

# Invantive Cloud

## *Reference Manual*



# Contents

<b>1</b>	<b>Invantive Cloud</b>	<b>1</b>
1.1	Introduction .....	1
1.2	User Registration .....	1
1.3	Link to Organization .....	5
1.4	Menu .....	6
1.4.1	Main Dashboard .....	7
1.4.2	Databases .....	8
1.4.3	Data Containers .....	10
1.4.4	Preauthenticate Application .....	11
1.4.5	Bridge Online Configuration .....	22
1.4.6	SQL Editor .....	23
1.4.7	Organizations .....	25
1.4.8	Users .....	27
1.4.9	Agreements .....	29
1.4.10	Blocked Agreements .....	30
1.4.11	License Keys .....	30
1.4.12	Invoices .....	30
1.4.13	Logging .....	30
1.4.14	My Profile .....	31
1.4.15	My Organization .....	32
1.4.16	Multi-Factor Authentication .....	32
1.4.17	My Messages .....	32
1.4.18	Contact Us .....	32
1.4.19	Log Out .....	33
1.5	Concepts .....	33
1.5.1	Security .....	33
1.5.2	Devices .....	34
1.6	Bridge Online .....	34
1.6.1	OData 4 .....	35
1.6.2	Metadata .....	35
<b>2</b>	<b>Invantive Basics</b>	<b>35</b>
2.1	Configuration .....	35
2.1.1	Customer Service .....	35
2.1.2	OS Platform .....	35
2.1.3	Startup Checks .....	36
2.1.4	Cryptography .....	36
2.1.5	UI Language .....	37
2.1.6	Folders .....	37
2.1.7	Capacity .....	38
<b>3</b>	<b>Contact Information</b>	<b>38</b>
	<b>Index</b>	<b>40</b>

# 1 Invantive Cloud

## 1.1 Introduction

### Assistance

Do you need help setting up the connection for Power BI or Power Query with platforms such as Twinfield, Visma or Exact Online?

[Schedule free session today](#)

Do you need contact with other users?

[Visit the Invantive community forums](#)

### What is Invantive Cloud?

Invantive Cloud is an online portal with customer services and Power BI and Power Query connectors. It is available at <https://cloud.invantive.com>. Invantive Cloud provides among others:

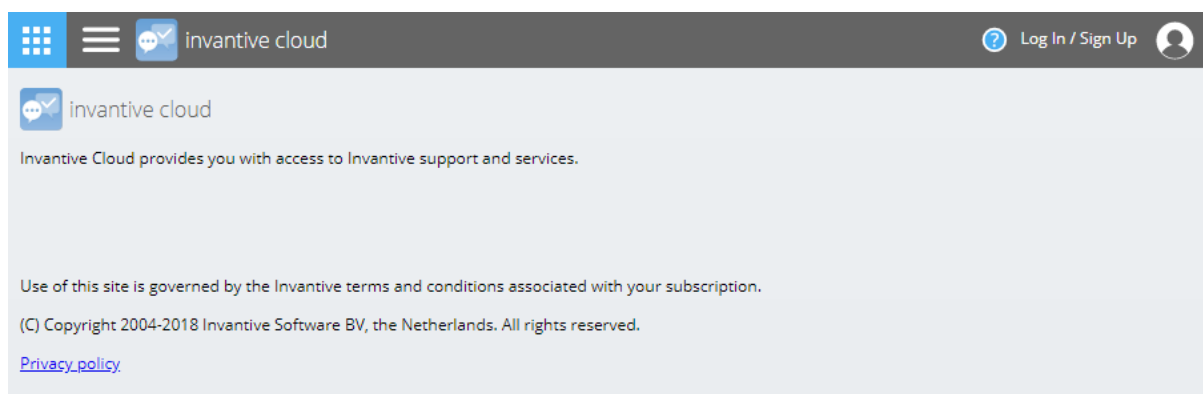
- Access to your invoices and license keys.
- User management.
- Audit trails on your systems and API use.
- Cloud-based virtual databases.
- Web app development.
- Management of the OData connectors of Invantive Bridge Online.

All Invantive users can use Invantive Cloud to manage their subscription and with most subscriptions you can also use the virtual databases on the supported platforms. The virtual databases are available for platforms such as AFAS, Exact Online, Twinfield and Visma.net. The virtual databases are also available to retrieve data into Power BI using OData version 4 with the Invantive Bridge Online of Invantive Cloud.

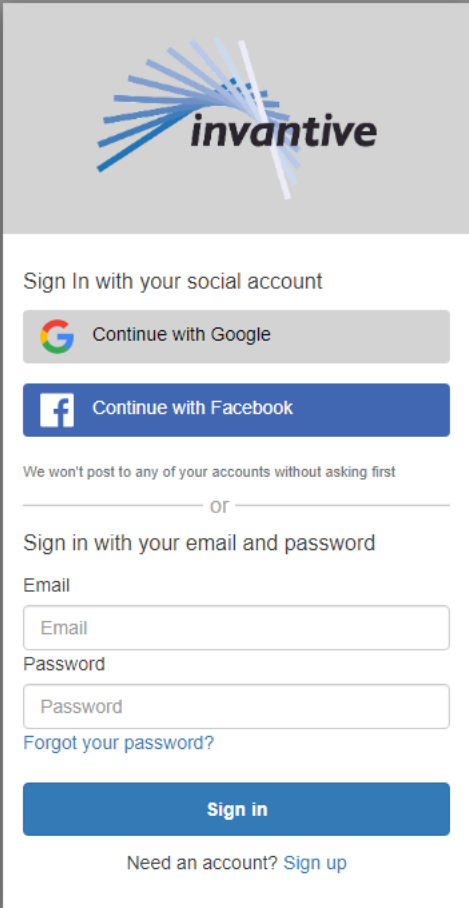
## 1.2 User Registration

Follow these steps to register your user account on Invantive Cloud:


- Open <https://cloud.invantive.com> in your browser.
- A form similar to the following appears:




- Click on "Log In / Sign Up" in the top-right corner.
- A form similar to the following appears:


A screenshot of the Invantive login form. At the top is the Invantive logo, which consists of a stylized blue and white graphic followed by the word "invantive" in a bold, lowercase sans-serif font. Below the logo, the text "Sign In with your social account" is displayed. There are two buttons: a light gray one with the Google logo and the text "Continue with Google", and a blue one with the Facebook logo and the text "Continue with Facebook". Below these buttons, a line of text reads "We won't post to any of your accounts without asking first". In the center, the word "OR" is flanked by horizontal lines. Below this, the text "Sign in with your email and password" is shown. There are two input fields: one labeled "Email" and another labeled "Password". Below the password field is a blue link that says "Forgot your password?". At the bottom of the form is a large blue button with the text "Sign in". Below this button, the text "Need an account? Sign up" is displayed with "Sign up" as a blue link.

- Click on "Sign up" at the bottom of the form.
- A form appears.
- Enter your email address.
- Enter a password that matches the requirements as indicated by all check marks becoming green:



Sign In with your social account

 Continue with Google

 Continue with Facebook

We won't post to any of your accounts without asking first

OR

Sign up with a new account

Email

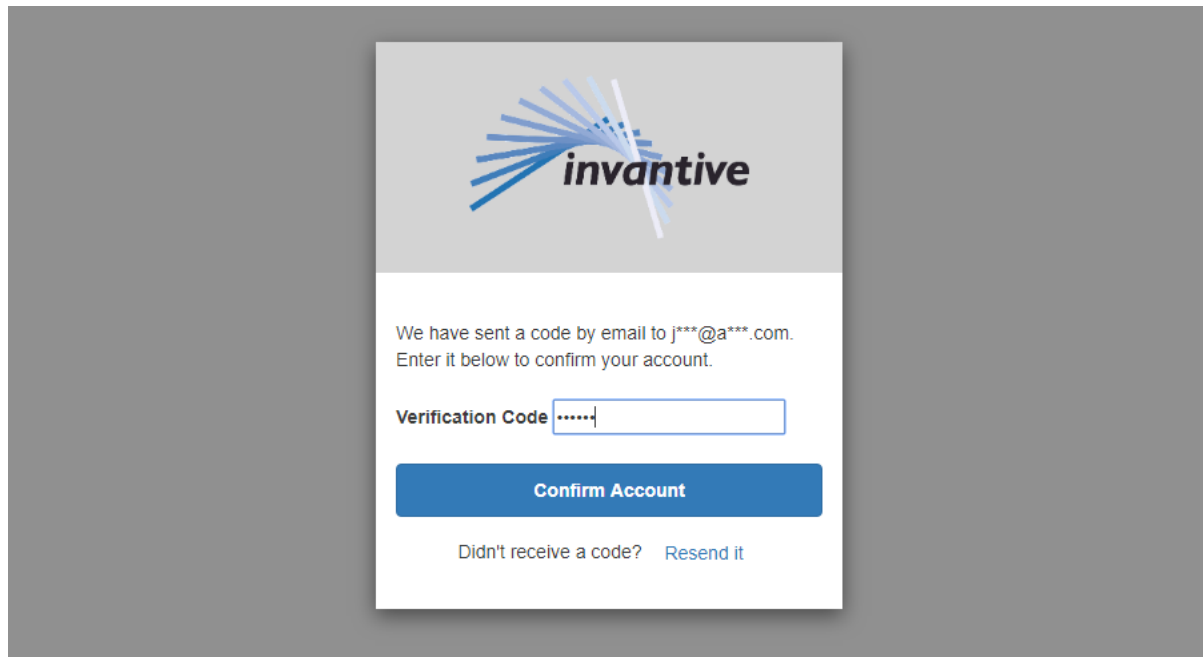
Password

- ✓ Password must contain a lower case letter
- ✓ Password must contain an upper case letter
- ✓ Password must contain a special character
- ✓ Password must contain a number
- ✓ Password must contain at least 8 characters

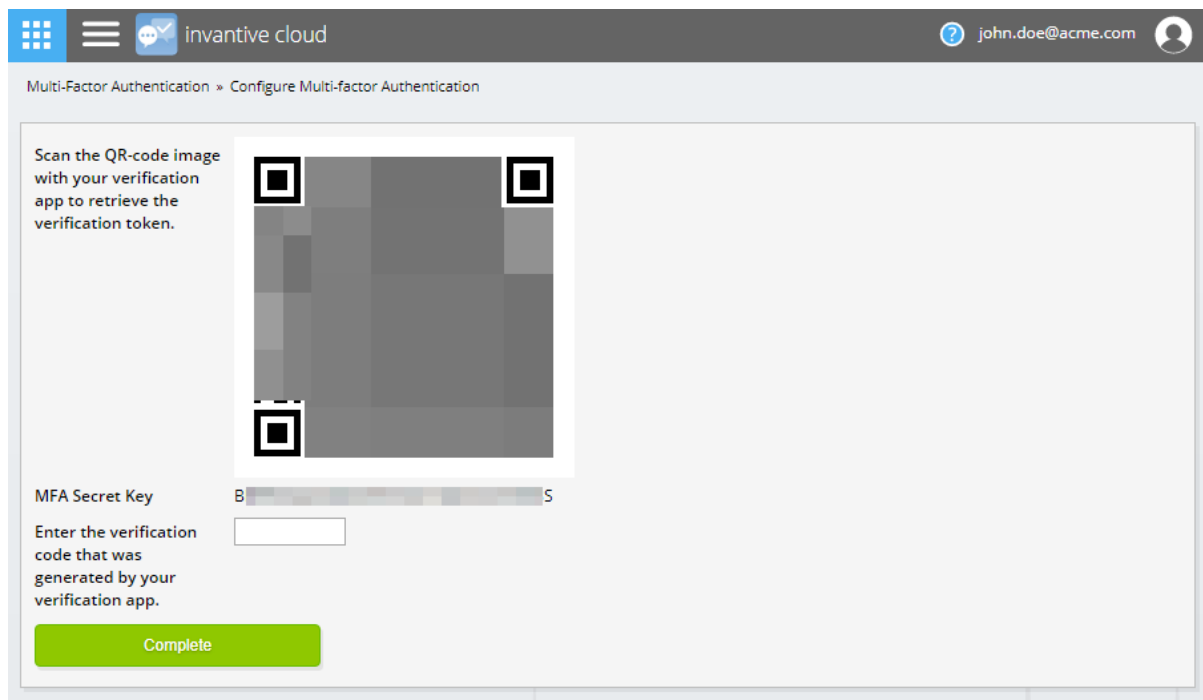
[Sign up](#)

Already have an account? [Sign in](#)

- Click on "Sign up".
- A code of 6 digits is sent to the email address you have entered to validate that you have access to inbox of the the email address.
- Wait until the mail arrives.
- Enter the 6-digit code in the form:



- Click on "Confirm Account".
- A QR code image is displayed for additional security by using a two-step verification (QR code obfuscated here):

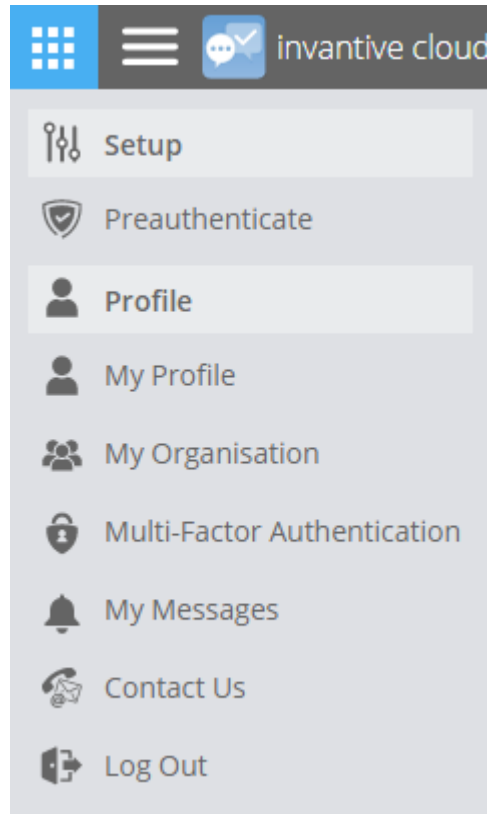


- Install an app like Google Authenticator or Microsoft Authenticator on your personal phone.
- Using the app scan the QR code.
- Enter the generated 6-digit verification code to ensure that your personal phone and Invantive Cloud are synchronized.
- Click on "Complete".
- The user registration has completed.

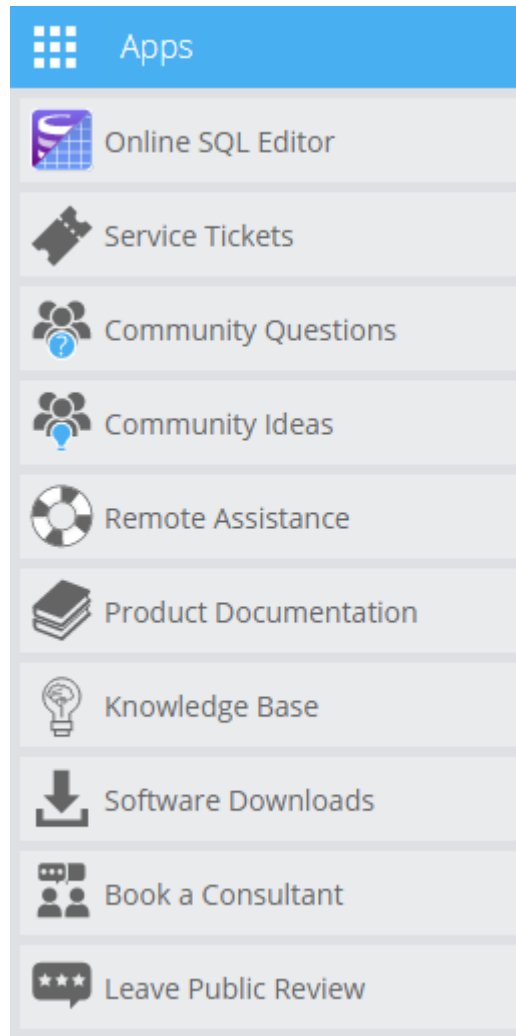
## 1.3 Link to Organization

Invantive Cloud provides services for drive-by users without an associated organization and to users of registered customers.

Users without associated organization can access selected parts of the functionality:



Users without associated organization also have access to all related apps:



By default, all license coordinators of registered customers are associated with their company in Invantive Cloud. All other associations between users and organizations are currently done manually by Invantive upon approval of a license coordinator.

Please send a mail to [support@invantive.com](mailto:support@invantive.com) with the name and email address of your users to request association with your organization.

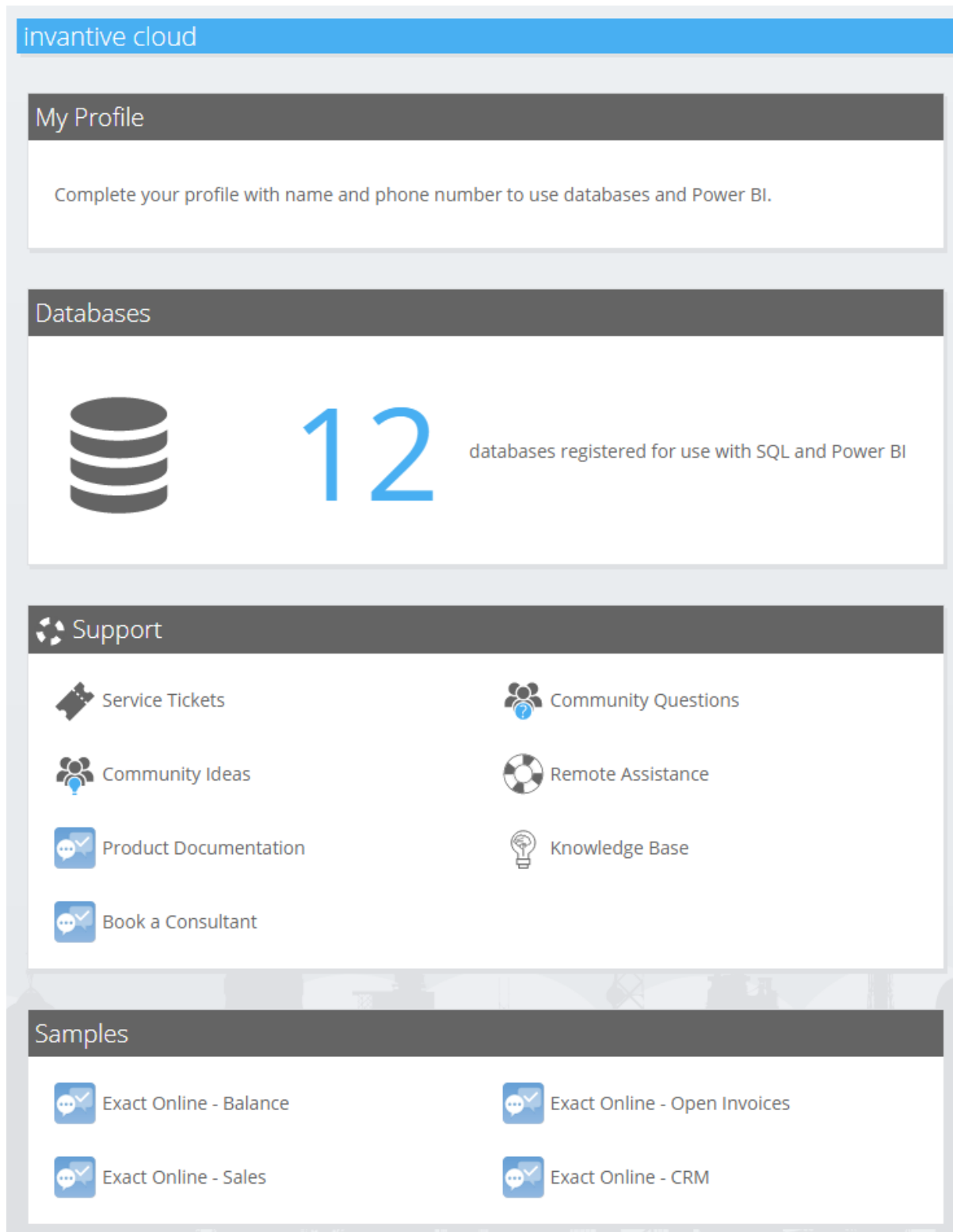
## 1.4 Menu

This section describes the available functions in the menu. The presence of functions depend on your authorization.




### 1.4.1 Main Dashboard

The main dashboard is shown by clicking on "invantive cloud" in the top bar:



The elements of the main dashboard vary depending, but resemble the dashboard shown above:

- My Profile: some functionality is unavailable when parts of the current user's profile are missing. Click on "My Profile" to complete your [profile](#)<sup>31</sup>.

- Databases: direct access to registered [databases](#) .
- Support: direct access to support options.
- Samples: a number of pre-defined Power BI reports for use with Invantive Bridge Online.

### 1.4.2 Databases



The form "Databases" contains a list of registered databases. All Invantive SQL databases are virtual; they do not store data, but only define the containers of data elements in the cloud or in other traditional databases or files.

## List

There is a form in list format:

Setup » Databases

### Databases

 New |  Show All Databases

Show  entries Search:

Name ▲	Description	Created	Organisation Name
Dummy b4fa1fe		30-09-2019 15:15:05	Invantive B.V.
Dummy f693809		30-09-2019 10:38:34	Invantive B.V.
Exact Online b979c75		12-09-2019 10:13:37	Invantive B.V.
Exact Online be ab78a3a		13-09-2019 10:23:34	Invantive B.V.

The "New" button allows you to add databases.






When you are authorized to see databases from multiple organizations, the "Show All Databases" allows you to restrain the databases to solely the databases of your main organization.

## Details

There is also a details format:

Setup » Databases » Exact Online b979c75

### Database Exact Online b979c75

 Save |  Delete |  Data Containers |  SQL Editor |  Bridge Online Configuration

Name

Description

## Buttons

The "Save" button memorizes changes made to the changeable fields.

The "Delete" button permanently deletes the database currently displayed, including memorized log on credentials to the platform.

The "[Data Containers](#)<sup>[10]</sup>" button shows the individual data containers with the data that can be access through the database. There is only one data container per database for simple scenarios, but more complex set ups can have dozens of data containers per database.

The "[SQL Editor](#)<sup>[23]</sup>" button opens the SQL editor on the selected database.

The "[Bridge Online Configuration](#)<sup>[22]</sup>" button shows a manual on how to configure Bridge Online to retrieve data from this database for Microsoft Power BI.

## Fields

The "Name" field is a unique name of the database for easy reference. By default a name is generated automatically based upon the platform name.

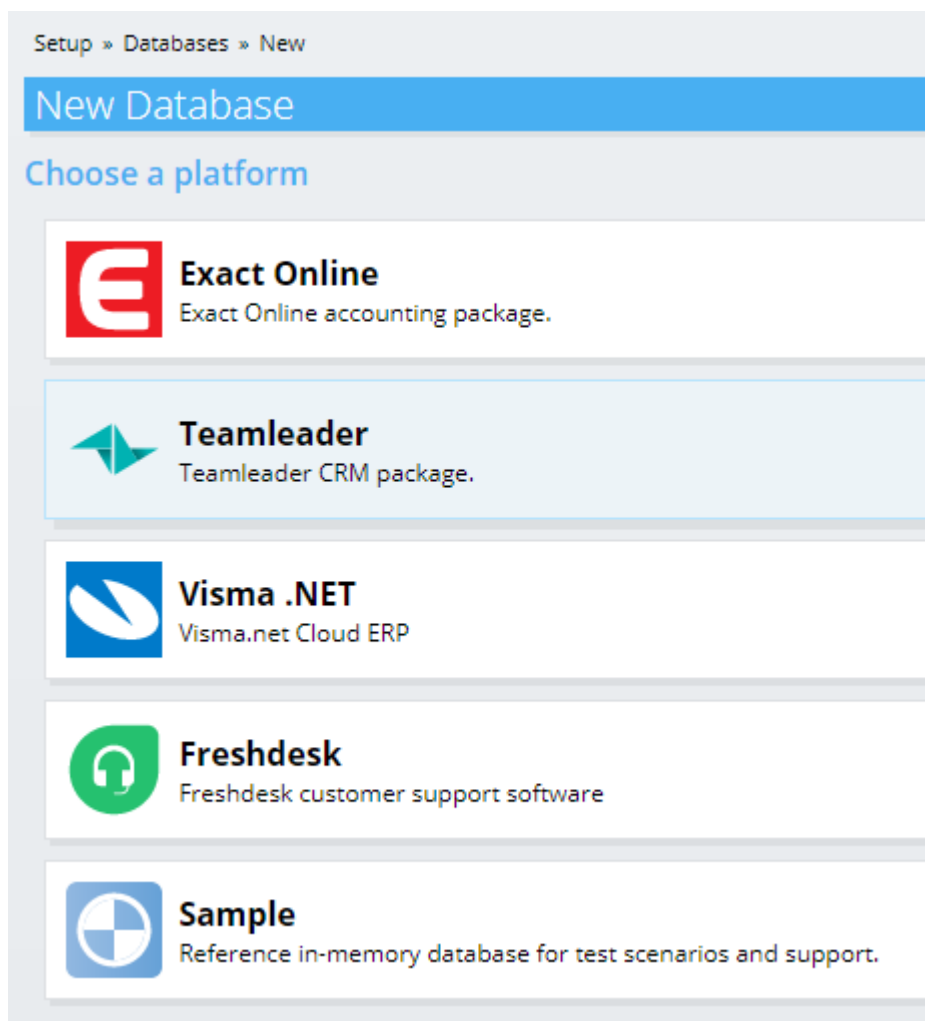
The "Description" is a free text field, describing the contents of the database.

## New Database

The registration of a new database has two steps:

- First you select the platform you wish to define the database on.
- Depending on the platform, you can enter the log in credentials.

The platform choice looks like the following picture:



The next step depends on the platform chosen, but in general shows a log in form of the platform itself.

When connecting to an application protected by a firewall using source IP-address, please make sure to white list the following IP addresses:

- 52.48.151.77
- 52.48.177.24

### 1.4.3 Data Containers

The form "Data Containers" contains a list of registered data containers. A data container is part of a [database](#) and contains the actual data accessible.

## List

There is a form in list format:

Setup » Data Containers

Data Containers				
Show <span>50</span> entries		Search: <span>invantive</span>		
Alias ▲	Provider	Connection String	Database Name	Organisation Name
Dummy		invantive-sql-shuffle-fetch-results-data-containers=False	Dummy f693809	Invantive B.V.
Dummy		invantive-sql-shuffle-fetch-results-data-containers=True	Dummy b4fa1fe	Invantive B.V.




Data containers can not be added from this form. An initial data container is created when you define a new [database](#).


## Details

There is also a details format:

Setup » Databases » Dummy f693809 » Data Containers » Dummy

### Data Container 73

 Save | 
  Delete | 
  Refresh Authorization

Provider	Dummy
Alias	<input type="text"/>
Connection String	<input type="text" value="invantive-sql-shuffle-fetch-results-data-containers=False"/>
Allow Connection Pooling	<input type="checkbox"/>
User Log On Code	<input type="text"/>
Password	<input type="password"/> 

## Buttons

The "Save" button memorizes changes made to the changeable fields.

The "Delete" button permanently deletes the data container currently displayed, including memorized log on credentials to the platform.

The "Refresh Authorization" button refreshes the connection credentials on platforms where a refresh token is used, such as Exact Online or Teamleader. The authorization refresh requires you to log on again on the associated platform.

## Fields

The following fields are available:

- Connector: the platform this data container connects to.
- Alias: an Invantive SQL data container alias. It is for use on databases with multiple data containers to qualify object names with a reference to a specific data container.
- Connection String: specification of advanced features for the connection. The connection string is a semi-colon separated list of names and values. The available names and values are listed per connector on <https://documentation.invantive.com>. For ANSI SQL-based data containers, you can also use connection string parameters provided by the backing ADO.NET connector.
- Allow Connection Pooling: Invantive SQL provides on ANSI SQL-based data containers a custom algorithm for connection pooling. Enable this setting to activate it. Advanced use only.
- User Log On Code: log on code for use with connectors that use traditional user log on code/password combinations.
- Password: associated password or API token key.

### 1.4.4 Preauthenticate Application

Invantive SQL connects to over 50 platforms, from the cloud, file formats and traditional SQL-databases. Many platforms use OAuth2 to authenticate the application and the user. OAuth2 offers several facilities for this, such as Implicit Grant and Code Grant.

When you run an Invantive product such as Invantive Data Replicator on hardware under control of your company, you can use the Code Grant Flow to preauthenticate an application.

"Preauthentication" creates application settings (including a refresh token) which enable access to cloud applications such as Exact Online using an application without further security credentials exchange. The process can be executed before the actual use of the application. Invantive Preauthentication has no relationship with Kerberos Preauthentication.

Preauthentication is currently supported on Exact Online (all countries).

## Security warning

A two-step authentication to achieve strong authentication is only applied during preauthentication. Apply additional measures such as IP-based access control or hardware-bound encryption of the token when you require continuous strong authentication after preauthentication. Please consult your security officer when in doubt.

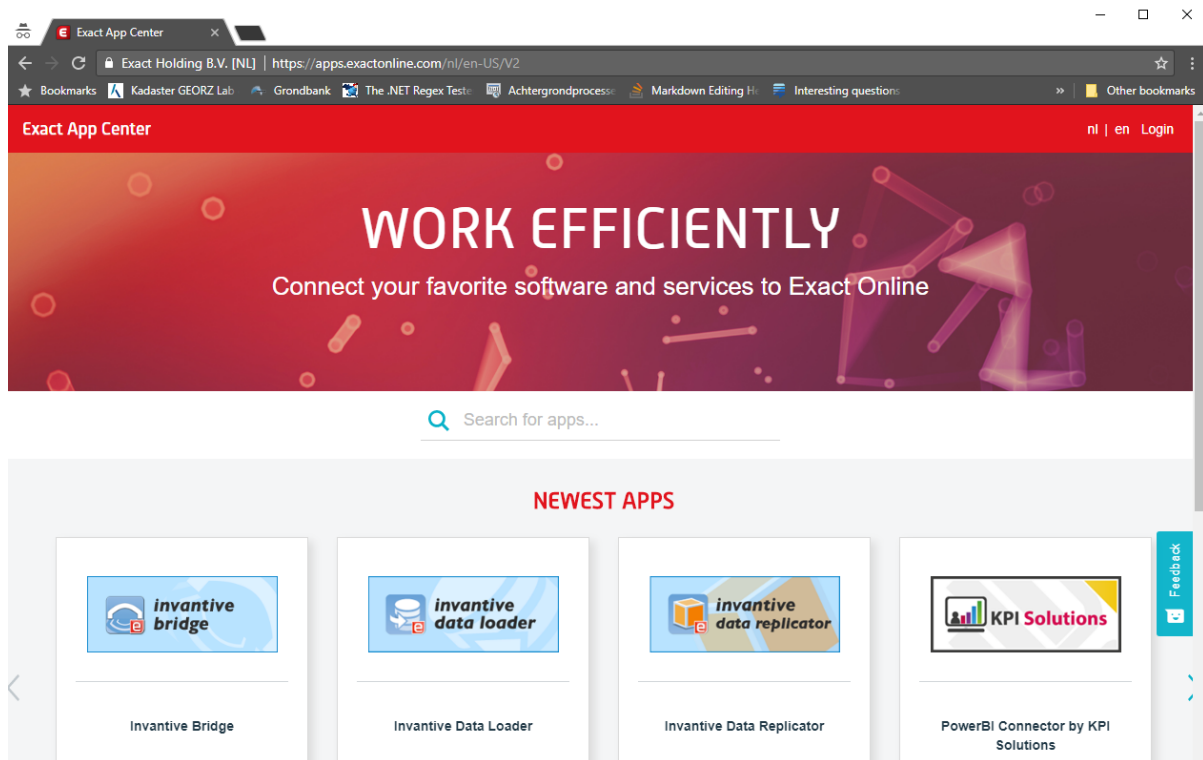
### 1.4.4.1 Preauthenticate Exact Online

To preauthenticate an Exact Online application, please execute the following steps:

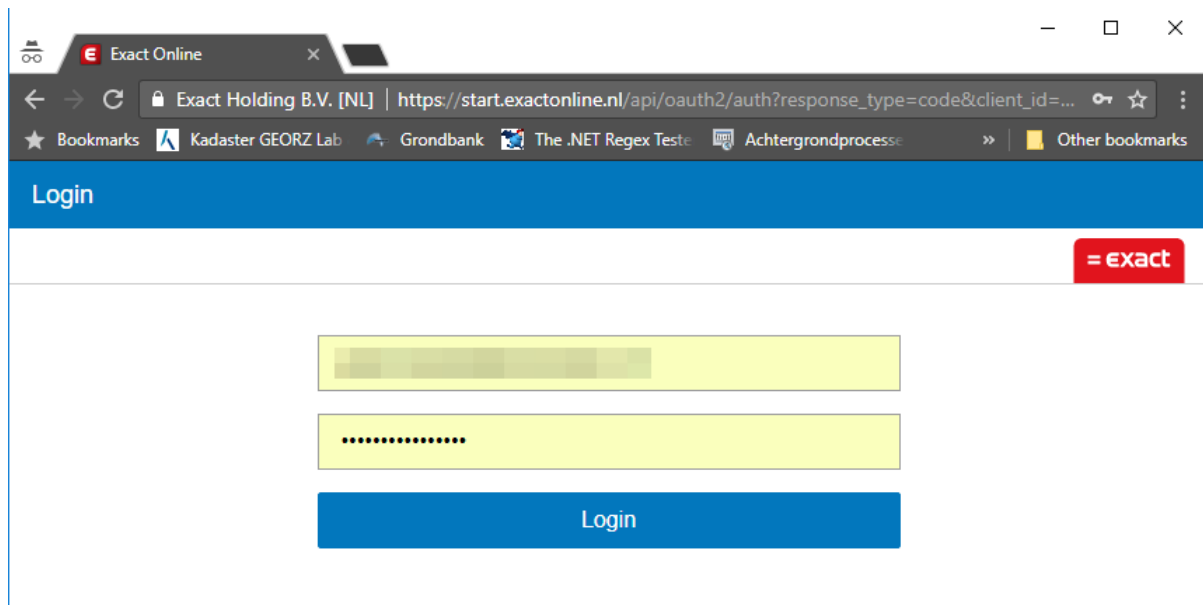
## Preparation

Execute the following steps:

- Navigate to the [Exact App Center](https://apps.exactonline.com):

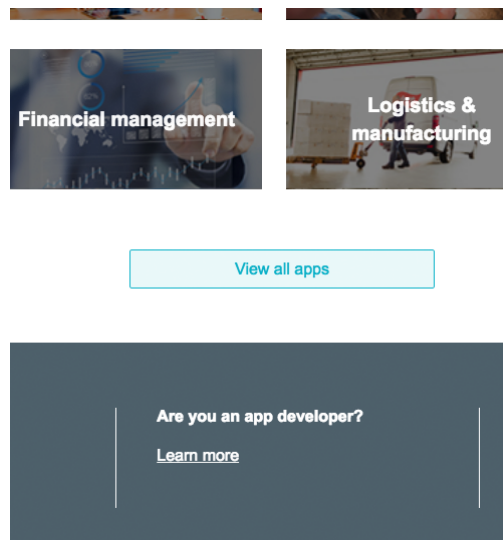


- Choose the correct country.
- Log in:



- For the next step, make sure that you have an Exact Online App Center subscription. This is a free subscription that allows you to register your own API keys.
- To register for such an account, go to <https://apps.exactonline.com>

- Scroll to the bottom and search for "Are you an app developer?", click on "Learn More".



- On the next page, choose 'Step 1: Register', click on the 'Register your app' button.

## 1 Registreer

Begin vandaag nog. Sluit eerst een gratis Exact Online App Center abonnement af. Registreer vervolgens de app in het App Center.

Registreer je app

- On the next page, you'll see a form to register, you can choose "Login" at the bottom of the form.

**Neem een gratis Exact Online App Center abonnement!**

**Exact Online App Center abonnement**  
Exact Online voor App Center partners

De heer  Voornaam

Achternaam

Bedrijfsnaam

Telefoon

E-mail

☒ Gebruik e-mailadres als gebruikersnaam

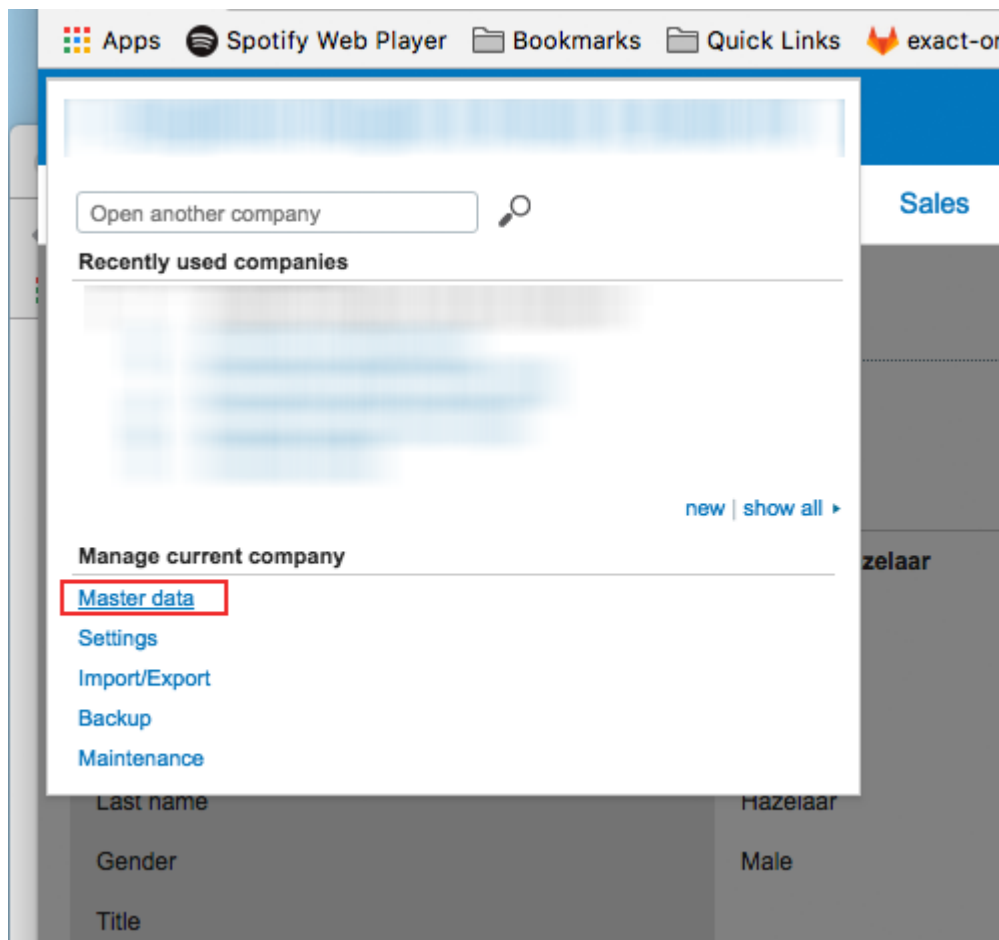
Wachtwoord

☐ Ja, ik accepteer de App Center Voorwaarden.

**Gratis inschrijven**

of [Login](#)

- Now check for the following: "Manage subscription" should be checked under the Grant rights for the user. You can check that on the Grant rights page for the user: Master data > Overview | Users > User > Rights.



## Users

[Overview](#)

[Roles](#)

[Control: Rights](#)

[Overview: Digipass](#)



ListDetails

<input type="checkbox"/>	Name ▲	Picture
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		


Monitor

☒ Requests

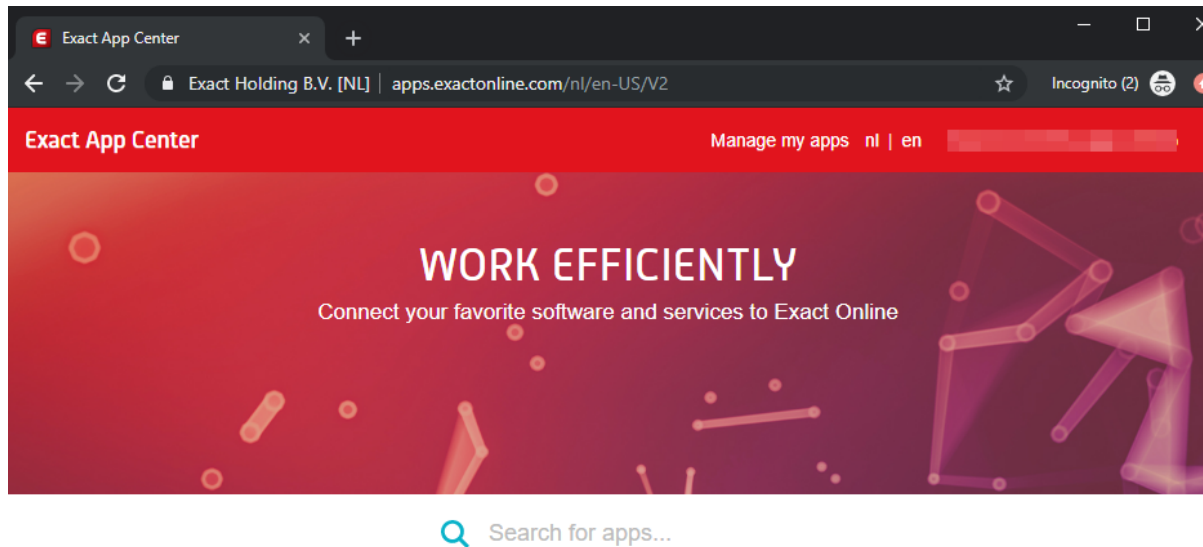
☐ Documents

☒ Rights

☐ Companies: Access rights

General	Financial	Sales	Inventory	P
<div>  Role         </div>				
<b>Audit</b>				
<input type="checkbox"/> View audit trail				
<b>Master data</b>				
<input type="checkbox"/> Maintain extra fields				
<input checked="" type="checkbox"/> Maintain layouts				
<input checked="" type="checkbox"/> Manage items				
<input checked="" type="checkbox"/> Manage terms				
<input checked="" type="checkbox"/> View item data				
<b>System</b>				
<input type="checkbox"/> Assign rights				
<input checked="" type="checkbox"/> Create users				
<input checked="" type="checkbox"/> Create, update, and delete documents				
<input checked="" type="checkbox"/> Create/delete companies				
<input checked="" type="checkbox"/> Default role				
<input checked="" type="checkbox"/> Edit companies				
<input checked="" type="checkbox"/> Edit users				
<input checked="" type="checkbox"/> Enter and modify company related mail messages				
<input checked="" type="checkbox"/> Enter and modify mail messages				
<input checked="" type="checkbox"/> Enter, modify and delete requests				
<input checked="" type="checkbox"/> Manage backup and restore				
<input checked="" type="checkbox"/> <b>Manage subscription</b>				
<input checked="" type="checkbox"/> Reseller portal sales user				
<input checked="" type="checkbox"/> Reseller portal support user				
<input checked="" type="checkbox"/> Upload documents				
<input checked="" type="checkbox"/> Use support functions				
<input checked="" type="checkbox"/> View company data				
<input checked="" type="checkbox"/> View my account data				
<input checked="" type="checkbox"/> View user data				

- If you go back to <https://apps.exactonline.com>, there should be a new option available:
- Choose 'Manage my apps' or 'Register API Keys':



- Choose the app that you wish to preauthenticate a user on.
- Click on 'Show' next to the client secret.
- Take note of the following values as shown below: client ID, client secret and redirect URI.
- When you preauthenticate for use with Exact Online using an Invantive product and when it fits your security policy to use an external provided callback URL, you can use <https://exactonlineclientredirect.invantive.com>. In fact, most Invantive products support any callback URL since they run without a browser environment.

### Register a production app ✕

App name <sup>\*</sup>

My nice app

---

Redirect URI <sup>\*</sup>

<https://exactonlineclientredirect.invantive.com>

---

Terms and Conditions:

Exact accepts no responsibility for the accuracy of content on your website, or the exchange of data between the App and Exact Online.



☒ Yes, I accept the Exact Online Conditions.  
[Read, print or download the Exact Online Conditions.](#)

☒ Yes, I accept the Exact Online App Center Terms And Conditions Of Use.  
[Read, print or download the Exact Online App Center Terms And Conditions Of Use](#)

Register

### Authorisation details

Here you can find the configuration settings you need in order to setup your authorisation with Exact Online. To get a better understanding of our OAuth 2.0 implementation, please follow the [OAuth tutorial](#). To find the API resources take a look at our [reference documentation](#).

App name <sup>*</sup>	Redirect URI <sup>*</sup> ⓘ
My nice app	<a href="https://exactonlineclientredirect.invantive.com">https://exactonlineclientredirect.invantive.com</a>
Client ID ⓘ	Webhook secret ⓘ
abcdef12-.....	..... 
Client secret ⓘ	
n..... 	

Save

#### Exact Online App Authorisation Details

## Preauthenticate

Then preauthenticate the application:

- Open [Invantive Cloud](#).
- Choose "Preauthenticate" in the menu.
- Read and fill out the form as shown using the values previously noted:

Setup » Preauthenticate

### Preauthenticate Exact Online Application

You can preauthenticate an application using the Code Grant Flow from OAuth2 when running a product such as Invantive Data Replicator or Invantive Data Hub on hardware under control of your company. "Preauthentication" creates application settings (including a refresh token) which enable access to Exact Online using an application without further security credentials exchange. The process can be executed before the actual use of the application. Invantive Preauthentication has no resemblance with Kerberos Preauthentication.

**Security Warnings!** A two-step authentication to achieve strong authentication is only applied during preauthentication. Apply additional measures such as IP-based access control or hardware-bound encryption of the token when you require continuous strong authentication after preauthentication. This limitation holds for ALL apps based on Exact Online. Please consult your security officer when in doubt.

Please enter the application information you have received from the Invantive consultant, your Invantive dealer or directly from the Exact App Center application registration. For questions, please read up on OAuth security concerns and when necessary contact Invantive Support.

Platform *	Exact Online <i>i</i>
Country *	nl - The Netherlands <i>i</i>
Client ID *	abcdef12-67 <i>i</i>
Client Secret *	..... <i>i</i>
	<input checked="" type="checkbox"/> Deviating Redirect URI <i>i</i>
Redirect URI *	https://exactonlineclientredirect.invantive.com <i>i</i>
Name *	John Doe <i>i</i>
Job Title *	Sales <i>i</i>
Email Address *	john.doe@acme.com <i>i</i>
Company Name *	Acme Corp. <i>i</i>


☒ I have read up and understand the security implications of preauthenticating an app using OAuth2 Code Grant Flow including the security warning shown above.

☒ I may accept this form on behalf of my organization.

☒ My organization accepts the security implications of preauthenticating an application.

[Get Authorization Code](#)

- When you use a redirect URI different from cloud.invantive.com, remember to check the box "Deviating Redirect URI". If so, an additional form appears labeled "Exchange Code".
- Click on the "Preauthenticate" button.
- Exact Online will now ask you to authenticate yourself:




---

john.doe@acme.com

.....



Login

- On successful authentication, Exact Online will ask you to authenticate access by the application to your Exact Online data with the same privileges as the user:
- 
- 

**My nice App**

heeft uw permissie nodig om toegang te krijgen tot de gegevens  
van uw Exact Online omgeving

john.doe@acme.com

Toestaan

Weigeren

- Click on "Allow".
- The browser will be redirected to the redirect URI.
- The URL will contain essential information for preauthentication.
- Click in the URL and copy the whole URL to the clipboard:

- Exchange the URL into a OAuth2 refresh token by pasting it in the field "Code Return URL" and press the button "Exchange".

### Retrieve Refresh Token from Authorization Code

Authorization Code  
Return URL \*

<https://exactonlineclientredirect.invantive.com/?code=F12N>

Complete Preauthentication

- The resulting page displays the settings for preauthenticating your application:

Setup » Preauthenticate » Result

Exact Online Pre-authentication Results

### Application Settings

Refresh Token	secret
Connection String	api-url=https://start.exactonline.nl;api-client-id=8ea6017a-fb8d-4cc2-9935-0026161b777e;api-redirect-url=https://exactonlineclientredirect.invantive.com;api-client-secret=secret;api-refresh-token=secret
Content Settings-*.xml	<pre>&lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;!-- Generated by invantive cloud - 06-10-2019 12:38:44 UTC.  When both connection string and encrypted connection string are specified on a connection, they are merged after decryption. Values from the connection string take precedence over the values from the encrypted connection string.  Note that you can encrypt the connection string using the local encrypt statement. The api-client-secret and api-refresh-token are typically encrypted given their sensitive nature. --&gt; &lt;settings version="5"&gt;   &lt;group name="Invantive B.V."&gt;     &lt;connection name="8ea6017a-fb8d-4cc2-9935-0026161b777e" authentication="Application"&gt;       &lt;database</pre>

- The field "Refresh Token" contains the OAuth2 refresh token.
- The field "Content settings.xml" contains an Invantive database definition for storage as a file named settings-**<NAME>**.xml in %USERPROFILE%\invantive. Confidential information in the connection string is however readable in plain text.

### 1.4.5 Bridge Online Configuration

Invantive Bridge Online is a website that allows access to databases stored in Invantive Cloud from popular software packages such as Power BI and Power Query on Excel. Bridge Online provides access using the OData4 protocol.

Each database is accessed using a URL that starts with "<https://app.office365-apps.com>". Included in the URL is a version number of the Bridge Online software version, plus the unique number of the database. For example, the URL "<https://app.office365-apps.com/powerbi/bridge/v10/106/odata4/>" specifies version 10 of the Bridge online software and database number 106.

For ease of use, a manual is automatically displayed for each database, resembling:

Setup » Databases » Dummy f693809 » Bridge Online Configuration

## Database Identity Dummy f693809

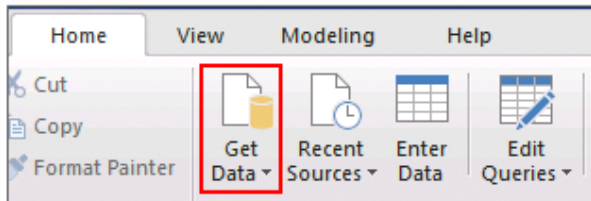
Summary	
Database	Dummy f693809
Bridge Online URL	<a href="https://app.office365-apps.com/powerbi/bridge/v10/106/odata4/">https://app.office365-apps.com/powerbi/bridge/v10/106/odata4/</a>
Bridge User Name	19ec0ff7-2053-4ef3-9554-005f5c2fbb9d
Bridge Password	Password has been set.
Action	<a href="#">Change Password for Invantive Bridge</a>

Setup Bridge Online for Use with Power BI

Please execute the following steps to retrieve data into Power BI reports using Invantive Bridge Online.

### Step 1

Start Microsoft Power BI and click on "Get Data".



The screenshot shows the Microsoft Power BI ribbon with tabs for Home, View, Modeling, and Help. The 'Get Data' button, located under the View tab, is highlighted with a red rectangular box. Other buttons visible include 'Recent Sources', 'Enter Data', and 'Edit Queries'.

The Bridge Online URL is the URL to enter for the OData feed in Power BI or Power Query. A pop-up will be displayed next in Power BI/Power Query to choose the authentication method. Use the Bridge User Name and the Bridge password. The Bridge password is the same for all databases available to your user account.

## Pseudonymization

Invantive Bridge Online does a reasonable job on pseudonymization of names of persons. There is no guaranteed completeness and/or correctness on the effectivity.

Upon written request in a ticket, pseudonymization can be disabled for your user account.

Your organization's representative must explicitly mention that the organization is aware that disabling best-effort pseudonymization might be in conflict with applicable laws and compliance rules and that the organization accepts all consequences of this.



## IP Address Validation

In addition to geo blocking, Invantive Bridge Online requires both a user name/password combination as well as white-listing the IP addresses used to retrieve data from.

Upon written request in a ticket, additional specific IP address can be added for your user account.

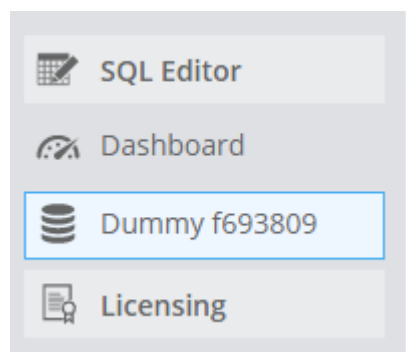
Upon written request in a ticket, all IP address can be added for your user account. This is necessary for use with [Power BI on the web](#).

Your organization's representative must explicitly mention that the organization is aware that providing access to data through solely user name/password combinations might be in conflict with applicable laws and compliance rules and that the organization accepts all consequences of this.

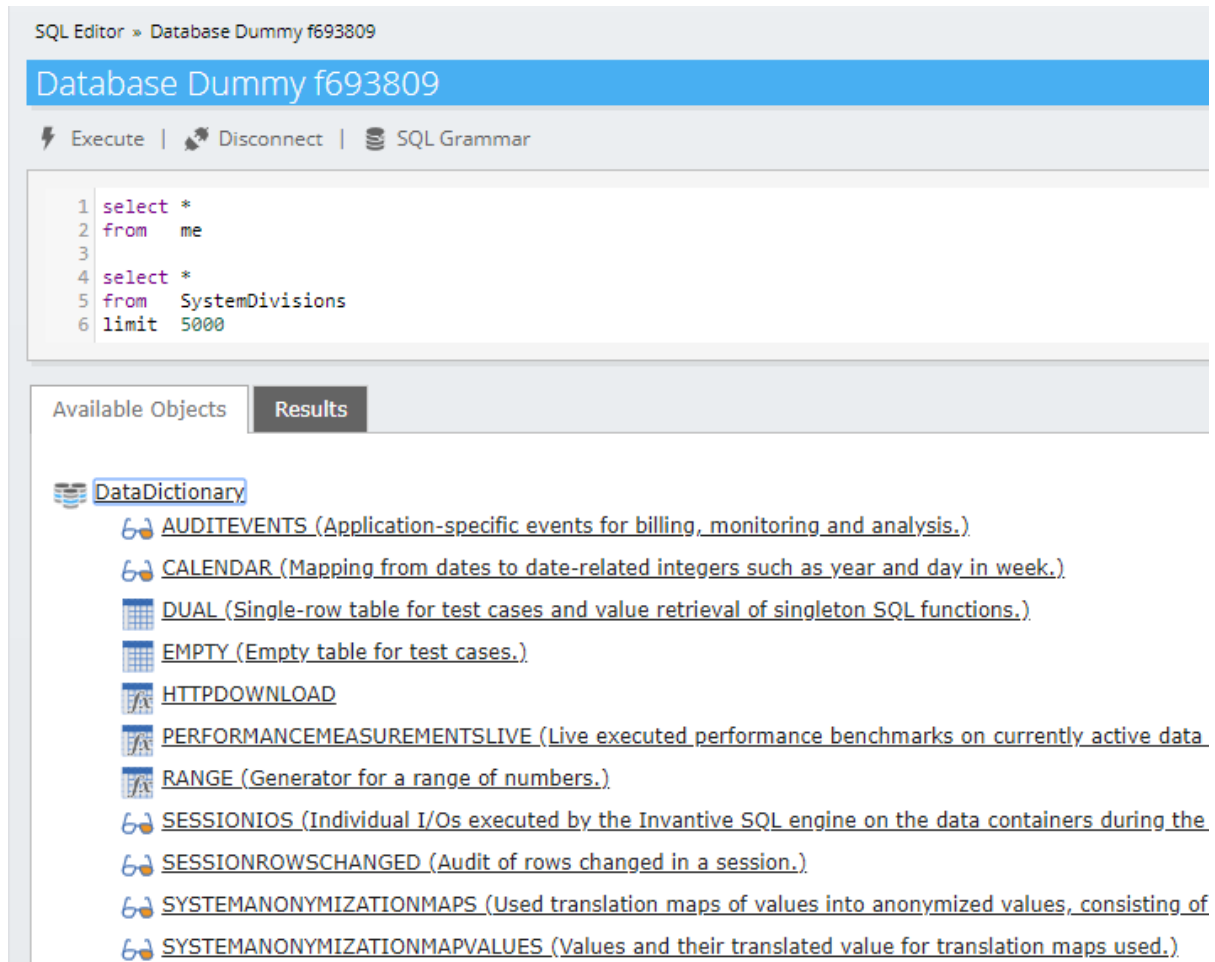
### 1.4.6 SQL Editor

The form "SQL Editor" allows Invantive SQL access to the contents of a [database](#) .

First choose the database to use. The database chosen will be displayed in the menu group until disconnected:



The SQL editor will open and display three groups:



## Buttons

The "Execute" button runs the Invantive SQL statement in which the cursor is positioned within.

The "Disconnect" button disconnects from the database and also removes the database from the menu group.

The "SQL Grammar" button displays the Invantive SQL grammar for reference purposes.

## Elements

The SQL editor window is displayed on top. It grows to accommodate more text when necessary.

The "Available Objects" tab displays the objects per data container. Double click on an object to insert a statement to retrieve the data into the SQL editor.

The "Results" tab displays the results of the query:

SQL Editor » Database Dummy f693809

## Database Dummy f693809

⚡ Execute | 🚪 Disconnect | 📄 SQL Grammar

```

1 select *
2 from Dummy.Demo.ProjectPhases
3 limit 1000

```

Available Objects | Results

Search:

pss_nk	pss_code	pss omschrijving	pss_sorteer_volgorde	pss_toelicht
Acquisition	Acquisition	Acquisition	20	
Belling	Belling	Belling (rest)	40	
Execution	Execution	Execution	50	

Showing 1 to 3 of 3 entries

The "Search" box allows entry of a text used to restrain the results to solely rows containing the search text in any column.

### 1.4.7 Organizations

The form "Organizations" contains a list of organizations. There will be one entry for most users.

## List

There is a form in list format:

Licensing » Organisations

## Organisations

Show  entries

Name ▲	Temporarily Blocked	City	CoC Number	Work Phone	Country	Li
Invantive B.V.	<input type="checkbox"/>	Hierden	13031406	+31 88 00 26 500	NL	

Showing 1 to 3 of 3 entries

The data is taken from Invantive's internal systems. When you find an error, please send an email to [support@invantive.com](mailto:support@invantive.com).

## Details

There is also a details format:

Licensing » Organisations » Invantive B.V.

### Organisation Invantive B.V.

Agreements | Users

Name	Invantive B.V.
Address Line 1	Biesteweg 11
Address Line 2	
Postal Code	3849 RD
City	Hierden
Country	NL
CoC Number	13031406
VAT Number	NL812602377B01
Work Phone	+31 88 00 26 500
Email Address	info@invantive.com
Invoice Email Address	
Legal Form	BV
IBAN Number	NL42RABO 01 234097 80
BIC Code	RABONL2U
Language Code	nl
Temporarily Blocked	False
Signatory	
License Coordinator	
Website URL	<a href="http://www.invantive.com">http://www.invantive.com</a>

## Buttons

The "Agreements" button navigates to a form with all [agreements](#)<sup>[29]</sup> of the organization.

The "Users" button navigates to a form with all registered [users](#)<sup>[27]</sup> of the organization.

## Fields

The following fields are used:

- Name: legal name of the organization.
- Address Line 1/2: street of the legal address of the organization.
- Postal code: postal code of the legal address.
- City: city of the legal address.
- Country: country of the legal address in ISO format.
- CoC Number: chamber of commerce registration number.
- VAT Number: value added tax number.
- Work Phone: main phone number.
- Email Address: main email address.
- Invoice Email Address: possibly deviating email address to send invoices to.
- Legal Form: legal form of the organization.
- IBAN Number: bank account number.
- BIC Code: BIC code associated with the IBAN number (some countries only).
- Language Code: preferred communication language of the organization.
- Temporarily Blocked: indicator whether services have been suspended temporarily, for instance due to overdue invoices.
- Signatory: name of the person of the organization that entered into the agreement with Invantive.
- License Coordinator: name of the person within the organization that manages the agreement.
- Website URL: main website.

#### 1.4.8 Users

The form "Users" contains a list of users.

## List

There is a form in list format:

Licensing » Organisations » Invantive B.V. » Users

### Users

Show 50 entries Search: 19ec

User ID ▲	Name	Email Address	Organisation	Profile Provider
19e005		@invantive.com	Invantive B.V.	Cognito

Showing 1 to 1 of 1 entries Previous 1 Next

## Details

There is also a details format:

Licensing » Organisations » Invantive B.V. » Users » John Doe	
User John Doe	
User ID	19ec...9d
Name	John Doe
Email Address	john.doe@acme.com
Job Title	Employee
Organisation	Invantive B.V.
Profile Provider	Cognito
Phone Number	+31880026500
First Name	John
Last Name	Doe
Gender	M
Language	en
Created	7/1/2019 7:43:07 PM

## Fields

The following fields are used:

- User ID: a unique ID of the user.
- Name: the full name.
- Email Address: email address used for communication.
- Job Title: job title, used for pre-authentication.
- Organization: organization name.
- Profile Provider: the technology used to authenticate the user.
- Phone Number: phone number of the user.
- First Name: first name.
- Last Name: last name.
- Gender: "M" for male, "F" for female and "U" for unspecified.
- Language: preferred communication language of the user, including the Invantive Cloud user interface.
- Created: moment when the user was registered.

Some functions of Invantive Cloud are unavailable till a user completes the profile.

### 1.4.9 Agreements

The form "Agreements" contains a list of agreements between parties and Invantive.

## List

There is a form in list format:

Licensing » Agreements

Agreements

Show All

Show 50 entries Search:

Organisation Name ▲	Agreement Code	Active	Right of Use Start	Right of Use End	Product Code	Description
Invantive B.V.	L51151637	<input checked="" type="checkbox"/>	01-01-2004		SUBAAINV	Subscription all Invantive products Invantive internal
Invantive B.V.	L120	<input checked="" type="checkbox"/>	01-01-2004		SUBAAINV	Subscription all Invantive products Invantive internal

## Details

There is also a details format:

Licensing » Agreements » L51151637

Agreement L51151637

Logging | License Keys | Invoices

Organisation Name	Invantive B.V.
Agreement Code	L51151637
Active	True
Right of Use Start	1/1/2004
Right of Use End	
Product Code	SUBAAINV
Description	Subscription all Invantive products for All Cloud

## Buttons

The "Logging" button navigates to a form with [logged messages](#)<sup>[30]</sup> related to this agreement.

The "License Keys" button navigates to a form with all registered [license keys](#)<sup>[30]</sup> of this agreement.

The "Invoices" button navigates to a form with [invoices](#)<sup>[30]</sup> related to this agreement.

## Fields

The following fields are used:

- Organization Name: name of the counter-party of Invantive.
- Agreement Code: the unique code of the agreement.
- Active: indicator whether the agreement is still active.
- Right of Use Start: date at which the agreement becomes effective.
- Right of Use End: last effective date of the agreement.
- Product Code: associated Invantive product.
- Description: description of the product.

**1.4.10 Blocked Agreements****1.4.11 License Keys**

Enter topic text here.

**1.4.12 Invoices**

Enter topic text here.

**1.4.13 Logging**

Enter topic text here.




### 1.4.14 My Profile

Some functions of Invantive Cloud are unavailable till a user completes the profile.

My Profile

My Profile

 Save

User ID

19ec0ff7-2053-4ef3-9554-005f5c2fbb9d

Profile Provider

Cognito

First Name

John

Last Name

Doe

Job Title

Employee

Full Name

John Doe

Phone Number

+31880026500

Email Address

john.doe@acme.com


Gender

☐ Unspecified ☒ Male ☐ Female

Language

English ▼

Profile Picture

 Upload

Profile Picture

Choose File

No file chosen

Advanced - Identity Claims

Key	Value
cognito:username	19ec0ff7-2053-4ef3-9554-005f5c2fbb9d
email_verified	true
token_use	id
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress	john.doe@acme.com
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/name	19ec0ff7-2053-4ef3-9554-005f5c2fbb9d
http://schemas.xmlsoap.org/ws/2005/05/identity/claims/nameidentifier	19ec0ff7-2053-4ef3-9554-005f5c2fbb9d

## Buttons

The following buttons are used:

- Save: save changes in the My Profile section.
- Upload: upload the file with a profile picture.

## Fields

The following fields are used:

- User ID: a unique ID of the user.
- Profile Provider: the technology used to authenticate the user.
- First Name: first name.

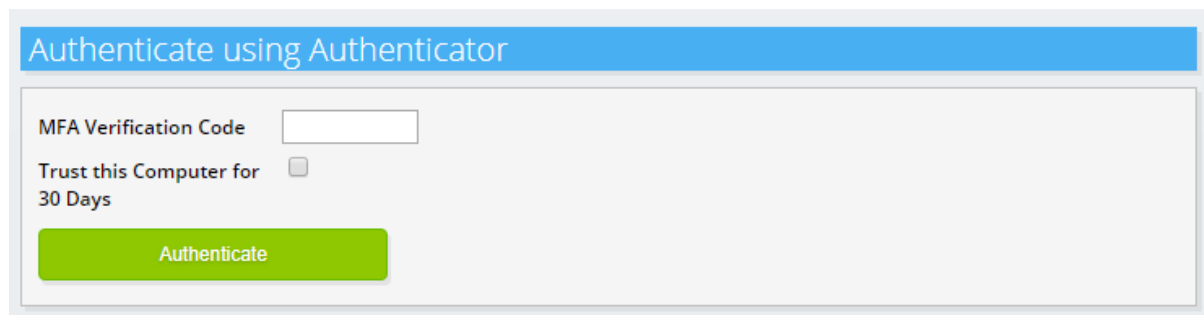
- Last Name: last name.
- Job Title: job title, used for pre-authentication.
- Full Name: the full name.
- Phone Number: phone number of the user.
- Email Address: email address used for communication.
- Gender: gender.
- Language: preferred communication language of the user, including the Invantive Cloud user interface.
- Profile Picture: file to upload using the "Upload" button as picture for the user. Upload is only available when the profile provider does not itself provide a profile picture.

#### 1.4.15 My Organization

The form "My Organization" is identical to the details section of the "[Organizations](#)"<sup>25</sup> form showing the organization the current user belongs to.

#### 1.4.16 Multi-Factor Authentication

The form "Multi-factor Authentication" requires you to enter the current value of the verification code, as shown by your app:



When you check "Trust this Computer for 30 Days" a cookie will be stored on your computer which avoids the need to enter the verification code on every log on during 30 days. Leaving such a cookie on an untrusted device reduces the security of your Invantive Cloud environment.

#### 1.4.17 My Messages

The "My Messages" form displays applicable messages for your organization's agreements. The top bar also displays a bell with a number when there are warnings or error messages:



#### 1.4.18 Contact Us

The "Contact Us" form shows:

- contact and payment information for Invantive,
- procedure to report a security incident.

#### 1.4.19 Log Out

Choose the "Log Out" menu option to disconnect from Invantive Cloud.

Upon re-entry, the credentials must be provided on again. The cookie created when "Trust this Computer" was chosen for the multi-factor authentication is also cleared. Upon next log on you will need to re-enter the MFA verification code.

## 1.5 Concepts

This section describes concepts of Invantive Cloud.

### 1.5.1 Security

Invantive Cloud exchanges data with back-end systems of Invantive. This data can have a sensitive nature, which a user doesn't want to be known either to other users or in the public. We have generally classified the information at the same level as data under GDPR. A number of security measures are being enforced based upon this classification.

Invantive provides this text as a help. When your organization must meet legal requirements regarding security, your organization itself is responsible for establishing and verifying the application of your information security policy. Invantive does not provide any security guarantees beyond "reasonable effort".

This section provides some insight in the security measures taken. More details are conditionally available, for instance for security audits. Costs as well as a non-disclosure agreement are part of such disclosure.

## Authentication

Authentication to Invantive Cloud requires a log on code and password. The password must meet a number of constraints like a minimum length and inclusion of special character categories. Such a password is a piece of knowledge that is to be kept personal.

Additionally, almost all features of Invantive Cloud require a second authentication step using a so-called Multi-Factor Authentication verification code (also known as "MFA verification code" or "TOTP verification code"). The verification code is generated using a secret that is shared with you at most once using a QR code and the secret key in plain text. This QR code should be registered/scanned using a different device than used to log on, for instance an iPhone with Google Authenticator or Microsoft Authenticator. This secret is considered a "possession" once stored in a phone.

## Function Authorization

A user in Invantive Cloud can be associated to exactly one organization. License coordinators on Invantive subscriptions are automatically registered in Invantive Cloud with their organization.

The number of functions available to a user of Invantive Cloud solely depends whether the user is associated with a party. Only limited functions are available when the user is not yet associated with an organization.

## Data Authorization

Invantive Cloud uses label security to protect data. A user in Invantive Cloud can have a number of security labels, which are determined automatically based upon properties of the user account. Each data element has a number of labels associated which enable access to the data element. When a user has one of these labels, the data element is made available. In all other cases, the data element is invisible.

For most users which are a member of an organization, this policy ensures that they can only see and change data of their own organization.

## Geo Block

Access to most Invantive services is only available from designated locations across the world. This includes all countries that are member of the European Union, United Kingdom and the United States. We additionally block usage from locations within these countries which enable access from normally blocked locations.

## Audit Trail

Invantive Cloud has a number of audit features which are registered outside the web environment to reduce the possibilities for manipulation by fraudulent users.

## Highly Sensitive Data Encryption

Highly sensitive data such as organization's passwords and refresh tokens are stored in another separate environment ("vault") using reversible encryption. The encryption mechanism is different per organization. The separate environment decrypts the highly sensitive data when necessary. By preference, the unencrypted data does not leave the separate environment to enter Invantive Cloud.

Explicitly not stored in an encrypted format are:

- log on codes.
- name, email address and other address information of users.
- name, email address and other address information of organizations.
- license keys.

## Cloud Database Data Encryption

When retrieving data from your cloud databases, the data will pass our servers in memory in an unencrypted format. When stored at rest, a number of measures have been taken to ensure the data rests in an encrypted format.

### 1.5.2 Devices

Invantive Cloud has been designed to run across a number of devices:

- Windows 7 or newer with Chrome, Firefox or Edge. IE11 support is limited.
- Mac with Safari, Chrome or Firefox.
- iPhone and iPad with Safari or Chrome.
- Android with Chrome.

The user interface might work on other devices, but there is no formal support or certification on other devices.

## 1.6 Bridge Online

Invantive Bridge Online enables exchange of data stored in [databases](#) using a number of protocols. The following protocols are currently supported:

- OData version 4

#### 1.6.1 OData 4

The OData 4 protocol is typically used to retrieve data into Power Query and Power BI. The OData 4 implementation supports:

- streaming data;
- server-side filtering;
- retrieval of metadata.

#### 1.6.2 Metadata

Invantive Bridge Online offers in addition to the protocol-specific implementations also a number of endpoints to retrieve metadata for a connected user:

- User information
- Database information

## User Information

The user information is available at the path `/me` directly below the base URL. Example:

<https://app.office365-apps.com/powerbi/bridge/v11/me>

## Database Information

A list of databases connectable by the user is available at the path `/setup/databases` directly below the base URL. Example:

<https://app.office365-apps.com/powerbi/bridge/v11/setup/databases>

## 2 Invantive Basics

### 2.1 Configuration

#### 2.1.1 Customer Service

All Invantive products exchanges messages with a central Customer Service node. These messages include:

- error messages for analysis,
- usage statistics for billing.

On Invantive-internal development workstations only, a non-standard Customer Service node can be selected by specifying a deviating URL in the environment variable

`INVANTIVE_CS_BASE_URL`.

#### 2.1.2 OS Platform

A variety of Invantive products is available on Windows, Linux and Mac OSX. The list of supported platforms varies per product, depending on the availability of the libraries such as Microsoft .NET Core.

The OS platform is automatically determined by Invantive software, but sometimes can raise bugs given the bleeding edge nature of Microsoft .NET Core. It is possible to overrule the automatic detection of the OS platform by assigning a value to the environment variable `INVANTIVE_FORCED_OS`. The following values are supported:

- windows: Microsoft Windows,
- linux: Linux,
- osx: Mac OSX.

### 2.1.3 Startup Checks

The Invantive products execute a number of checks at application start to ensure that the environment running the software meets a number of pre-conditions as established by Invantive. These checks can be disabled for analysis purposes and out-of-the-ordinary deployment scenarios.

Support on products is only available when checks are not manually configured.

## All Platforms

The following settings are available on all platforms:

- `INVANTIVE_MIN_GB_FREE_SYSTEM`: minimum amount of free disk space in GB on the system disk during startup. Defaults to 5 GB.

## Microsoft Windows

Configuration of these checks is solely available on the Windows OS platform.

The following environment variables allow manual configuration of the checks by setting them to 'true' or 'false':

- `INVANTIVE_CHECK_SYSTEM_COMPATIBILITY`: validate system compatibility.
- `INVANTIVE_MAINTAIN_VSTO`: re-activate Invantive VSTO add-ins when disabled.
- `INVANTIVE_CHECK_OS_UPDATES`: validate OS updates have been applied sufficiently recent.

### 2.1.4 Cryptography

The Invantive products use cryptographic operations to protect:

- License key
- Invantive Keychain

By default, a key pair is used and stored in the profile of the user for encryption and decryption.

## Windows

On Windows, the encryption is normally done using Windows-managed encryption protocols. The key elements are stored in the roaming profile of the current user.

In some deployment scenarios, a user has only a temporary Windows profile. In that case it is not possible to store a key pair. This is typically signaled by an `itgenlic510` error code.

As an alternative, you can configure the environment variable `INVANTIVE_CRYPTOGRAPHY` to the value "MACHINE" to use a key pair that is stored solely on the device.

By setting the environment variable `INVANTIVE_RSA` to `INVANTIVE`, encryption on Windows is also managed as on other platforms by custom Invantive code at the expense of loss of some security features. Often Windows patches break the functionality of previously Windows-managed encryption keys, typically signaled by a error like "Key not valid for use in specified state". Switching to custom Invantive code will solve this problem.

## Linux, Mac OSX, Android, iPhone, Windows on Parallels

On all other platforms, Invantive offers solely encryption using key elements stored in files in the RSA folder.

### 2.1.5 UI Language

The Invantive products supported approximately ten languages. On first startup, the language of the Windows version will be used when supported. Otherwise US-English is used.

The license decides which from the languages are supported.

Additionally, the user interface language chosen can further be restricted by setting the environment variable `INVANTIVE_ALLOWED_LANGUAGE_CODES` to a comma-separated list of two characters ISO 639-1 codes.

### 2.1.6 Folders

The Invantive products store configuration and runtime information in a folder hierarchy. This hierarchy is located within the Invantive folder of the user profile. It can be opened in Windows Explorer by entering `%USERPROFILE%\Invantive` in the location bar.

The location of the folder hierarchy can be changed using environment variables. The central location can be changed by setting the environment variable `INVANTIVE_CONFIGURATION_FOLDER` to a different folder.

A number of subfolders can be relocated too:

- `INVANTIVE_CONFIGURATION_BACKUP_FOLDER`: the folder with backups of settings files. Defaults to the master folder plus "Backup".
- `INVANTIVE_CONFIGURATION_CACHE_FOLDER`: the folder with disk cache files. Defaults to the master folder plus "Cache".
- `INVANTIVE_CONFIGURATION_HTTP_CACHE_FOLDER`: the folder with HTTP disk cache files. Defaults to the root cache folder plus "http" and the OS-user and front-end user.
- `INVANTIVE_CONFIGURATION_PERMANENT_CACHE_FOLDER`: the folder with permanent disk cache files such as backups of Swagger specification files. Defaults to the root cache folder plus "permanent" and the OS-user and front-end user.
- `INVANTIVE_CONFIGURATION_INCREMENTAL_DATA_FOLDER`: the folder with permanent incremental data files such as Exact Online sync APIs. Defaults to the root cache folder plus "incdata" and the OS-user and front-end user.
- `INVANTIVE_CONFIGURATION_DATA_CACHE_CACHE_FOLDER`: the folder with Data Cache disk cache files. Defaults to the root cache folder plus "datacache". Disk cache files improve performance of HTTP downloads, but when necessary can be purged.

- `INVANTIVE_CONFIGURATION_LOG_FOLDER`: the folder with log files. Defaults to the master folder plus "Log".
- `INVANTIVE_CONFIGURATION_DATABASES_FOLDER`: the folder with databases files. Defaults to the master folder.
- `INVANTIVE_CONFIGURATION_PLUGINS_FOLDER`: the folder with plugin files. Defaults to the master folder plus "Plugins".
- `INVANTIVE_CONFIGURATION_PROVIDERS_FOLDER`: the folder with provider files. Defaults to the master folder plus "Providers".
- `INVANTIVE_CONFIGURATION_RSA_FOLDER`: the folder with RSA configuration files. Defaults to the master folder plus "RSA".
- `INVANTIVE_CONFIGURATION_TEMPLATES_FOLDER`: the folder with template files. Defaults to the master folder plus "Templates".
- `INVANTIVE_CONFIGURATION_TRACE_FOLDER`: the folder with trace files. Defaults to the master folder plus "Trace".

The values may contain any combination of the following placeholders which will be expanded:

- `iiid`: Invantive Installation ID.
- `sessionid`: Invantiv session ID.
- `frontenduser`: name of front-end user (when available).
- `osuser`: name of operating system user.

A folder can be configured for custom translations which overrule all default translations using the environment variable `INVANTIVE_I18N_FOLDER`.

### 2.1.7 Capacity

The Invantive products can configure the capacity of various elements using environment variables.

Support on products is only available when checks are not manually configured.

The following settings are available on all platforms:

- `INVANTIVE_DEFAULT_THREAD_POOL_MIN_WORKER_THREADS`: minimum number of worker threads in default pool. Defaults to twice the number of processors.
- `INVANTIVE_DEFAULT_THREAD_POOL_MIN_ASYNC_IO_THREADS`: minimum number of asynchronous I/O threads in default pool. Defaults to twice the number of processors.

## 3 Contact Information

Invantive® BV is distributor of software solutions owned by Invantive® Software BV.

### Location Harderwijk

Biesteweg 11  
3849 RD Hierden  
the Netherlands



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E-mail: [info@invantive.com](mailto:info@invantive.com)  
Web: <https://invantive.com>

Chamber of Commerce: 13031406  
Managing Director: Guido Leenders  
Company domiciled in Roermond (NL).  
Bank: NL25 BUNQ 2098 2586 07, BIC BUNQNL2A  
VAT: NL812602377B01

Founded: 1992  
2012 NAICS: 511210

## Support

Forums: <https://forums.invantive.com>  
Customer Portal: <https://cloud.invantive.com>  
Finance: [finance@invantive.com](mailto:finance@invantive.com)  
Sales: [sales@invantive.com](mailto:sales@invantive.com)  
Opening hours: 9:00 - 17:00 CET Monday to Friday excluding Dutch holidays

[Privacy Policy](#)

## Security incidents

Security incidents: +31 88 00 26 598  
Email: [security@invantive.com](mailto:security@invantive.com)  
Opening hours: 9:00 - 17:00 CET Monday to Friday

Always include your telephone number, your e-mail address and a short description. Please do not give sensitive details until a secure communication channel has been established.

For urgent security incidents please send both an email outside of opening hours and call with number display on. You will be called back as soon as possible.

We use the [threat matrix](#) of NCSC to classify a reported incident. We use the [Responsible Disclosure Guideline](#) of NCSC as basis for our policy.

You will always receive a confirmation of receipt within 1 working day.

We ask you not to share information about the security incident with others until Invantive has had sufficient opportunity to resolve the problem and users have had sufficient opportunity to use a possibly updated version of the software. We ask you to not further use any knowledge of the security incident and to omit any actions made possible after the existence of the security problem.

If you are not satisfied with the handling, we would like to ask you to contact the NCSC.

Published: 06 November 2023

# Index

## - / -

/me 35  
/setup/databases 35

## - A -

Active 29  
Address line 25  
AFAS 1  
Agreement 25, 29  
Alias 10  
Allow connection pooling 10  
Android 34  
app.office365-apps.com 22  
Audit trail 1, 33  
Authentication 33  
Available objects 23

## - B -

Bank 38  
Bell 32  
BIC code 25  
Billing 35  
Blocked agreement 30  
Bridge Online 1  
Bridge Online configuration 8, 22

## - C -

Chamber of commerce 38  
City 25  
Client ID 11  
Client secret 11  
Cloud 1  
CoC number 25  
Code Grant Flow 11  
Compliance 22  
Concept 33  
Connection string 10  
Connector 10  
Contact 32  
Contact information 38  
Cookie 32  
Country 25

Created 27  
Cryptography 36  
Customer portal 38  
Customer Service 35

## - D -

Dashboard 7  
Data authorization 33  
Data container 8, 10  
Database 7, 8  
Databases 35  
Device 34  
Disconnect 23

## - E -

Email 38  
Email address 25, 27, 31  
Encrypt statement 11  
Encryption 11, 33  
Environment variable 35, 36  
Error 35  
Exact Online 11  
Excel 22  
Execute 23

## - F -

Firewall 8  
First name 27, 31  
Folder 37  
frontenduser 37  
Full name 31  
Function authorization 33

## - G -

Gender 27, 31  
Geo block 33  
Google Authenticator 1

## - H -

Harderwijk 38

## - I -

IBAN number 25

iiid 37

Invantive Bridge Online 7

Invantive BV 38

Invantive device key 11

Invantive Software BV 38

INVANTIVE\_ALLOWED\_LANGUAGE\_CODES 37

INVANTIVE\_CHECK\_OS\_UPDATES 36

INVANTIVE\_CHECK\_SYSTEM\_COMPATIBILITY  
36

INVANTIVE\_CONFIGURATION\_BACKUP\_FOLDER 37

INVANTIVE\_CONFIGURATION\_CACHE\_FOLDER 37

INVANTIVE\_CONFIGURATION\_DATA\_CACHE\_CACHE\_FOLDER 37

INVANTIVE\_CONFIGURATION\_DATABASES\_FOLDER 37

INVANTIVE\_CONFIGURATION\_FOLDER 37

INVANTIVE\_CONFIGURATION\_HTTP\_CACHE\_FOLDER 37

INVANTIVE\_CONFIGURATION\_LOG\_FOLDER 37

INVANTIVE\_CONFIGURATION\_PLUGINS\_FOLDER 37

INVANTIVE\_CONFIGURATION\_PROVIDERS\_FOLDER 37

INVANTIVE\_CONFIGURATION\_RSA\_FOLDER 37

INVANTIVE\_CONFIGURATION\_TEMPLATES\_FOLDER 37

INVANTIVE\_CONFIGURATION\_TRACE\_FOLDER 37

INVANTIVE\_CRYPTOGRAPHY 36

INVANTIVE\_CS\_BASE\_URL 35

INVANTIVE\_DEFAULT\_THREAD\_POOL\_MIN\_ASYNC\_IO\_THREADS 38

INVANTIVE\_DEFAULT\_THREAD\_POOL\_MIN\_WORKER\_THREADS 38

INVANTIVE\_FORCED\_OS 35

INVANTIVE\_I18N\_FOLDER 37

INVANTIVE\_MAINTAIN\_VSTO 36

INVANTIVE\_MIN\_GB\_FREE\_SYSTEM 36

INVANTIVE\_RSA 36

Invoice Email address 25

IP address validation 22

iPad 34

iPhone 34

**- J -**

Job title 27, 31

**- K -**

Kerberos 11

**- L -**

Language 27, 31, 37

Language code 25

Last name 27, 31

Legal form 25

License 36

License coordinator 25

Link 5

Log in 1

Log out 33

**- M -**

Mac 34

Main dashboard 7

Me 35

Menu 6

Message 32

Metadata 35

Microsoft Authenticator 1

Multi-factor authentication 32, 33

My message 32

My organization 32

My profile 7

**- N -**

Name 25, 27

NCSC 38

**- O -**

OAuth2 11

OData 4 35

OData4 1, 22

Opening hours 38

Operating system 35

Organization 5, 25, 27, 29

osuser 37

**- P -**

Password 10, 33

Phone number 27, 31  
Postal code 25  
Power BI 1, 7, 22, 35  
Power Query 22, 35  
Preauthenticate 11  
Privacy policy 38  
Product code 29  
Profile picture 31  
Profile provider 27, 31  
Pseudonymization 22

## - Q -

QR code 1

## - R -

Redirect URI 11  
Refresh authorization 10  
Refresh token 11  
Results 23  
Right of use 29  
Route 38

## - S -

Sample 7  
Save 31  
Search 23  
Security 33  
Security incident 38  
sessionid 37  
Settings.xml 11  
Sign up 1  
Signatory 25  
SQL editor 8, 23  
SQL grammar 23  
Startup check 36  
Support 7, 38

## - T -

Temporarily blocked 25  
Trust this computer 33  
Trust this computer for 30 days 32

## - U -

Upload 31

Usage 35  
User 1, 5, 25, 35  
User ID 27, 31  
User interface language 37  
User log on code 10

## - V -

VAT 38  
VAT number 25  
Verification code 32  
Visma.net 1

## - W -

Website URL 25  
Windows 34  
Work phone 25

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