



Multiple Application Platform Server

## MAPS 6.5 Release Guide

*Product version 6.5*

*Last updated 5/19/2020*

# Trademark, Publishing Statement, and Copyright Notice

---

© 1998-2020 Evisions, Inc. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. No part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Evisions, Inc.

The information contained herein is subject to change without notice and is not warranted to be error-free. Product features referenced herein for a period of time may not match product contents. Evisions, Inc. does not warrant that the functions contained in the software will meet your requirements or that the operation of the software will be uninterrupted or error free. Evisions, Inc. reserves the right to make changes and/or improvements in the software without notice at any time.

This software and documentation may provide access to or information on content, products, and services from third parties. Evisions, Inc. and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Evisions, Inc. and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services. Evisions, Inc. does not endorse the content or developer of any products or web sites mentioned.

All information in this guide is designed for instructional purposes only. Evisions, Inc. makes no guarantees regarding the accuracy or performance of any techniques used in this guide. Software configurations and environments may vary, and some techniques used in this guide may not operate efficiently under all configurations. This guide may contain examples of various technologies or products, which are the sole property and responsibility of their creators.

Trademarks are the property of the respective owners for any products mentioned herein.

# Table of Contents

---

<b>What's New in MAPS 6.5?</b> .....	<b>4</b>
MAPS Updates .....	4
Product versions .....	4
Installation .....	4
1. Prepare test environment and ensure current backup .....	4
2. Check for updates .....	4
3. Allow update process to complete .....	5
4. Verify the latest version is installed .....	5
5. Restart MAPS Config .....	5
<b>64-Bit MAPS</b> .....	<b>6</b>
Migrating Existing MAPS Installations to 64-Bit .....	6
Overview - Please Read .....	6
Update the Existing MAPS Server (32-bit) to MAPS 6.5 (32-bit) .....	6
Install MAPS (64-bit) on the New Server .....	6
Copy Data Files from the Existing MAPS Server (32-bit) to the New 64-bit MAPS Server .....	7
Resume the Installation on the New MAPS 64-bit Server .....	8
Configure the New 64-bit MAPS Server .....	8
Install the Database Provider .....	9
Configure the Data Connections on the 64-bit Server .....	9
Install Additional Items .....	9
Testing the Installation .....	10
<b>REST Connector</b> .....	<b>11</b>
Prerequisites .....	11
REST Connector Configuration .....	11
Driver Properties .....	13
Custom Headers .....	15
Endpoint Configuration .....	15
Using the REST Connector in Argos .....	19
Query Construction when Using Mapped Query Parameters .....	20
XPath Format .....	21
XML Endpoints .....	21
JSON Endpoints .....	22
<b>Data Connection Drivers</b> .....	<b>23</b>
Managing Installed Drivers .....	23
<b>MAPS 6.5 Release Notes</b> .....	<b>25</b>
<b>Getting Help</b> .....	<b>27</b>

# What's New in MAPS 6.5?

---

Evisions is pleased to announce the release of MAPS version 6.5, which includes the following changes:

- MAPS is now available as a 64-bit application (requires new install or server migration).
- Added a new REST Connector option for connecting to third-party data sources that offer a RESTful API.
- The REST Connector and Salesforce Connector are now installed on demand and managed from a new Data Connections > Drivers screen.
- Resolved an issue where native SQL Server database connections with the default string type set to Auto were failing with the error "The data types nvarchar and ntext are incompatible in the [operand] operator."
- Various accessibility improvements to the eLauncher.
- Additional enhancements and resolved issues.

We appreciate the feedback received from all of our users. Our products would not be what they are today without your continued support. If you have any comments or suggestions, please do not hesitate to [open a HelpDesk ticket](#) and let us know.

## MAPS Updates

---

MAPS 6.5 is an update to the MAPS service (which includes the eLauncher) and the MAPS Config. You should upgrade both components concurrently. There are no updates to the Evisions Application Launcher.

### [Product versions](#)

The latest versions of MAPS included in this release are:

- MAPS service 6.5.0.2315 / MAPS Config 6.5.0.1267 / eLauncher 6.5.0.13

## Installation

---

### [1. Prepare test environment and ensure current backup](#)

We highly recommend installing updates in a test environment before applying them to your production environment. You should make sure that a current backup is available in case of any unforeseen issues. To create a full backup of your MAPS environment, go to the **Server** -> **Backups** screen in MAPS and click **Backup Now**.

### [2. Check for updates](#)

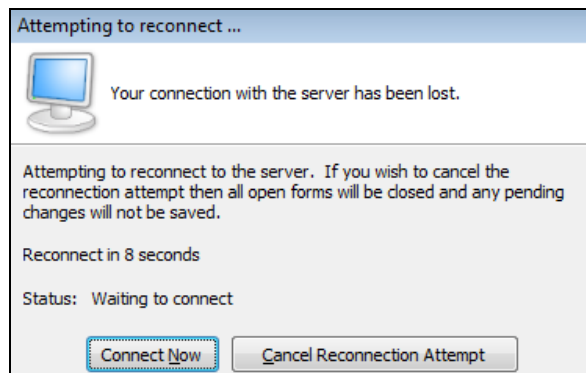
Click the **Check for Updates** button in the MAPS Configuration tool to view available updates.

If you need to apply earlier updates prior to the 6.5 update, please refer to the appropriate [release guide\(s\)](#) before proceeding.

It is possible to apply updates when users are on the system; however, to avoid the possibility of losing unsaved work we recommend applying updates during off hours.

### [3. Allow update process to complete](#)

When applying updates to the MAPS service you will be temporarily disconnected from the server:



The update process may take a few minutes to complete. **Do NOT cancel the reconnection attempt or manually restart the server.** You will automatically be reconnected to the server once the update has been applied.

### [4. Verify the latest version is installed](#)

To ensure that you are on the most current version, continue clicking the **Check for Updates** button and applying the updates until no new updates are available.

### [5. Restart MAPS Config](#)

In order to see some of the changes in this release, you will need to relaunch MAPS Config after updating.

## **[Please Provide Us with Your Feedback!](#)**

As always, we welcome any [feedback or suggestions](#) you may have. We very much appreciate your thoughts and suggestions, so please keep the great ideas coming!

# 64-Bit MAPS

---

MAPS is now available in both 32-bit and 64-bit versions. Checking for updates in an existing 32-bit environment will keep you on the 32-bit version. For new installations, you can choose whether to install 32-bit or 64-bit. We recommend using the 64-bit version, which has better performance and can take advantage of more system resources.

## Migrating Existing MAPS Installations to 64-Bit

---

If you have an existing 32-bit installation of MAPS you must provision a new server for 64-bit MAPS, and then migrate your existing data and configuration information to the new server. Instructions are provided here for that process.

- Refer to the [MAPS Suite Hardware and Software Requirements](#) to verify that your new server system meets or exceeds these specifications.
- As with any updates, verify the MAPS 64-bit installation in a test environment prior to switching to the server for production.

### Overview - Please Read

The process of updating your institution's MAPS server to MAPS 64-bit involves a number of steps, and it is important that you perform the steps in the order provided. The main process consists of the following steps:

- Updating the current 32-bit server to MAPS 6.5. This ensures that all of the files that will be eventually copied to the new MAPS server are compatible.
- Installing MAPS on the new 64-bit server.
- Moving various data and configuration files from the old 32-bit server to the new 64-bit server.
- Testing and verifying that the new system is functioning as expected.

If you have any questions, or encounter problems during the process, contact [Evisions Support](#) and we will be glad to assist.

### Update the Existing MAPS Server (32-bit) to MAPS 6.5 (32-bit)

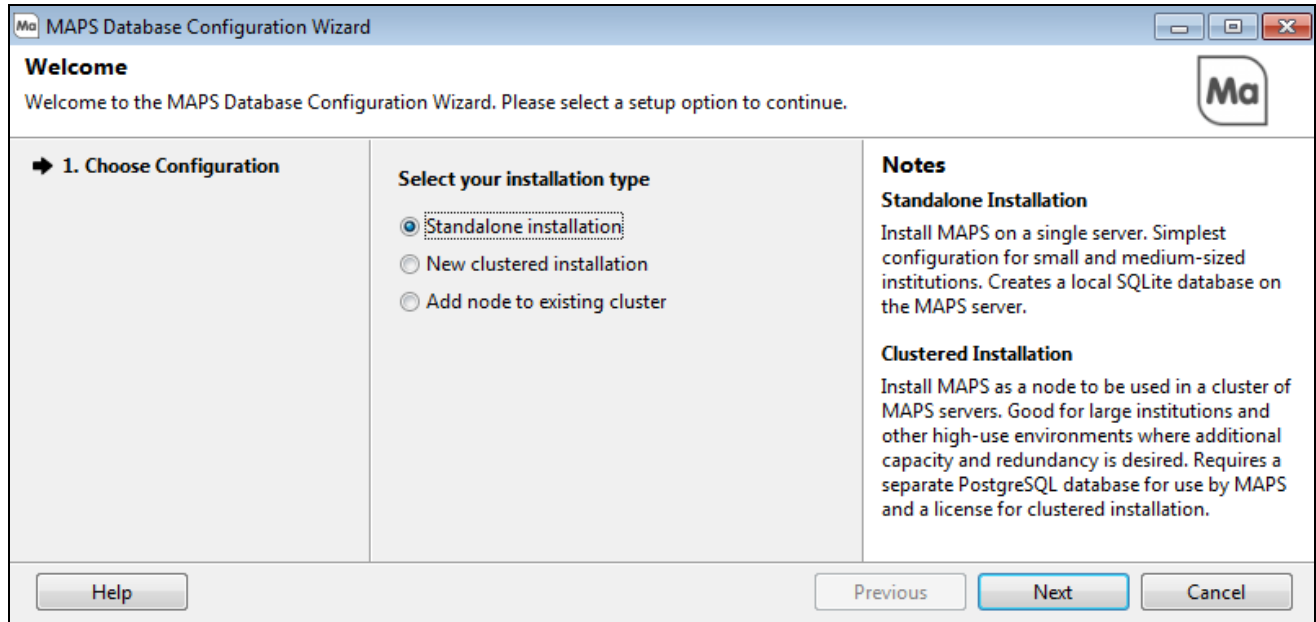
You must update the version of MAPS installed on the current server even though you may be retiring the 32-bit server. Both the existing MAPS server and the new 64-bit MAPS server must be running exactly the same MAPS version before you migrate the data and configuration files. Be sure that the build version on both servers is the same.

1. On the 32-bit server currently in use, select the **Check for Updates** button to update to the latest version of MAPS 6.5.
2. Once the update completes, stop the MAPS service on the 32-bit server.
  - a. Open the Services application (from Windows).
  - b. Locate the **Evisions MAPS Service** in the list of services and select **Stop** from the context menu.
3. If you are going to continue using the existing server while you test the new server, be sure to restart the service after copying the files to the new server.

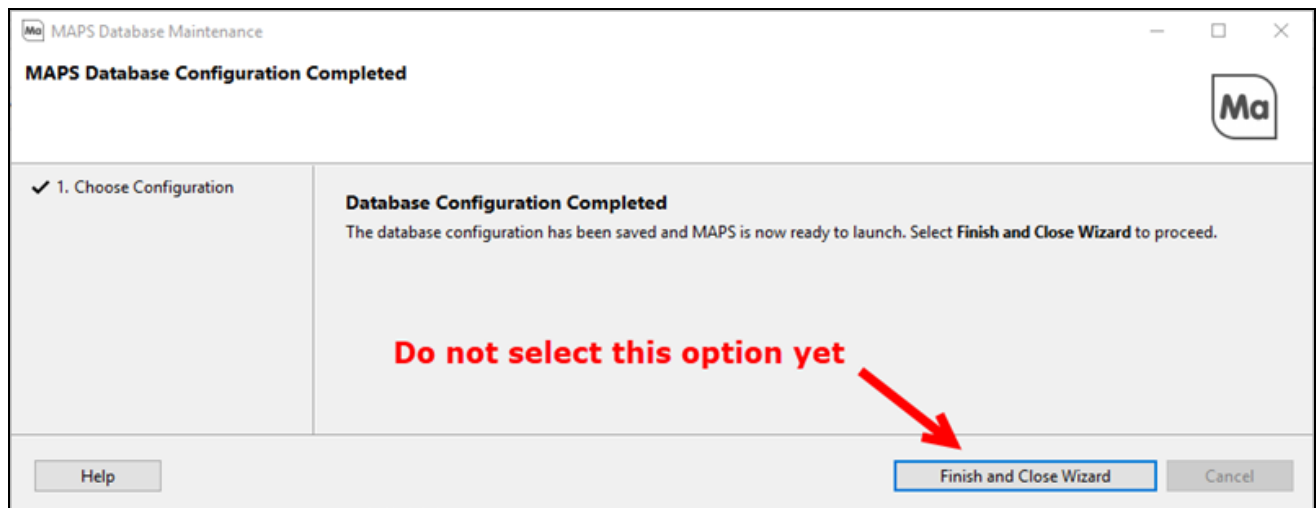
### Install MAPS (64-bit) on the New Server

1. Download the MAPS 64-bit setup software from the Evisions website, and then run the setup program to install MAPS. Note that you only need to do the installation steps at this time. Much of the configuration will be transferred from the old system in upcoming steps.

- Follow the initial prompts, and then select the **Standalone Installation** option when prompted to choose the configuration.



- When the Database Configuration Complete message displays, **DO NOT** select the **Finish and Close Wizard** at this time. You will do this step later, after the files are migrated from the existing 32-bit server to this new server.



- Continue with the next section.

## [Copy Data Files from the Existing MAPS Server \(32-bit\) to the New 64-bit MAPS Server](#)

The steps in this section assume that you have stopped the MAPS service on the 32-bit server, and you are using the default file locations for installations.

For each of the following, copy the files from the **Program Files(x86)\Evisions\MAPS\Service** folder on the 32-bit MAPS server to the **Program Files\Evisions\MAPS\Service** folder on the new 64-bit MAPS server.

### Important Note

**Do not** copy the whole Service folder as this may make the system unusable.

1. Copy the contents of the Custom folder in the http\_files folder.
2. Copy the Applications folder.
3. Copy the Certificates folder.
4. Copy the Keys folder.
5. Copy the Mapplets folder.
6. Copy the Scripts folder.
7. Copy the following files:
  - MapsAudit.sqlite
  - MapsData.sqlite
  - MapsDataWarehouse.sqlite (if present)

## Resume the Installation on the New MAPS 64-bit Server

1. Return to the installation wizard on the new server.
2. Select **Finish and Close Wizard** to complete the installation and database configuration. This should automatically start the MAPS service on the new server. If it doesn't start, do the following:
  - a. Open the Services application (from Windows).
  - b. Select the **Evisions MAPS Service (64-bit)** from the list, then select **Start** from the context menu.

## Configure the New 64-bit MAPS Server

1. Launch the MAPS launch page on the new server:
  - a. Go to <http://localhost:8080> and select **MAPS Config**.
  - b. Before you log in, click on the **Edit Servers** link and change the Server address to the IP Address of your new server.
  - c. Enter your credentials to log in.
2. Select the Universal Launcher and select the "default" option. At the bottom of the menu, change the Server IP Address (or URL) to the IP Address or URL of the new 64-bit MAPS server then select **Apply Changes**.
3. Immediately after logging in, if your existing MAPS server (32-bit) is still live do the following:
  - a. Disable the MAPS Scheduler (on the new server) if it is active by navigating to **Mapplets > Argos > Scheduling > Configuration** and clearing the **Scheduler active** check box on the top of the menu.
  - b. Disable the MAPS Email Queue (on the new server) if it is active by navigating to **Email > Queue** and clearing the **Emailing active** check box on the bottom left of the menu.
4. Verify that the 64-bit version of MAPS Config is installed, and that the version is correct under Applications. The entry for the Configuration application should show **(64 bit)**.
5. Delete any entries for the Configuration application that are not marked as "64 bit."
6. Open the Drivers list in the Data Connections section of MAPS Config. If there are any 32-bit drivers listed, do the following:
  - a. Note the type of data connection for each 32-bit driver in the list.
  - b. Delete each of the 32-bit drivers shown in the list.
7. Close MAPS Config, and then relaunch it from the MAPS launch page to launch the 64-bit configuration tool.



8. Navigate to the Data Connections list, and select **Add Connection**. Adding a data connection installs the new 64-bit version of the driver(s) that you deleted above.
  - a. Select the data connection type that corresponds to one of the data connections that you are already using (typically REST or Salesforce).
  - b. Select **Next**, then select **OK**. You can use the default properties for this connection since you are only adding it to install the new drivers.
9. When you log in to Argos, FormFusion, or IntelCheck, you should see all of the data from your previous server.

NOTE: If you do not disable the Scheduler and Email Queue, the schedule or email will also execute from the new server. When you are ready to retire the 32-bit server, enable the Scheduler and Email Queue on the new server.

## [Install the Database Provider](#)

### [Install the Oracle OLE DB Provider](#)

Refer to the [Installing/Updating the Oracle OLE DB Provider](#) document available from the Evisions support site for instructions.

Be sure to select the 64-bit versions of the files.

### [Installing Other Database Providers](#)

Consult your database provider's documentation.

## [Configure the Data Connections on the 64-bit Server](#)

1. Launch MAPS Config.
2. Select **Data Connections** from the left-hand pane and configure the data connections for the 64-bit server.

## [Install Additional Items](#)

### [Install Printers and Drivers](#)

You must reinstall printers and drivers for any other devices you want to use. Note that you should now use 64-bit drivers, when available.

### [Install SSL Certificates](#)

To create a new certificate, see [How to obtain a new Certificate for an HTTPS server](#). If you are using a wildcard certificate, then you can copy the certificate/key files to the new MAPS server and set up HTTPS. For additional information on how to install SSL certificates in MAPS, see [Installing SSL Certificates in MAPS](#).

### [Update the Server Address Configured for SAML](#)

Update the server URL:

1. Using MAPS Config, select **Single Sign-On** from the left-hand pane.
2. For each SAML server, update the **Issuer** field to show the address of the new MAPS server (64-bit).

### [Install the SQLite Driver for Data Warehouse](#)

If you are reporting against the Data Warehouse, install the SQLite 64-bit ODBC driver.

See [Reporting Against MAPS and Argos Databases](#) for details.

## Testing the Installation

Ensure that you are able to log in to the MAPS applications and that you see the expected data and environments.

When you are ready to move the new server into production, check the boxes to re-enable the scheduler and email queue.

# REST Connector

The REST Connector is a new data connection type that can be used to connect to third-party data sources which provide one or more RESTful API endpoints.

The REST Connector:

- Supports XML or JSON data.
- Can be configured to map query filters (WHERE clauses) into API parameters.
- Does not require use of a script like the Cloud Connector.

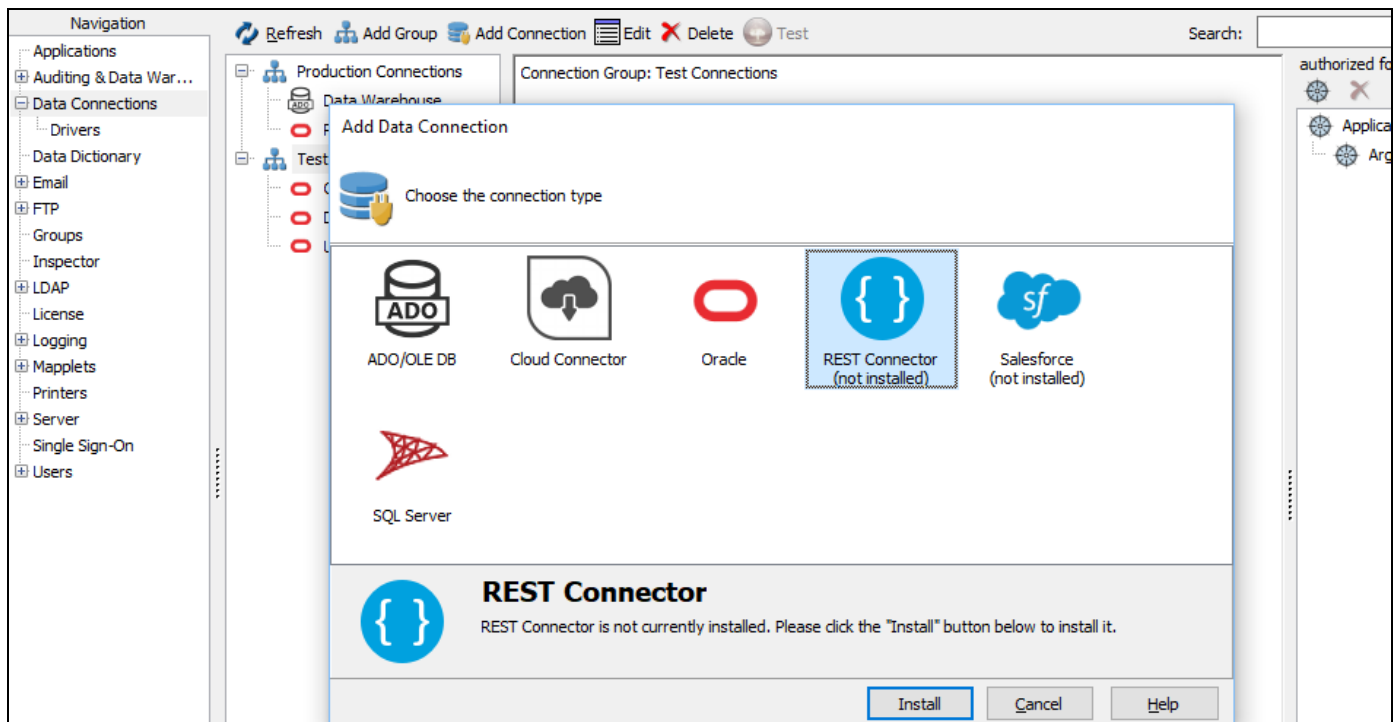
Once you have created a REST Connector data connection, you can use it as a data source in the MAPS applications; for example, in an Argos DataBlock or FormFusion template. The API is then called whenever a query using the connection runs.

## Prerequisites

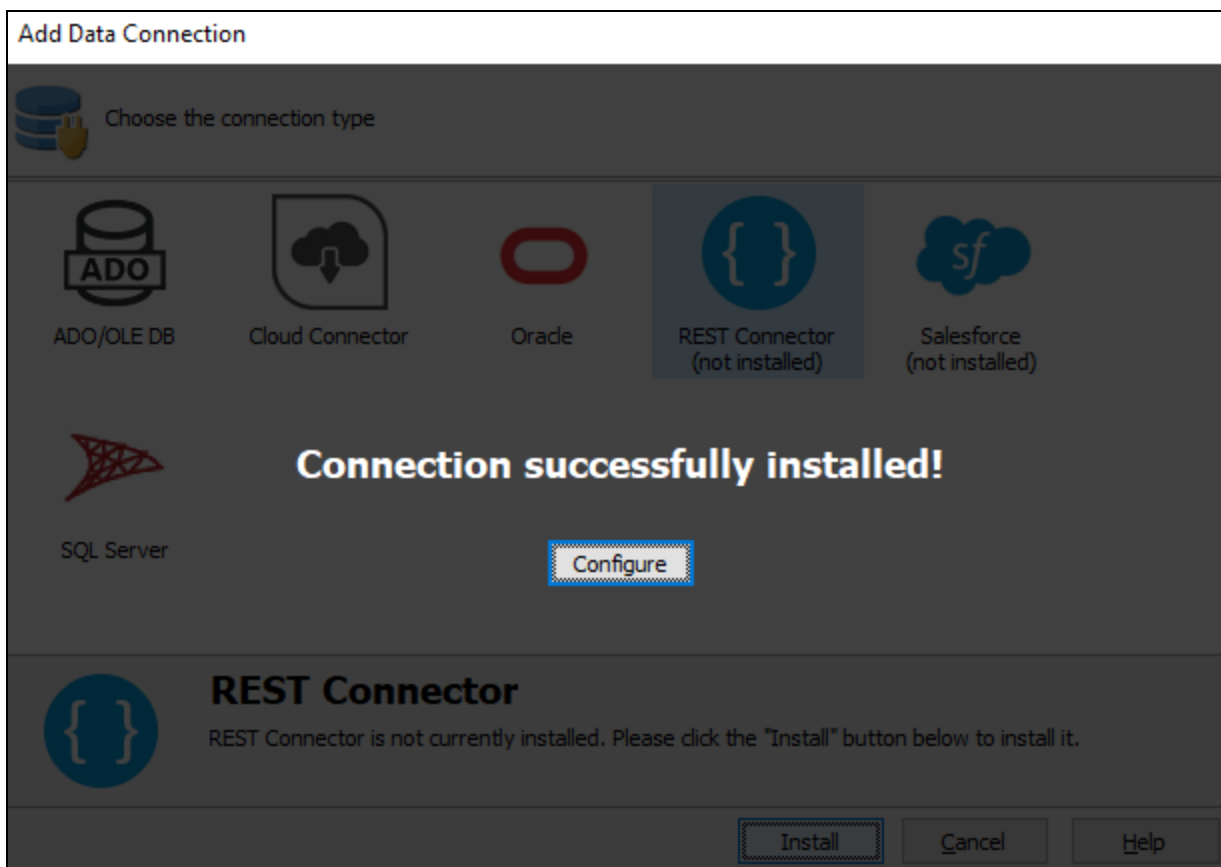
- Access to a RESTful API that returns XML or JSON responses and which handles authentication via OAuth2 or username/password, or does not require authentication.
- Documentation for the API which includes available URLs, endpoints, and parameters.

## REST Connector Configuration

On the **Data Connections** screen, select **Add Connection**. Choose **REST Connector** from the list of data connection types.

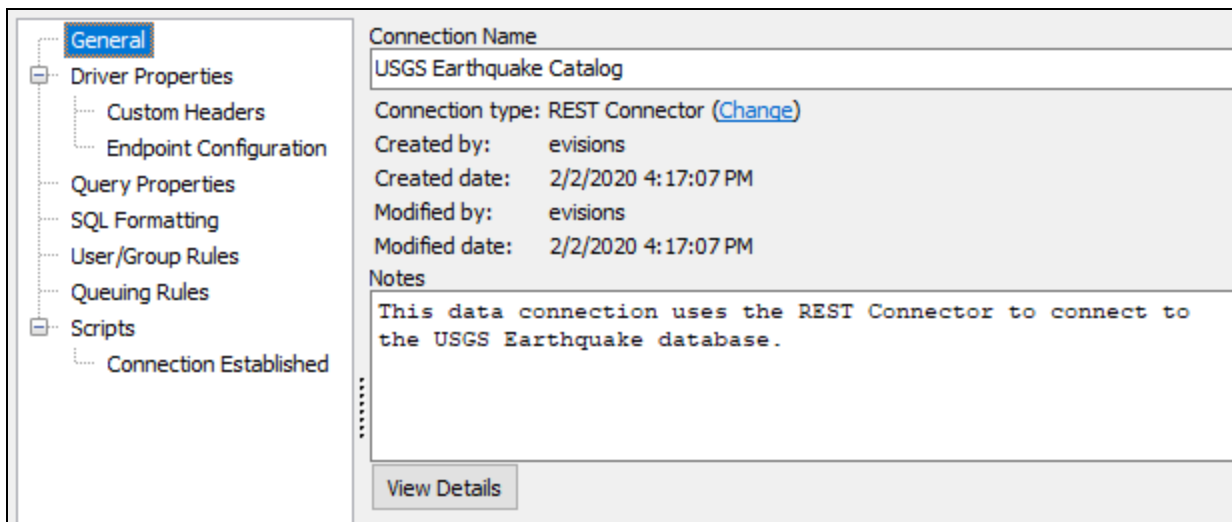


Select the **Install** button to download and install the driver.



When installation is complete, select **Configure** to configure the data connection properties.

On the **General** screen, enter a descriptive name for the data connection, and any desired notes.



## Driver Properties

The screenshot shows the 'Driver Properties' configuration window. On the left is a tree view with the following items: General, Driver Properties (selected), Custom Headers, Endpoint Configuration, Query Properties, SQL Formatting, User/Group Rules, Queuing Rules, Scripts, and Connection Established. The main configuration area on the right contains the following fields:

- Base URL:** A text input field containing the URL `https://earthquake.usgs.gov/fdsnws/event/1/`.
- Response Type:** A dropdown menu with 'XML' selected.
- Logging:** A dropdown menu with 'Basic' selected.
- Authentication:** A dropdown menu with 'None' selected.

On the **Driver Properties** screen, enter the following parameters:

- **Base URL** - The base URL for the API you are connecting to. A base URL does not typically return data itself, but is the root path of all endpoints provided by the API. Do not include endpoint names in the base URL-- these will be configured in the next step.
- **Response Type** - The format of the data returned by the API. Choose from JSON or XML. Note: if the API requires you to specify the desired format as a parameter, you will also need to include this parameter when configuring the endpoint(s) in the next step.
- **Logging** - The level of logging for this connection. Choose from Off (no logging), Basic (queries, numbers of rows returned, start/end time, and errors), or Full (adds cache queries, HTTP headers, request/response bodies, SSL negotiation, and additional details that may be helpful in troubleshooting). Logs are saved in the `C:\Program Files\Evisions\MAPS\Service\Logs` directory on the MAPS server, and can be viewed on the Logging > Logs screen in MAPS Config.

- **Authentication** - Choose from None, HTTP Basic, or OAuth2.
  - **None** - No authentication required, or authentication is being handled via a [custom header](#) in the HTTP request.
  - **HTTP Basic** - Specify a username and password.

Authentication:	
HTTP Basic	
Property	Value
User Name	myusername
Password	●●●●●●●●

- **OAuth2** - Authenticate using OAuth. Requires registering MAPS with the application that is using OAuth. You will be prompted to log in to the application the first time the connector runs, in order to obtain an access token.

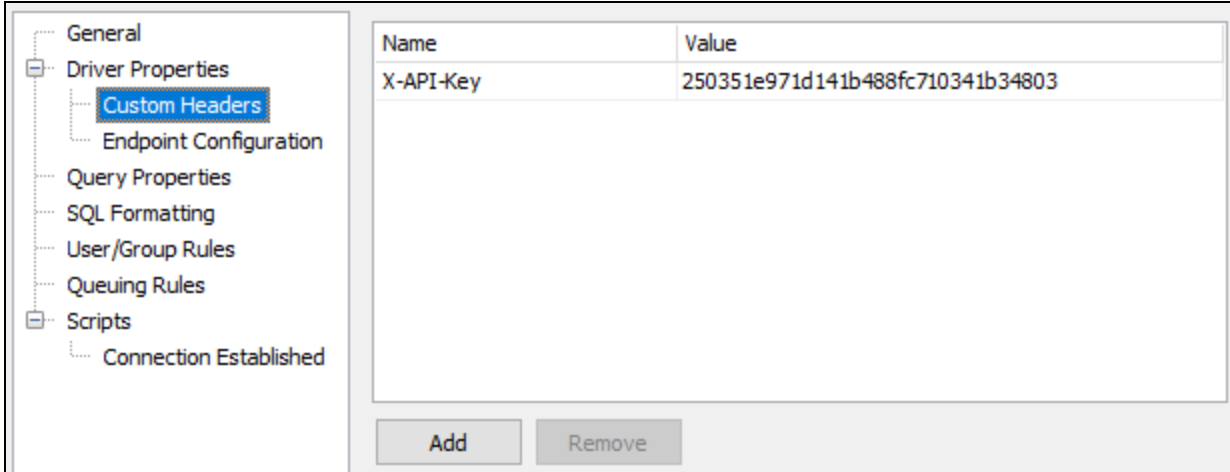
Authentication:	
OAuth2	
Property	Value
Access Token URL	https://myapi/access-token-url/
Authorization URL	https://myapi/authorization-url/
Client ID	evisionstest
Client Secret	●●●●●●●●
Refresh Token URL	https://myapi/refresh-token-url/
Scope	profile
Use HTTPS On Callback	True

- **Client ID** - A unique identifier that is generated during the registration process.
- **Client Secret** - A password-like value specific to MAPS that is generated during the registration process. This value needs to remain secure.
- **Authorization URL** - The URL used to authenticate MAPS to the application that is using OAuth. This URL should be provided in the API documentation for the application (look for a "for developers" section).
- **Access Token URL** - The URL used to generate an access token after the user is authenticated. Access tokens usually only last for a brief time if not used in conjunction with a refresh token.
- **Refresh Token URL** - The URL used to receive a refresh token to extend authentication. Refresh tokens may be good for up to 30 days, depending on the API. This means that the user will not need to authenticate or receive a new access token for 30 days once a valid refresh token is received. Note: depending on the API, the refresh token URL may be the same as the access token URL.
- **Scope** - A list of the resources (permissions) that need to be included in the access token in order to use an endpoint, if required. Refer to your API documentation to determine whether a scope is required.
- **Use HTTPS On Callback** - Specifies whether HTTP or HTTPS should be used for the callback URL. True (HTTPS) or False (HTTP). A self-signed certificate will be automatically generated when using HTTPS.

#### **OAuth Application Configuration**

If you are configuring MAPS as the client in your OAuth application (the typical setup), you will need to specify **http://localhost:3333** or **https://localhost:3333** (depending on the **Use HTTPS On Callback** setting) as the callback URL in the OAuth application. This is the port MAPS uses for the HTTP listener that waits for the response from the OAuth application.

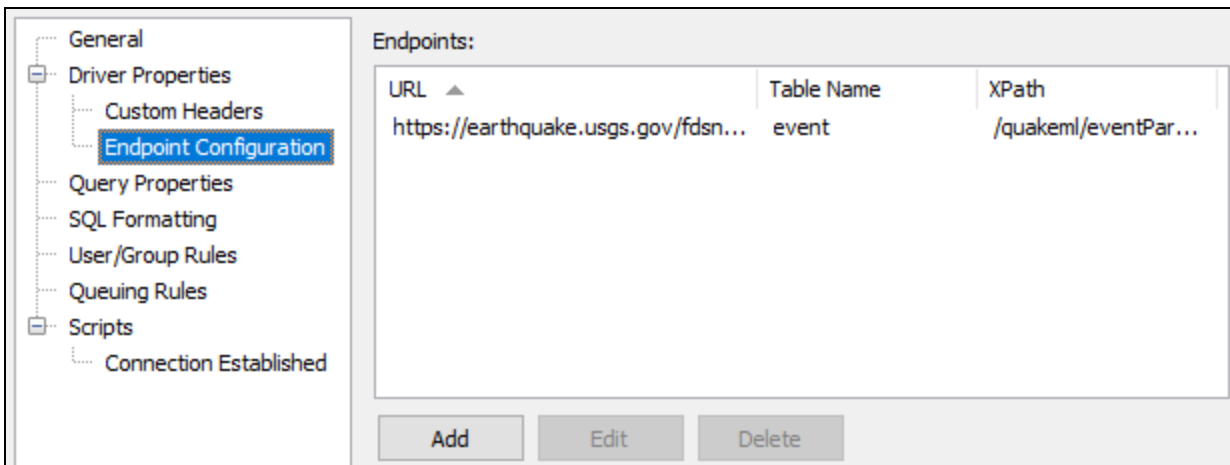
## Custom Headers



The Custom Headers screen allows you to include optional custom headers in the HTTP request, if the API supports or requires it. Custom headers may be used for authentication or to specify an environment (such as a sandbox account) of the REST source. Type in the name of the header field, followed by its value. Use the Add and Remove buttons underneath the list of custom headers to add or remove additional custom headers as needed.

## Endpoint Configuration

Next, expand the Driver Properties tab and go to **Endpoint Configuration**.



Select **Add** at the bottom of the dialog to add an endpoint.

Ma Edit REST Endpoint

Enter the endpoint URL and the XPath, then click 'Generate Schema' to continue.

Base URL: `https://earthquake.usgs.gov/fdsnws/event/1/`

Endpoint:

XPath:

Table Name:

The Edit REST Endpoint dialog has three fields:

- **Endpoint** - The path to the endpoint. The path will be appended to the Base URL from the Driver Properties screen (shown above the field) to form the complete URL to the endpoint.
- **XPath** - An optional path to a repeating element within the XML or JSON response. This can be used to split the response into multiple rows. The [XPath format](#) differs depending on whether the response is XML or JSON. MAPS will attempt to detect the XPath for you when you generate the schema, but it may need to be modified to meet your needs.
- **Table Name** - The name for the table for this endpoint as it will appear in Argos. The table name is derived from the schema name, and is similar to a table name in a relational database. For example, if you set the table name to "earthquake", you could query it as `select * from earthquake`. If you leave the table name blank, MAPS will attempt to populate it from the data when generating the schema. You can then modify the name as desired.

## Generate Schema

Select the **Generate Schema** button to generate the schema file by calling the API using the parameters and paths specified. You will be prompted to (temporarily) edit the constructed URL to include query parameters that limit the data. This will allow the API call to complete faster so that you can quickly retrieve a list of fields without downloading a lot of data.

Generate Schema

MAPS will make a test API call in order to generate the schema. To avoid requesting a large number of records, you can add some limiting query parameters to the test URL.

URL:

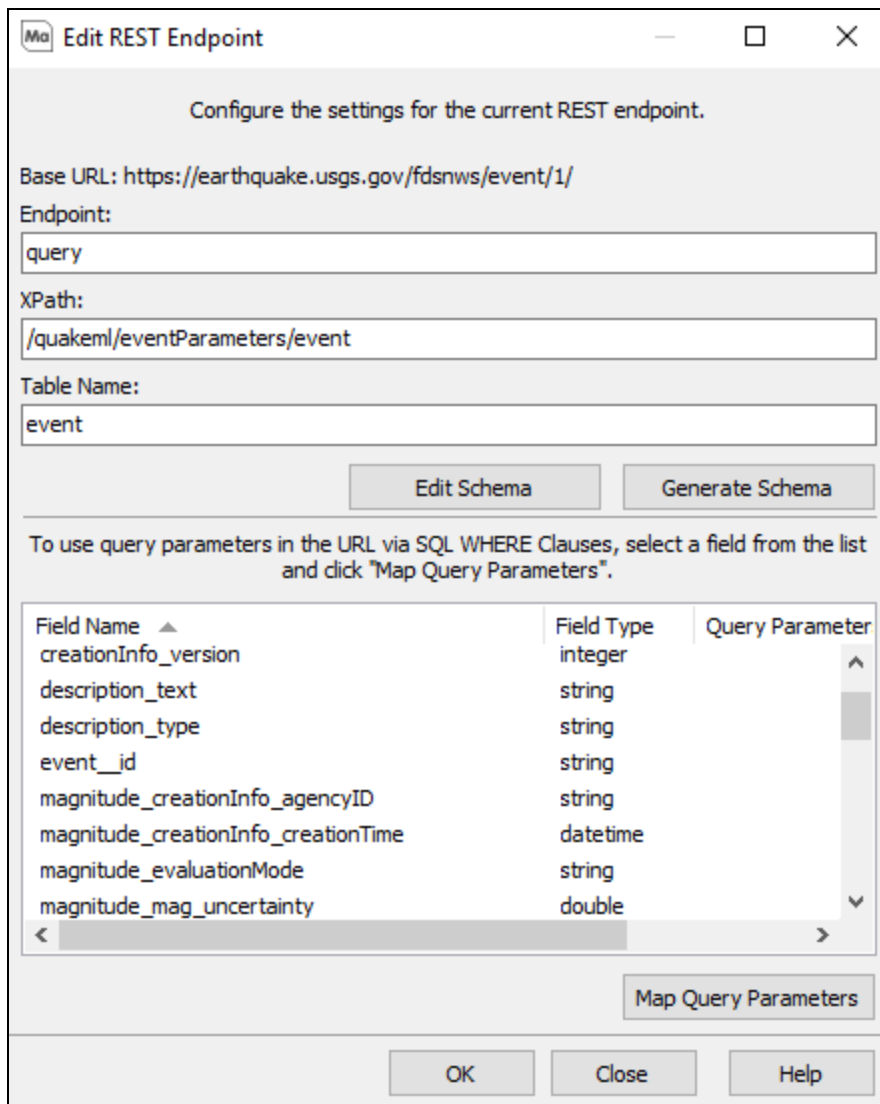
Warning: Testing this endpoint may result in data charges for your institution if there is a cost associated with using this API.

As an example, for the earthquake API above we might add a start and end time to the query to limit it to a few results:

```
https://earthquake.usgs.gov/fdsnws/event/1/query?format=xml&starttime=2014-01-01&endtime=2014-01-02
```



Select **OK** to proceed. Depending on the amount of data being returned, it may take a moment to complete the request. If the request was successful, you should see the schema name and a list of field names populate in the dialog:



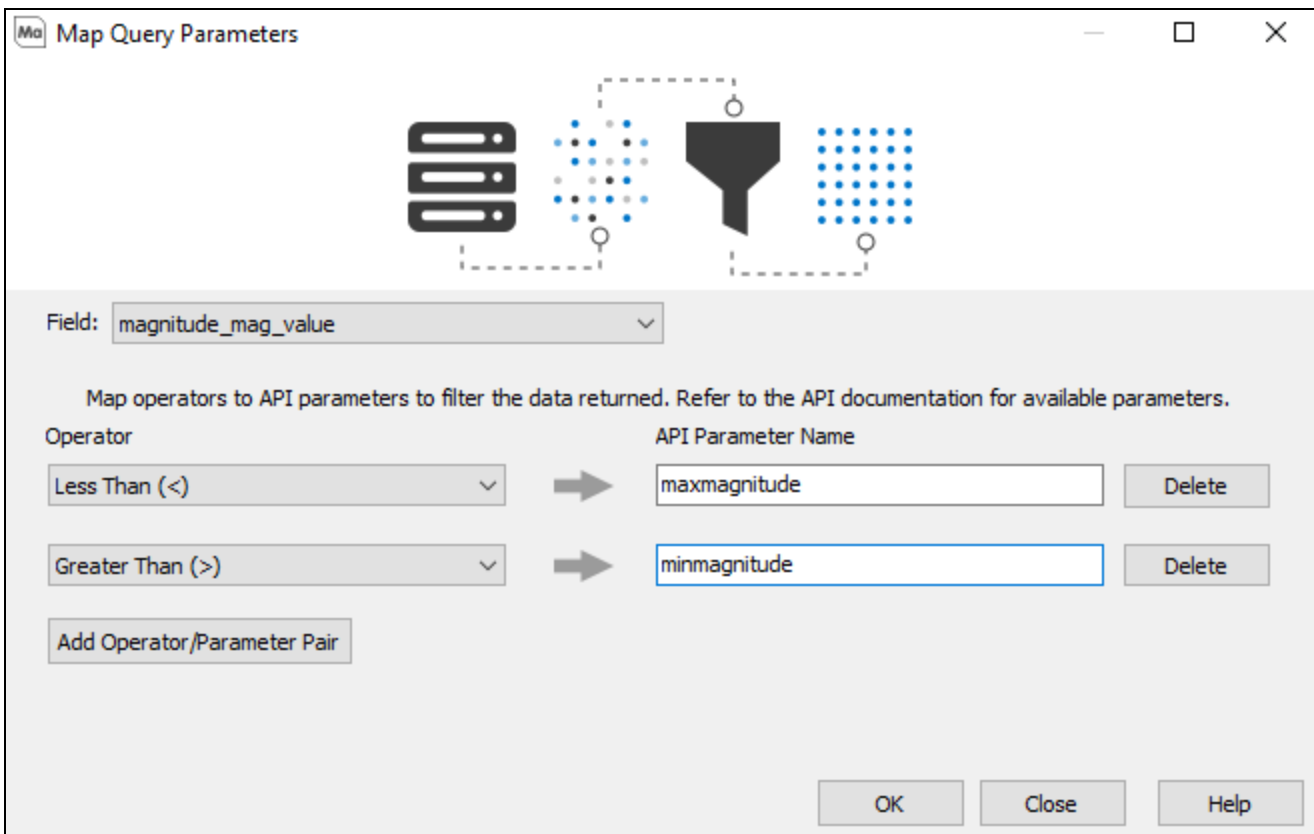
### **Edit Schema**

The Edit Schema button opens the definition file for the schema. You may need to modify this file if a field is not detected as the correct data type. Otherwise, you should not need to make changes to the schema definition.

### **Map Query Parameters**

The next step is to map query parameters available in the API to the different comparison operators for each field that DataBlock Designers may want to use in their queries. This allows MAPS to intelligently map the query written by the user into an API call that makes use of the available URL parameters provided by the API. Without this, the API call will request all records, and then MAPS will filter the results after they come back.

Select a field that relates to a parameter available in the API, then click the **Map Query Parameters** button.



Use the **Add Operator/Parameter Pair** button to add the operator(s) you want to configure, then enter the parameters that should be associated with those operators.

In the example above, we are specifying the parameters that will be used if a query uses the less than or greater than comparison operators against the `magnitude_mag_value` field in its WHERE clause. If the query contains `WHERE magnitude_mag_value > 5` (i.e., limiting results to earthquakes with magnitudes greater than 5), the API call will now contain `&minmagnitude=5` in the parameter list.

### Query Construction

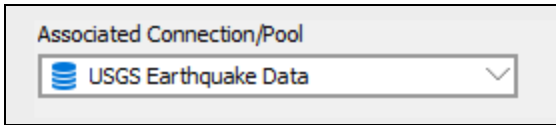
Queries must be kept relatively simple in order to take advantage of any query parameter mappings you have configured. See the Query Construction section at the end of the [Using the REST Connector in Argos](#) page for examples of supported SQL.

The REST data connection configuration is now complete. You do not need to modify any values on the Query Properties or SQL Formatting screens. If you want to set up specific users or groups on the User/Group Rules screen, each group that you want to be able to use this connection should be set to the default of "Use connection user name and password".

Lastly, authorize the connection for use with the desired application(s). The next section of this guide will show how to construct queries against this data connection in Argos.

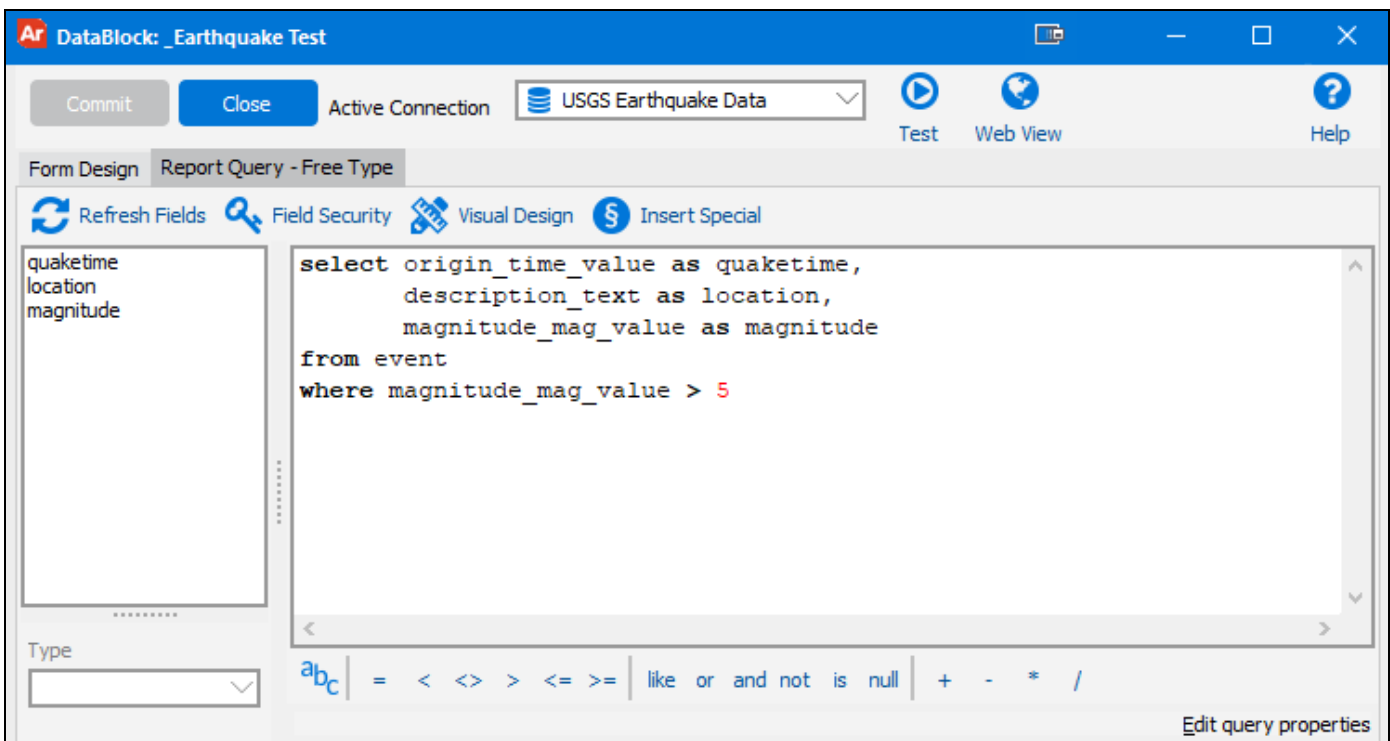
## Using the REST Connector in Argos

To use the REST Connector in Argos, create a DataBlock and then select your REST Connector data connection in the **Associated Connection/Pool** dropdown.



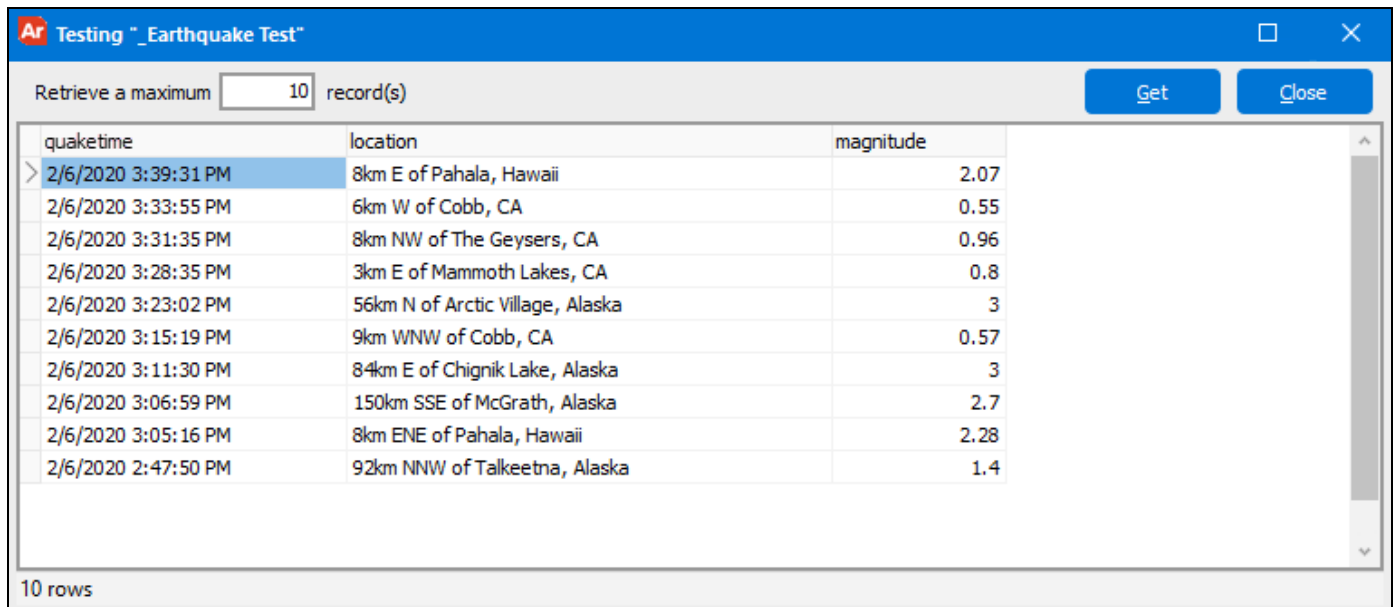
You can now use the REST Connector in your queries as you would any other data connection. This could be in the Visual Designer, free type report query, multicolumn list boxes, or in any other locations where you can use SQL in Argos.

The following example shows how a query might look in the Free Type report query editor.



**Note:** You can avoid or reduce the use of underscores in your field names by specifying the XPath to the field when configuring the endpoint.

Validate and test the query to ensure that you are getting back the expected results:



The screenshot shows a software window titled "Testing "\_Earthquake Test". At the top, there is a text input field labeled "Retrieve a maximum" with the value "10" and a unit label "record(s)". To the right of this field are two buttons: "Get" and "Close". Below this is a table with three columns: "quake time", "location", and "magnitude". The table contains 10 rows of data. The first row is highlighted in blue. At the bottom left of the table area, it says "10 rows".

quake time	location	magnitude
2/6/2020 3:39:31 PM	8km E of Pahala, Hawaii	2.07
2/6/2020 3:33:55 PM	6km W of Cobb, CA	0.55
2/6/2020 3:31:35 PM	8km NW of The Geysers, CA	0.96
2/6/2020 3:28:35 PM	3km E of Mammoth Lakes, CA	0.8
2/6/2020 3:23:02 PM	56km N of Arctic Village, Alaska	3
2/6/2020 3:15:19 PM	9km WNW of Cobb, CA	0.57
2/6/2020 3:11:30 PM	84km E of Chignik Lake, Alaska	3
2/6/2020 3:06:59 PM	150km SSE of McGrath, Alaska	2.7
2/6/2020 3:05:16 PM	8km ENE of Pahala, Hawaii	2.28
2/6/2020 2:47:50 PM	92km NNW of Talkeetna, Alaska	1.4

You can now use the connector to create reports using this report query.

## [Query Construction when Using Mapped Query Parameters](#)

If your REST Connector is configured to [map query parameters](#) to API parameters, you will need to know which fields and operators have been mapped in order to have the filtering done as part of the API call and not by Argos after the data has been returned. If Argos does the filtering, you will still get the expected results; however, the query may take longer to run and you may be requesting more data than intended from the API.

Supported SQL clauses include:

- SELECT
- INTO
- FROM
- JOIN
- WHERE
- GROUP BY
- HAVING
- UNION
- ORDER BY
- LIMIT

Note that your WHERE clauses must be kept very simple. You can use multiple mapped fields separated by AND keywords. For example:

- `WHERE magnitude_mag_value > 8 AND description_text is not null`

More complex WHERE clauses involving OR clauses, nested queries, or subqueries are not supported. For example, all of the following WHERE clauses will retrieve all data from the API and then apply the filtering in the WHERE clause after the data has been returned to Argos:

- `WHERE magnitude_mag_value > 8 OR description_text is null`
- `WHERE magnitude_mag_value > 8 OR (magnitude_mag_value > 5 AND description_text is not null)`

- WHERE `description_text` in (select `description_text` from event)

## XPath Format

---

The XPath is the path(s) to the repeating fields in the API response that correspond to the table(s) that you want to query.

## XML Endpoints

Let's look at the following example document that might be returned for an XML endpoint:

```
<Contributors>
  <Contributor>admin</Contributor>
  <Contributor>ak</Contributor>
  <Contributor>at</Contributor>
  <Contributor>atlas</Contributor>
  <Contributor>ok</Contributor>
  <Contributor>us</Contributor>
  <Contributor>uu</Contributor>
  <Contributor>uw</Contributor>
</Contributors>
```

In this case, we want a table called `contributor` that contains all `<Contributor>` records. Therefore, the XPath needs to be the path to the repeating `Contributor` elements:

```
/Contributors/Contributor
```

You can create more than one table from a single XML response. Consider the following:

```
<Contributors>
  <Contributor>
    <name>admin</name>
    <description>
      <value1>type</value1>
      <value2>1</value2>
    </description>
  </Contributor>
  <Contributor>
    <name>ak</name>
    <description>
      <value1>type</value1>
      <value2>1</value2>
    </description>
  </Contributor>
  <Contributor>
    <name>at</name>
    <description>
      <value1>type</value1>
      <value2>1</value2>
    </description>
  </Contributor>
  <Contributor>
    <name>atlas</name>
    <description>
      <value1>type</value1>
      <value2>1</value2>
    </description>
  </Contributor>
</Contributors>
```

The XPath to the `contributor` table is still `/Contributors/Contributor`. We could also decide we want to create a second table for `<description>`. Its XPath would be `/Contributors/Contributor/description`. To include both tables in the XPath field, separate the two XPaths using a semicolon:

```
/Contributors/Contributor;/Contributors/Contributor/description
```

## JSON Endpoints

In the case of JSON, we want to use JSONPath syntax to specify the XPath for the tables. Consider the following JSON example:

```
{
  "catalogs": [
    "38457511",
    "=c",
    "ak",
    "at",
    "atlas",
    "av",
    "cdmg",
    "cgs",
    "choy",
    "ci",
    "sc",
    "se",
    "unknown",
    "us",
    "ushis",
    "uu",
    "uw"
  ],
}
```

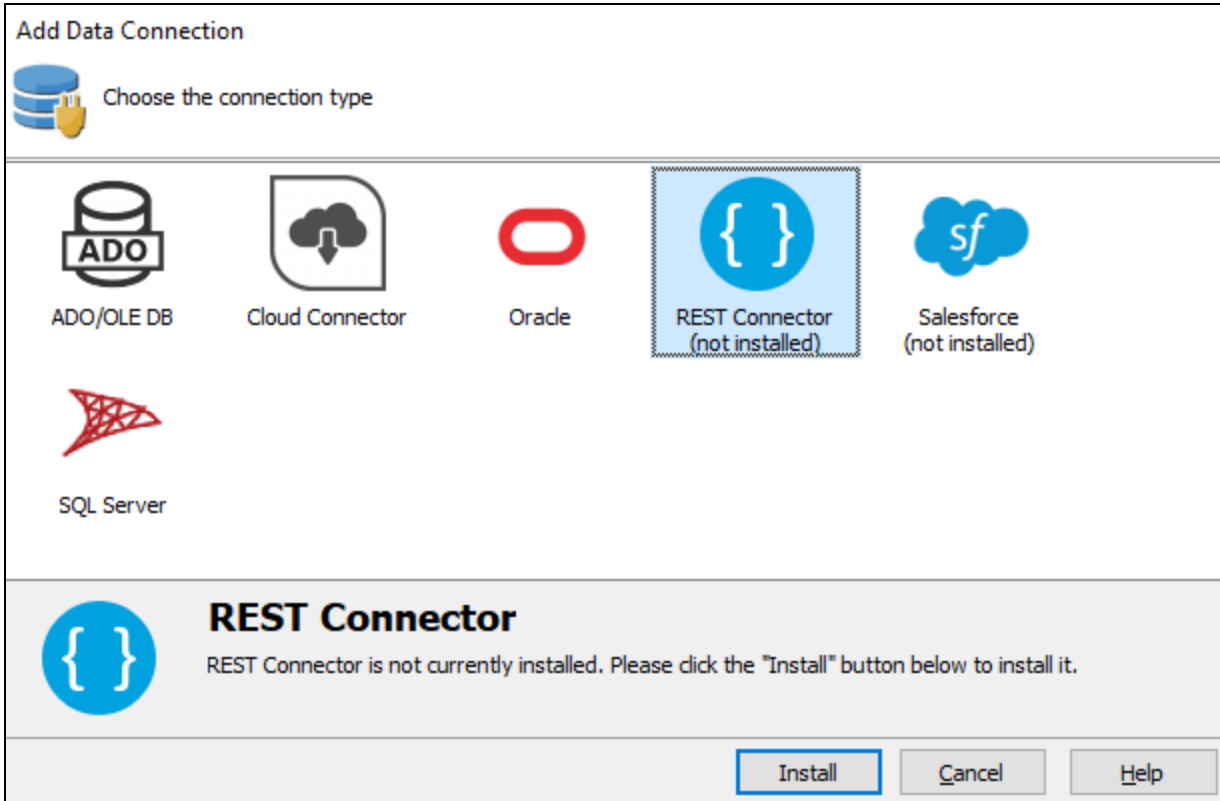
The start of the JSON object is represented as '\$'. To specify that `catalogs` should be a table, we would construct the XPath as:

```
$.catalogs
```

You can specify multiple tables from one JSON response by separating their JSONPaths with a semicolon, similar to the second XML example above.

# Data Connection Drivers

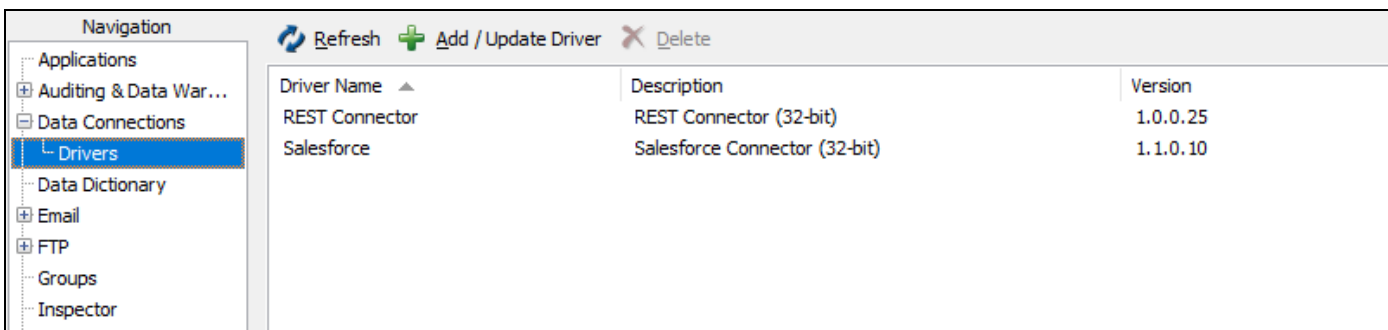
The drivers for the Rest Connector and Salesforce data connections are now installed on-demand the first time you configure a data connection which uses that driver.



After choosing the connection type, select the **Install** button to download and install the driver. Once installation has completed, you can then proceed with configuring the data connection.

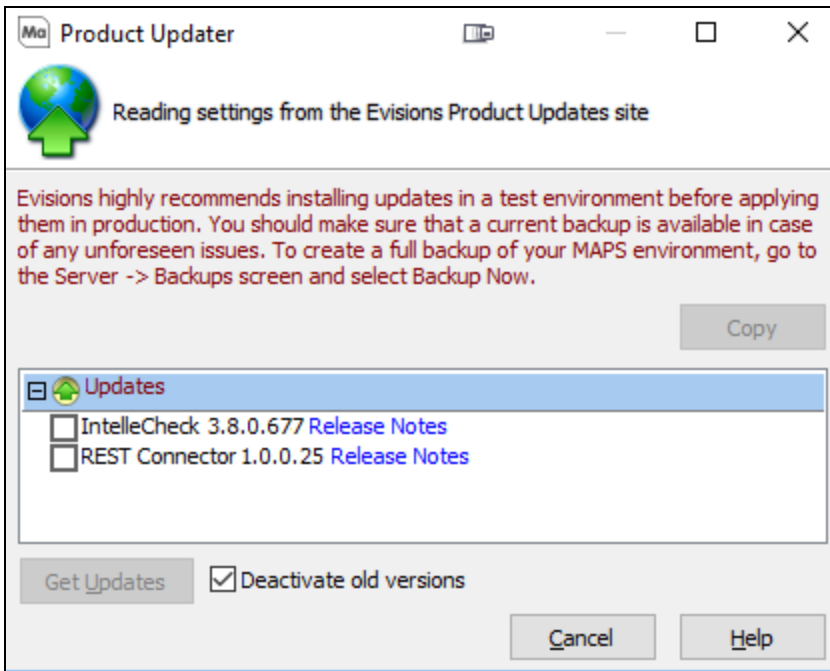
## Managing Installed Drivers

You can manage the optional drivers that are installed for your data connections on the new **Data Connections > Drivers** screen in MAPS Config.



This screen allows you to view and manage the optional drivers that are installed on your system. Currently, this includes the REST Connector and the Salesforce Connector. More drivers may be added in the future.

When checking for updates in MAPS, the list of available updates will now also include any updates for the optional drivers you have installed, in addition to product updates.





# MAPS 6.5 Release Notes

MAPS Service 6.5.0.2315 / MAPS Config 6.5.0.1267 / eLauncher 6.5.0.13

## MAPS

### Enhancements

Area	Description	Issue number
Accessibility	Improved the contrast of the text in the eLauncher footer with its default background color.	MAPS-1410
Accessibility	The eLauncher now correctly indicates to screen reading software that the page is in English.	MAPS-1411
Accessibility	The eLauncher Settings dialog is now keyboard accessible.	MAPS-1415
Accessibility	Improved the contrast of modal dialog titles in the eLauncher.	MAPS-1418
Accessibility	Improved the contrast of the green "Password Updated" message in the eLauncher Settings > Change Password dialog.	MAPS-1513
Clustered installations	On clustered installations, the Inspector screen now shows sessions from all MAPS nodes.	MAPS-1938
Data connections	Added a new REST Connector option for creating data connections to third-party data sources that offer a RESTful API.	MAPS-2039
Data connections	The new REST Connector and the Salesforce Connector added in MAPS 6.2 are now installable on demand when configuring data connections.	MAPS-2185
Data connections	Added a new Drivers screen under Data Connections that lists the optional drivers that are installed for your data connections. Updates to these drivers will now also show up when checking for updates in MAPS.	MAPS-2477
Data connections	When configuring a Salesforce data connection, the User/Group Rules screen now supports entering the Salesforce security token for users or groups set to "Use the following user name and password".	MAPS-2218
Product Updater	Updated the instructions when checking for updates to remind administrators that updates should be installed in a test environment before deploying to production.	MAPS-2405
Server	MAPS is now available as a 64-bit application. If you wish to switch from 32-bit to 64-bit, please refer to the 64-bit section in this guide for migration instructions.	MAPS-1517
Server	Updated the minimum hardware requirements for the MAPS server from 4GB to 8GB RAM and from dual core to quad core to better support the 64-bit version of MAPS, which is able to take advantage of the additional resources.	MAPS-2502

## Resolved Issues

Area	Description	Issue Number
Data connections	In MAPS 6.4, native SQL Server database connections with the default string type set to Auto were failing with the error "The data types nvarchar and ntext are incompatible in the [operand] operator."	MAPS-2475
Log files	The error message that appears in the MAPS log file when an LDAP member is not a member of any authorized groups was incorrectly displaying the LDAP server name instead of the user's name.	MAPS-1493
Scheduling	On the Mapplets > Argos > Schedules screen, sorting by Run User was not correctly alphabetizing users who were the schedule creator or default Run As user.	MAPS-2309
Stability	Resolved a deadlock issue that sometimes occurred during periods of high query activity which resulted in the error "Unable to acquire a read lock to use the MAPS Main Database."	MAPS-2457
Users	Logging in to a MAPS application using CAS did not update the user's last log in time.	MAPS-2391

# Getting Help

---

For information on using the software, please refer to the in-product Help, which contains detailed information on all aspects of the product.

If you are having problems with the installation or configuration, you can search our [support site](#), which includes a knowledge base of common issues. If you are unable to find the solution, submit a HelpDesk request with a detailed explanation of the problem you are experiencing.

Please do not hesitate to contact the Evisions HelpDesk if any questions or problems arise. We are here to help you and want to ensure your success.

If you find that areas of this documentation could benefit from additional detail or clarification, please let us know. We are constantly trying to improve the installation process to make it as easy as possible.