

FACTSET › SEE THE ADVANTAGE

MODEL ACCOUNTS API - VERSION 2.0

Developer's Manual and Reference

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Model Accounts API – Version 2.0

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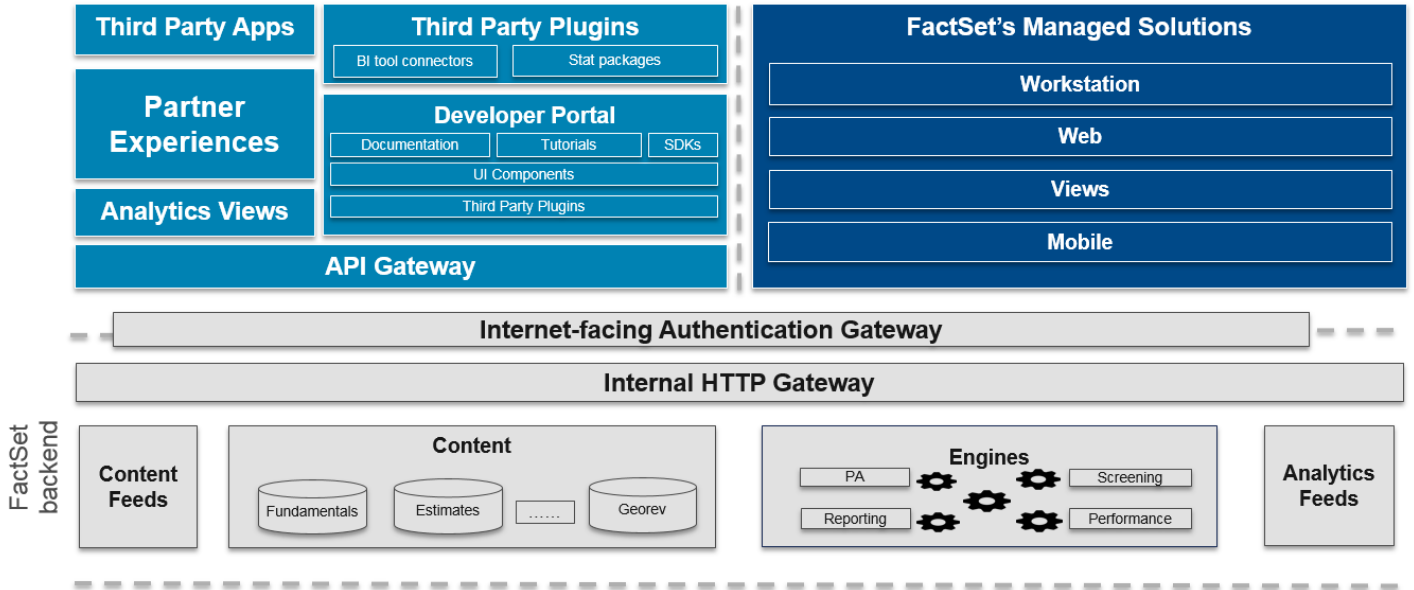
1. Motivation

In 1997, FactSet launched Portfolio Analysis 1.0, which set the foundation for Analytics. Soon after, Portfolio Analysis 2.0 integrated risk analytics from third-party vendors, and then expanded to include Fixed Income in 2004. FactSet now offers a robust suite of multi-asset portfolio analytics products that leads the market in flexibility, analytics, and breadth. Today, clients rely on FactSet for interactive analytics through various products, such as Portfolio Analysis (PA), SPAR, Alpha Testing, Optimizers, and Portfolio Dashboard, as well as the distribution of analytics through Portfolio Batchter, Publisher Flat Files, and Publisher documents.

2. API Program

2.1 Overview

Clients have been moving towards building a custom solution, driven by the need to increase productivity by consolidating information into a single user experience. By exposing analytics, performance, and risk through APIs, it provides you with a sophisticated channel to interact with FactSet’s leading multi-asset analytics. As the market continues to demand more transparency and data, FactSet will provide flexible options to meet those demands. APIs complement the current analytics suite offerings and facilitate partnerships by allowing you to build private experiences, integrate with third-party BI tools like Tableau, third-party stat packages like RStudio, and increase control over internal consumption of analytics from FactSet.



The first stage of exposing Analytics APIs will focus on the portfolio analytics engine. Later, the program will expand to include other analytics engines, products, and APIs from other business units.

The program will provide the following:

- Developer toolkit to build proof of concept
- Uniform feel across all FactSet's Enterprise scale APIs
- Adherence to industry standards
- Versioned APIs
- Extensive documentation and tutorials on the developer portal

3. Model Accounts APIs

All APIs are hosted under <https://api.factset.com>. Authentication is handled using API Keys and authorization is handled using FactSet's in-house subscriptions product. You can find more information about using API Keys at <https://developer.factset.com/authentication>.

This family of APIs lets users manage accounts with model holdings to run what-if scenarios to test out a new strategy or analyze a prospective client's portfolio of holdings on an ad-hoc basis. All model accounts leverage FactSet's pricing sources and analytics sources when computing analytics data.

HTTP request and response header names should be considered case insensitive as per [HTTP Standard](#). Please do not rely on case sensitive matching of headers in your code.

3.1 Create Account

PUT /analytics/accounts/v2/models/{name}

Description

This endpoint creates the model account specified in the URL using the holdings provided in the POST body. It must be used first, before fetching or cancelling endpoints. A successful response will contain the URL of the resource in the Location header.

Request Headers

Header name	Description
Authorization	Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format.
Content-Type	Standard HTTP header. Value needs to specify application/JSON (i.e., caller needs to specify that the body is in JSON format).

Request Body

Parameter name	Data type	Required	Description	Format
holdings	Object	Yes	The outermost object.	Object must contain a mapping of date(s) to holding(s).
holdings.{date}	Array	Yes	The date on which holdings were held.	YYYYMMDD
holdings.{date}.symbol	String	Yes	The symbol of the holding.	For example, "FDS".
holdings.{date}.quantity	Double	No	The symbol's quantities.	For example, 5 or 5.0
holdings.{date}.weight	Integer	No	The symbol's weight.	For example, 20
holdings.{date}.price	Double	No	The symbol's price.	For example, 242.05
holdings.{date}.currencyisocode	String	No	The currency code in which price is specified. Required when price parameter is used.	For example, "JPY"

Response Headers

Header name	Description
X-DataDirect-Request-Key	FactSet's request key header.
X-FactSet-Api-Request-Key	Key to uniquely identify an Analytics API request. Only available after successful authentication.
Location	Standard HTTP header. Contains location of the newly created model account.

Returns

HTTP status code	Description
------------------	-------------

201	Expected response, contains the resource location in the Location header.
400	Invalid POST body.
401	Missing or invalid authentication.
403	User is forbidden access with current credentials.
409	A model account with the provided name already exists at the provided path.
415	Missing/Invalid Content-Type header. Header needs to be set to application/JSON.
500	Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting.
503	Request timed out. Retry the request in sometime.

Examples

```

Request:
PUT https://api.factset.com/analytics/accounts/v2/models/CLIENT:test.acct

Headers:
content-type: application/json
Authorization: Basic RkRTX0RFTU9fVVMt*****
Accept-Encoding: gzip
content-length: 201

Body:
{
  "holdings": {
    "20151005": [{
      "symbol": "AAPL",
      "quantity": 50,
      "price": 224.09,
      "currencyisocode": "USD"
    },
    {
      "symbol": "GOOG",
      "quantity": 100
    },
    {
      "symbol": "FDS",
      "quantity": 500
    }
  ]},
  "20180101": [{
    "symbol": "AMZN",
    "quantity": 10
  }

```

```
    },
    {
      "symbol": "GOOG",
      "quantity": 50,
      "price": 1120.90,
      "currencyisocode": "USD"
    },
    {
      "symbol": "AAPL",
      "quantity": 25,
      "price": 180.09,
      "currencyisocode": "USD"
    }
  ]
}
```

Response:

HTTP 201 Created

Headers:

location: <https://api.factset.com/analytics/accounts/v2/models/CLIENT:test.acct>
x-datadirect-request-key: 71fppy54tymi5z1b
x-factset-api-request-key: wxs0kqdl386qno7i

Request:

PUT <https://api.factset.com/analytics/accounts/v2/models/CLIENT:test1.acct>

Headers:

content-type: application/json
Authorization: Basic RkRTX0RFTU9fVVMt*****
Accept-Encoding: gzip
content-length: 458

Body:

```
{
  "holdings": {
    "20151005": [{
      "symbol": "AAPL",
      "weight": 50
    }],
  },
}
```

```

    {
      "symbol": "GOOG",
      "weight": 25
    },
    {
      "symbol": "FDS",
      "weight": 25
    }
  ]],
  "20180101": [{
    "symbol": "AMZN",
    "weight": 50
  },
  {
    "symbol": "GOOG",
    "weight": 25
  },
  {
    "symbol": "AAPL",
    "weight": 25
  }
  ]
}

```

Response:

HTTP 201 Created

Headers:location: <https://api.factset.com/analytics/accounts/v2/models/CLIENT:test1.acct>

x-datadirect-request-key: 71fppy54tymi5aaa

x-factset-api-request-key: wxs0kqdl386qnp18

3.2 Get Account

GET /analytics/accounts/v2/models/{name}**Description**

This is the endpoint to get the data of a previously created account. This will return the data in JSON format with “YYYYMMDD” date format.

Request Headers

Header name	Description
Authorization	Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format.
Accept-Encoding	Standard HTTP header. Value can be gzip, identity, and/or *.
Accept	(Optional) Standard HTTP header. Value needs to be application/json.

Response Headers

Header name	Description
X-DataDirect-Request-Key	FactSet's request key header.
X-FactSet-API-Request-Key	Key to uniquely identify an Analytics API request. Only available after successful authentication.
Content-Encoding	Standard HTTP header. Header value is based on the Accept-Encoding Request header value.
Content-Type	Standard HTTP header.
Transfer-Encoding	Standard HTTP header. Header value will be set to Chunked if Accept-Encoding header is specified.

Returns

HTTP status code	Description
200	Expected response. You can find more information about the data format in FactSet JSON format documentation.
400	Invalid identifier parameter provided.
401	Missing or invalid authentication.
403	User is forbidden access with current credentials.
404	The provided account name does not exist at the location provided.
406	Unsupported Accept header. Header needs to be set to application/json.
500	Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting.
503	Request timed out. Retry the request in sometime.

Examples

```

Request:
GET https://api.factset.com/analytics/accounts/v2/models/client:test.acct

Headers:
Authorization: Basic RkRTX0RFTU9fVVMt*****
    
```


Response:

HTTP 200 OK

Headers:

x-datadirect-request-key: i4yi43co944d1nc2
x-factset-api-request-key: rmoxxa054s9kzmu2

Body:

```
{
  "version": "0.7",
  "primaryTableIds": [
    "1c283eea-d03d-4622-9613-735eb1add6c2"
  ],
  "tables": {
    "1c283eea-d03d-4622-9613-735eb1add6c2": {
      "definition": {
        "columns": [
          {
            "id": "1356dc20-9c38-4994-84db-8373771687c2",
            "name": "Date",
            "description": "Date",
            "type": "STRING"
          },
          {
            "id": "8b93c561-57de-48df-88d9-eecfe4c04b8d",
            "name": "Symbol",
            "description": "Symbol",
            "type": "STRING"
          },
          {
            "id": "868f3cbc-093a-47db-8e14-8c5d9d0abdc0",
            "name": "Quantity",
            "description": "Quantity",
            "type": "DOUBLE"
          }
        ]
      },
      "data": {
        "rows": [
          {
            "id": "e65a76f2-59f4-413f-8a74-3aee1e503ae8"
          },
          {

```

```

        "id": "6556da50-adf2-4806-b6a4-86f32025090d"
    },
    {
        "id": "a98ae995-7b8d-449d-8fe4-e3edf3f7a471"
    },
    {
        "id": "eba11587-fd38-4e2b-9ee7-0e081b5a745a"
    },
    {
        "id": "aecb6848-f862-4ad1-9654-af7ce11f47a6"
    },
    {
        "id": "24960384-0ac8-40d7-aa4c-1c5426d3812a"
    }
],
"columns": {
    "1356dc20-9c38-4994-84db-8373771687c2": {
        "stringArray": {
            "values": [
                "20151005",
                "20151005",
                "20151005",
                "20180101",
                "20180101",
                "20180101"
            ]
        }
    },
    "8b93c561-57de-48df-88d9-eecfe4c04b8d": {
        "stringArray": {
            "values": [
                "AAPL",
                "FDS",
                "GOOG",
                "AAPL",
                "AMZN",
                "GOOG"
            ]
        }
    },
    "868f3cbc-093a-47db-8e14-8c5d9d0abdc0": {
        "doubleArray": {
            "values": [
                50,

```

```

500,
100,
25,
10,
50
]
}
}
}
}
}
}
}
}
}
}
}

```

3.3 Get All Accounts

GET /analytics/accounts/v2/models

Description

This endpoint gets all previously created model accounts.

Request Headers

Header name	Description
Authorization	Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format.
Accept-Encoding	Standard HTTP header. Value can be gzip, identity, and/or *.
Accept	(Optional) Standard HTTP header. Value needs to be application/json.

Response Headers

Header name	Description
X-DataDirect-Request-Key	FactSet's request key header.
X-FactSet-Api-Request-Key	Key to uniquely identify an Analytics API request. Only available after successful authentication.
Content-Encoding	Standard HTTP header. Header value is based on the Accept-Encoding Request header value.
Content-Type	Standard HTTP header.
Transfer-Encoding	Standard HTTP header. Header value will be set to Chunked if Accept-Encoding header is specified.

Returns

HTTP status code	Description
200	Expected response.
401	Missing or invalid authentication.
403	User is forbidden access with current credentials.
406	Unsupported Accept header. Header needs to be set to application/json.
500	Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting.
503	Request timed out. Retry the request in sometime.

Examples

```

Request:
GET https://api.factset.com/analytics/accounts/v2/models

Headers:
Authorization: Basic RkRTX0RFTU9fVVMt*****

Response:
HTTP 200 OK

Headers:
x-datadirect-request-key: jbktvq7pi36tm6t7
x-factset-api-request-key: 5veu70xgu3dut3q3

Body:
{
  "client:test.acct",
  "client:test2.acct"
}
    
```

3.4 Delete Account

DELETE /analytics/accounts/v2/models/{name}

Description

This endpoint is used to delete a previously created account.

Request Headers

Header name	Description
-------------	-------------

Authorization Standard HTTP header. Value needs to use 'Basic <base64 encoded value>' format.

Response Headers

Header name	Description
X-DataDirect-Request-Key	FactSet's request key header.
X-FactSet-API-Request-Key	Key to uniquely identify an Analytics API request. Only available after successful authentication.

Returns

HTTP status code	Description
204	Expected response, not content.
400	Invalid identifier parameter provided.
401	Missing or invalid authentication.
403	User is forbidden access with current credentials.
500	Server error. Log the X-DataDirect-Request-Key header to assist in troubleshooting.
503	Request timed out. Retry the request in sometime.

Examples

```

Request:
DELETE https://api.factset.com/analytics/accounts/v2/models/client:test.acct

Headers:
Authorization: Basic RkRTX0RFTU9fVVMt*****

Response:
HTTP 204 No Content

Headers:
x-datadirect-request-key: 15z1mxnrmpy3fd9t
x-factset-api-request-key: kyw2myyc71a3bip6
    
```

4. Troubleshooting

Following steps are recommended to troubleshoot errors from any of the different APIs:

- Record the X-DataDirect-Request-Key response header so that FactSet's API engineering team can analyze your specific request/response.

- Record the response body when the response is an error response. All HTTP status codes equal to and greater than 400 are considered error responses.
- Reach out to your account team with the above information for assistance.

5. Version Upgrade

FactSet will support old API versions for a limited time. The actual support time will depend on the API and the release stage (i.e., beta or production). All breaking changes, functionality additions, and bug fixes across earlier versions will be documented in the changelog.

FactSet's API engineering team will work with the clients to ensure smooth transition to newer versions.