



24/01/2025

CREATED BY: RAMTIN GOLKAR

REVIEWED BY: JUAN AMORES

# Table of Contents

|   |           |
|---|-----------|
| <b>INTRODUCTION .....</b>   | <b>3</b>  |
| <b>CONNECTING TO THE STRATA API.....</b>                                | <b>4</b>  |
| <i>USER INTERFACE (Basic).....</i>                                      | <i>4</i>  |
| <i>USING TOOLS LIKE POSTMAN (Advanced).....</i>                         | <i>6</i>  |
| <b>CONNECTING TO STRATA API WITH POWER BI .....</b>                     | <b>8</b>  |
| <i>WIZARD.....</i>  | <i>8</i>  |
| <i>ADVANCED POWER BI SCRIPT EXAMPLE.....</i>                            | <i>11</i> |
| <i>USING ADVANCED QUERY.....</i>  | <i>11</i> |
| <b>EXAMPLE OF USING AN ENDPOINT WITH AN ACCESS TOKEN .....</b>          | <b>12</b> |
| <b>EXAMPLE OF INSERTING DATA INTO STRATA WITH AN ACCESS TOKEN .....</b> | <b>13</b> |
| <b>API LIMITS .....</b>   | <b>14</b> |
| <b>ALL AVAILABLE ENDPOINTS AND DOCUMENTATION .....</b>                  | <b>14</b> |

# INTRODUCTION

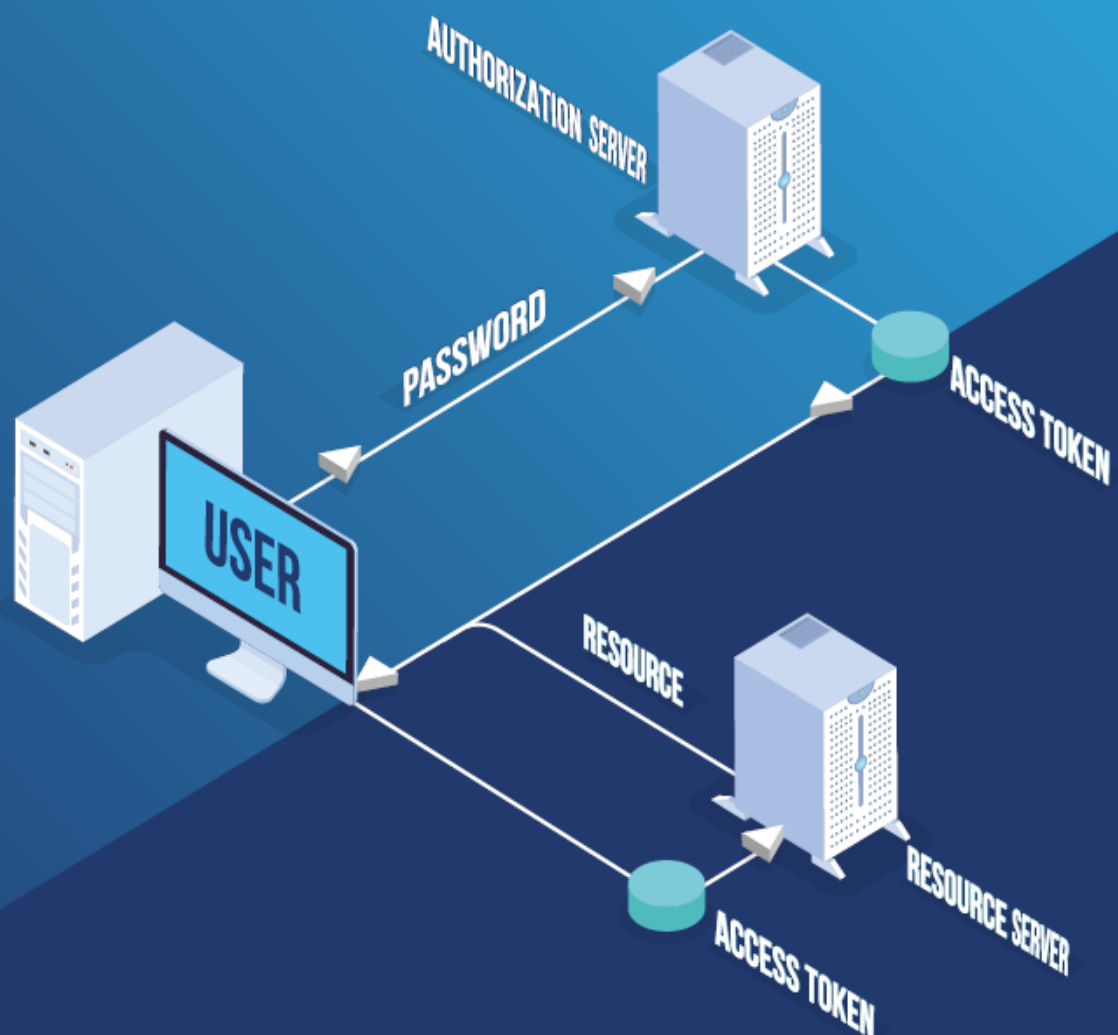
**What is an API Endpoint?** An API endpoint is a point at which an application program interface (API) -- the code that allows two software programs to communicate with each other -- connects with the software program. APIs send requests for information from a web application or web server and receive a response.

In other words, API endpoints are the specific digital locations where requests for information are sent by one program to retrieve the digital resource that exists there. Endpoints specify where APIs can access resources and help guarantee the proper functioning of the incorporated software.

This document intends to show how to connect and use Strata API as an interface where users can extract/insert raw data without any graphical user interface.

**We need to provide the API with our Strata login details to access Strata data and retrieve an access token. Once we have the access token, this will act as an access code and authorise our API access.**

Even though you may have access to more than one Strata (e.g. for different organisations), the API will allow access to each once you are authenticated. Connecting to each will issue a different access token, valid for seven days for security reasons.



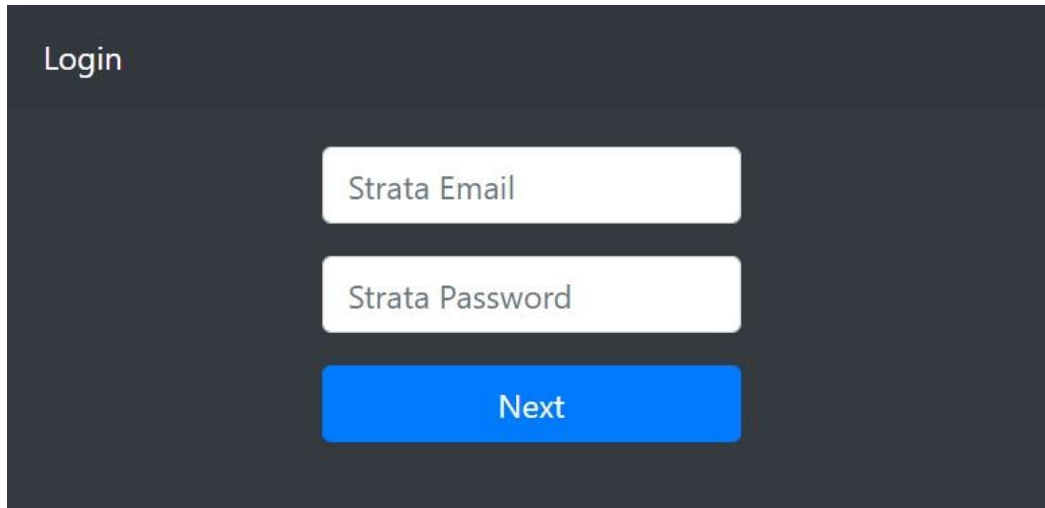
# CONNECTING TO THE STRATA API

To start using the API and retrieve your access token, you have two options:

## USER INTERFACE (Basic)

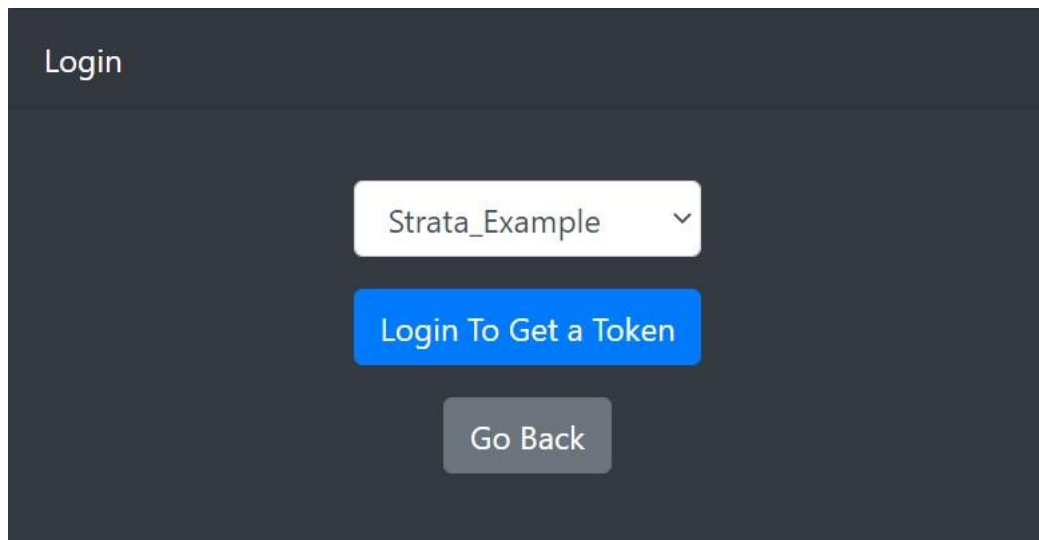
By using your web browser and going to <https://api.strata-login.com>

- Fill in the form with your Strata email and password.



The screenshot shows a dark-themed login interface. At the top left, the word "Login" is displayed in white. Below it, there are two white input fields: the first is labeled "Strata Email" and the second is labeled "Strata Password". Below these fields is a prominent blue button with the text "Next" in white.

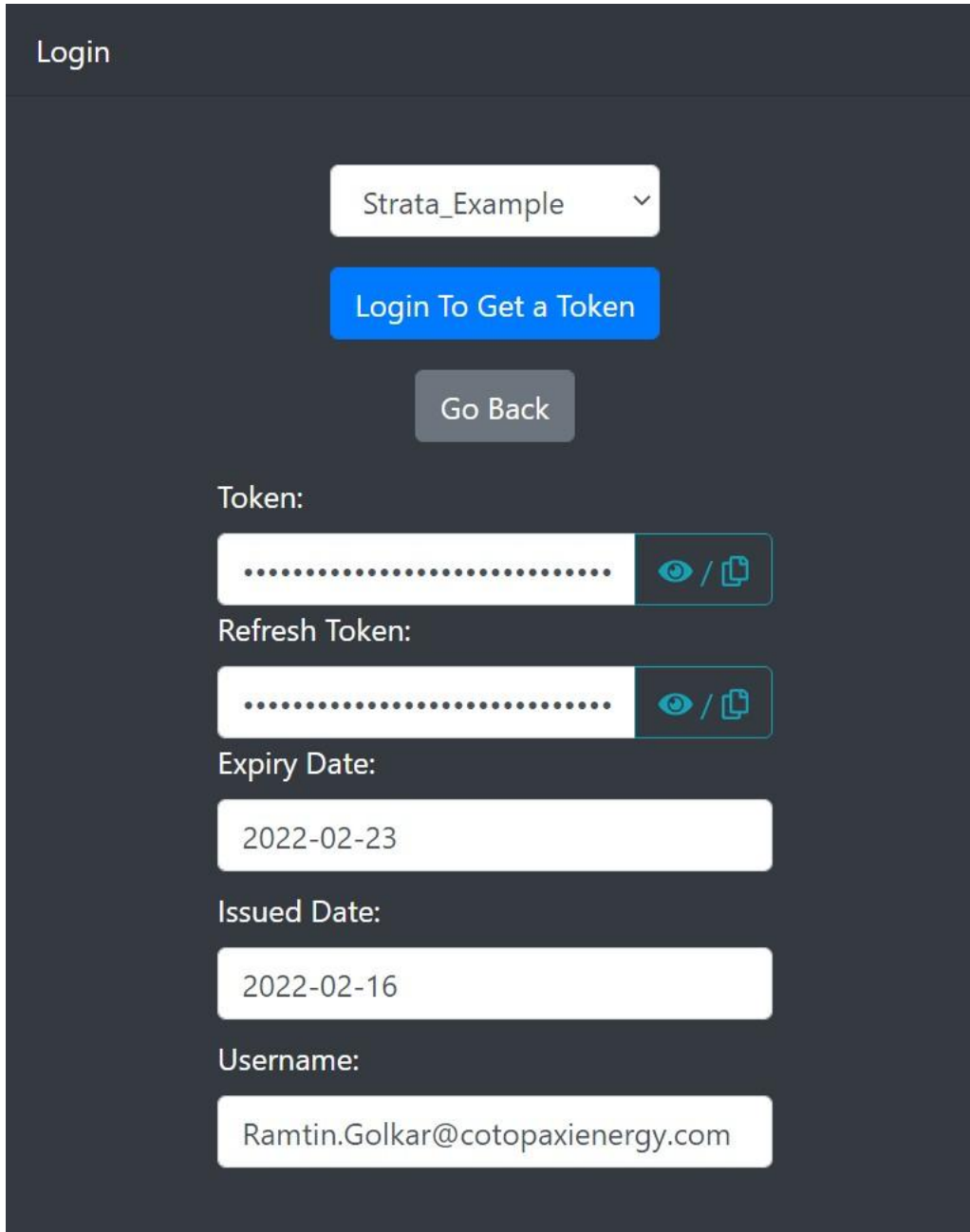
- Select the Strata you would like to access.



The screenshot shows a dark-themed login interface. At the top left, the word "Login" is displayed in white. Below it, there is a white dropdown menu with the text "Strata\_Example" and a downward arrow. Below the dropdown is a prominent blue button with the text "Login To Get a Token" in white. Below that is a grey button with the text "Go Back" in white.

# CONNECTING TO THE STRATA API

- Your access token and details will show like the form below.



The screenshot shows a 'Login' interface with a dark background. At the top left, the word 'Login' is displayed. Below it is a dropdown menu with 'Strata\_Example' and a downward arrow. A prominent blue button reads 'Login To Get a Token', and a grey button below it says 'Go Back'. The form displays several fields: 'Token:' with a masked input and copy/visibility icons; 'Refresh Token:' with a masked input and copy/visibility icons; 'Expiry Date:' with a text input containing '2022-02-23'; 'Issued Date:' with a text input containing '2022-02-16'; and 'Username:' with a text input containing 'Ramtin.Golkar@cotopaxienergy.com'.

- On this page, you can copy your token by clicking on the copy button by the token.
- Use this access token as the authorisation header for any request you are sending.
- The refresh token could be used to obtain a new token. Each refresh token is valid for 21 days, and upon using the refresh token, a new token and a new refresh token will be generated.

# CONNECTING TO THE STRATA API

## USING TOOLS LIKE POSTMAN (Advanced)

This will allow you to consume the API without using a user interface to get the access token.

If you need to see which Strata databases you have access to, send a POST request to:

<https://api.strata-login.com/api/Account/GetAccessibleDatabaseList>

as the image below with your Strata username and password.

The screenshot shows a Postman interface for a POST request to `https://api.strata-login.com/api/Account/GetAccessibleDatabaseList`. The 'Body' tab is selected, and the body type is set to 'x-www-form-urlencoded'. The body contains the following data:

| KEY  | VALUE                            | DESCRIPTION |
|--|----------------------------------|-------------|
| <input checked="" type="checkbox"/> username | ramtin.golkar@cotopaxienergy.com |             |
| <input checked="" type="checkbox"/> password | examplePassword                  |             |
| Key  | Value                            | Description |

You can see in the response an array of objects called “**UserDbs**”, which will show accessible Strata.

When you know which Strata you want to connect, pass that to the below POST request with your username, password and strataDB:

The screenshot shows a Postman interface for a POST request to `https://api.strata-login.com/api/Account/Login`. The 'Body' tab is selected, and the body type is set to 'x-www-form-urlencoded'. The body contains the following data:

| KEY  | VALUE                            | DESCRIPTION |
|--|----------------------------------|-------------|
| <input checked="" type="checkbox"/> username | ramtin.golkar@cotopaxienergy.com |             |
| <input checked="" type="checkbox"/> password | examplePassword                  |             |
| <input checked="" type="checkbox"/> StrataDB | Strata_Example                   |             |
| Key  | Value                            | Description |

The response will return your access token, which will be used to make requests and be valid for seven days.

You could avoid the first step if you already know which Strata you want to connect to, for example, `Strata_(Replace Client Name)`.

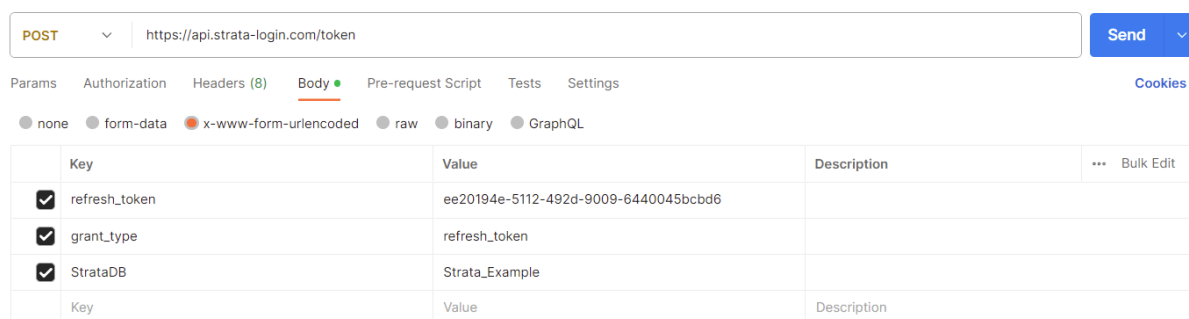
# CONNECTING TO THE STRATA API

## Refreshing the access token

Strata API can generate new tokens by passing the refresh token obtained in the previous login step.

Each refresh token can be used once. As soon as you refresh your access token, a new refresh token will also be returned, which could be used to refresh the access token again.

You need to pass your refresh token in the body of the request like below:

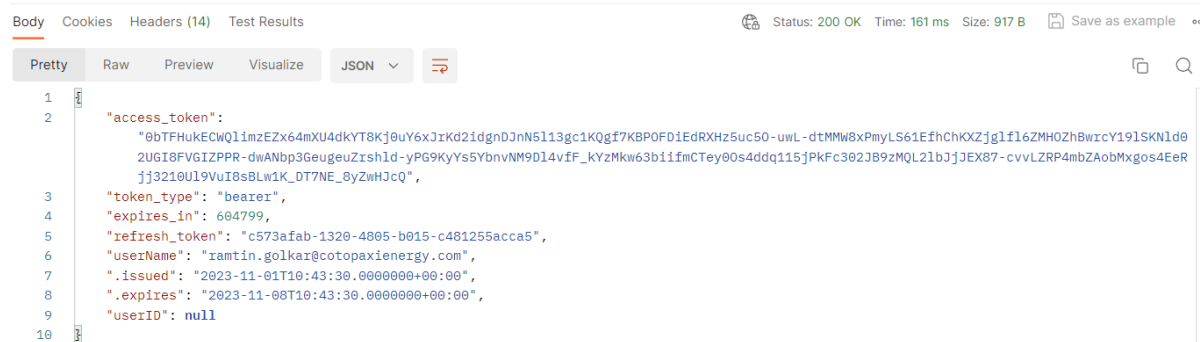


POST ▼ | https://api.strata-login.com/token Send ▼

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings Cookies

none  form-data  x-www-form-urlencoded  raw  binary  GraphQL

| Key   | Value                                | Description | ... | Bulk Edit |
|---|--------------------------------------|-------------|-----|-----------|
| <input checked="" type="checkbox"/> refresh_token | ee20194e-5112-492d-9009-6440045bcbd6 |             |     |           |
| <input checked="" type="checkbox"/> grant_type    | refresh_token                        |             |     |           |
| <input checked="" type="checkbox"/> StrataDB      | Strata_Example                       |             |     |           |
| Key   | Value                                | Description |     |           |



Body Cookies Headers (14) Test Results Status: 200 OK Time: 161 ms Size: 917 B Save as example

Pretty Raw Preview Visualize JSON ▼ ≡

```
1
2  "access_token":
3     "0bTFHukECwQlimzEZx64mXU4dkYT8Kj0uY6xJrKd2idgnDjnN5l13gc1KQgf7KBPOFDiEdRXHz2uc50-uwL-dtMMW8xPmyLS61EfhChKXZjglf16ZMH0ZhBwrcY191SKNld0
4     2UGI8FVGIZPPR-dwANbp3GeugeuZrshld-yPG9KyYs5YbnvNM9Dl4vEF_KyZMkw63bifmCTey0s4ddq115jPkFc302J89zML21bjjJEX87-cvvLZRP4mbZAobMxgos4EeR
5     jj3210U19VuI8sBLw1K_DT7NE_8yZwHJcQ",
6  "token_type": "bearer",
7  "expires_in": 604799,
8  "refresh_token": "c573afab-1320-4805-b015-c481255acca5",
9  "userName": "ramtin.golkar@cotopaxienergy.com",
10 "issued": "2023-11-01T10:43:30.000000+00:00",
    "expires": "2023-11-08T10:43:30.000000+00:00",
    "userID": null
```

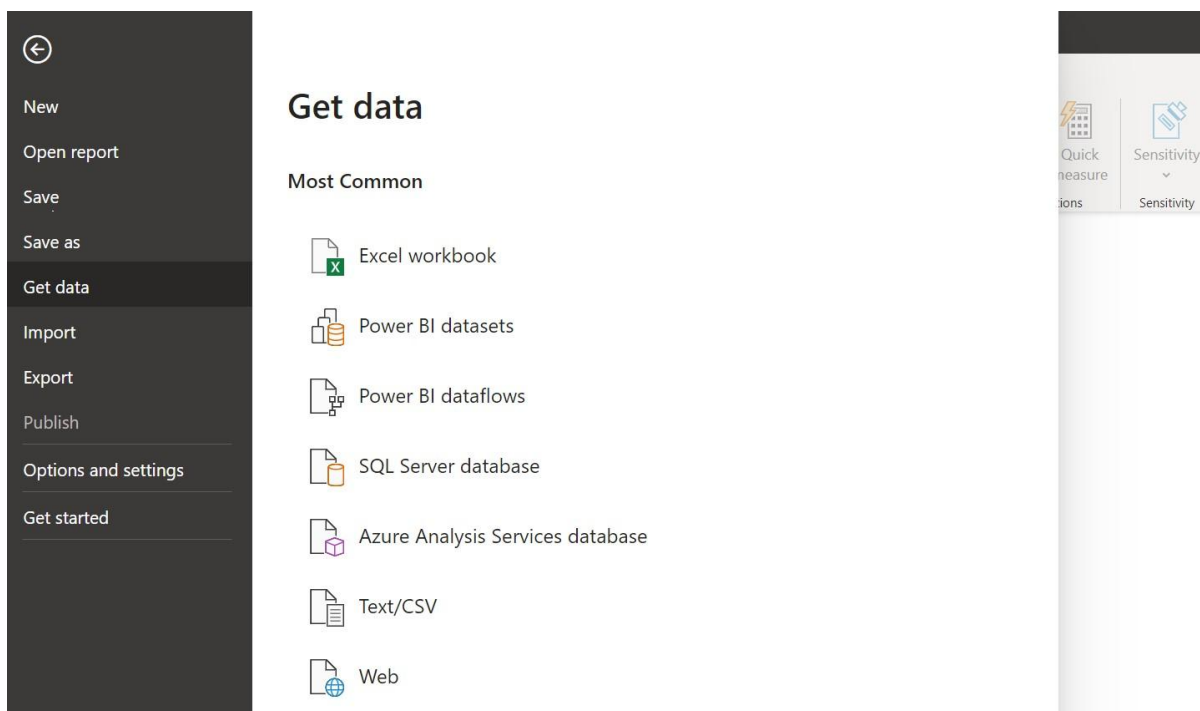
# CONNECTING TO STRATA API WITH POWER BI

We can use Power BI to create custom visualised reports by extracting the data from the Strata API.

## WIZARD

If you want to use the wizard option, follow the steps below.

- From the **“File”** menu, select **“Get Data”**.



- In new versions, click on **“Web”** as shown in the screenshot above; otherwise, click on **“Other”** then select **“Web”**.

# CONNECTING TO STRATA API WITH POWER BI

1. Select the “**Advanced**” option here and fill the form with the requested URL in the 1st box as shown below. The URL would be the endpoint you want to access; the most common URL is for getting data from a datafeed: [Click Here](#)

In the above example, put your desired DatafeedID after the equal sign, as in the picture below.

**Tip: When you are viewing a data feed in Strata. The last part is your data feed ID. (in this example 16001)**

```
https://example.strata-login.com/#/DataFeed/View/16001
```

Type in a header called “**Authorization**” in the 2nd box. Then, in the 3rd box, type “**bearer**”, add one space after and paste your access token, which you obtained from the previous steps.

## From Web

Basic  Advanced

URL parts ⓘ

https://api.strata-login.com/api/Strata/GetDataTrend?DataFeedID=160018 **1st**

Add part

URL preview

https://api.strata-login.com/api/Strata/GetDataTrend?DataFeedID=16001&...

Command timeout in minutes (optional)

HTTP request header parameters (optional) ⓘ

Authorization bearer QCIhkaEvzflve0fUYO00Mk2z6

Add header

**2nd**

**3rd**

OK Cancel

# CONNECTING TO STRATA API WITH POWER BI

2. Pressing 'OK' will return the data.

Queries

= Table.ExpandRecordColumn(#"Converted to Table1", "Column1", {"Reading", "EndReading", "OverrideReading", "Consumption", "MaxConsumption", "MinConsumption", "Cost"},

|    | Column1.Reading | Column1.EndReading | Column1.OverrideReading | Column1.Consumption | Column1.MaxConsumption | Column1.MinConsumption | Column1.Cost |
|----|-----------------|--------------------|-------------------------|---------------------|------------------------|------------------------|--------------|
| 1  | 378281.578      | 0                  | 0                       | 378281.578          | 525.071                | 0                      |              |
| 2  | 718479.862      | 0                  | 0                       | 718479.862          | 529.348                |                        | 473.056      |
| 3  | 708315.474      | 0                  | 0                       | 708315.474          | 525.765                |                        | 449.026      |
| 4  | 718914.905      | 0                  | 0                       | 718914.905          | 527.074                |                        | 474.433      |
| 5  | 718452.23       | 0                  | 0                       | 718452.23           | 539.24                 |                        | 470.757      |
| 6  | 724449.412      | 0                  | 0                       | 724449.412          | 528.693                |                        | 479.478      |
| 7  | 795612.114      | 0                  | 0                       | 795612.114          | 664.478                |                        | 478.285      |
| 8  | 726610.414      | 0                  | 0                       | 726610.414          | 534.819                |                        | 480.029      |
| 9  | 722104.36       | 0                  | 0                       | 722104.36           | 552.467                |                        | 477.097      |
| 10 | 702481.123      | 0                  | 0                       | 702481.123          | 531.733                |                        | 459.993      |
| 11 | 704829.369      | 0                  | 0                       | 704829.369          | 535.692                |                        | 460.993      |
| 12 | 716828.43       | 0                  | 0                       | 716828.43           | 535.499                |                        | 472.142      |
| 13 | 722918.36       | 0                  | 0                       | 722918.36           | 529.048                |                        | 474.422      |
| 14 | 721523.719      | 0                  | 0                       | 721523.719          | 532.307                |                        | 471.295      |
| 15 | 724968.062      | 0                  | 0                       | 724968.062          | 585.453                |                        | 478.161      |
| 16 | 792730.176      | 0                  | 0                       | 792730.176          | 645.161                |                        | 481.018      |
| 17 | 710454.678      | 0                  | 0                       | 710454.678          | 525.05                 |                        | 473.981      |
| 18 | 718130.465      | 0                  | 0                       | 718130.465          | 524.995                |                        | 474.646      |
| 19 | 726833.71       | 0                  | 0                       | 726833.71           | 542.88                 |                        | 479.377      |
| 20 | 726883.037      | 0                  | 0                       | 726883.037          | 539.832                |                        | 445.058      |
| 21 | 722749.878      | 0                  | 0                       | 722749.878          | 537.578                |                        | 476.098      |
| 22 | 724472.855      | 0                  | 0                       | 724472.855          | 531.113                |                        | 480.161      |
| 23 | 726502.87       | 0                  | 0                       | 726502.87           | 541.853                |                        | 479.562      |
| 24 | 718427.184      | 0                  | 0                       | 718427.184          | 533.563                |                        | 478.537      |
| 25 | 723659.512      | 0                  | 0                       | 723659.512          | 548.124                |                        | 476.462      |
| 26 | 713753.726      | 0                  | 0                       | 713753.726          | 525.295                |                        | 452.566      |
| 27 | 170244.554      | 0                  | 0                       | 170244.554          | 527.13                 |                        | 473.937      |
| 28 | 211778.0107     | 0                  | 0                       | 211778.0107         | 221.646                |                        | 21.8219      |
| 29 | 408228.141      | 0                  | 0                       | 408228.141          | 541.061                |                        | 161.697      |
| 30 | 499377.473      | 0                  | 0                       | 499377.473          | 385.177                |                        | 320.793      |
| 31 | 451430.327      | 0                  | 0                       | 451430.327          | 389.27                 |                        | 186.148      |
| 32 | 264923.656      | 0                  | 0                       | 264923.656          | 253.561                |                        | 165.898      |

# ADVANCED POWER BI SCRIPT EXAMPLE

## USING ADVANCED QUERY

Here is an example: <https://api.strata-login.com/Content/PowerBIQueryExample.txt>

Use this example to log in by providing your Strata credentials, retrieving the data from different data feeds, and combining those results. You could use the example to call other endpoints by simply following the same format as the example.

To use this, you need to go to **“File” => “Get Data” => “Blank Query”**, then from the left-hand side, right-click on the new query (usually called **“Query 1”**) and select **“Advanced Query”**, then paste the above example.

```
let
baseURL = "https://api.strata-login.com/api/",
body =
[
    Username = "Replace Strata Username",
    Password = "Replace Strata Password",
    StrataDB = "Strata_ClientName"
],

login =Json.Document(Web.Contents(baseURL&"account/login",[Content = Text.ToBinary(Uri.BuildQueryString(body)),Headers = [{"Content-Type":"application/x-www-form-urlencoded"}])),
Access_token = login[Access_token],

//startdate set to 7 days ago and end date is current date
startDate = DateTime.ToText(Date.AddDays(DateTime.LocalNow(),-7), "yyyy-MM-dd"),
endDate = DateTime.ToText(DateTime.LocalNow(), "yyyy-MM-dd"),

//Add as many Source as you need (e.g: source1,2,3,4,5) and just change the DatafeedID like below example -- Aggregation is now weekly 604800 seconds = 1 week
Source1 = Json.Document(Web.Contents("https://api.strata-login.com/api/Strata/GetDataTrend?DataFeedID=[DataFeedID]&startDate=[startDate]&endDate=[endDate]&AggregationLevel=604800&AggregationType=1", [Headers=[authorization="bearer "&Access_token]])),
Source2 = Json.Document(Web.Contents("https://api.strata-login.com/api/Strata/GetDataTrend?DataFeedID=[DataFeedID]&startDate=[startDate]&endDate=[endDate]&AggregationLevel=604800&AggregationType=1", [Headers=[authorization="bearer "&Access_token]])),

//this will combine the result if you need
output = List.Combine({Source1,Source2}),
output1 = output{0}

in
output1
```

# EXAMPLE OF USING AN ENDPOINT WITH AN ACCESS TOKEN

Endpoint example: <https://api.strata-login.com/api/Strata/GetDataTrend>

- Go to the “Authorization” tab, select ‘bearer token’ and paste the obtained token.

The screenshot shows the 'Authorization' tab in an API client. The URL bar contains: `https://api.strata-login.com/api/Strata/GetDataTrend?DataFeedID=4034&StartDate=2021-01-01&EndDate=2021-12-01`. The 'Type' dropdown is set to 'Bearer Token'. A warning message states: 'Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. Learn more about variables'. The 'Token' field contains the value: `QClhkaEvzfLve0fUYO00Mk2z67WJ1PoZCW...`

- Go to the “Params” tab and add your parameters; in this case, the data feed ID, start and end date are below.

The screenshot shows the 'Params' tab in an API client. The URL bar contains: `https://api.strata-login.com/api/Strata/GetDataTrend?DataFeedID=4034&StartDate=2021-01-01&EndDate=2021-12-01`. The 'Query Params' section contains the following table:

| KEY  | VALUE      | DESCRIPTION |
|--|------------|-------------|
| <input checked="" type="checkbox"/> DataFeedID | 4034       |             |
| <input checked="" type="checkbox"/> StartDate  | 2021-01-01 |             |
| <input checked="" type="checkbox"/> EndDate    | 2021-12-01 |             |
| Key  | Value      | Description |

# EXAMPLE OF INSERTING DATA INTO STRATA WITH AN ACCESS TOKEN

Endpoint example: <https://api.strata-login.com/api/Strata/InsertDataFeedReading>

- Go to the “Authorization” tab, select “bearer token”, and paste the obtained token from the previous steps.

- Change your method to “POST” and go to the “Body” tab and send your readings like below:

```
1 {
2   "DataReadingList": [
3     {
4       "ReadingDate": "2020-03-25 15:45:40",
5       "Reading": 5500.522
6     },
7     {
8       "ReadingDate": "2020-03-25 15:46:50",
9       "Reading": 7000.10
10    }
11  ],
12  "PKDataFeedID": 1622
13 }
```

# API Limits

There are two types of limits on the API:

- **Short time limiter:**
  - 15 seconds for subsequent POST requests
  - A second for subsequent GET requests
- **An hourly limiter:**
  - 1000 requests within an hour per user

## ALL AVAILABLE ENDPOINTS AND DOCUMENTATION

- To see all the available Strata API endpoints and their documentation, please [Click here](#).