



White Paper

# Open as App On-Premises Gateway



# Content

<b>The Open as App On-Premises Gateway .....</b>	<b>3</b>
<b>Functionality.....</b>	<b>3</b>
Data rendering with special Open as App architecture.....	3
Technology profile .....	4
Does the gateway protect my data from the cloud? Where is the data stored? ..	5
<b>Getting started with the gateway .....</b>	<b>6</b>
Prerequisites and installation .....	6
Using the gateway for app creation in Open as App .....	8
Configuring your gateway .....	9



# The Open as App On-Premises Gateway

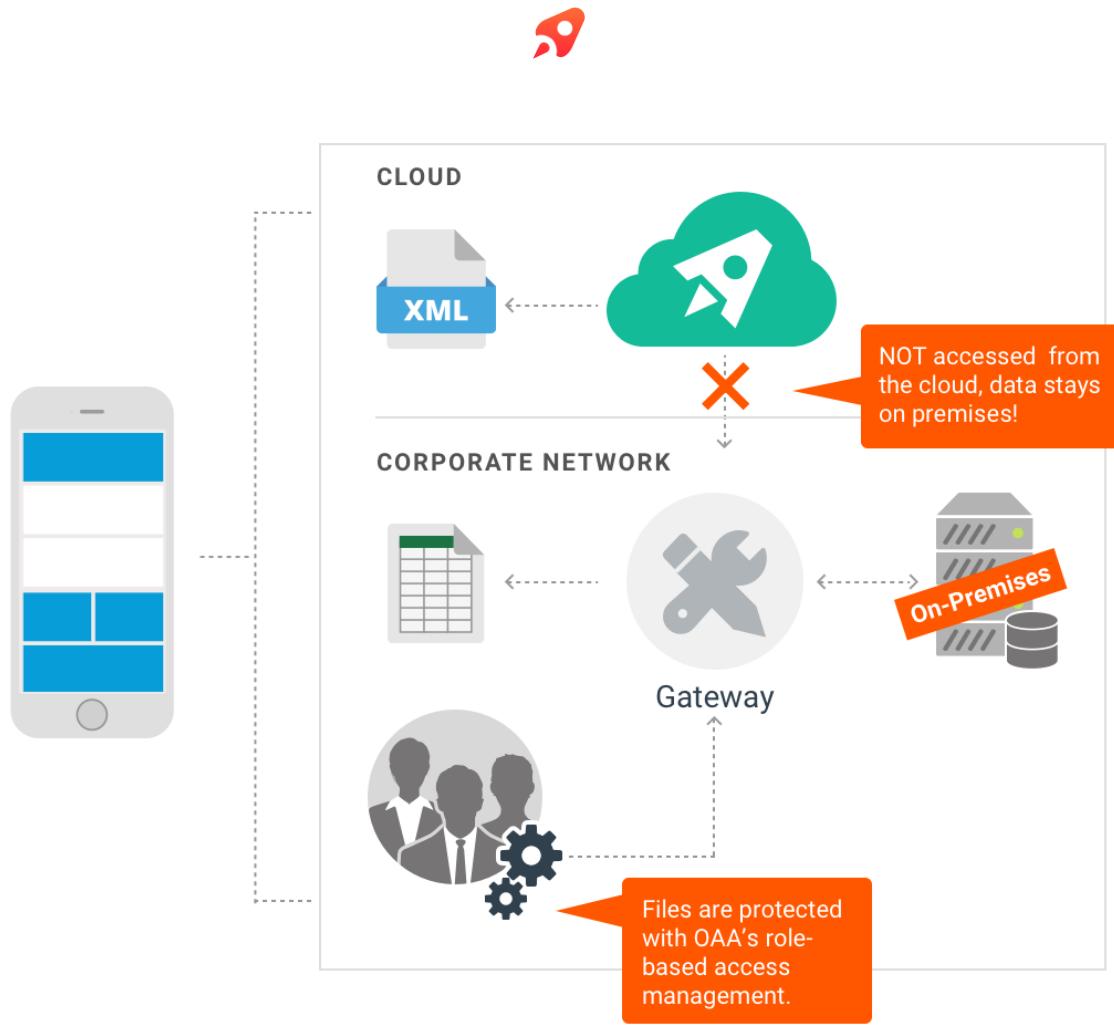
Microsoft Excel is probably the most common business solution. With Open as App your Excel data can be turned into apps instantly. If sensitive data are involved you can host your Excel file on Premises, thus, providing the necessary data protection with the Open as App On-Premises Gateway. Please note that the current implementation of the gateway is read-only. In this whitepaper you will learn more about the functionality, the use and the roll-out of our Gateway technology.

## Functionality

The On-Premises Gateway connects your apps to Excel files in your company's on-Premises IT infrastructure. It provides any of your apps created with Open as App with the corresponding Excel source file. The gateway can be connected to various data sources, e.g. it can work with files simply located on the hard disk of that server or connect to files on an internal network share or even a SharePoint.

## Data rendering with special Open as App architecture

When an app is accessed through a mobile device, the app retrieves all necessary metadata like the XML layout describing the user interface of the app from the cloud. It does not contain any of your sensitive data. Afterwards, it also synchronizes the Excel file containing all the app's sensitive data and logic onto the device where it is securely stored and encrypted using industry standard AES 256-bit encryption. The Excel files are stored on the devices for various reasons, e. g. to provide offline capability. The app on your mobile device directly downloads the files from the gateway – they are never associated to the cloud in any way. This allows you to even put the gateway behind a VPN to make sure your files cannot be accessed from the outside of your internal network.



On-Premises Hosting with Open as App

## Technology profile

The gateway is server software. It is provided as a simple Windows Service (MSI Installer) and is based on .NET technology. It can be installed on any Windows server running .NET Framework 4.6.1. The gateway has no specific hardware requirements and can also be easily installed on a virtual machine.

### Requirements:

Microsoft Windows Server 2012 R2 or later

.NET Framework 4.6.1 must be installed on the machine

Network/firewall configuration (Can be changed as described in configuration)

Incoming port 8080 (for accessing the Gateway web portal)

Exposed to the internal network only



NOT exposed to the internet

Incoming port 8081 (or arbitrary other port, for accessing the Gateway API)

Exposed to the same network the mobile devices are in (intranet or internet)

Outgoing connections to <https://api.openasapp.net> to enforce access management

SSL/TLS Certificates

or usage of IIS (or any other) reverse proxy

Optional: internal domain to access the gateway, e.g. openasapp.internal.my-company.com

Optional: supplementary Microsoft SQL Server database

Regarding hardware the gateway has no special requirements. Any machine with 2-4 cores and 4-8 GB of RAM should be fine.

## Does the gateway protect my data from the cloud?

### Where is the data stored?

In order to make sure that no sensitive data is transferred to the cloud, you should initially create your app with dummy data. Our web-based app wizard is only interested in the structure of your file and not the data itself. This allows you to build apps with sample data in the cloud and afterwards replace the sample data with a link to the actual Excel file on the Gateway containing your “live” data. When the gateway is put in an internal network - not exposed to the internet - and only accessible via VPN, the file is perfectly protected from the internet and the Open as App cloud will not be able to access it. The file will only be available for mobile devices within the same VPN which downloaded the file and stored it for offline access, secured with industry standard AES 256-bit encryption.

When using the Open as App Gateway, the sensitive Excel files stay on your premises and will not be transferred to the cloud. Only insensitive metadata – like the XML layout of the app – are stored in the cloud. Please note that collaboration features like storing and loading calculations, saving survey results, and commenting on apps might store data in the cloud. However, those features are optional and can easily be disabled by the administrator of the app.

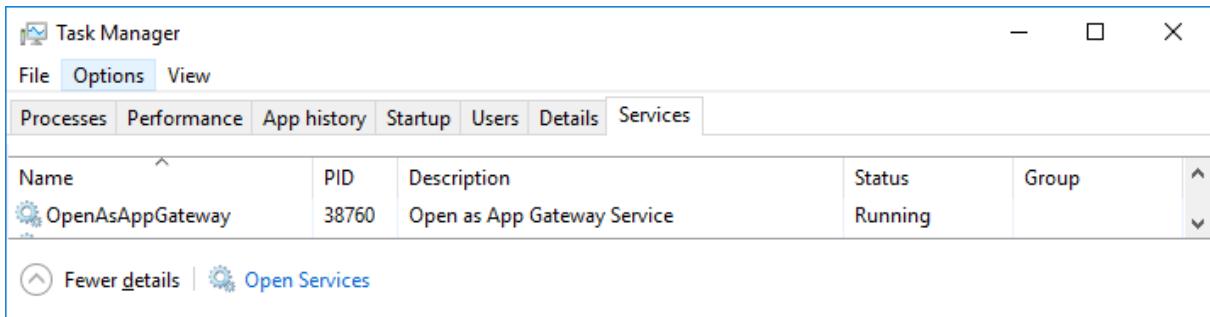


# Getting started with the gateway

## Prerequisites and installation

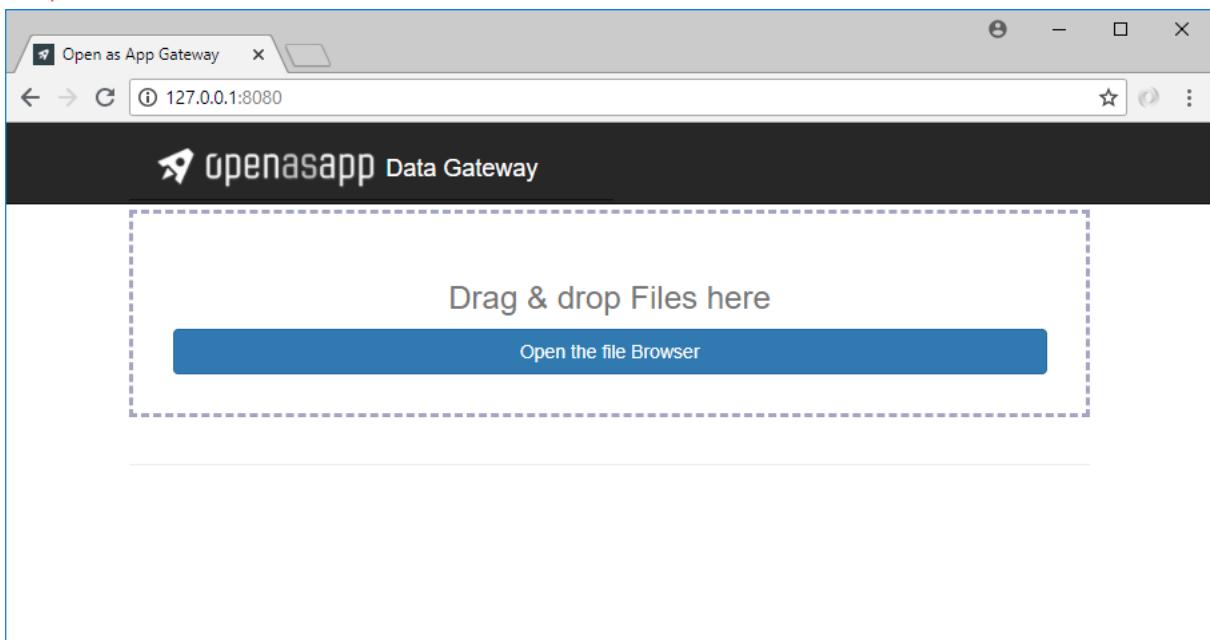
Prerequisites: As mentioned [above](#) in the technology profile certain software and hardware requirements have to be met in order to use the gateway. Once those are met you can implement the gateway by following three simple steps.

1. Install the gateway using the MSI installer. After installation your gateway should be running as a Windows Service that is visible in the Task Manager.



The gateway is running on two ports:

- 8080 for accessing the administration console
  - 8081 for the API
2. You should now be able to access the gateway administration using your ip:8080, if you are on the local machine where you installed it you can use <http://127.0.0.1:8080>





3. You can now drag and drop the required excel files, select Create link and select Copy link to copy the link to your spreadsheet to your clipboard. The creation of the link url can be configured by using the [ExternalUrl setting](#) which is described in the section below. The file is now uploaded and stored in the configured [Folder](#) and can be changed there to reflect changes in the mobile application.

The screenshot shows a web browser window titled "Open as App Gateway" with the URL "127.0.0.1:8080". The main content area is titled "openasapp Data Gateway". It features a large dashed rectangular area labeled "Drag & drop Files here". Below this is a blue button labeled "Open the file Browser". Underneath the drop zone, there is a table with one row. The first column contains the file name "test.xlsx". To the right of the file name are two buttons: a blue "Create link" button and a red "Delete file" button.

This screenshot is identical to the one above it, showing the same "openasapp Data Gateway" interface. The "Drag & drop Files here" area is empty. The "Open the file Browser" button is present. Below, the "test.xlsx" file is listed with the same "Create link" and "Delete file" buttons.



## Using the gateway for app creation in Open as App

To use the Gateway for app creation, all you have to do is copy the link created above to your app. As usual you can do this during editing the app and selecting Manage data -> Update Spreadsheet -> Edit url. Save the changes with the button in the upper right corner.

The screenshot shows the 'Open as App' dashboard. On the left, there's a sidebar with sections like 'Preview', 'Edit', 'Design & Info', and 'Manage data'. Under 'Manage data', there's a 'Update spreadsheet' option. The main area has a 'Spreadsheet Url' field containing a URL. Below it is a large dashed box with an 'XLSX' icon and a downward arrow, labeled 'Drop Excel File Here'. There's also a '+ Choose file' button. At the bottom of the page, there's a red bar stating 'Your app is in Prototype Mode' and a teal bar for 'Analytics' showing 'Reached Users: 1' and 'Reached Devices: 2'. A 'Help' button is at the bottom right.

That's it. Now you should be ready to use the gateway.

**Note:** If you are testing on a machine that is not reachable from the internet you can use ngrok for testing. (<https://ngrok.com/download>). After installing ngrok you can use *ngrok http 8081* and *ngrok http 8080* to get public IPs for your gateway. When you copy the link from the gateway to your app make sure to use the host address that ngrok created for you.

For example, if you had the following link after using the gateway locally and ngrok shows the results below

<http://127.0.0.1:8081/v1/api/files/pehsSTfPcaILhCtyHOvtbvuONIOUabM4FuLBnFeTNEY>

Then you have to change the link for the portal to

<http://d2b823a5.ngrok.io/v1/api/files/pehsSTfPcaILhCtyHOvtbvuONIOUabM4FuLBnFeTNEY>



```
C:\Users\tkons\Desktop\ngrok.exe - ngrok http 8080
ngrok by @inconshreveable
Session Status          online
Session Expires        7 hours, 59 minutes
Version                2.2.8
Region                 United States (us)
Web Interface          http://127.0.0.1:4040
Forwarding             http://d2b823a5.ngrok.io -> localhost:8080
Forwarding             https://d2b823a5.ngrok.io -> localhost:8080

Connections            ttl     opn     rt1     rt5     p50     p90
                         0       5      0.00    0.00    0.00    0.00

HTTP Requests
-----
GET /favicon.ico           200 OK
GET /js/site.js             200 OK
GET /lib/dm-file-uploader/dist/js/jquery.dm-uploader.min.js 200 OK
GET /images/logo1.png       200 OK
GET /lib/dm-file-uploader/dist/css/jquery.dm-uploader.min.css 200 OK
GET /css/site.css           200 OK
GET /                         200 OK
```

Adaptation of ngrok forwarding links

## Configuring your gateway

You can configure your gateway in the `appsettings.json` file that is located under the root folder of your gateway installation. The following options are available to configure the gateway.

Key	Description
AuthenticationAuthority	Login server URL (cannot be changed at the moment)
Database	Connection string to SQLite database that is used to store metadata for the gateway (e.g. Shared links). Can be changed to MS SQL.
DisableWebClient	<b>Not implemented yet</b>  (Will be used to completely block portal access to excel file in the future. However, also without this flag we are not persisting the file in the portal at any time)



ExternalPort		The port where the API of the gateway is reachable
ExternalSSL	Certificate	Certificate for external port Path to certificate file
	Password	Password for file
ExternalURL		Externally reachable URL of the machine the gateway is installed on. Used to create the shared links.
Folder		Path to the folder where the excel files are located that are added through the gateway
Logging	IncludesScopes	If set to true more technical details are logged
	Loglevel - Default	Possible values: Trace, Debug, Information, Warning, Error, Critical, None
Port		The port where the admin console of the gateway is reachable
SSL	Certificate	Certificate for internal port Path to certificate file
	Password	Password for file
TeamId		Open as App Team ID: If set you can only access the gateway by using an Open as App Login with admin rights

# Open as App

Open as App is the first #nocode platform empowering everyone to create and share apps automatically, including logic, charts, and calculations.

We enable individuals and companies of all sizes to

- save time and budget
- protect their know-how
- secure and manage the way, data are shared
- provide great customer experience and innovation
- increase their resources for digitization with citizen developers

And the best, Open as App is free to try.

## Would you like to use Open as App as an Enterprise platform?

Go to [www.openasapp.com/enterprise](http://www.openasapp.com/enterprise) and book your demo today!



**Open as App GmbH**

Create & share great apps based on your data in Excel, Google Sheets or databases. Automatically. Instantly. #no-code. Secure. Any platform.

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