

Expana's

Data Direct API

Endpoint Reference Document



Version 1.0 | 26 June 2024

Europe Support Team support@expanamarkets.com

Americas Support Team help@expanamarkets.com

Table of Contents

Introduction	3
Expana's Time Series Data.....	3
Categories	3
Metadata	4
Data Points	4
Data Points Frequency.....	5
Security Overview	6
Authentication	7
Error Codes	7
Endpoints.....	8
Endpoint: Categories	8
Endpoint: Metadata for a single series	9
Endpoint: Data Points for a single series	11
Date range	11
Endpoint: Metadata for all series in a Category	16
Endpoint: Recent Data Points for all series in a Category	18
Date range	18

Introduction

The Expana's Data Direct API provides exclusive access to the breadth and width of Expana data. It unifies data from three of Expana's legacy brands into one simple yet powerful solution - Urner Barry's Comtell, Mintec's Mintec Analytics and FeedInfo. Using the API, you can export our unified time series data and seamlessly integrate it into your business analysis, systems, and processes.

The goal of this documentation is to allow you to easily set up and use the Data Direct API and to give you a comprehensive understanding of the shape and meaning of our data.

Expana's Time Series Data

Expana's unified dataset covers 26k+ time series which accurately represent the prices, supply, export, import and more of a wide range of commodities.

Categories

The commodity time series data is grouped into 23 categories. For our Expana API product, you can purchase access to our data on the categories level. Each category has a full name and a short name. You can use the short name to query for the category data in the API endpoints. See the "Endpoint: Categories" section.

Category Full Name

Poultry
Red Meat
Seafood
Eggs
Dairy
Grains
Animal Feed
Oilseeds, Oils & Fats
Coffee, Tea & Cocoa
Sugar & Sweeteners
Food Ingredients
Nuts, Seeds & Dried Fruit
Fruit & Juices
Vegetables & Pulses
Herbs & Spices
Alcoholic Beverages
Energy & Transport
Plastics & Textiles
Pulp, Paper & Wood
Metals & Ores
Industrial Materials
Economics
Chemicals

Short Name

Poultry
RedMeat
Seafood
Eggs
Dairy
Grains
Feed
Oils
Coffee
Sugar
Ingredients
Nuts
Fruit
Vegetables
HerbsSpices
Beverages
Energy
Plastics
PaperWood
Metals
IndustrialMaterials
Economics
Chemicals

Metadata

Each time series is described by a set of metadata. It includes the series code, which is Expana's unique identifier for the series, the series name, description, category, and more.

Data Points

In Expana's Data Direct API, each data point contains several pieces of information:

- The day which the data point values relate to.
- Each data point has a parameter showing which frequency it belongs to. See examples below.
- All data points are stored with the potential of having a range. All items have `Low`, `High` and `Mid` available. If an item has one value, it will have the same value in `Low`, `High` and `Mid`.
- A data point can also include additional information. For series coming for the USDA (United States Department of Agriculture) and for some Expana proprietary series, there are also:
 - Trades – show the number of transactions observed (traded) to produce the assessment.
 - Pounds – shows the amount of product observed (transacted) to produce the assessment.
 - Loads – the amount of product expressed in truckloads (40,000-pound lots) to produce the assessment. This is calculated by using the number of pounds in the assessment and dividing it by 40,000.
 - Weighted average – the value of an assessment weighted to reflect the volume at which products were observed (transacted). This differs from a simple average which uses the high and low points of the assessment.

Examples:

Precise value. Low, high, and mid are provided and they are the same number.	<pre> "date": "2024-06-21", "frequency": "Daily", "high": 2.650000000000000, "low": 2.650000000000000, "mid": 2.650000000000000, "wtdAvg": null, "pounds": null, "trades": null, "loads": null, </pre>
--	--

Value range. Low and high of the value are provided, as well as the average between them	<pre> "date": "2024-06-21", "frequency": "Weekly", "high": 7.000000000000000, "low": 6.500000000000000, "mid": 6.750000000000000, "wtdAvg": null, "pounds": null, "trades": null, "loads": null, </pre>
A data point with all value types.	<pre> "date": "2024-06-14", "frequency": "Weekly", "high": 3.470000000000000, "low": 3.050000000000000, "mid": 3.260000000000000, "wtdAvg": 3.212400000000000, "pounds": 150198.000000000000000, "trades": 50.000000000000000, "loads": 3.754950000000000, </pre>

Data Points Frequency

Expana series can be represented in different frequencies. You can see them in the `availableFrequencies` metadata parameter for each series. Currently, the majority of series have one available frequency, mostly Daily or Weekly.

You can select a frequency using the `frequency` request parameter. If the parameter is not included, data points from all frequencies will be shared in the response. If you don't include the `frequency` request parameter in the data endpoints, and the series has multiple available frequencies, data points for all frequencies will be shared in the same list.

Coming soon: All series will be able to be represented in every possible Expana frequency:

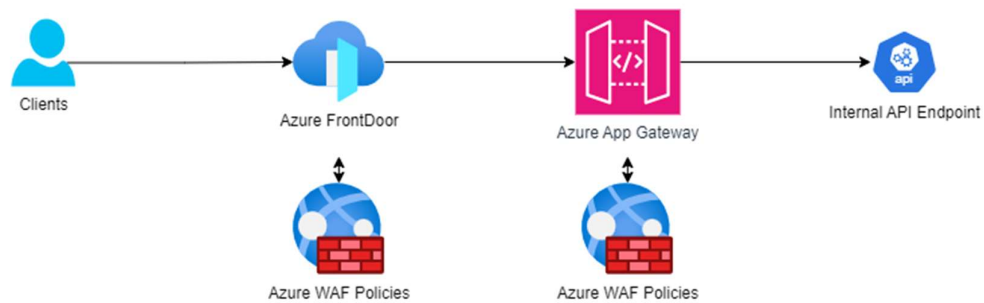
- *Daily,*
- *Weekly,*
- *Monthly,*
- *Quarterly,*
- *Semi-Annually,*
- *Annually*

Security Overview

The New Data Direct API leverages several Azure Cloud components to ensure robust protection and high availability. Azure Front Door is employed as the entry point for our API traffic, providing comprehensive security through SSL termination and DDoS protection, ensuring that only legitimate traffic reaches our services.

Azure Web Application Firewall (WAF) is integrated to deliver advanced threat detection and mitigation. The WAF provides protection against common web vulnerabilities such as SQL injection, cross-site scripting (XSS), and other OWASP top 10 threats. Azure Application Gateway is used to further enhance security by offering a secure gateway for web traffic. It provides extra WAF policies for an additional layer of security.

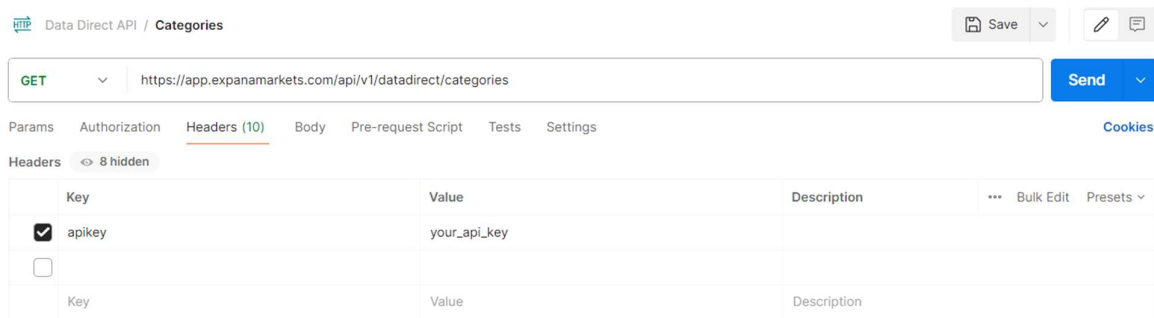
Together, these Azure services create a multi-layered defence strategy, ensuring that our API remains secure and resilient against various cyber threats.



Authentication

A one-way hashed API key is used for authentication of all requests to the API. The customer's unique API Key is added to the HTTP Request Header for validation before the request is fulfilled.

- Your API Key will be shared with you in a secure way. Treat the API Key like a password.
- To receive data from the API endpoints, you will have to include the API Key in the HTTP headers of each request



The screenshot shows a REST client interface for a GET request to `https://app.expanamarkets.com/api/v1/datadirect/categories`. The 'Headers' tab is selected, showing a table with one header: `apikey` with the value `your_api_key`. The interface includes tabs for Params, Authorization, Headers (10), Body, Pre-request Script, Tests, and Settings. There are also buttons for Save, Send, and Cookies.

Key	Value	Description
☒ <code>apikey</code>	<code>your_api_key</code>	
☐		

Error Codes

The Expana Data Direct API is a RESTful API, with a uniform interface to make calls with all HTTP verbs and conforms to RFC 7807 for problem details response for error responses.

Code	Text	Description
200	OK	Success
400	Bad Request	The request was invalid
401	Unauthorized	Authentication credentials were missing or incorrect
403	Forbidden	Request refused or access not allowed
404	Not Found	The URI or the resource requested is invalid
500, 501, etc.	Internal Server Error	Something is broken. Please contact Expana Support.

Endpoints

Endpoint: Categories

Get information about categories that you have access to.

Expana commodities are grouped into 23 categories, as mentioned earlier. This endpoint will return categories that were purchased for the license with the API Key you are using.

Properties

URL	https://app.expanamarkets.com/api/v1/datadirect/categories
HTTP Method	GET
Response	JSON

Path and Request Parameters: None

Response Parameters

Name	Description	Optional	Type
name	Name of the category	No	string
shortName	Short name, use to query in other endpoints	No	string

Example 1

<https://app.expanamarkets.com/api/v1/datadirect/categories>

The response includes categories available in a license with the API Key that was used.

```

1  [
2    {
3      "name": "Red Meat",
4      "shortName": "RedMeat"
5    },
6    {
7      "name": "Seafood",
8      "shortName": "Seafood"
9    },
10   {
11     "name": "Eggs",
12     "shortName": "Eggs"
13   },
14   {
15     "name": "Pulp, Paper & Wood",
16     "shortName": "PaperWood"
17   },

```

Endpoint: Metadata for a single series

Get the metadata for a single series of your interest.

This endpoint allows you to get the metadata parameters like name, description, currency, unit, and more for a specific series code you provided.

Properties

URL	https://app.expanamarkets.com/api/v1/datadirect/time-series/{code}
HTTP Method	GET
Request	JSON
Response	JSON

Path Parameters

Name	Description	Optional	Type
code	Unique identifier for the series	No	string

Request Parameters

None

Response Parameters

Name	Description	Nullable	Type
code	Unique identifier for the series	No	string
name	Name of the series	No	string
description	Description of the series	No	string
category	Category of the series	No	string
unit	Unit of measure for the series	Yes	string
originCountry	The country of origin for the series	Yes	string
destinationCountry	The destination country for the series	Yes	string
currency	Currency for the series	Yes	string
availableFrequencies	List of available frequencies for the series	No	list

Example 1

<https://app.expanamarkets.com/api/v1/datadirect/time-series/1>

The response includes the metadata for a time series with code 1

```
1  {
2    "code": "1",
3    "name": "UB Shell Eggs - White Large, Northeast",
4    "description": "UB Shell Eggs - White Large, Northeast",
5    "category": "Eggs",
6    "unit": "dozen",
7    "originCountry": "United States",
8    "destinationCountry": "United States",
9    "currency": "$",
10   "availableFrequencies": [
11     "Daily"
12   ]
13 }
```

Example 2

The response includes the metadata and for a time series with code 384. Note that this is one of the codes that do have more than one frequency available.

<https://app.expanamarkets.com/api/v1/datadirect/time-series/384>

```
1  {
2    "code": "384",
3    "name": "USDA 160 1 Round, Bone-In Choice",
4    "description": "USDA 160 1 Round, Bone-In Choice",
5    "category": "Red Meat",
6    "unit": "lb",
7    "originCountry": "United States",
8    "destinationCountry": "United States",
9    "currency": "$",
10   "availableFrequencies": [
11     "Daily",
12     "Weekly"
13   ]
14 }
```

Endpoint: Data Points for a single series

Get the metadata and the data points for a single series of your interest.

This endpoint allows you to get the data points for a specific series code you provided. In addition to the data points, you will also receive the metadata parameters like name, description, currency, unit and so on.

Date range

When asking for data for just one series code, you can request up to the whole history of data points for that series. For some series, that is 50+ years. You can specify the timeline you are interested in in a few ways:

- If you don't provide the `startDate`, `endDate`, or `dateInterval` parameters, the response will include the latest data point for each frequency by default.
- You can provide a specific date range, giving a start date and an end date, using the `startDate` and `endDate` parameters. Both need to have a format of YYYY-MM-DD.
 - If you only provide a `startDate`, you will receive a date range from the given start date to today's date.
 - If you only provide an `endDate`, you will receive a date range from the first available data point to the given end date.
- You can request the latest data point, data point from today, or all existing data points for that series, using the `dateInterval` parameter.
 - For some series the latest data point will be always from the day before, so requesting for today's data points will never return any data.
- You can ask for several latest data points, by providing a number greater than zero in the `dateInterval` parameter. For example: if you provide 2 you will receive 2 latest data points; if you provide 20 you will receive 20 latest data points

It is important to note:

- When providing both `startDate` or `endDate` parameters and a `dateInterval` parameter, the API will prioritize the `startDate` and `endDate`.
- Providing `startDate` or `endDate` parameters in any other format than YYYY-MM-DD will result in a 400 Bad Request status code.
- Providing a `dateInterval` parameter value that is not "today", "latest", "all", or an integer greater or equal to 1 the response will result in a 400 Bad Request status code.

Properties

URL	https://app.expanamarkets.com/api/v1/datadirect/time-series/{code}/data
HTTP Method	GET
Request	JSON
Response	JSON

Path Parameters

Name	Description	Optional	Type
code	Unique identifier for the series	No	string

Request Parameters

Name	Description	Optional	Default	Type
frequency	Requested frequency. You can see available frequencies in the <code>availableFrequencies</code> parameter.	Yes	All frequencies will be returned	string
startDate	The start date of the date range YYYY-MM-DD	Yes	If no value for all <code>startDate</code> , <code>endDate</code> , and <code>dateInterval</code> is provided, the latest data point will be returned	date
endDate	The end date of the date range YYYY-MM-DD	Yes		date
dateInterval	<code>today</code> , <code>latest</code> , <code>all</code> integer <code>n</code> ≥ 1	Yes		string

Response Parameters

Name	Description	Nullable	Type
timeSeries	Dictionary with metadata of the series	No	dict
timeSeries.code	Unique identifier for the series	No	string
timeSeries.name	Name of the series	No	string
timeSeries.description	Description of the series	No	string
timeSeries.category	Category of the series	No	string
timeSeries.unit	Unit of measure for the series	Yes	string
timeSeries.originCountry	The country of origin of the series	Yes	string

timeSeries.destinationCountry	The destination country for the series	Yes	string
timeSeries.currency	Currency for the series	Yes	string
timeSeries.availableFrequencies	List of available frequencies for the series	No	list
timeSeriesData	List of data points	No	list
timeSeriesData.date	The data of the data point	No	string
timeSeriesData.frequency	The frequency of the data point	No	string
timeSeriesData.mid	The average of the high and low of the published assessments quoted range.	Yes	float
timeSeriesData.high	The high is the highest value of the published range for the assessment	Yes	float
TimeSeriesData.low	The low is the lowest value of the published range for the assessment	Yes	float
timeSeriesData.pounds	Pounds shows the amount of product observed (transacted) to produce the assessment.	Yes	float
timeSeriesData.trades	Trades show the number of transactions observed (traded) to produce the assessment.	Yes	float
timeSeriesData.loads	Loads is the amount of product expressed in truckloads (40,000-pound lots) to produce the assessment.	Yes	float
timeSeriesData.wtdAvg	The weighted average is the value of an assessment weighted to reflect the volume at which products were observed (transacted). This differs from a simple average which uses the high and low point of the assessment.	Yes	float

Example 1

<https://app.expanamarkets.com/api/v1/datadirect/time-series/1/data>

The response includes the metadata and data points for a time series with code 1. As no date range parameter was provided, the latest data point was returned.

```
{
  "timeSeries": {
    "code": "1",
    "name": "UB Shell Eggs - White Large, Northeast",
    "description": "UB Shell Eggs - White Large, Northeast",
    "category": "Eggs",
    "unit": "dozen",
    "originCountry": "United States",
    "destinationCountry": "United States",
    "currency": "$",
    "availableFrequencies": [
      "Daily"
    ]
  },
  "timeSeriesData": [
    {
      "date": "2024-06-21",
      "frequency": "Daily",
      "high": 2.650000000000000,
      "low": 2.650000000000000,
      "mid": 2.650000000000000,
      "wtdAvg": null,
      "pounds": null,
      "trades": null,
      "loads": null
    }
  ]
}
```

Example 2

<https://app.expanamarkets.com/api/v1/datadirect/time-series/1/data?startDate=2024-06-01>

The response would include the metadata and data points for a time series with code 1. As only the start date is provided, the data points returned would be from 2024-06-01 up until today's date.

Example 3

<https://app.expanamarkets.com/api/v1/datadirect/time-series/1/data?dateInterval=all>

The response would include the metadata and all available data points for a time series with code 1. For this particular series, the first data point is from 1983-01-03.

Example 4

<https://app.expanamarkets.com/api/v1/datadirect/time-series/384/data>

The response includes the metadata and data points for a time series with code 384. As no date range parameter was provided, the latest data point was returned. Note that as this is a series with two available frequencies, the latest data point for both frequencies was returned

```
{
  "timeSeries": {
    "code": "384",
    "name": "USDA 160 1 Round, Bone-In Choice",
    "description": "USDA 160 1 Round, Bone-In Choice",
    "category": "Red Meat",
    "unit": "lb",
    "originCountry": "United States",
    "destinationCountry": "United States",
    "currency": "$",
    "availableFrequencies": [
      "Daily",
      "Weekly"
    ]
  },
  "timeSeriesData": [
    {
      "date": "2024-06-21",
      "frequency": "Daily",
      "high": null,
      "low": null,
      "mid": null,
      "wtdAvg": null,
      "pounds": null,
      "trades": null,
      "loads": null,
    },
    {
      "date": "2024-06-21",
      "frequency": "Weekly",
      "high": 3.70000000000000,
      "low": 3.39000000000000,
      "mid": 3.54500000000000,
      "wtdAvg": 3.56470000000000,
      "pounds": 1933.000000000000,
      "trades": 6.00000000000000,
      "loads": 0.04833000000000
    }
  ]
}
```

Example 5

<https://app.expanamarkets.com/api/v1/datadirect/time-series/384/data?frequency=Daily&startDate=2023-01-01&endDate=2023-06-30>

The response would include the metadata and data points for a time series with code 384. The response would only include the data points with the Daily frequency. The data points would be from the first half of 2023.

Example 6

<https://app.expanamarkets.com/api/v1/datadirect/timeseries/1/data?endDate=20240101>

This request would result in a Status code 400 Bad Request, as the end date is provided in a wrong format (not in YYYY-MM-DD)

Example 7

<https://app.expanamarkets.com/api/v1/datadirect/timeseries/1/data?dateInterval=everything>

This request would result in a Status code 400 Bad Request, as the date interval value does not match one of the supported values (`today`, `latest`, `all`, or an integer `n >= 1`)

Example 8

<https://app.expanamarkets.com/api/v1/datadirect/timeseries/1/data?frequency=Weekly>

This request would result in a Status code 404 Not Found, as at the moment the series with code one does not have Weekly as one of the available frequencies.

Endpoint: Metadata for all series in a Category

Get the metadata for every series in the category of your interest.

This endpoint allows you to get the metadata parameters like name, description, currency, unit, and more for every

Properties

URL	https://app.expanamarkets.com/api/v1/datadirect/categories/{category}
HTTP Method	GET

Path Parameters

Name	Description	Nullable	Type
category	The short name of the category	No	string

Request Parameters

None.

Response Parameters

A list of dictionaries with the following metadata parameters for all series in the category:

Name	Description	Optional	Type
code	Unique identifier for the series	No	string
name	Name of the series	No	string
description	Description of the series	No	string
category	Category of the series	No	string
unit	Unit of measure for the series	Yes	string
originCountry	The country of origin of the series	Yes	string
destinationCountry	The destination country for the series	Yes	string
currency	Currency for the series	Yes	string
availableFrequencies	List of available frequencies for the series	No	list

Example 1

<https://app.expanamarkets.com/api/v1/datadirect/categories/eggs>

The respond includes the metadata for all available time series from the category Eggs.

```

1  [
2    {
3      "code": "MR25",
4      "name": "Egg yolk salt fzn fob US",
5      "description": "Egg yolk|salted; minimum 43% solids|frozen|packed in 30 lb containers|free on board|United States",
6      "category": "Eggs",
7      "unit": "Pound",
8      "originCountry": "United States",
9      "destinationCountry": "",
10     "currency": "US Cent",
11     "availableFrequencies": [
12       "Weekly"
13     ]
14   },
15   {
16     "code": "9M07",
17     "name": "Egg whs TH",
18     "description": "Eggs any size|wholesale price|Thailand|||",
19     "category": "Eggs",
20     "unit": "Egg (65g)",
21     "originCountry": "",
22     "destinationCountry": "Thailand",
23     "currency": "Thailand Baht",
24     "availableFrequencies": [
25       "Weekly"
26     ]
27   },
28   {
29     "code": "3814",
30     "name": "Exports - Canada - Egg Yolks, Fresh, Cooked, Molded, Frozen, Etc.",
31     "description": "Exports - Canada - Egg Yolks, Fresh, Cooked, Molded, Frozen, Etc.",
32     "category": "Eggs",

```

Example 2

<https://app.expanamarkets.com/api/v1/datadirect/categories/redmeat>

The respond would include the metadata for all available time series from the category Red Meat.

Example 3

<https://app.expanamarkets.com/api/v1/datadirect/categories/paperwood>

The respond would include the metadata for all available time series from the category Pulp, Paper & Wood.

Endpoint: Recent Data Points for all series in a Category

Get the metadata and the recent data points for every series in a category of interest.

This endpoint allows you to get the recent data points for every series in a category you provided. In addition to the data points, you will also receive the metadata parameters like name, description, currency, unit and so on.

Date range

When asking for data for every series in a category, you can request up to 7 most recent data points. Requesting more data points is not possible due to performance and payload size constraints.

- If you don't provide the `dateInterval` parameters, the response will include the latest data point for each frequency by default.
- You can request the latest data point or data point from today using the `dateInterval` parameter.
 - For some series the latest data point will be always from the day before, so requesting for today's data points will never return any data.
- You can ask for recent latest data points, by providing a number between 1 and 7 in the `dateInterval` parameter. For example: if you provide 2 you will receive 2 latest data points; if you provide 7 you will receive 7 latest data points

It is important to note:

- Providing a `dateInterval` parameter value that is not "today", "latest", or an integer between 1 and 7 the response will result in a 400 Bad Request status code.

Properties

URL	https://app.expanamarkets.com/api/v1/datadirect/categories/{category}/data
HTTP Method	GET

Path Parameters

Name	Description	Optional	Type
category	The short name of the category	No	string

Request Parameters

Name	Description	Optional	Default	Type
frequency	Requested frequency. You can see available frequencies in the <code>availableFrequencies</code> parameter.	Yes	All frequencies will be returned	string
dateInterval	<code>today, latest</code> integer $n \geq 1$ and $n \leq 7$	Yes	If no value for <code>dateInterval</code> is provided, the latest data point will be returned	string

Response Parameters

A list of dictionaries with the following parameters for all series in the category:

Name	Description	Nullable	Type
timeSeries	Dictionary with metadata of the series	No	dict
timeSeries.code	Unique identifier for the series	No	string
timeSeries.name	Name of the series	No	string
timeSeries.description	Description of the series	No	string
timeSeries.category	Category of the series	No	string
timeSeries.unit	Unit of measure for the series	Yes	string
timeSeries.originCountry	The country of origin of the series	Yes	string
timeSeries.destinationCountry	The destination country for the series	Yes	string
timeSeries.currency	Currency for the series	Yes	string
timeSeries.availableFrequencies	List of available frequencies for the series	No	list

timeSeriesData	List of data points	No	list
timeSeriesData.date	The data of the data point	No	string
timeSeriesData.frequency	The frequency of the data point	No	string
timeSeriesData.mid	The average of the high and low of the published assessments quoted range.	Yes	float
timeSeriesData.high	The highest value of the published range for the assessment	Yes	float
TimeSeriesData.low	The lowest value of the published range for the assessment	Yes	float
timeSeriesData.pounds	The amount of product observed (transacted) to produce the assessment.	Yes	float
timeSeriesData.trades	The number of transactions observed (traded) to produce the assessment.	Yes	float
TimeSeriesData.loads	The amount of product expressed in truckloads (40,000-pound lots) to produce the assessment.		
timeSeriesData.wtdavg	The weighted average is the value of an assessment weighted to reflect the volume at which products were observed (transacted). This differs from a simple average which uses the high and low point of the assessment.	Yes	float

Example 1

<https://app.expanamarkets.com/api/v1/datadirect/categories/eggs/data>

The response includes metadata and the most recent data point for all series in the category Eggs. Only the most recent data point was returned, as no date range parameter was provided

```
[
  {
    "timeSeries": {
      "code": "MR25",
      "name": "Egg yolk salt fzn fob US",
      "description": "Egg yolk|salted; minimum 43% solids|frozen|packed in 30 lb containers|free on board|United States",
      "category": "Eggs",
      "unit": "Pound",
      "originCountry": "United States",
      "destinationCountry": "",
      "currency": "US Cent",
      "availableFrequencies": [
        "Weekly"
      ]
    },
    "timeSeriesData": [
      {
        "date": "2024-06-12",
        "frequency": "Weekly",
        "high": 239.00000000000000,
        "low": 239.00000000000000,
        "mid": 239.00000000000000,
        "wtdAvg": null,
        "pounds": null,
        "trades": null,
        "loads": null,
      }
    ]
  },
  {
    "timeSeries": {
      "code": "9M07",
      "name": "Egg whs TH",
      "description": "Eggs any size|wholesale price|Thailand|",
      "category": "Eggs",
      "unit": "Egg (65g)",
    }
  }
]
```

Example 2

<https://app.expanamarkets.com/api/v1/datadirect/categories/eggs/data?dateInterval=3>

The response would include metadata and the 3 most recent data point for all series in the category Eggs.

Example 3

<https://app.expanamarkets.com/api/v1/datadirect/categories/eggs/data?dateInterval=10>

This request would result in a Status code 400 Bad Request, as the date interval parameter doesn't meet the requirement to be between 1 and 7. You are not able to get more than the latest 7 data points.