1280x720p 60Hz, 1280x720p 50Hz, 1920x1080i 59.94Hz, 1920x1080i 60Hz, 1920x1080p 29.97Hz, 1920x1080p 30Hz | |
| Network | |
| 1x Ethernet 10/100/1000 BaseT | |

| Options | Information | |
|---|---|--|
| GPRS/EDGE/HSDPA Modem | Mini-SIM card (25 mm x 15 mm) | |
| WIFI 802.11a/b/g/n (WIFI 4) | SPARKLAN WPEA-152GN(BT) module | |
| Power supply | | |
| 12 V DC (1.2 A) | | |
| Operating temperature | | |
| 0 °C to +40 °C | -20 °C to +60 °C | |
| Operating humidity | | |
| < 80 % | < 85 % | |
| Weight | | |
| With WIFI: 0,992 Kg (2,18 lb) Without WIFI: 0,971 Kg (2,14 lb) | 213 x 39,5 x 137,5 mm (8,38" x 1,53" x 5,39") | |
| Dimensions (W x H x D) | | |
| Warranty | | |
| 3 years | | |

5.2 Conformities

In conformity with the following European directives:

- LVD 2014/35/EU ,
- EMC 2014/30/EU .

Part VI

Contacts

6.1 Contacts

For further information, please contact us:

- **Technical support:** support@qeedji.tech,
- **Sales department:** sales@qeedji.tech.

Refer to the Qeedji Website for FAQ, application notes, and software downloads: <https://www.qeedji.tech/>

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Part VII

Appendix

7.1 Appendix: Device status (status.xml)

The DMB400 device is updating regularly its device status stored in its `/.status` WebDAV directory:

```
http://<device-ip-addr>/.status/
```

This file can be periodically sent to a remote WebDAV server for monitoring purpose.

Status.xml example:

```
<device-status xmlns="ns.innes.device-status">
<device>
<id-type>MAC</id-type>
<mac>00-1c-e6-02-20-e2</mac>
<hostname>dmdb400</hostname>
<uuid>05c00002-0000-0000-0000-001ce60220e2</uuid>
<modelName><gekkota_os-model></modelName>
<modelNumber>4.13.12</modelNumber>
<serialNumber>00920-00002</serialNumber>
<middleware>gekkota-4</middleware>
<field1/>
<field2/>
<field3/>
<field4/>
<field5/>
<ip-addresses>
<ip-address>
<if-type>LAN</if-type>
<origin>dhcp</origin>
<value>192.168.1.119/17</value>
</ip-address>
<ip-address>
<if-type>LAN</if-type>
<origin>auto</origin>
<value>fc00::21c:e6ff:fe02:20e2/64</value>
</ip-address>
</ip-addresses>
<addons/>
</device>
<status>
<date>2020-03-31T17:40:16.055055+02:00</date>
<launcher>
<power-manager level="MAX"/>
<manifest-metadata xmlns:pzpm="ns.innes.gekkota.manifest">
<pzpm:publish-size>0</pzpm:publish-size>
<pzpm:publish-generator>gekkota_ui</pzpm:publish-generator>
<pzpm:publish-date>2020-03-30T06:45:26.759Z</pzpm:publish-date>
</manifest-metadata>
<state>NO_CONTENT</state>
</launcher>
<storage>
<total unit="byte">1912532992</total>
<used unit="byte">22161408</used>
</storage>
<display-outputs/>
<setup>
<configuration>
<metadatas/>
<version>2019-06-21T13:25:25Z</version>
</configuration>
</setup>
</status>
</device-status>
```

7.2 Appendix: Qeedji PowerPoint publisher for Media Players

This appendix explains how to publish .pptx MS-Powerpoint presentation on DMB400 devices using your MS-Office PowerPoint, on which the Qeedji PowerPoint Publisher For Media Players PowerPoint Add In is installed.

■ The Qeedji PowerPoint Publisher For Media Players PowerPoint Add In can deal with several DMB400 devices with the same MS-PowerPoint presentation.

■ In this version, only the DMB400 devices, whose WebDAV servers are available with the `http://` scheme (default value), are supported.

Prerequisite:

■ The DMB400 device needs to be purged from any existing App. It is advised to set the App mode to the `Push WebDAV` value. For further information, refer to the chapter § [Configuration > App](#).

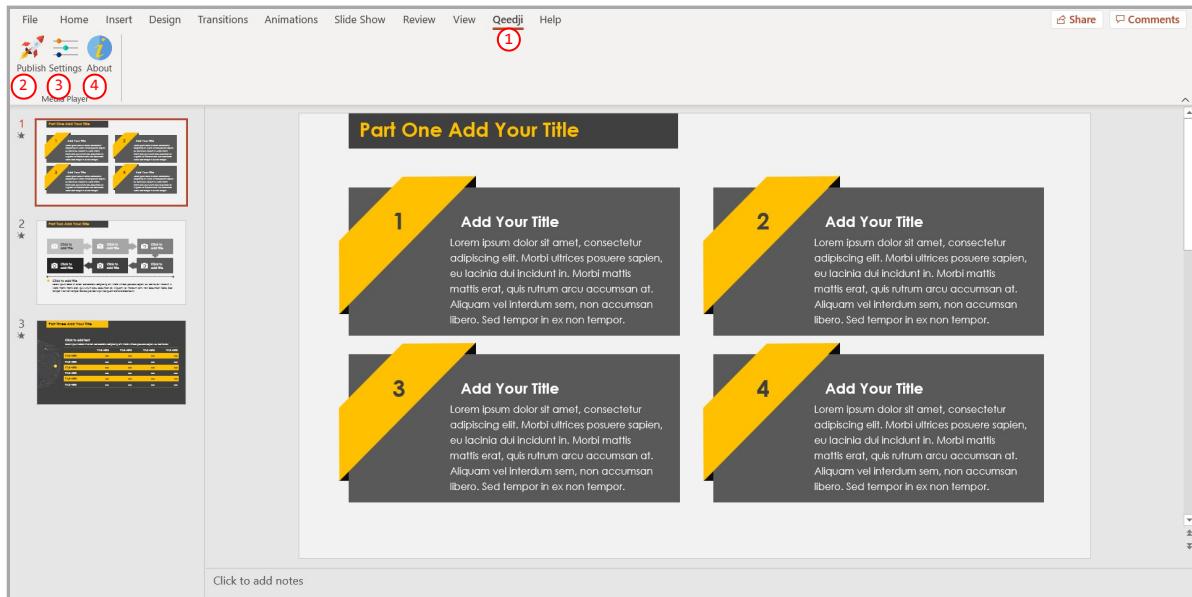
Qeedji PowerPoint Publisher For Media Players: installation

The Qeedji PowerPoint Publisher For Media Players PowerPoint Add In needs to be installed once:

- download the appropriate installer (.msi file):
 - [Qeedji PowerPoint Publisher For Media Players \(nt_ia64\)](#) for your MS-Office (nt_ia64),
 - [Qeedji PowerPoint Publisher For Media Players \(nt_ia32\)](#) for your MS-Office (nt_ia32).
 - execute the installer and choose the Everyone or Just for me installation according to your needs. For example, choose Just me ,
 - click on Next button at each step by checking the default installation settings.
- Choosing Everyone may require to run the PowerPoint with the Administrator rights to be able to deactivate the Qeedji PowerPoint Publisher For Media Players PowerPoint Add In afterwards.
- Warning: one of the installation steps is quite long and can take several minutes (for example, 2 minutes) and may depend on the computer.

Open MS-Office PowerPoint and check that a Qeedji **①** menu has appeared. Clicking on it makes appear a Qeedji ribbon which has 3 items:

- Publish **②**,
- Settings **③**,
- About **④**.



- If the Qeedji menu **①** does not appear after a successful installation, contact support@qeedji.tech.
- In the Qeedji ribbon, click on the About **④** item to see the version of the Qeedji PowerPoint Publisher For Media Players PowerPoint Add In.
- For older computer, it could be requested to install first .NET framework version 4.x.Y before installing the Qeedji PowerPoint Publisher For Media Players PowerPoint Add In.
- The same language is used for Qeedji PowerPoint Publisher For Media Players PowerPoint Add In interface and MS-Windows.
- In case you need to upgrade Qeedji PowerPoint Publisher For Media Players PowerPoint Add In, it is required to close MS-Office PowerPoint and open it again to use the new version.
- In some rare cases, the warning message PowerPoint has problems with the Qeedji complement. If the problem persists, disable this add-on and check for updates. Do you want to disable it now? (yes/no) could be prompted when opening a MS-Office PowerPoint. In this case, do ignore the message by clicking No . It should not prevent the Qeedji PowerPoint Publisher For Media Players to work properly.

Qeedji PowerPoint Publisher For Media Players: uninstallation

To remove the Qeedji PowerPoint Publisher for Media Player addin from your MS-Windows, use the Add or remove programs MS-Windows menu, then remove the program Qeedji PowerPoint Publisher for Media player .

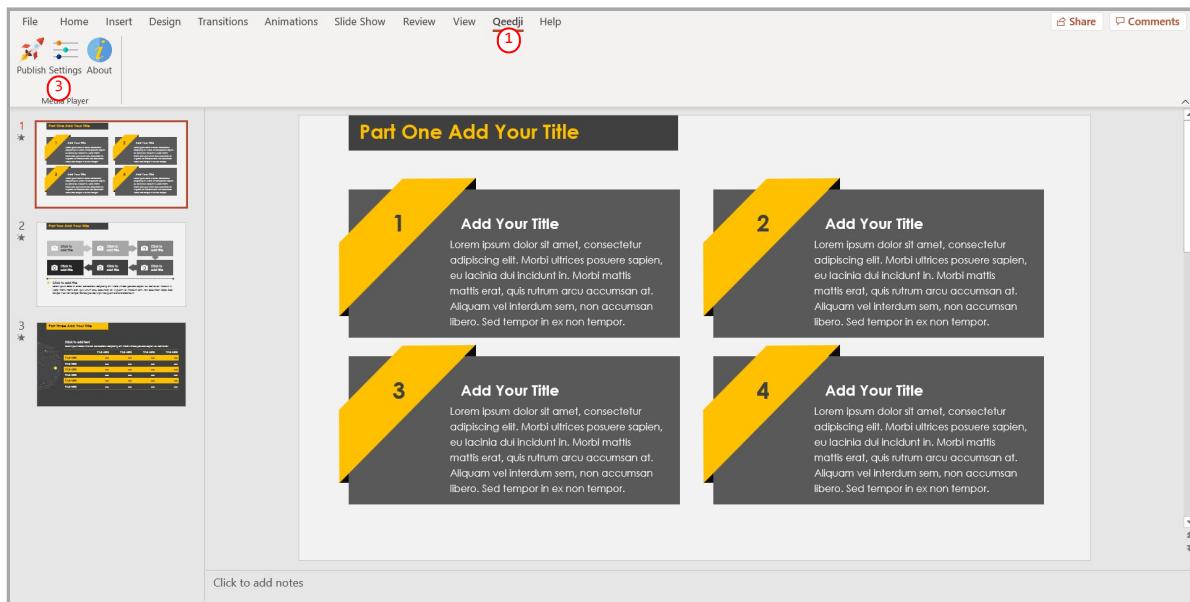
Qeedji PowerPoint Publisher For Media Players: upgrade/downgrade

Before installing a new Qeedji PowerPoint Publisher For Media Players version, it is advised to:

- close MS-PowerPoint then,
- uninstall the previous MS-PowerPoint add-in version.

- In case the version in the About pane of the Qeedji PowerPoint Publisher For Media Players is not corresponding the Qeedji PowerPoint Publisher For Media Players version just installed, disconnect from Office 365 then sign in again.

Qeedji PowerPoint Publisher For Media Players: register one or several devices

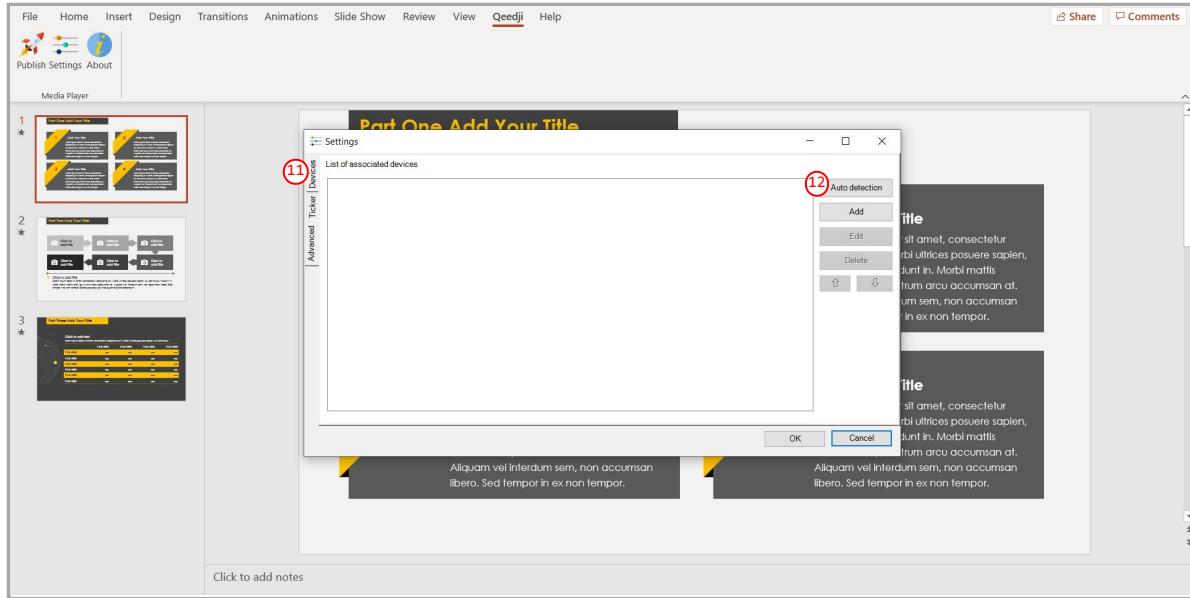


To register one or several DMB400 devices, open your MS-Office PowerPoint presentation then:

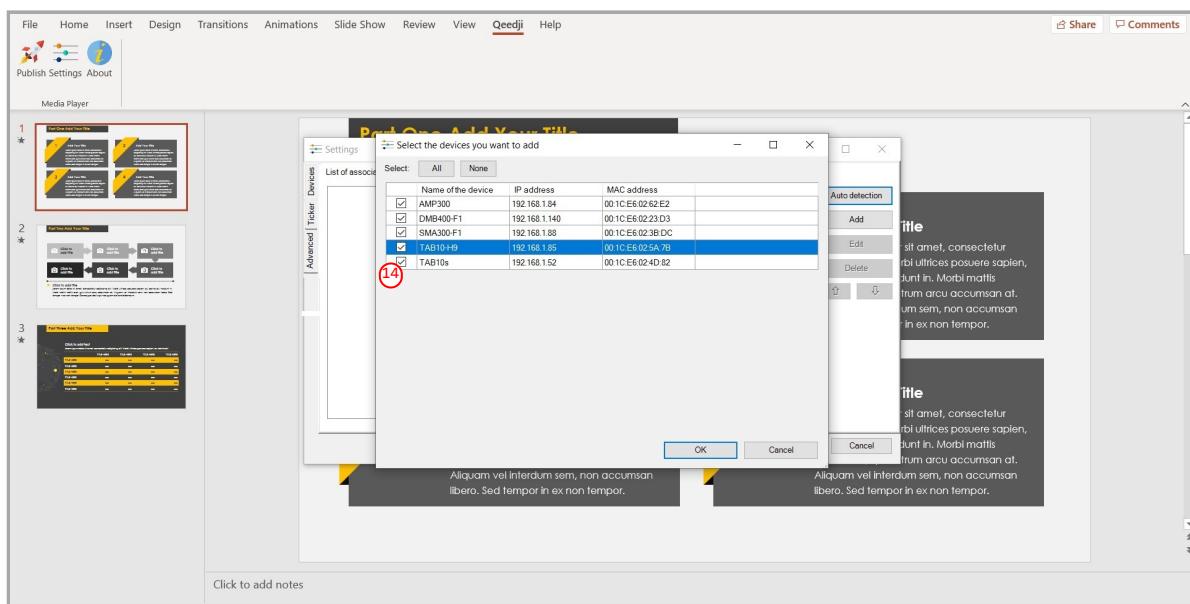
- click on the **Qeedji** (1) menu,
- on the **Qeedji** ribbon, click on the **Settings** (3) item then select the **Devices** tab.

⚠ Some of the MS-PowerPoint transition effects may be not yet supported. For further information, refer to the media player release note.

On the **Devices** (11) tab, click on the **Auto detection** (12) button to detect the DMB400 devices available on your local network.



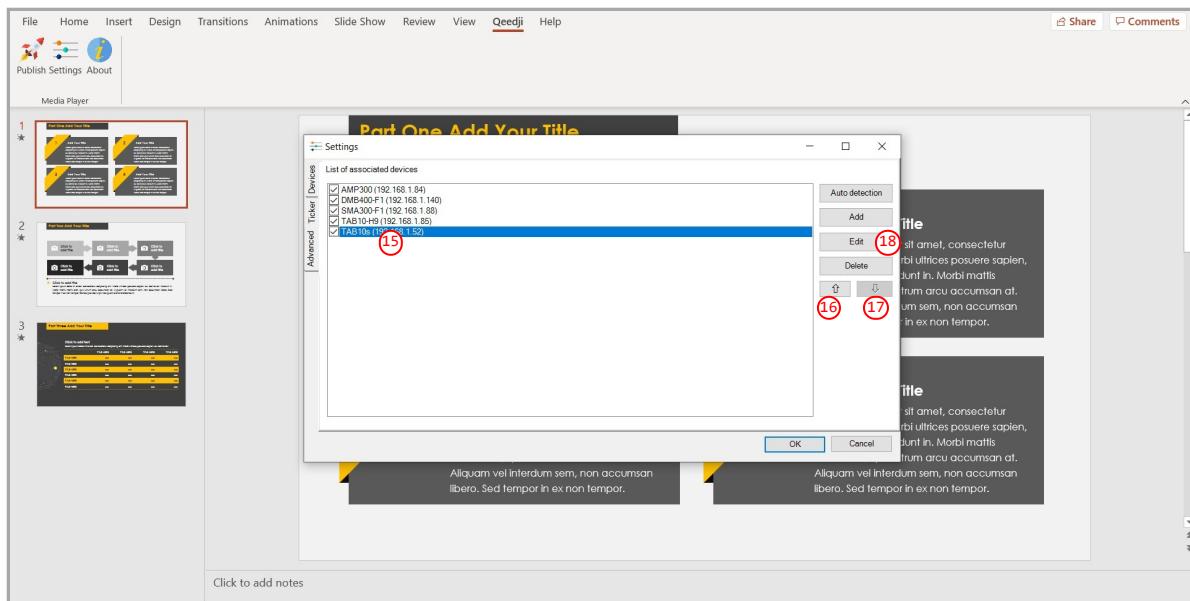
Select ⑭ the appropriate DMB400 devices to create a list of appropriate DMB400 devices as possible applicant for the MS-Powerpoint presentation.



Select then the only DMB400 devices on which you want to publish, by double clicking on them.

☞ The DMB400 devices sorting order in the list is decisive because it is taken into account during the publication. The slides of the first section, or the first ten slides, are always affected to the DMB400 device located at the top of the list. Then the publication is continuing with the next DMB400 device located immediately below, and so on.

Select a DMB400 device and use the up ⑯ arrow or the down ⑰ arrow to sort them in the right order to match the MS-PowerPoint sections.

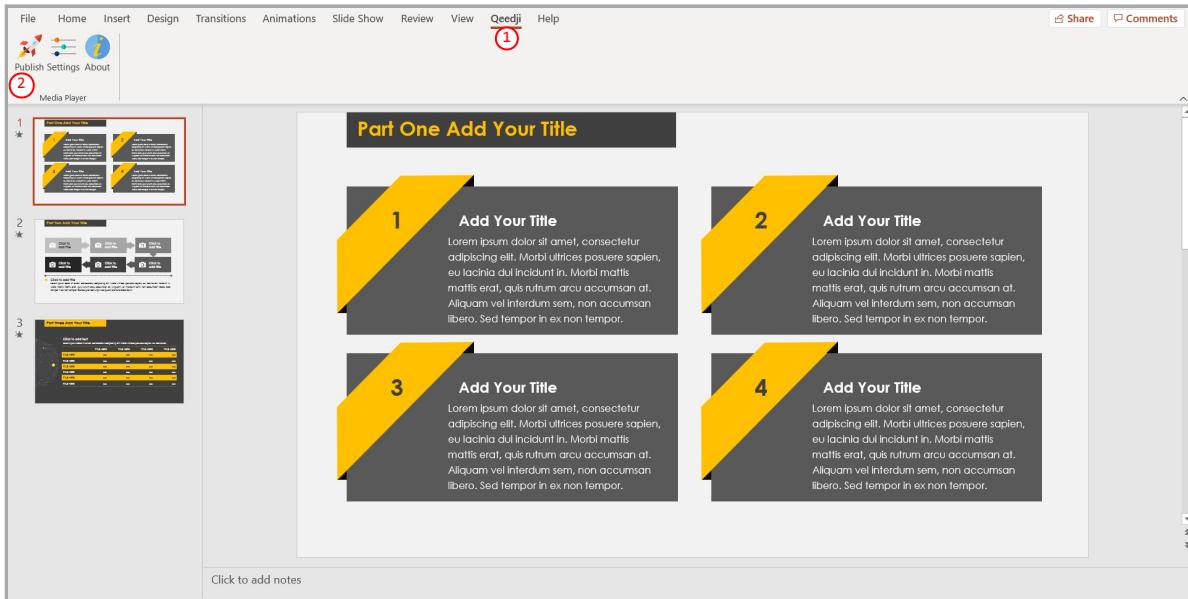


The default *administrator name/password* credentials to access to the DMB400 device's Web server is `admin / admin`. After an UPnP detection, the DMB400 devices are by default registered in Qeedji PowerPoint Publisher For Media Players With the default *user/password* `admin / admin` credentials to access to their Web server. If you must publish your Qeedji PowerPoint Publisher For Media Players App on a device with some *administrator name/password* credentials that are not the default one, select this DMB400 device in the list, press on the *Edit* button, and change the *user/password* by the appropriate *administrator name/password* credentials.

Qeedji PowerPoint Publisher For Media Players: publish

To publish a MS-Powerpoint content on your media player, open your MS-Powerpoint presentation in MS-PowerPoint software. Then:

- click on the Qeedji (1) menu,
- on the Qeedji ribbon, click on the Publish (2) item.



Before publishing with the `Publish` item, it is advised to check in the `Settings` item, that the registered DMB400 devices are consistent and sorted in the right order.

The **Publishing status report** is showing whether the publishing on each DMB400 devices has succeeded or not:

- Publishing succeeded : the publication has succeeded
- Publishing failure (Error: 503) : the publishing has failed. In this case, check the network connection between your computer and the DMB400.

Publishing status report example:

```
1/5 - Publishing on device: AMP300 (192.168.1.84)
    Publishing succeeded

2/5 - Publishing on device: DMB400-F1 (192.168.1.140)
    Publishing succeeded

3/5 - Publishing on device: SMA300-F1 (192.168.1.88)
    Publishing succeeded

4/5 - Publishing on device: TAB10-H9 (192.168.1.85)
    Publishing succeeded

5/5 - Publishing on device: TAB10s (192.168.1.52)
    Publishing succeeded

Publishing completed
Warning - Unable to find the following fonts:
Arvo, Montserrat Black
```

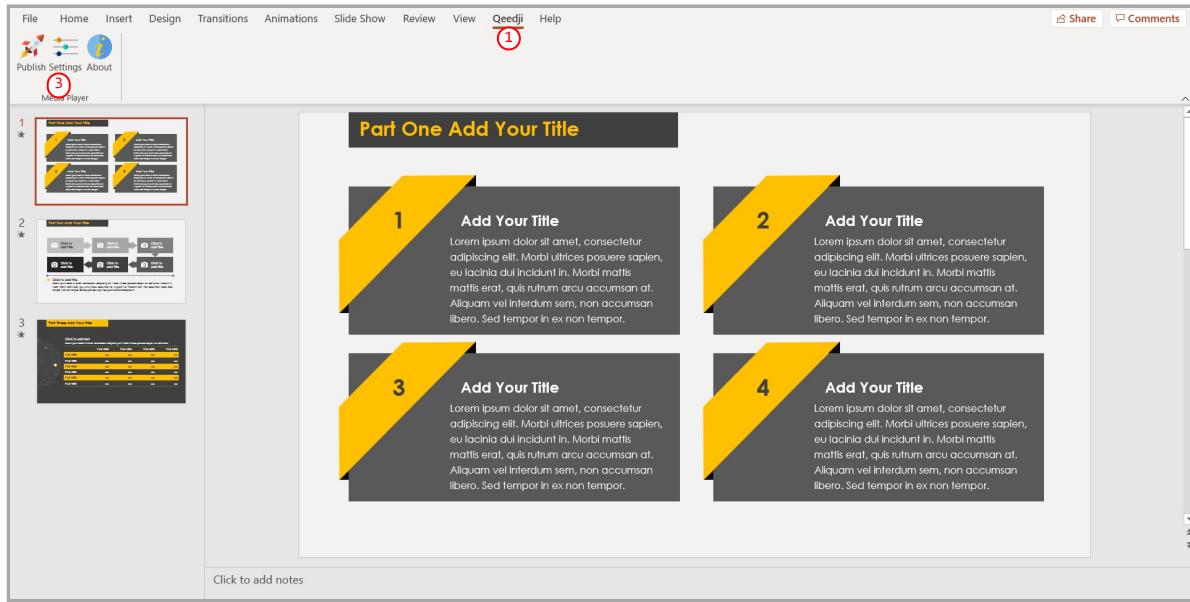
The **Publishing status report** is showing also whether the MS-PowerPoint medias can be rendered with the right fonts. In case some fonts can not be found on the Windows OS, a message `Warning - Unable to find the following fonts` is displayed followed by the missing fonts names. To solve the rendering issue, install the missing fonts on your Windows OS and publish again.

The PowerPoint presentation slideshow is now running on your media player.

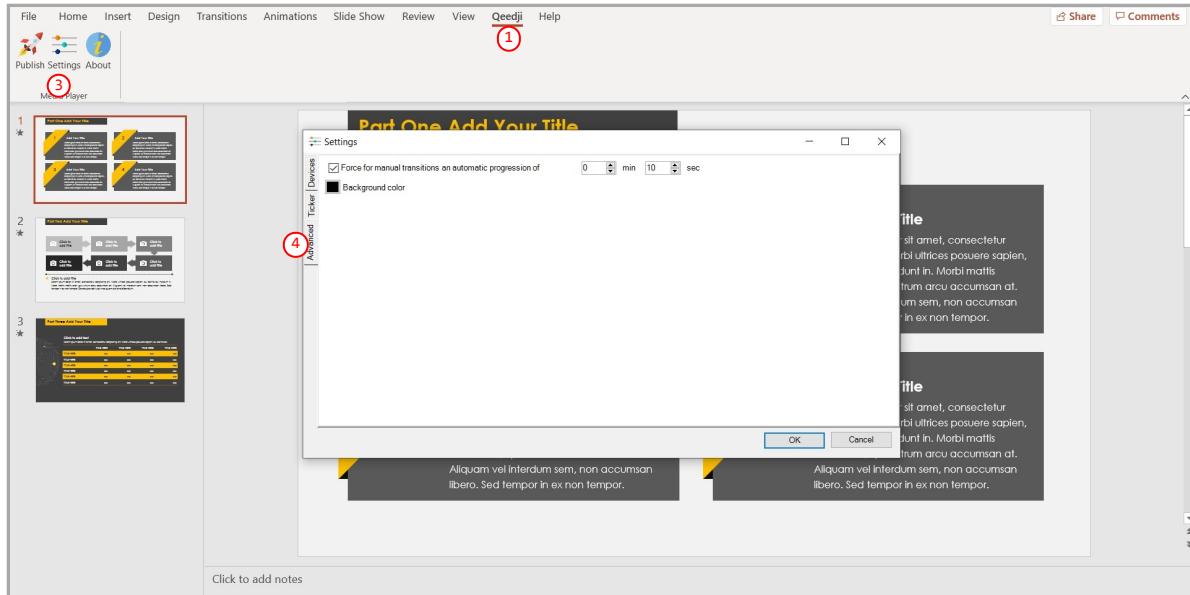
Qeedji PowerPoint Publisher For Media Players: define a default duration per page

To define a default duration per page to your MS-PowerPoint presentation, open you MS-Office Powerpoint presentation then:

- click on the Qeedji (1) menu,
- on the Qeedji ribbon, click on the Settings (3) item then select the Advanced (4) tab.



It is possible then to force for manual transitions a automatic progression of <m> min <n> sec for slides having no duration per slide defined.

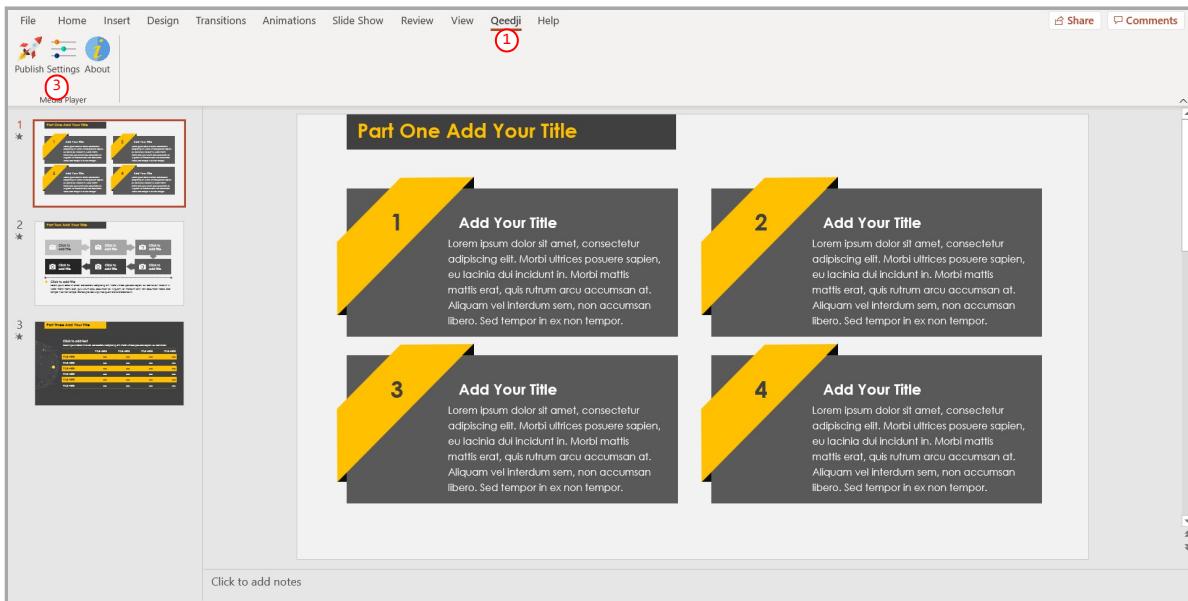


Note: The *Background color* is used here only when the slide aspect ratio (*Slide Size* in MS-PowerPoint) is not 16:9.

Qeedji PowerPoint Publisher For Media Players: add a scrolling text in a bottom banner

To activate a scrolling text in a bottom banner to your MS-PowerPoint presentation, open you MS-Office Powerpoint presentation then:

- click on the Qeedji (1) menu,
- on the Qeedji ribbon, click on the Settings (3) item.



Then select the Ticker (5) tab.

Select the Scrolling text in the bottom banner (6) option to activate the scrolling of a text at the bottom of the presentation.

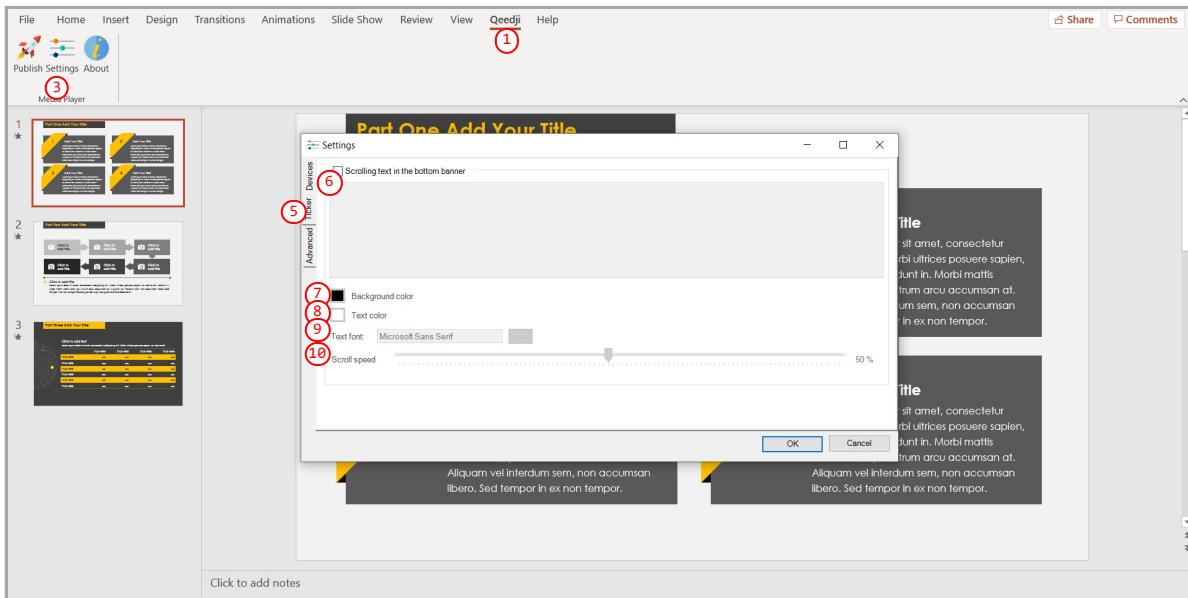
These scrolling text properties can be modified:

- Background color (7),
- Text color (8),
- Text font (9),
- Scroll speed (10).

■ The text is scrolled in overlay automatically.

■ The banner height is 9.26% of the PowerPoint slide height.

■ When the scrolling text overlay is supported by the DMB400 device, the max. number of character per line is depending on the display resolution of the DMB400 device and the chosen font. Outside this limit, the scrolling text cannot be displayed.



Qeedji PowerPoint Publisher For Media Players: information on fonts

- The default Windows font are installed here: C:\Windows\Fonts
- The custom fonts installed by the user are installed here: C:\Users\<username>\AppData\Local\Microsoft\Windows\Fonts

To add a font to your Windows, retrieve the appropriate custom font (.ttf most of time) where you can, double click on it to install it on your Windows OS. Publish the PowerPoint again.

If you don't manage to retrieve a custom font, you can decide to replace the missing custom font by another one, existing this time, in the whole PowerPoint document. In this case, use the Home > Replace > Replace Fonts PowerPoint menu.

Qeedji PowerPoint Publisher For Media Players: miscellaneous

The scheme https:// is not supported in this version.

When the App Qeedji PowerPoint Publisher for Media Player is not supported by a device (older OS, Smart monitor), the message below is displayed

Information

The App "Qeedji Powerpoint Publisher for Media player" is not supported on this device

⚠ The protected view may prevent to publish properly by returning this error: Publishing failure (Error: Unable to save a copy of the current document) ① To work around, click on the Enable editing ② button before publishing.



Qeedji PowerPoint Publisher For Media Players: user interactivity with USB keyboard or remote control

The user interactivity with USB keyboard and remote control key pressed is supported as soon as the PowerPoint presentation is played on the media player.

If the CEC is activated on your screen, and the CEC passthrough properly supported:

- Press on the RIGHT ARROW key of the screen remote control to go to the next slide,
- Press on the LEFT ARROW key of the screen remote control to go to the previous slide,
- Note: some screen may require to select again the video input so that the CEC works properly.

If not, you can plug an USB keyboard:

- Press on the RIGHT ARROW key of the USB keyboard to go to the next slide,
- Press on the LEFT ARROW key of the USB keyboard to go to the previous slide,
- Enter the slide number (for example: the number 4) then press ENTER to go ahead to a specific slide no.

⚠ Gekkota 4 allows to display/undisplay automatically the test card when pressing the key combination: LEFT ARROW, RIGHT ARROW, LEFT ARROW, RIGHT ARROW in less than ten seconds and could lead to unexpected along the presentation. To deactivate this feature, set the user preference innes.player.mire.key-event.*.authorized to false.

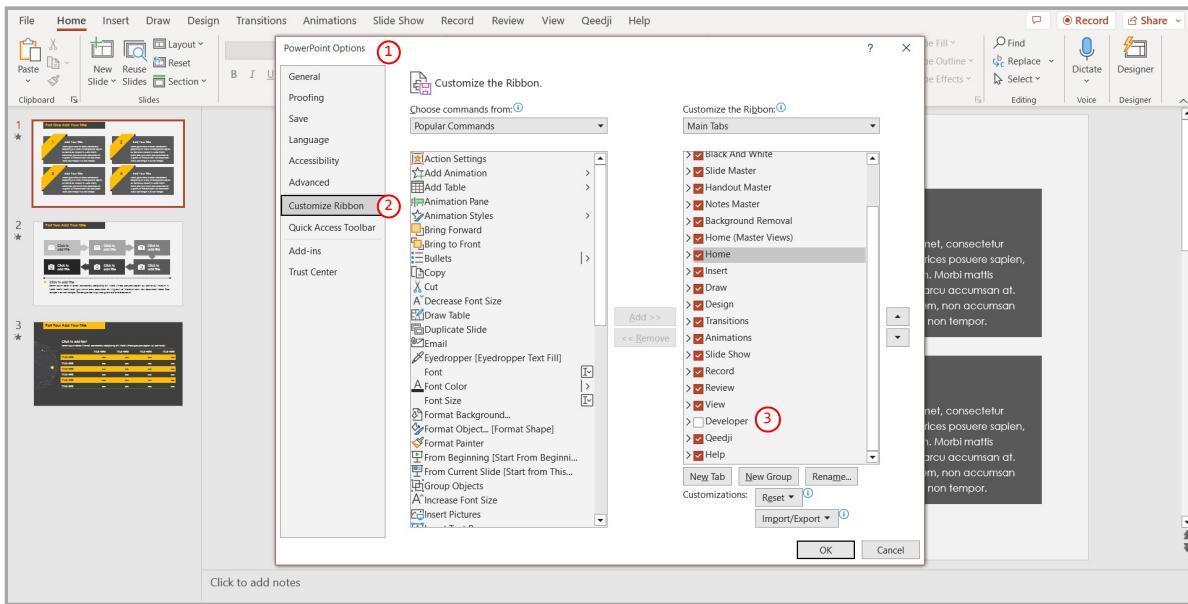
Qeedji PowerPoint Publisher For Media Players: custom script

Qeedji PowerPoint Publisher for Media Player (V1.14.10 or above) allows to load a configuration.xml with the Import feature of the optional Developer tab in the MS-PowerPoint ribbon.

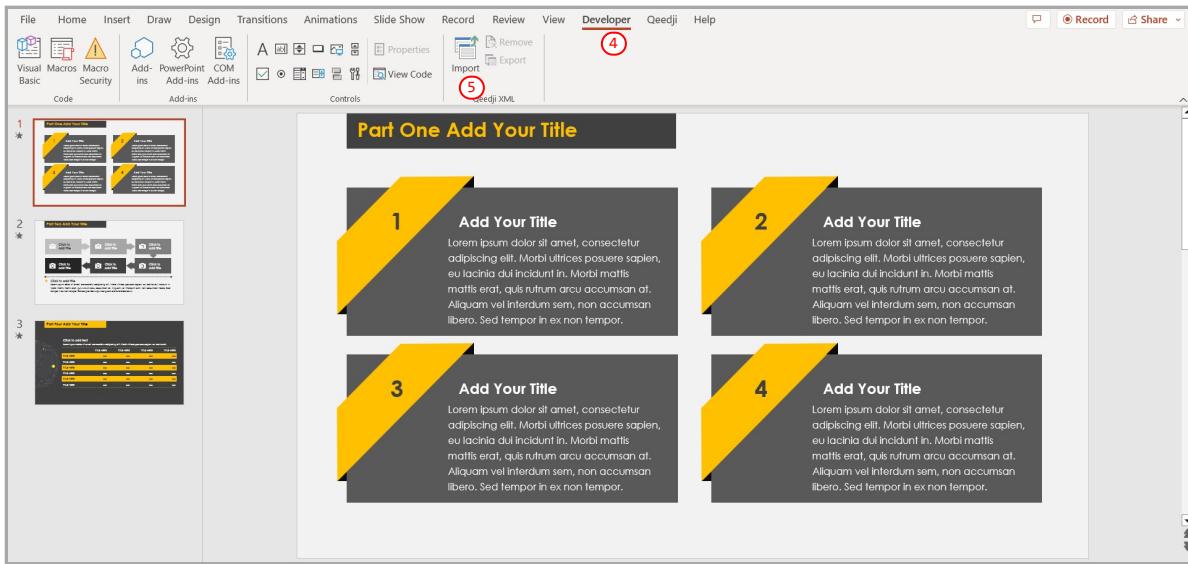
⚠ The configuration.xml can, for example, allow to navigate through your PowerPoint presentation page by sending specific UDP messages. In this case, it is advised to set a manual transition policy for slides where a user interactivity by UDP message is required. It is also advised to uncheck the option force for manual transitions a automatic progression of <m> min <n> sec . To get a configuration.xml template, contact support@innes.pro.

Open your presentation (.pptx) in MS-PowerPoint and click on the Options item of the File menu.

In the PowerPoint Options pane ①, scroll the Customize the ribbon ② list to the bottom to see the Developer ③ option. Check the Developer option that is not checked by default. Then validate.



Click on the **Developer** ④ tab that has just appeared. Click then on the **Import** ⑤ button of the Qeedji XML ribbon part.

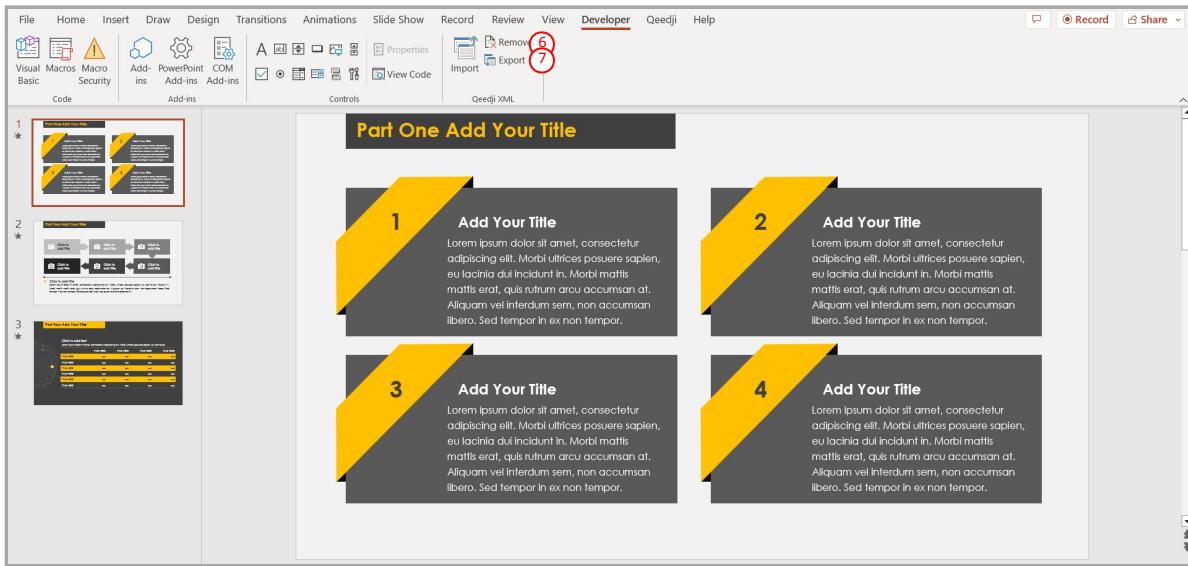


■ Each time the .xml file is modified, it must be imported again to be taken into account.

Select your .xml file (e.g. configuration.xml).

When the .xml file is successfully loaded, two buttons appear:

- Remove (6) allows to remove your .xml file,
- Export (7) allows to export your .xml file to check its content.



Save your MS-PowerPoint presentation and publish the [Qeedji PowerPoint publisher for Medias players App](#) on the device.

Qeedji PowerPoint Publisher For Media Players: screen standby

To program a screen standby task with recurrency, for example from 8.00 PM to 7.00 AM the day after, use the device [Power Manager](#) feature. For further information, refer to the chapter § [Configuration > Task](#).

Qeedji PowerPoint Publisher For Media Players: aspect ratio

For devices, the recommended aspect ratio for MS-PowerPoint slides is 16/9.

7.3 Appendix: Playfolder with services accounts

The credential cache for CIFS and Microsoft 365 service account is reset each time a new App is written in the `/.playout` WebDAV directory.

When the folder synchronization with the remote folder is broken, the playfolder continue to play the last content synchronized with success. To delete the content of the local directory, image of the remote folder content when the folder synchronization is working, you need to remove the App and publish again.

The NetBIOS name resolution is not supported in this OS version.

7.4 Appendix: Scrolling text overlay

When the scrolling text is displayed in overlay in the full HD resolution, the device supports until 1226 characters per line (*Arial* font) in the text file.

When the scrolling text is displayed in overlay in the ultra HD resolution, the device supports until 688 characters per line (*Arial* font) in the text file.

 *When the text is scrolled in overlay, using another font than *Arial* may lead to a lower max number of characters per line.*

The max height for the banner in which a scrolling text is played must be lower than 20% of the screen height.

7.5 Appendix: Video-input playback inside a MS-PowerPoint slide thanks to the MS-PowerPoint Cameo object insertion

The Gekkota OS (4.14.12 or above) allows to play the video coming from the HDMI-input inside a MS-PowerPoint slide thanks to the MS-PowerPoint Cameo object.

Only the recent Desktop versions of MS-PowerPoint support the insertion of a MS-PowerPoint Cameo object type in a slide. For further information about MS-PowerPoint Cameo object, contact your Microsoft support.

To insert a MS-PowerPoint Cameo object in a MS-PowerPoint slide, click on the Insert tab of the MS-Powerpoint ribbon then click on the Cameo item.



Connect a video source on the HDMI-input connector of the DMB400.

Publish the App containing the MS-PowerPoint media on the DMB400. Once done, the slide having the Cameo object should play automatically the video coming from the HDMI-input.

7.6 Appendix: Microsoft Azure AD portal for URL launcher application

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](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.

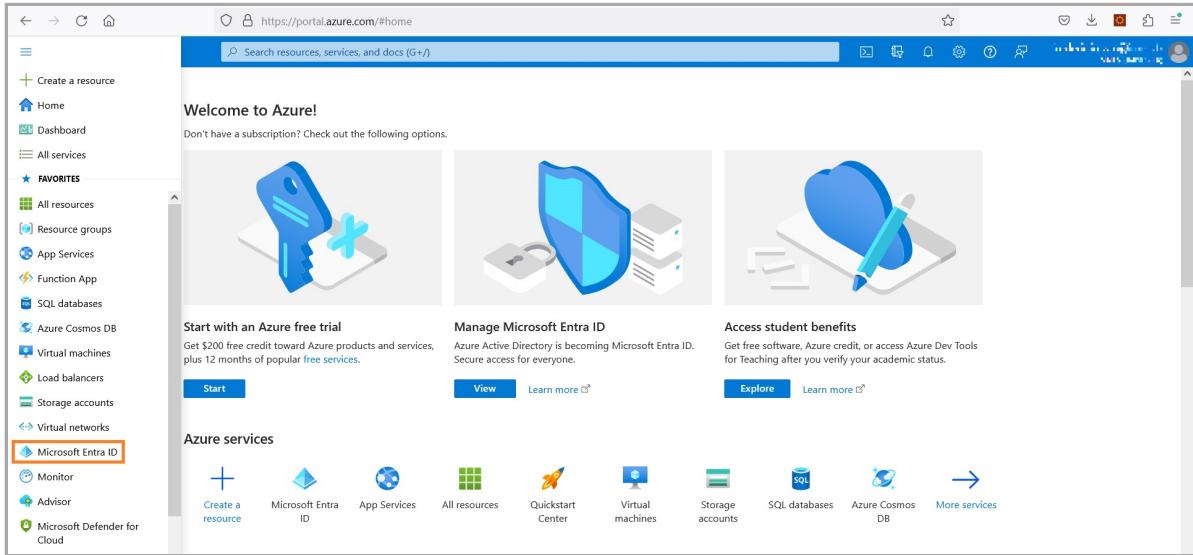
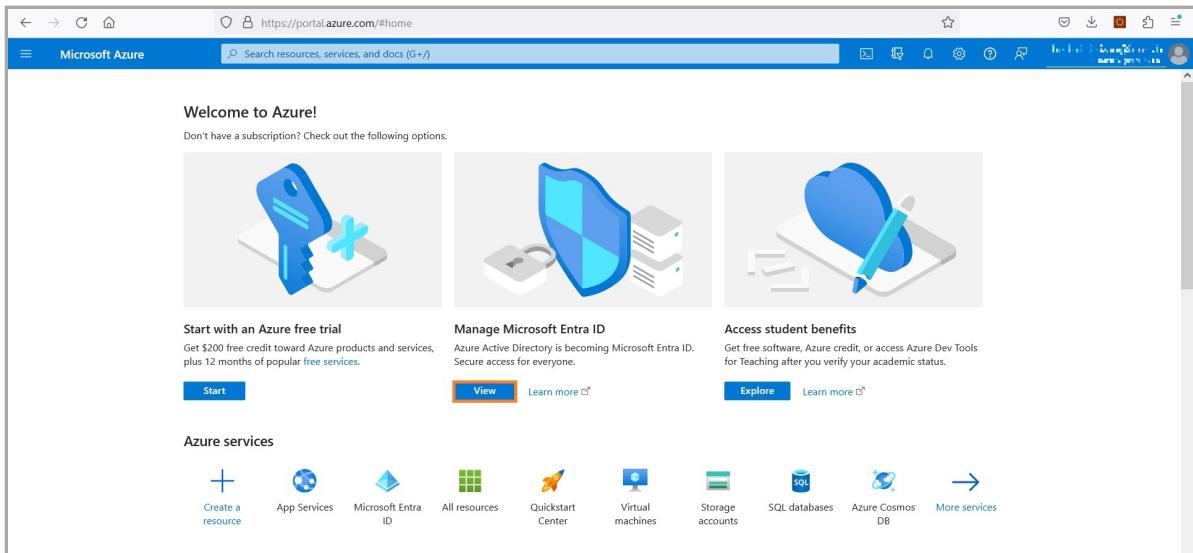
This procedure allows to generate you own client ID and client SECRET required for the `URL launcher` application with *Microsoft 365* connection account:

- 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 1.10.17 (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/](https://portal.azure.com/) and sign in with your Office Administrator account login credentials.

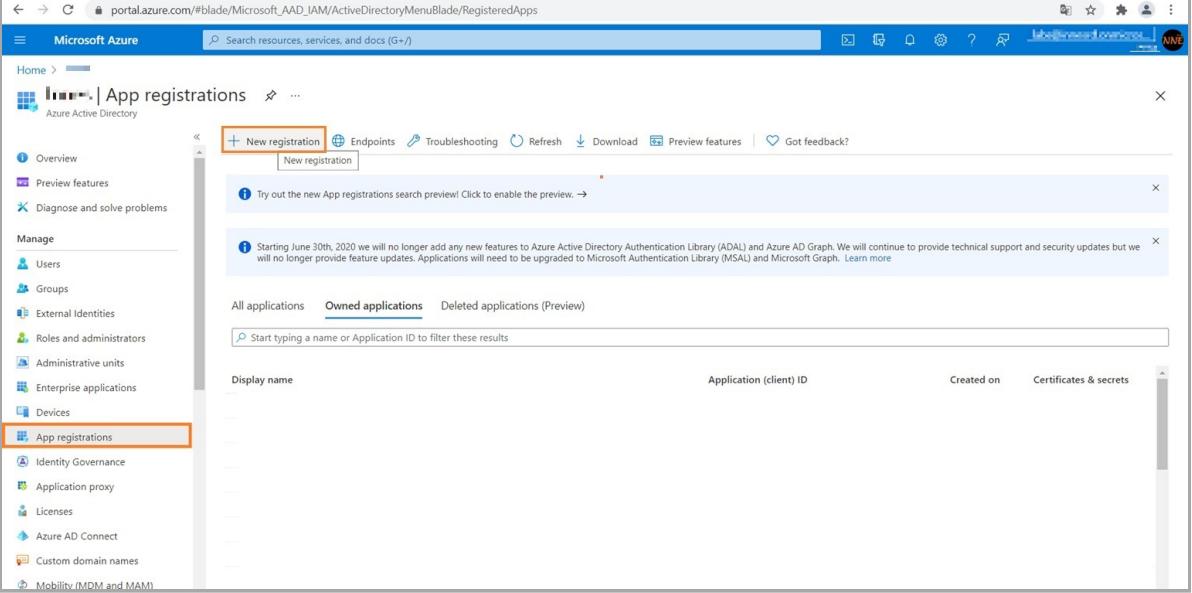
Click on the left top menu and choose the `Azure Active directory` item.



Application (client) ID and directory (Tenant) ID

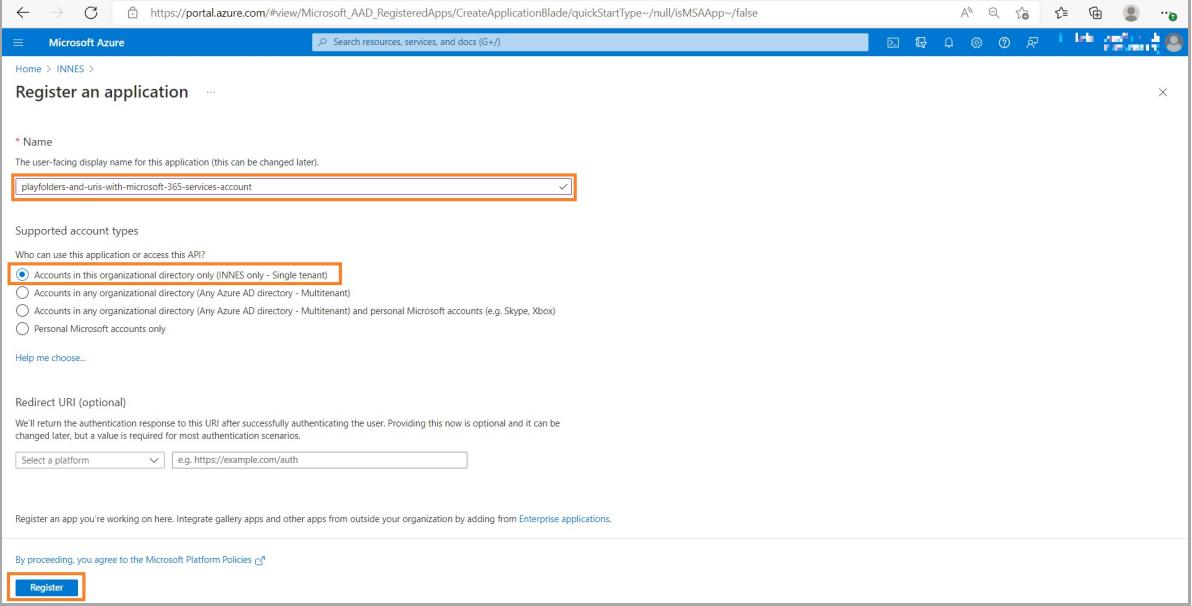
On the App registrations menu, click on *New registration*

https://portal.azure.com/#blade/Microsoft_AAD_IAM/ActiveDirectoryMenuBlade/RegisteredApps .



The screenshot shows the Microsoft Azure portal's App registrations blade. On the left, there's a sidebar with 'App registrations' selected. At the top, there's a 'New registration' button with a red box around it. Below it, there's a search bar and a message about feature deprecation. The main area shows a table with columns for 'Display name', 'Application (client) ID', 'Created on', and 'Certificates & secrets'. There are tabs for 'All applications', 'Owned applications' (which is selected), and 'Deleted applications (Preview)'. A search bar at the bottom of the table area is also highlighted with a red box.

Enter an application name (e.g.: *playfolder-with-microsoft-365-application*), Select the appropriate Account in the organisation directory only (organisation only – Single tenant) radio button, and click on the *Register* button.



The screenshot shows the 'Register an application' blade. It has fields for 'Name' (with 'playfolders-and-uris-with-microsoft-365-services-account' entered and highlighted with a red box), 'Supported account types' (with 'Accounts in this organizational directory only (INNES only - Single tenant)' selected and highlighted with a red box), 'Redirect URI (optional)' (with a dropdown set to 'Select a platform' and a text input 'e.g. https://example.com/auth'), and a 'Register' button at the bottom which is also highlighted with a red box.

In the Overview menu, copy to clipboard the Application (client) ID value, the 1st value required in DMB400 App configuration tab and store it preciously.

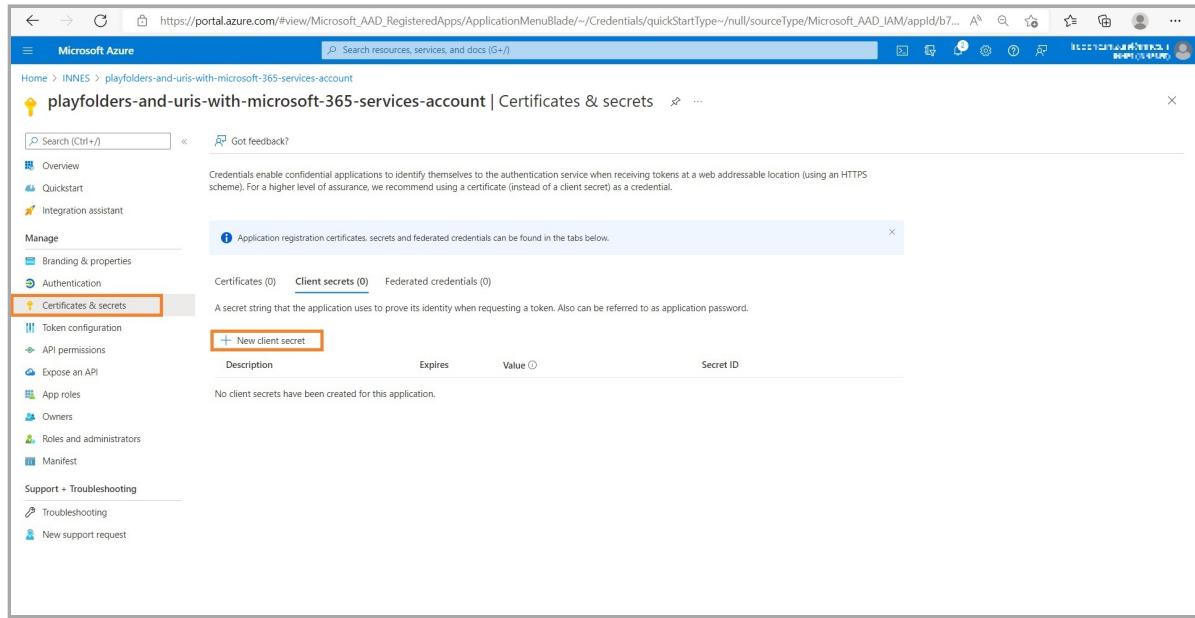
The screenshot shows the Microsoft Azure portal's 'Overview' page for an application named 'playfolders-and-uris-with-microsoft-365-services-account'. The left sidebar contains navigation links like Home, Quickstart, Integration assistant, Manage, Authentication, Certificates & secrets, Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, and Manifest. The main area has sections for Essentials (Display name, Application (client) ID, Object ID, Directory (tenant) ID, Supported account types), Client credentials, Redirect URIs, Application ID URI, and Managed application in A 'Get Started' button is at the bottom. A 'Build your application with the Microsoft identity platform' section follows, with a note about the end of legacy app registrations.

In the Overview menu, copy to clipboard the Directory (tenant) ID value, the 2nd value required in DMB400 App configuration tab and store it preciously.

This screenshot is identical to the one above, showing the Microsoft Azure portal's 'Overview' page for the same application. The 'Directory (tenant) ID' field is highlighted with a red box. The rest of the interface, including the sidebar, main configuration fields, and the 'Build your application with the Microsoft identity platform' section, remains the same.

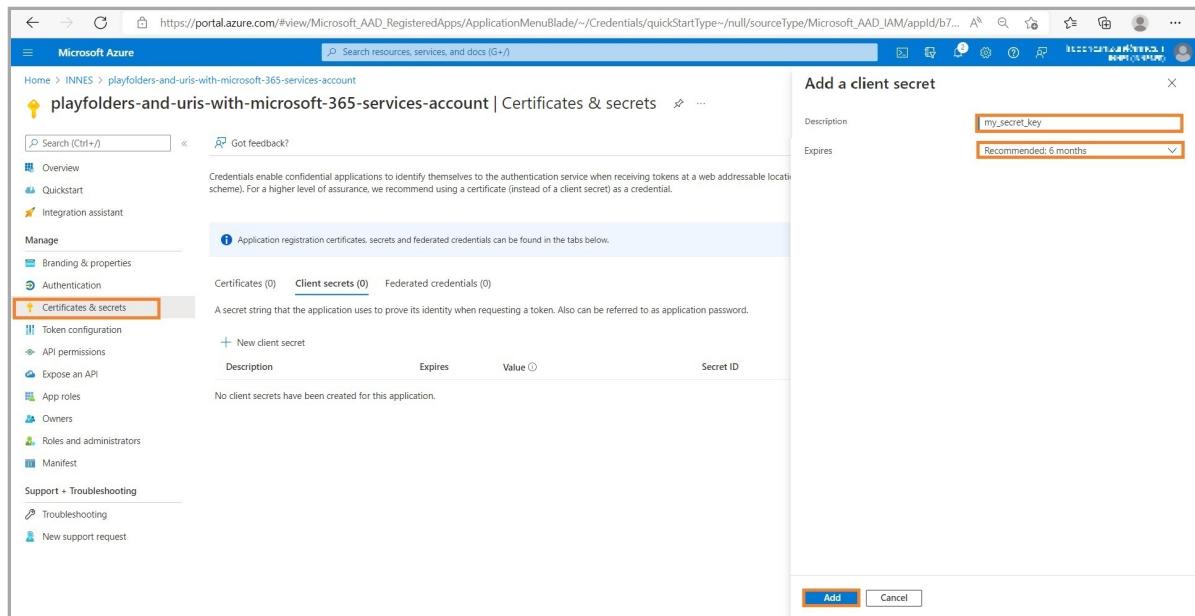
Client secret

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



The screenshot shows the Microsoft Azure portal interface. On the left, there's a sidebar with 'Manage' and 'Authentication' sections. Under 'Authentication', 'Certificates & secrets' is selected and highlighted with a red box. Below it, there's a 'New client secret' button also highlighted with a red box. The main content area shows a table for managing client secrets, which is currently empty. A tooltip above the table says: 'A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.'

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



The screenshot shows the 'Add a client secret' dialog box overlaid on the Azure portal. The 'Description' field has 'my_secret_key' entered. The 'Expires' dropdown is set to 'Recommended: 6 months'. At the bottom right of the dialog, there are 'Add' and 'Cancel' buttons, with 'Add' highlighted with a red box.

Copy into clip board the client secret value, the 3rd input for the DMB400 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.

The screenshot shows the Microsoft Azure portal interface. The URL in the address bar is https://portal.azure.com/#view/Microsoft_AAD_RegisteredApps/ApplicationMenuBlade/~/Credentials/quickStartType~/null/sourceType/Microsoft_AAD_IAM/appId/b7.... The page title is "playfolders-and-uris-with-microsoft-365-services-account | Certificates & secrets".

The left sidebar menu includes: Overview, Quickstart, Integration assistant, Manage (selected), Branding & properties, Authentication, Certificates & secrets (selected), Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, and Manifest.

A modal window titled "Got a second to give us some feedback?" has a close button "X".

The main content area shows the "Certificates & secrets" tab selected. It displays a table with one row:

| Description | Expires | Value | Copy to clipboard | Get ID |
|---------------|-----------|---|-------------------------------------|---------------------------------------|
| my_secret_key | 12/3/2022 | UoeBQ~8hr-A-BoQv5B055bwV48Gnzk. 7dde83bb-3aa1-467e-a4e9-d7527b348d... | <input type="button" value="Copy"/> | <input type="button" value="Get ID"/> |

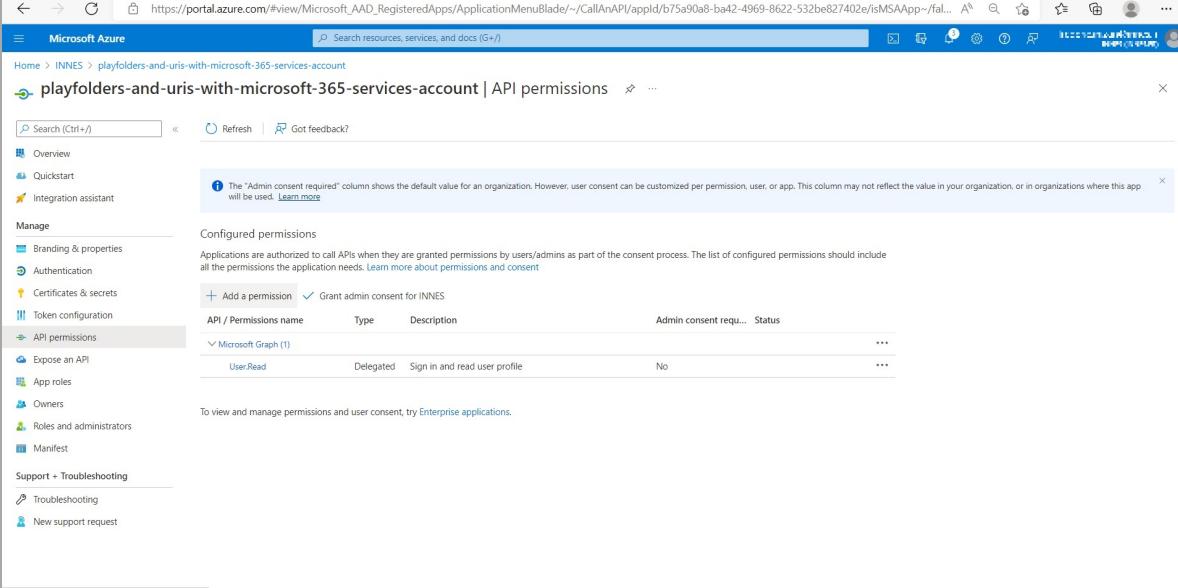
Grant permissions

For the *playfolders-and-uris* application, these permissions must be granted:

- Application permissions:
 - `Files.Read.All`,
 - `Sites.Read.All`,
- Delegated permissions:
 - `Files.Read.All`,
 - `Sites.Read.All`,
 - `User.Read` (default).

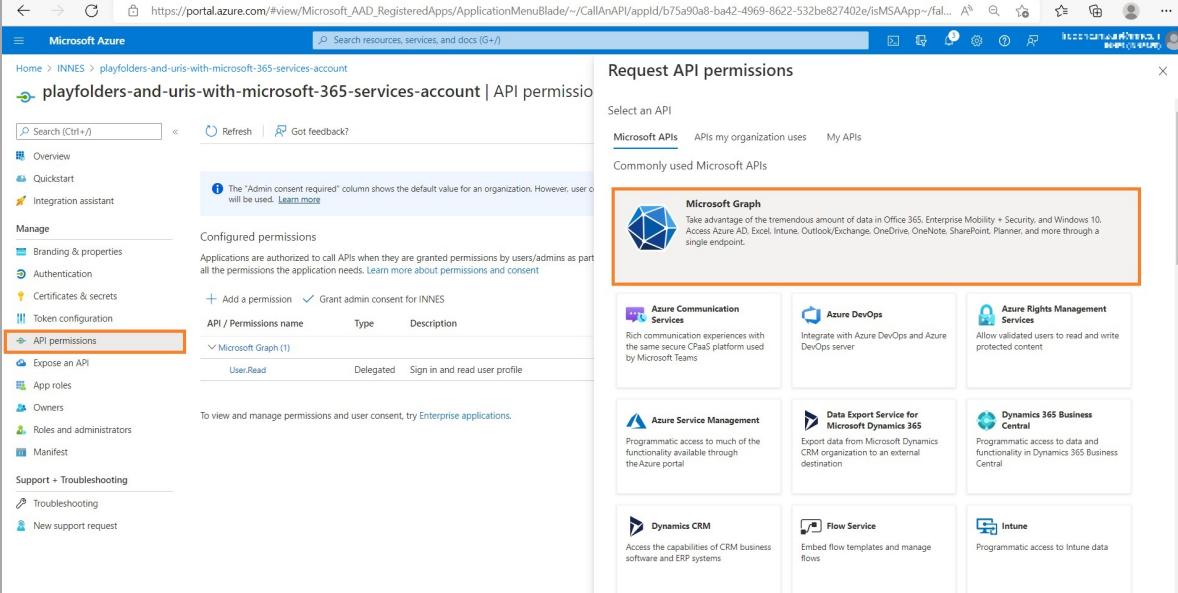
Note: The `Files.Read.All` permission allows to read files or folder content on oneDrive. The `Sites.Read.ALL` permission allows to read the Web URL.

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



The screenshot shows the Microsoft Azure portal interface. The left sidebar has sections like Overview, Quickstart, Integration assistant, Manage (with Branding & properties, Authentication, Certificates & secrets, Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, Manifest), Support + Troubleshooting (Troubleshooting, New support request), and a Troubleshooting link. The main content area is titled 'playfolders-and-uris-with-microsoft-365-services-account | API permissions'. It shows a note about admin consent required and a table of configured permissions. The table has columns: API / Permissions name, Type, Description, Admin consent requ..., and Status. One row is shown: Microsoft Graph (1) - User.Read, Delegated, Sign in and read user profile, No. At the bottom, it says 'To view and manage permissions and user consent, try Enterprise applications.'

Select Microsoft Graph button in the Microsoft APIs tab.



The screenshot shows the Microsoft Azure portal with the 'Request API permissions' dialog open. The left sidebar is the same as the previous screenshot. The main content area shows the 'Request API permissions' dialog with tabs for Microsoft APIs, APIs my organization uses, and My APIs. Under 'Commonly used Microsoft APIs', there's a section for 'Microsoft Graph' which is highlighted with a red box. Other sections include 'Azure Communication Services', 'Azure DevOps', 'Azure Rights Management Services', 'Azure Service Management', 'Data Export Service for Microsoft Dynamics 365', 'Dynamics 365 Business Central', 'Flow Service', and 'Intune'.

Application permission:

Select then the Application permissions button.

The screenshot shows the Microsoft Azure portal with the URL https://portal.azure.com/#view/Microsoft_AAD_RegisteredApps/ApplicationMenuBlade/~/~/CallAnAPI/appId/b75a90a8-ba42-4969-8622-532be827402e/isMSAApp~/fa.... The left sidebar shows the 'Manage' section with 'API permissions' selected. The main area displays the 'Request API permissions' dialog for Microsoft Graph. The 'Delegated permissions' section shows 'User.Read' selected. The 'Application permissions' section is visible but empty. At the bottom are 'Add permissions' and 'Discard' buttons.

In the display filter input, enter the text `Files` and check the option `Files.Read.All`.

Do not click now on the `Add permissions` button.

The screenshot shows the Microsoft Azure portal with the same URL as the previous screenshot. The 'Select permissions' dialog is open, showing the 'Files' category expanded. Under 'Files', the 'Files.Read.All' checkbox is checked and highlighted with a red border. Other options like 'Files.ReadWrite.All' and 'OnPremisesPublishingProfiles' are also listed. At the bottom are 'Add permissions' and 'Discard' buttons.

To be able to read Sharepoint Web URL or Sharepoint Web sites, in the display filter input, enter the text **Sites** then check the option **Sites.Read.All**.

The screenshot shows the Microsoft Azure portal interface. On the left, there's a sidebar with various management options like Overview, Quickstart, Integration assistant, Manage (which is expanded), and API permissions. Under API permissions, 'Expose an API' is selected. The main content area is titled 'Request API permissions' for a Microsoft Graph application. It shows a warning about admin consent required. A table lists configured permissions: 'Files.ReadWrite.All' (Application, Read and write files in all site collections) and 'User.Read' (Delegated, Sign in and read user profile). On the right, under 'Select permissions', the 'Sites' section is expanded, showing several options. One option, 'Sites.Read.All' (Read items in all site collections), has a checked checkbox and is highlighted with a red box. Other options include 'Sites.FullControl.All', 'Sites.Manage.All', 'Sites.Selected', and 'Sites.ReadWrite.All'. At the bottom right of the permission selection area are 'Add permissions' and 'Discard' buttons.

Click on the **Add permissions** button.

Delegated permissions:

Select then the **Delegated permissions** button.

The screenshot shows the Microsoft Azure portal interface. On the left, there's a sidebar with various options like Overview, Quickstart, Integration assistant, Manage, and API permissions. The API permissions section is currently selected. On the right, a modal window titled 'Request API permissions' is open, specifically for 'Microsoft Graph'. Inside, there are two main sections: 'Delegated permissions' (which is highlighted with an orange box) and 'Application permissions'. The 'Delegated permissions' section contains a table with five rows of permissions, all of which are currently selected (indicated by blue checkboxes). The 'Application permissions' section is also visible but contains no selected items. At the bottom of the modal, there are 'Add permissions' and 'Discard' buttons.

| API / Permissions name | Type | Description |
|------------------------|-------------|---|
| Files.ReadWrite.All | Delegated | Have full access to all files user can access |
| Files.ReadWrite.All | Application | Read and write files in all site collections |
| Sites.ReadWrite.All | Application | Read and write items in all site collections |
| User.Read | Delegated | Sign in and read user profile |
| User.Read.All | Application | Read all users' full profiles |

In the display filter input, enter the text `Files` and check the option `Files.Read.All`.

Do not click now on the `Add permissions` button.

This screenshot shows the same 'Request API permissions' dialog for Microsoft Graph, but with a different focus. The 'Select permissions' section is now active, indicated by a red box around the 'Files' search bar. Below it, a list of permissions under the 'Files' category is shown, with one permission checked: 'Files.Read.All' (Read all files that user can access). The other permissions in the list ('Files.Read' and 'User.Read') are not checked. The rest of the dialog, including the 'Application permissions' section and the bottom buttons, remains the same as in the previous screenshot.

| Permission | Admin consent required |
|---|------------------------|
| CrossTenantUserProfileSharing | No |
| Files (1) | |
| <input type="checkbox"/> Files.Read (1) Read user files | No |
| <input checked="" type="checkbox"/> Files.Read.All (1) Read all files that user can access | No |

To be able to read Sharepoint Web URL or Sharepoint Web sites, in the display filter input, enter the text **Sites** then check the option **Sites.Read.All**.

The screenshot shows the Azure portal interface for managing API permissions. On the left, the navigation menu includes 'Overview', 'Quickstart', 'Integration assistant', 'Manage' (selected), 'Branding & properties', 'Authentication', 'Certificates & secrets', 'Token configuration', and 'API permissions' (selected). The main content area is titled 'Request API permissions' and shows the 'All APIs' dropdown set to 'Delegated permissions'. It explains that the application needs access to the API as the signed-in user. A search bar for 'Select permissions' shows 'Sites'. The 'Permission' table lists 'Sites (1)' with one item: 'Sites.Read.All' (Delegated, Read items in all site collections). The status column indicates 'Yes' for 'Admin consent required'. An 'Add permissions' button is at the bottom.

At this step, the permissions are not yet granted.

Grant permissions:

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

The screenshot shows the same Azure portal interface as the previous one, but now the 'Grant admin consent for INNES' button in the 'API permissions' list is highlighted with an orange border. A toast notification in the top right corner says 'Updating permissions' and 'Successfully saved permissions for playfolders-and-uris-with-microsoft-365-services-account.' The rest of the interface remains the same, showing the 'API permissions' list with the 'Sites.Read.All' permission entry.

Grant admin consent confirmation.

Do you want to grant consent for the requested permissions for all accounts in INNES? This will update any existing admin consent records this application already has to match what is listed below.

Yes **No**

will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

| API / Permissions name | Type | Description | Admin consent requ... | Status | ... |
|------------------------|-------------|-------------------------------------|-----------------------|-------------------------|-----|
| Microsoft Graph (5) | | | | | |
| Files.Read.All | Delegated | Read all files that user can access | No | | ... |
| Files.Read.All | Application | Read files in all site collections | Yes | ⚠ Not granted for INNES | ... |
| Sites.Read.All | Delegated | Read items in all site collections | No | | ... |
| Sites.Read.All | Application | Read items in all site collections | Yes | ⚠ Not granted for INNES | ... |
| User.Read | Delegated | Sign in and read user profile | No | | ... |

To view and manage permissions and user consent, try [Enterprise applications](#).

Now the permissions are granted.

Successfully granted admin consent for the requested permissions.

The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

| API / Permissions name | Type | Description | Admin consent requ... | Status | ... |
|------------------------|-------------|-------------------------------------|-----------------------|-------------------|-----|
| Microsoft Graph (5) | | | | | |
| Files.Read.All | Delegated | Read all files that user can access | No | Granted for INNES | ... |
| Files.Read.All | Application | Read files in all site collections | Yes | Granted for INNES | ... |
| Sites.Read.All | Delegated | Read items in all site collections | No | Granted for INNES | ... |
| Sites.Read.All | Application | Read items in all site collections | Yes | Granted for INNES | ... |
| User.Read | Delegated | Sign in and read user profile | No | Granted for INNES | ... |

To view and manage permissions and user consent, try [Enterprise applications](#).

Powershell

The application can be created easily with a Powershell script. For further information, refer to the chapter § [Appendix: Azure AD Application PowerShell module for URL launcher application](#).

7.7 Appendix: Azure AD Application PowerShell module for URL launcher application

This is the suitable PowerShell module to create your Azure Active Directory Application for Web page based on a *Microsoft 365* service account.

 For Web page application, the PowerShell script for Azure Active Directory Application support (`Powershell_Innes_AAD`) must be 1.10.17 (or above).

Download the PowerShell script for Azure Active Directory Application support `Powershell_Innes_AAD-1.10.17.zip` from the [Innes Site Web](#) then follow the instructions below.

Compatibility

The `Powershell_Innes_AAD-1.10.17.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 click 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 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 you 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 | 1.10.17 | PSAAD |
| Function | Remove-AADApplication | 1.10.17 | 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 M365 files and folders resources and Web sites for SignCom application
- "url_launcher_m365" : to access to M365 Web sites for URL launcher 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 reports and Power BI dashboards

-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 | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx |

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

```
PS > $result = New-AADApplication -appname "url-launcher-with-microsoft-365-service-account" -authorizations "url_launcher_m365"
```

■ 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 Microsoft 365 (<https://www.office.com/>) login credentials having a profile with rights granted for administration of Microsoft Application.

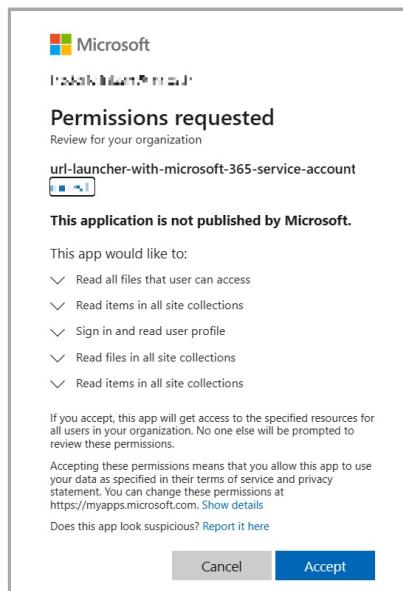
This message is then displayed in a *Powershell* context.

```
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 Microsoft 365 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 > $result  
Name          Value  
---  
clientId      xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx  
objectId      xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx  
spId          xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx  
name          url-launcher-with-microsoft-365-service-account  
tenantId      xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx  
clientSecret xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

The result of the *Powershell* function is also stored in a JSON file: `result.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 "url-launcher-with-microsoft-365-service-account"
```

A login popup is opened. Enter again your Microsoft 365 credentials. In case the values do not allow Web page with *Microsoft 365* service account to be launched 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.

7.8 Appendix: Microsoft Azure AD portal for Microsoft Power BI application

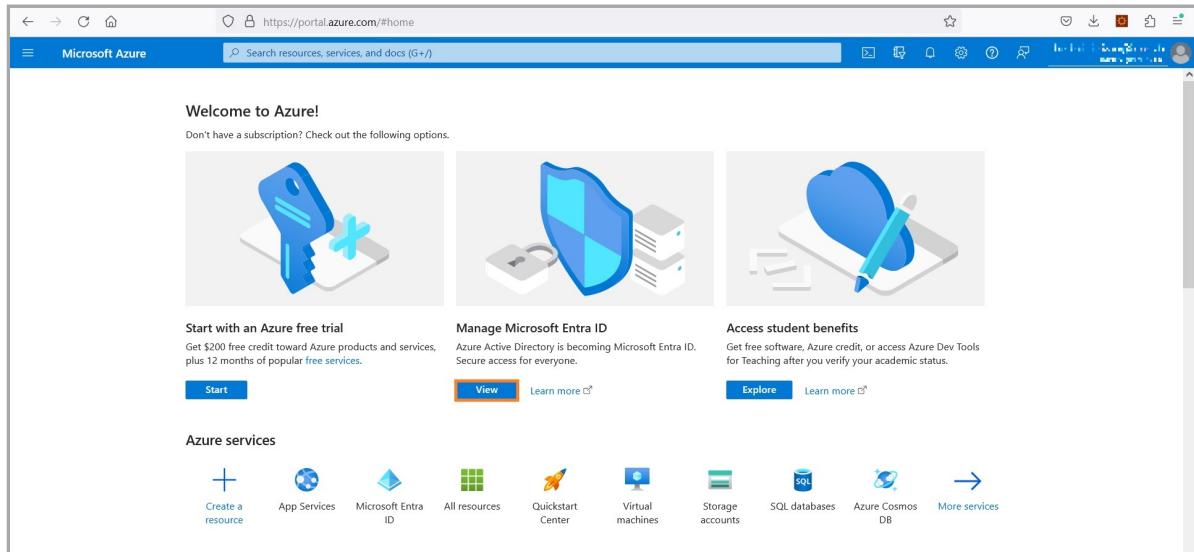
You can create your Azure Active Directory (or Azure AD) application by following this Microsoft tutorial <https://docs.microsoft.com/en-us/graph/auth-register-app-v2>.

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

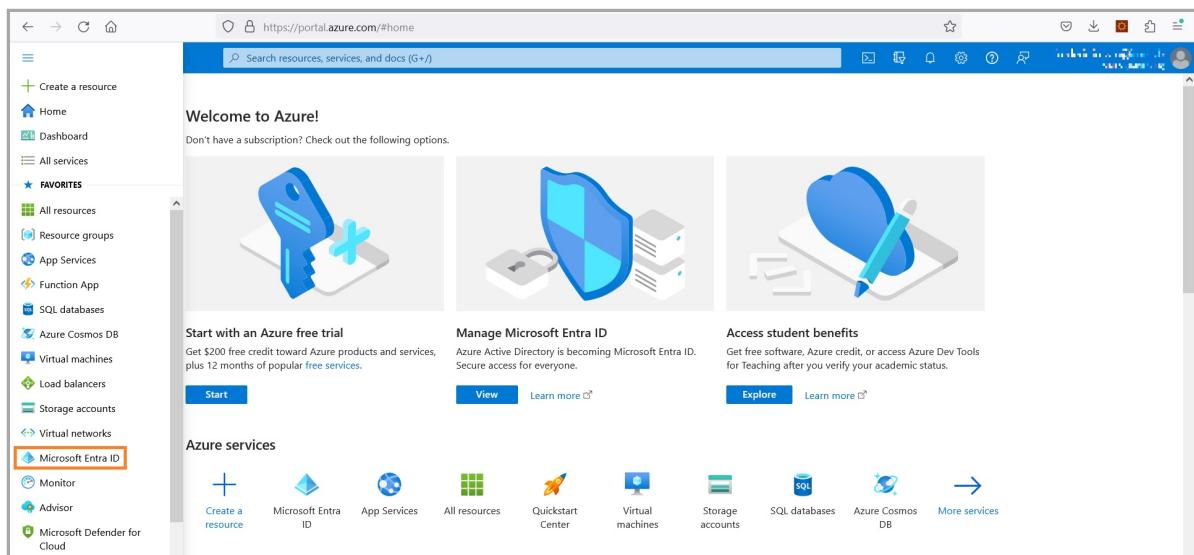
This procedure allows to generate you own client ID and SECRET required in for Power BI Online Viewer application:

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

Connect on Microsoft Azure portal: <https://portal.azure.com/> and sign in with your Microsoft 365 (M365) administrator account login credentials. Click on the left top menu and choose the Azure Active Directory item.



Either click on the **View** button of the the **Manage Microsoft Entra ID** section or click on the **Home** button then in the menu select the **Microsoft Entra ID** item.



Application (client) ID and directory (Tenant) ID

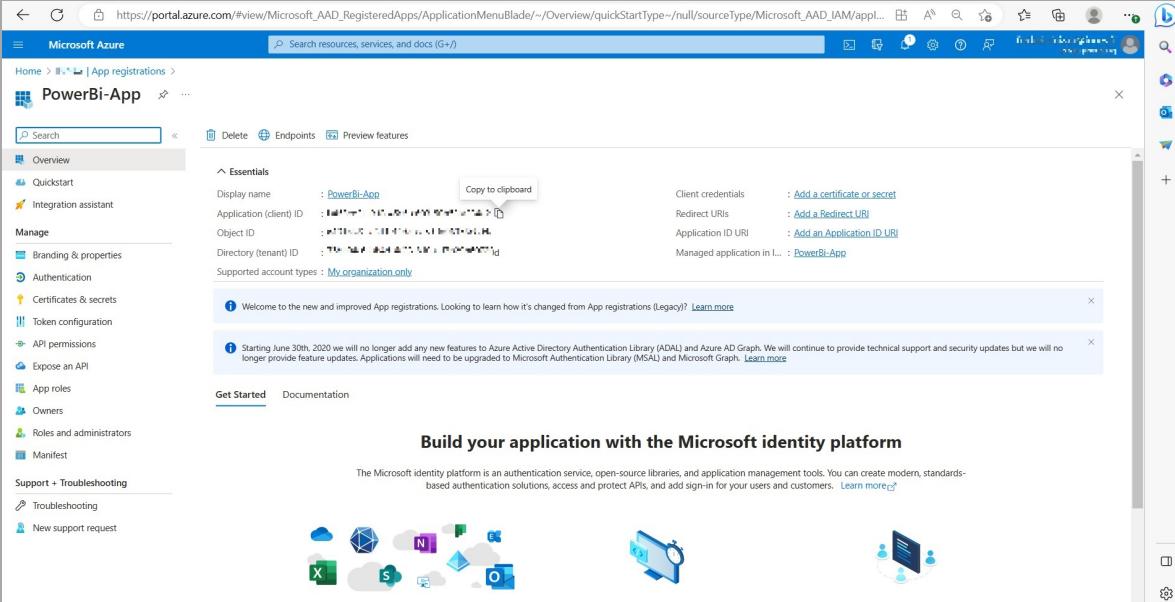
On the App registrations menu, click on *New registration*.

The screenshot shows the Microsoft Azure portal's 'App registrations' blade. The 'Owned applications' tab is active. At the top, there's a search bar and several navigation links: 'Endpoints', 'Troubleshooting', 'Refresh', 'Download', 'Preview features', and 'Got feedback?'. Below the search bar, a message says 'Try out the new App registrations search preview! Click to enable the preview.' Another message at the top states: 'Starting June 30th, 2020 we will no longer add any new features to Azure Active Directory Authentication Library (ADAL) and Azure AD Graph. We will continue to provide technical support and security updates but we will no longer provide feature updates. Applications will need to be upgraded to Microsoft Authentication Library (MSAL) and Microsoft Graph.' The main table lists applications with columns for 'Display name', 'Application (client) ID', 'Created on', and 'Certificates & secrets'. The 'Display name' column shows entries like 'PowerBI-App'. The left sidebar has a tree view with 'App registrations' selected under 'Manage'.

Enter an application name (e.g.: *PowerBi-App*), Select the appropriate Account in the organization directory only (organization only – Single tenant) radio button, and press on the *Register* button.

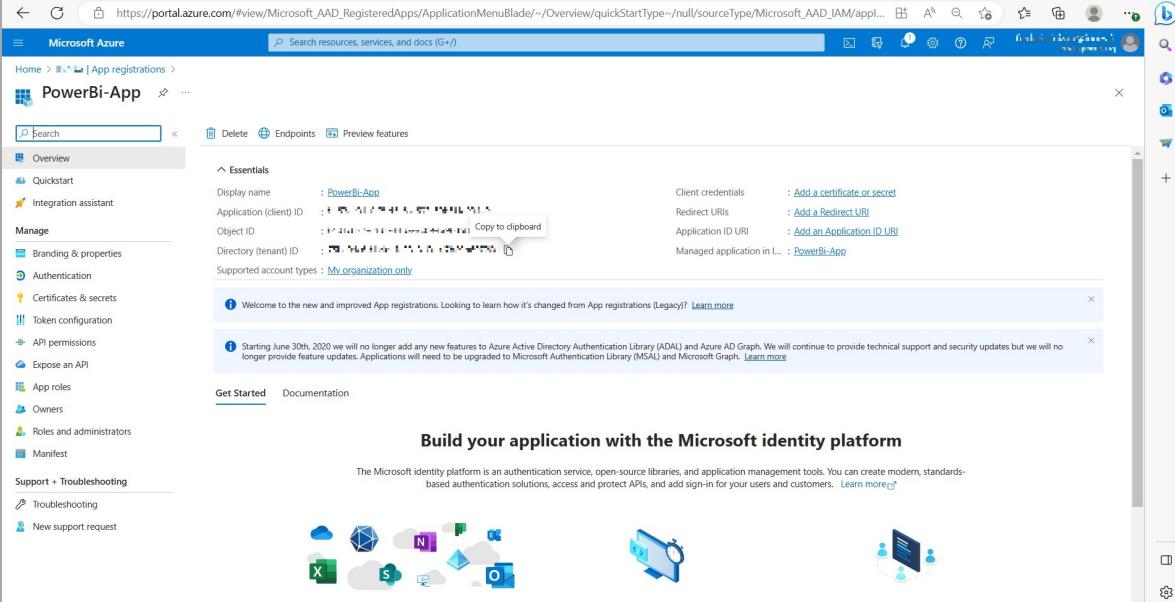
The screenshot shows the 'Register an application' wizard. Step 1: Set Application Name. The 'Name' field is filled with 'PowerBi-App'. Step 2: Choose Supported account types. The radio button for 'Accounts in this organizational directory only (INNEN only - Single tenant)' is selected. Step 3: Enter Redirect URI (optional). The dropdown shows 'Select a platform' and the input field contains 'e.g. https://example.com/auth'. Step 4: Agree to Microsoft Platform Policies. A checkbox is checked. Step 5: Click the 'Register' button.

In the Overview menu, copy to clipboard the Application (client) ID value, the 1st value required in DMB400 configuration tab and store it preciously.



The screenshot shows the 'PowerBi-App' registration page in the Microsoft Azure portal. The 'Overview' tab is selected. In the 'Essentials' section, the 'Application (client) ID' field contains a long string of characters, which is highlighted with a red box. A 'Copy to clipboard' button is located to the right of this field. Other fields shown include 'Display name' (PowerBi-App), 'Object ID', 'Directory (tenant) ID', 'Client credentials', 'Redirect URLs', 'Application ID URI', and 'Managed application in L...'. Below the essentials section, there are two informational cards about app registrations. At the bottom, there are 'Get Started' and 'Documentation' links, and a 'Build your application with the Microsoft identity platform' section.

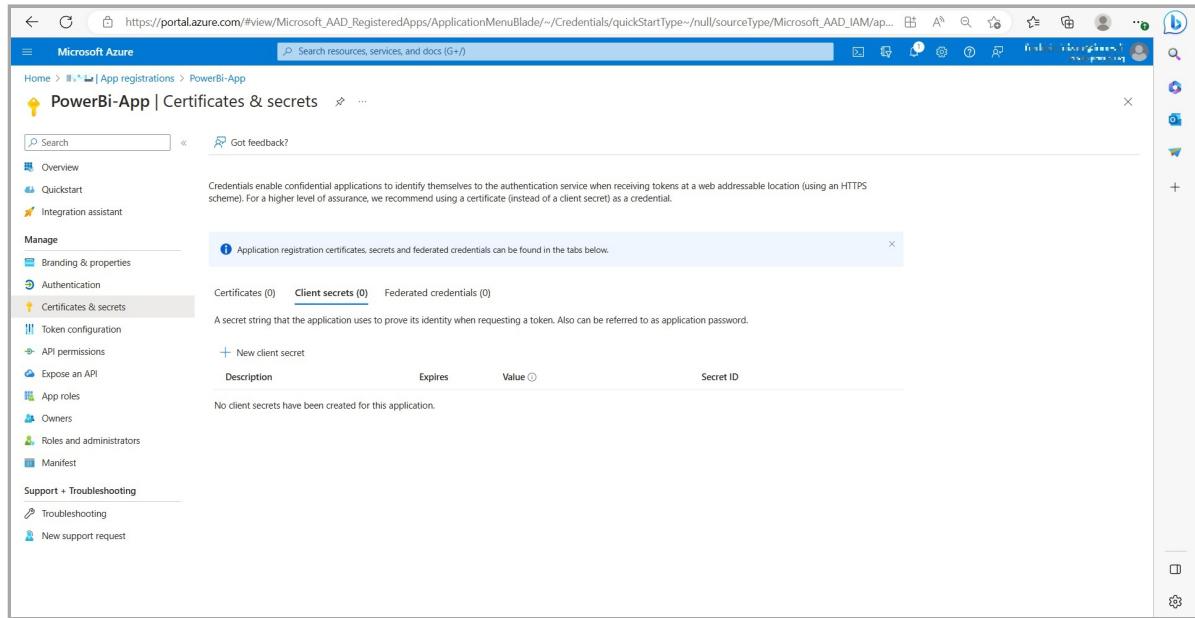
In the Overview menu, copy to clipboard the Directory (tenant) ID value, the 2nd value required in DMB400 configuration tab and store it preciously.



This screenshot is identical to the one above, showing the 'PowerBi-App' registration page in the Microsoft Azure portal. The 'Overview' tab is selected. The 'Directory (tenant) ID' field, located in the 'Essentials' section, is highlighted with a red box and has a 'Copy to clipboard' button next to it. The other fields and sections are the same as in the first screenshot.

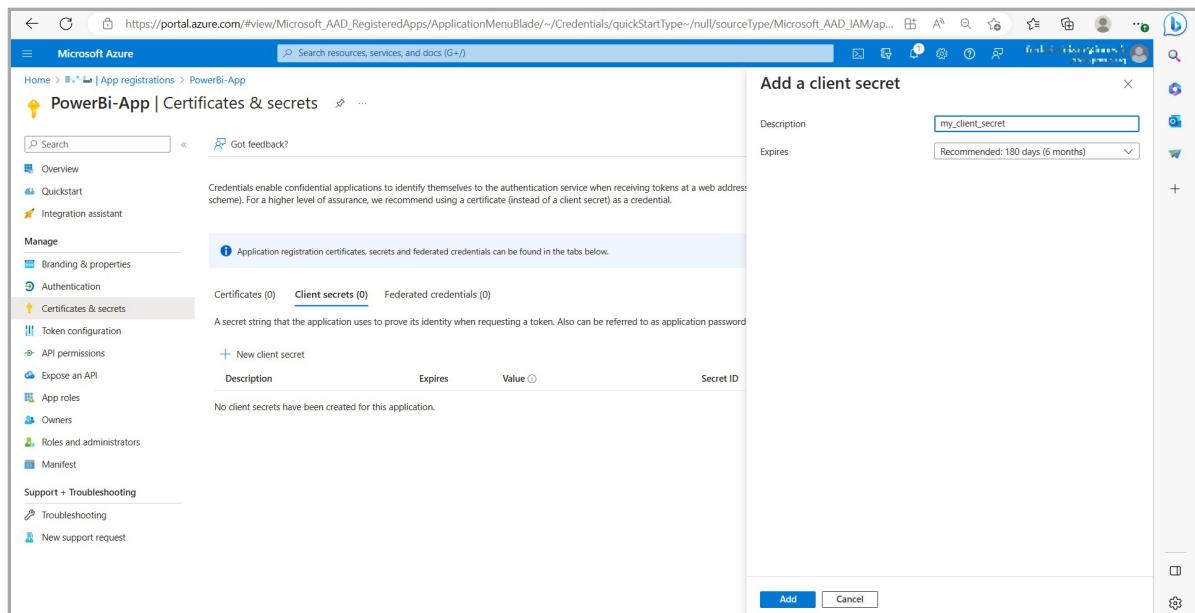
Client secret

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



The screenshot shows the Azure portal interface for managing app registrations. The left sidebar has 'Certificates & secrets' selected under the 'Manage' category. The main content area shows a table for client secrets, with a single row labeled 'New client secret'. A tooltip provides information about what a client secret is: 'A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.' The table columns are 'Description', 'Expires', 'Value', and 'Secret ID'.

Enter a name (e.g.: `my_client_secret`) and press on the Add button.



The screenshot shows the 'Add a client secret' dialog box overlaid on the Azure portal. The 'Description' field is filled with 'my_client_secret'. The 'Expires' field shows a dropdown menu with 'Recommended: 180 days (6 months)'. At the bottom right of the dialog box are 'Add' and 'Cancel' buttons.

Copy into clipboard the `client secret` value, the 3rd input for the DMB400 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.

The screenshot shows the 'Certificates & secrets' section of the Azure portal. On the left, there's a sidebar with options like Overview, Quickstart, Integration assistant, Manage, Branding & properties, Authentication, Certificates & secrets (which is selected), Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, and Manifest. The main area has tabs for Certificates (0), Client secrets (1), and Federated credentials (0). Under Client secrets, there's a table with one row. The row contains 'my_client_secret' in the Description column, '10/8/2023' in the Expires column, and '123456' in the Value column. To the right of the Value column is a 'Copy to clipboard' button.

When the secret is out of validity date, delete it and create a new one. Copy into clipboard the `client secret` value, the 3rd input for the DMB400 configuration tab and store it preciously.

Grant permissions

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

For powerbi application, these permissions must be granted:

- `App.Read.All`,
- `Content.Create`,
- `Dataset.ReadWrite.All`,
- `Report.ReadWrite.All`.

The screenshot shows the 'API permissions' section of the Azure portal. The sidebar is identical to the previous screenshot. The main area has a 'Configured permissions' section with a table. The table has columns for 'API / Permissions name', 'Type', 'Description', 'Admin consent req...', and 'Status'. There is one entry: 'Microsoft Graph (1)' with 'User.Read' under 'API / Permissions name', 'Delegated' under 'Type', 'Sign in and read user profile' under 'Description', 'No' under 'Admin consent req...', and three dots under 'Status'. Below the table, there's a note: 'To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try Enterprise applications.'

Scroll to the bottom and click on the Power BI Service button.

The screenshot shows the Azure portal interface with the URL https://portal.azure.com/#view/Microsoft_AAD_RegisteredApps/ApplicationMenuBlade/~/CallAnAPI/quickStartType~/null/sourceType/Microsoft_AAD_IAM/applications. The left sidebar shows the 'PowerBi-App' configuration page under 'API permissions'. The right panel displays a grid of API permission requests. The 'Power BI Service' option is highlighted with a red border, indicating it is selected.

Select then the Delegated permissions button.

The screenshot shows the same Azure portal interface as the previous one, but the 'Delegated permissions' button in the 'Power BI Service' section is now highlighted with a red border, indicating it has been selected.

In the display filter input, enter the text **calendar** and check the option **Calendars.Read**.

Do not press now on the **Add permissions** button right now.

The screenshot shows the Azure portal interface for managing API permissions. On the left, the navigation pane is visible with sections like Overview, Quickstart, Integration assistant, Manage, API permissions, Expose an API, App roles, Owners, Roles and administrators, and Manifest. Under Manage, API permissions is selected. The main content area is titled "PowerBi-App | API permissions". It displays a table of configured permissions under "Microsoft Graph (1)". One row is shown: "User.Read" (Delegated, Sign in and read user profile). A note below the table states: "To view and manage consented permissions for individual apps, as well as your tenant's". To the right, a modal window titled "Request API permissions" is open. It lists "All APIs" and specifically "Power BI Service" with its URL. It asks "What type of permissions does your application require?". Two sections are shown: "Delegated permissions" (selected) and "Application permissions". Under "Delegated permissions", there is a note about "Admin consent required" and a table showing "Permission" (App (1)) and "Admin consent required" (Yes). The permission listed is "App.Read.All" (View all Power BI apps). Below this, "Content" is expanded, showing "Content.Create" (Create content) with "Admin consent required" (No). At the bottom of the modal are "Add permissions" and "Discard" buttons.

Expand the Content tab and check the **Content.Create** permission.

This screenshot is identical to the previous one, but the "Content" section in the "Request API permissions" modal is now expanded. The "Content.Create" permission is checked, and its description "Create content" is visible. The "Admin consent required" status is "No". The other permissions listed are "App.Read.All" (unchecked) and "Content.ReadWrite" (unchecked).

In the **Dataset** part, select the `Dataset.ReadWrite.All` option.

The screenshot shows the Azure portal's 'API permissions' page for a 'PowerBI-App'. On the left, the 'Dataset' section is highlighted under 'Select permissions'. In the main pane, under 'Permission', the 'Dataset' section is expanded, showing two options: 'Dataset.Read.All' (unchecked) and 'Dataset.ReadWrite.All' (checked). Both options have 'No' listed under 'Admin consent required'.

In the **Report** part, select the `Report.ReadWrite.All` option.

The screenshot shows the Azure portal's 'API permissions' page for a 'PowerBI-App'. On the left, the 'Report' section is highlighted under 'Select permissions'. In the main pane, under 'Permission', the 'Report' section is expanded, showing two options: 'Report.Read.All' (unchecked) and 'Report.ReadWrite.All' (checked). Both options have 'No' listed under 'Admin consent required'.

In the **Dashboard** part, select the `Dashboard.ReadWrite.All` option.

The screenshot shows the Microsoft Azure portal's 'PowerBi-App | API permissions' page. On the left, there's a sidebar with 'Manage' sections like 'Branding & properties', 'Authentication', 'Certificates & secrets', 'Token configuration', and 'API permissions'. The 'API permissions' section is currently selected. On the right, a modal window titled 'Request API permissions' is open. It has two main sections: 'Select permissions' and 'Permission'. In the 'Select permissions' section, there's a search bar with 'dash' typed into it. Below it, a note says 'The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used.' In the 'Permission' section, there's a table with columns 'Permission', 'Admin consent required', and 'Status'. One row is expanded to show details for 'Dashboard.ReadWrite.All': 'Make API calls that require read and write permissions on all dashboards' and 'No'. Other rows include 'User.Read' (Sign in and read user profile), 'Power BI Service' (View all Power BI apps), 'App.Read.All' (View all Power BI apps), 'Content.Create' (Create content), 'Dataset.ReadWrite.All' (Read and write all datasets), and 'Report.ReadWrite.All' (Make API calls that require read and write permissions on all reports). At the bottom of the modal, there are 'Add permissions' and 'Discard' buttons.

Click now on the **Add permissions** button.

At this step, the permissions are not yet granted. Click on the **Grant admin consent for <your_organization>** button.

The screenshot shows the 'PowerBi-App | API permissions' page again. A warning message at the top says '⚠ You are editing permission(s) to your application, users will have to consent even if they've already done so previously.' Below this, the 'Configured permissions' section is shown with a table. The table has columns 'API / Permissions name', 'Type', 'Description', 'Admin consent requ...', and 'Status'. Rows include 'User.Read' (Delegated, Sign in and read user profile, No, ...), 'Power BI Service' (Delegated, View all Power BI apps, No, ...), 'App.Read.All' (Delegated, View all Power BI apps, No, ...), 'Content.Create' (Delegated, Create content, No, ...), 'Dataset.ReadWrite.All' (Delegated, Read and write all datasets, No, ...), and 'Report.ReadWrite.All' (Delegated, Make API calls that require read and write permissions on all reports, No, ...). At the bottom of the page, there's a note 'To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try Enterprise applications.' and 'Add permissions' and 'Discard' buttons.

Now the permissions are granted.

The screenshot shows the Microsoft Azure portal interface. The URL is https://portal.azure.com/#view/Microsoft_AAD_RegisteredApps/ApplicationMenuBlade/~/CallAnAPI/appId/b463ee31-fcf8-45c6-a693-50b5f1a2. The page title is "PowerBi-App | API permissions". The left sidebar shows "Overview", "Quickstart", "Integration assistant", "Manage", "Branding & properties", "Authentication", "Certificates & secrets", "Token configuration", "API permissions" (which is selected), "Expose an API", "App roles", "Owners", "Roles and administrators", "Manifest", "Support + Troubleshooting", and "New support request". The main content area has a heading "Configured permissions" with a note: "Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. Learn more about permissions and consent". It shows a table of permissions:

| API / Permissions | Name | Type | Description | Admin consent requ... | Status |
|----------------------|-------------------------|-----------|---|-----------------------|--------------------------------------|
| Microsoft Graph (1) | User.Read | Delegated | Sign in and read user profile | No | Granted for User ... |
| | App.Read.All | Delegated | View all Power BI apps | No | Granted for User ... |
| | Content.Create | Delegated | Create content | No | Granted for User ... |
| | Dashboard.ReadWrite.All | Delegated | Make API calls that require read and write permissions on ... | No | Granted for User ... |
| | Dataset.ReadWrite.All | Delegated | Read and write all datasets | No | Granted for User ... |
| Power BI Service (5) | Report.ReadWrite.All | Delegated | Make API calls that require read and write permissions on ... | No | Granted for User ... |

At the bottom, it says "To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try Enterprise applications."

Powershell

The application can be created easily with a Powershell script. For further information, refer to the chapter § [Appendix: Azure AD Application Powershell module for Power BI Online Viewer application](#).

7.9 Appendix: Azure AD Application Powershell module for Power BI Online Viewer application

Download the `Powershell_Innes_AAD-1.10.17.zip` from the [Innes Site Web](#) then follow the instructions below.

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 previously 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 organization 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 click 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 Azure AD 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 these 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 you 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 | 1.10.17 | PSAAD |
| Function | Remove-AADApplication | 1.10.17 | 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 M365 files and folders resources and Web sites for SignCom application
 - "url_launcher_m365" : to access to M365 Web sites for URL launcher 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 reports and Power BI dashboards

-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 "PowerBIApp" -authorizations "powerbi"
```

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          PowerBIApp
tenantId     xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
clientSecret xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

Example to create an Azure Active Directory application for Gekkota

For example, to create a *powerbi* (free text) Azure AD application to view an online Microsoft *Power BI* report or *Power BI* dashboard, generate the *client Id*, the *tenant Id* and the *client secret* and store temporarily these values in the *powerbi_var* variable:

```
PS > $powerbi_var = New-AADApplication -appname "PowerBiApp" -authorizations "powerbi"
```

- ☞ Don't use an already existing app name else an error is returned.
- ☞ Don't use space characters in the app name 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 Microsoft 365 login credentials.

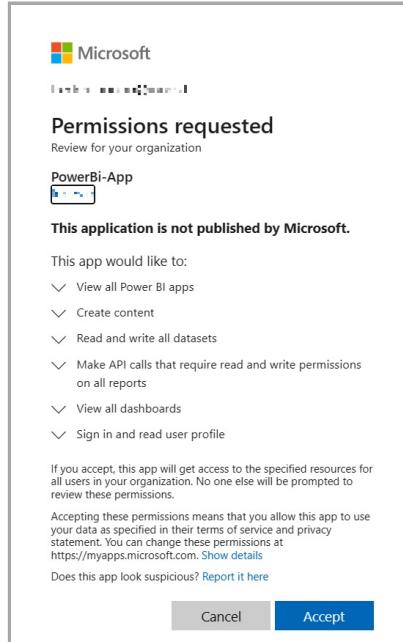
This message is then displayed in a *Powershell* context.

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

After 30 seconds, a login popup should be prompted (<https://login.microsoftonline.com/>) automatically in your default Web browser.

Enter again your *Microsoft 365* login credentials.

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

The following variable name is the same as the one you have used in the previous command above.

For example, to display the result of the previous command allowing to watch the *client Id*, the *tenant Id* and the *client secret* values:

```
PS > $powerbi_var
Name          Value
----          -----
clientId      xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
objectId      xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
spId          xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
name          PowerBiApp
tenantId      xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
clientSecret xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

The result of the *Powershell* function is also stored in a JSON file (in the example: *powerbi_var.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 "PowerBiApp"
```

A login popup is opened. Enter your M365 credentials.

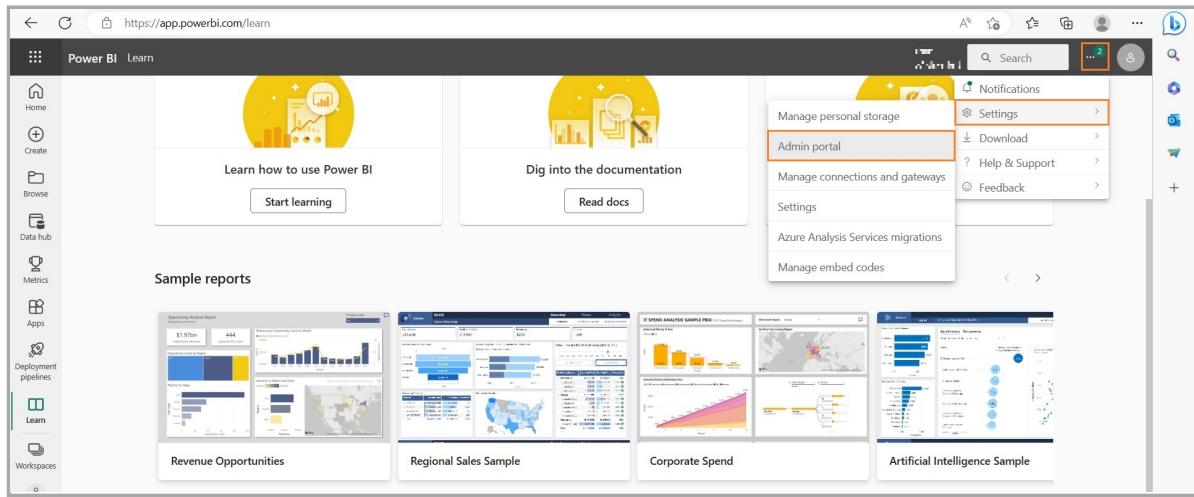
In case the values do not allow Power Bi Online viewer to work properly, check in *Microsoft Azure* portal that the application has been created successfully and the rights are properly granted. If not, wait for a while, the rights granting may take few hours.

7.10 Appendix: Power BI Online Viewer with Microsoft OAuth application mode: additional permissions

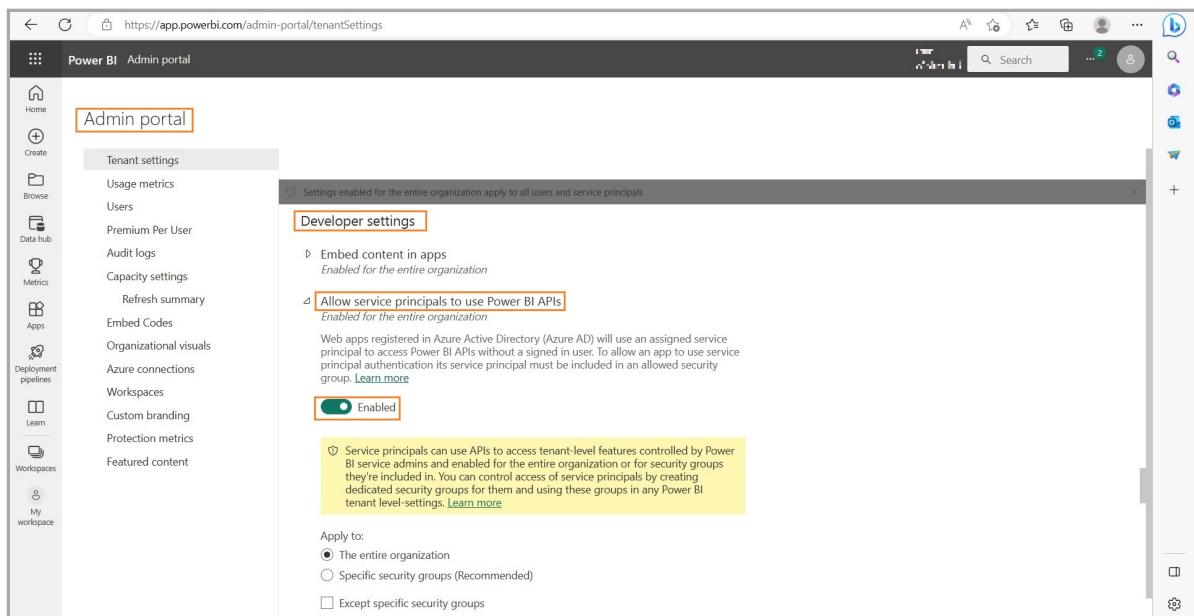
The configuration of Azure AD application does not allow to grant enough permissions to view the report when the Microsoft OAuth application mode is chosen. To finalize the granting of these additional permissions, follow these two steps.

Allowing Azure AD application to use Power BI APIs

Connect to the <https://app.powerbi.com> portal with a Microsoft 365 account having Power BI administration rights.



In the upper banner, click on the ... button then select the Settings item then the Admin portal item.



In the Admin portal pane, scroll to the top to find the Developer settings part. Select Allow service principals to use Power BI APIs, toggle the option to the right to the Enabled value, check the The entire organization option. Click on the Apply button to apply the modification.

Allowing the Azure AD application to access to the workspace hosting the report

Connect to the <https://app.powerbi.com> portal with a Microsoft account having rights to modify the workspace rights.

On the side tool banner, click on the Workspace item.

Click on the ... button of the workspace hosting your report and click on the Workspace Access item.

On the `Access` pane on the right, enter the name of the Azure AD application previously created (e.g. `PowerBi-App`) to access to the report, select the `Viewer` permission then click on the `Add` button.

Power BI reports coming from Power BI Desktop

Power BI reports published on your Power BI App workspace from Power BI Desktop are supported.

Report error 401

In case the report cannot be viewed with the `Power BI Online Viewer` App and an error 401 is raised, try with another report hosted on another workspace. To be successfully viewed, the Power BI report must consist in two part in the workspace:

- data
- report

7.11 Appendix: Inputs and buttons properties to support identifier and password self-filling and self-confirmation in a Web page form

List of supported input properties to auto-fill properly the *identifier* field

email type input

*user i name** input

email autocomplete input

*user i id** input

*login i id** input

*email i id** input

List of supported input properties to auto-fill properly the *password* field

password input type

List of supported *validate* button properties to self-confirm the credential values and access to the Web page content

submit type input

submit type button

button type input

*sign id** input

*submit id** input