

FactSet OnDemand – Web Services Reference Manual

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Preface

This document describes how to use the FactSet OnDemand DataFeed service that provides data and calculations for client applications via a URL call to a web server at FactSet.

Intended Audience

The users should be familiar with the XML language and HTTPS protocol. This document will describe the syntax needed for proper request formatting as well as the rules for processing responses. In addition, complete code examples are included, which further illustrate the use of this service.

1. Introduction

OnDemand provides synchronous access to data via the standard HTTPS protocol. Data can be returned in several formats. You can make custom requests by changing the request URL to contain the parameters you need.

1.1. FASTFetch Service

The OnDemand FASTFetch service from FactSet Research Systems provides data and calculations for your applications via a URL call to a web server at FactSet. You receive data via pre-configured templates that use FactSet FQL and Screening codes. Data is returned in various standard and customized formats, such as XML or delimited text.

1.1.1. Factlets

The basic building block of FASTFetch is a FactSet Applet or “Factlet”. These Factlets are application components that encapsulate business logic and data collection procedures. A Factlet can be a simple data request or can invoke complex application logic. Factlets support multiple result formats that you can choose from (e.g., XML, Delimited, Excel).

The key features of FASTFetch are:

- **Adaptability** – The flexibility of this model provides access to data beyond a simple security-based requests, into requests for benchmark, aggregates, and economic data to name a few.
- **Speed and Efficiency** – FASTFetch is capable of cross referencing and dealing with time series for a high amount of data in a relatively quick period of time. These can be simple requests of multiple identifiers and codes over time or can be used for massive daily feeds, which would ordinarily take days to run.
- **Expanding Output Viewing** – FASTFetch outputs can be changed via the orientation parameter of the Factlets, allowing different ways of viewing data. Orientation is the term given to the rows and columns retrieved by Factlets based on the entity, time, or item information. By changing the orientation of these arguments, the data is returned in the way you desire.

2. HTTPS Requests and Responses

Receiving data via FASTFetch OnDemand is accomplished via simple URL requests that returns results in flexible formats. A standard “name=value” pairing convention is used within the URL providing consistency along with the power of customization.

The Factlet parameter specifies the stored procedure to generate the data. There are many standard Factlets available.

2.1. OnDemand URL Syntax

A URL can be divided into the following arguments:

```
<protocol>://<base URL>/<service>?<optional query string parameters>
```

Example

```
https://datadirect.factset.com/services/FASTFetch?Factlet=ExtractFormu  
laHistory&ids=fds
```

where:

Protocol

OnDemand information is transmitted via the HTTPS protocol for secure data delivery. In the above example, the protocol argument is https.

Base URL

The base URL argument identifies the host web address and base path of a OnDemand service. In the above example, the base URL is datadirect.factset.com/services.

Service

The service argument identifies the OnDemand service being called. In the previous example, the service argument is FASTFetch, which is a request to the FactSet OnDemand Service. Other OnDemand services include, but are not limited to: DataFetch, DFSnapshot, Chart, and Research.

Factlet Name

The Factlet name argument identifies the name of the Factlet to call. Factlet name is a required argument; if it is not defined, the URL will fail. In the above example, the Factlet name is Factlet=ExtractFormulaHistory.

2.2. Optional Query String Parameters

Optional parameters can be supplied in the URL or in the POST part of the request, depending on the length of their values (i.e. long lists of Ids are best sent with a POST).

Parameter	Description
ids	lists entity identifiers separated by commas
items	lists FactSet data items (e.g., P PRICE)
dates	lists the start date, end date, and frequency, separated by colons (:),
currency	specifies the currency the data is returned in, using a three-character ISO code (e.g., 'USD' or 'EUR')
format	specifies the format of the data returned (e.g., "EXCEL"), default is XML
orientation	specifies the layout of the data returned (e.g., "EIT"), default is "None"
cutoff	specifies the maximum number of entities in a download, usually used with a Factlet that returns a large universe
Ison	specifies the FQL value that extracts universe; e.g., ison_sp500 is entered as ison=sp500 and ISON_MSCI_WORLD(0,1) is written as ison=msci_world
isonParams	specifies ison codes that use parameters; e.g., ISON_MSCI_WORLD(0,1) is written as isonParams=0,1

The optional query string specifies a list of service-specific parameters. The query string begins after the Factlet name and contains a list of name=value pairs separated by ampersands (&).

2.2.1. Example URLs

The following examples explore how altering the URL will change the results returned for a given FASTFetch call.

In the following FASTFetch example, company data is requested for the identifier FDS (FactSet) using the ExtractFormulaHistory Factlet. The price at the end of the month between January and September of 2010 is requested. The data is oriented by equity, time, and item (i.e. price in this example).

```
https://datadirect.factset.com/services/fastfetch?factlet=ExtractFormulaHistory&ids=fds&dates=20100101:20100130&items=p_price&orientation=eti&format=xml
```

After providing authentication, data for the requested entities will be returned:

Please sign in

<https://datadirect.factset.com>

Username:

Password:

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="3">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Entity Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="p_price">
      <HEADER>p_price</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="20">
    <ROW id="1">
      <CELL id="1">fds</CELL>
      <CELL id="2">20091231</CELL>
      <CELL id="3">NA</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">fds</CELL>
      <CELL id="2">20100104</CELL>
      <CELL id="3">63.67</CELL>
    </ROW>
    <ROW id="3">
      <CELL id="1">fds</CELL>
      <CELL id="2">20100128</CELL>
      <CELL id="3">63.67</CELL>
    </ROW>
    <ROW id="20">
      <CELL id="1">fds</CELL>
      <CELL id="2">20100129</CELL>
      <CELL id="3">63.</CELL>
    </ROW>
  </BODY>
</OUTPUT>
</FASTFETCH>

```

This data can be returned in multiple formats, such as XML, PIPE, or CSV by changing the format argument in the URL.

Special Characters in the URL

Notice the "%20" within the URL. This is a URL encoded space and is needed in most web browsers to ensure that the URL is read correctly, and the data is returned in a proper manner. While some browsers do support spaces in the URL, it is recommended to use "%20" in place of a space to avoid any data retrieval issues.

```
https://datadirect.factset.com/services/FastFetch?factlet=ExtractBenchmarkDetail&format=xml&ids=SP50&items=_SP_CLASS_GICS(0,,,%20%27%27SEC%27%27,%20%27%27NAME%27%27)&dates=0
```

This is especially important when using certain formula libraries in your URL, some libraries have spaces in their name, while other have underscores. Omitting the “%20” or the substitution of an underscore in place of the “%20” can result in either a broken URL, or the retrieval of incorrect data so it is important that the “%20” is used properly.

2.2.2. Format

The following formats are supported by FactSet OnDemand. Custom formats can be developed according to an application’s specification. By default, format is set to return in XML.

Parameter	Description
XML	Extensible Markup Language
PIPE	Vertical bar delimited (“ ”) rows and columns
CSV	Comma Separated Values in rows and columns with values appropriate for reading into Microsoft Excel
HTML	HyperText Markup Language

2.2.3. Orientation

There are three main dimensions to the data returned by FASTFetch: entity, data item, and time. The order of layout is controlled by the orientation parameter. The value should be set to some combination of the letters, “E”, “I”, and “T”. For example, the “ETI” layout for a “PIPE” formatted file is shown below. The first two dimensions appear in the first two columns and the last dimension is displayed along the rows.

ETI Orientation with “PIPE” Format

```
Extract Data - Entity x Time X Item
Entity Id | Date | p_price | p_volume
Entity | Date | Double | Double
Id | Date | p_price | p_volume
IBM|3-Jan-2005|97.75|5301.4 IBM|4-Jan-2005|96.7|5711.
PG|3-Jan-2005|55.19|4858.5 PG|4-Jan-2005|54.5|5548.6
```

There is also a “none” orientation that places one value to an entry and labels the Data Items in their own column. It is by default if no orientation is specified.

Sample None Orientation with “PIPE” Format

```
Extract Data
Entity Id | Date | Date Item_Value
Entity | Date | String | Variant
Id | Date | Dataltem | Value
IBM | 1/3/2005 | p price|97.75
IBM | 1/3/2005 | p volume | 5301.4
```

For additional information, see Online Assistant page 14233.

3. FactSet Languages

FactSet stores all the available data in proprietary database structures on FactSet computers. This allows FactSet to adjust the way data is stored, so that clients can access data as efficiently as possible.

Most datasets available on FactSet are stored in two different ways, so as to facilitate two different data access methods. These two options use the FactSet Query Language (FQL) for timeseries requests and the FactSet Screening Language (Screening) to efficiently extract data for a large universe of securities as of a single date.

3.1. FactSet Screening Language

To facilitate efficient access to a data item of a single time period for a universe of securities, FactSet offers an optimized cross-sectional data access method with the Screening Language. Given a data item, for example EPS, and a time period. For example, Q4 2010, data for every entity in the specified universe can be fetched using the Screening Language.

By default, the FactSet Screening Language does not allow iteration and therefore cannot be used to return a time series of data with a single request code. To request data of a single historical date, it can be specified either as an absolute or a relative date.

Note: Certain screening formulas are current only. If an option for a date argument is not available when selecting a formula means that the formula does not accept a date reference.

3.2. FactSet Query Language

FQL is a proprietary data retrieval language used to access FactSet data.

The advantages of using FQL are:

- The ability to specify dates for any database using the same formats. With FQL, date formats are flexible. You can use a number of consistent date formats (defined by FQL) for all databases which makes using and combining data from different databases easier than ever.
- The ability to iterate items, formulas, and functions at any frequency. With FQL, you can iterate items, formulas, and functions at any frequency. For example, you can request a series of weekly price to earnings ratios.
- To request a time-series of data, a start date, end date and frequency needs to be specified. If a date is not specified, data is returned from the most recent time period. The dates can be designated as absolute dates or relative dates.

3.3. Date Format

The following sections explain how to define the Absolute and Relative dates.

3.3.1. Absolute Dates

FactSet Screening Language helps you define the absolute dates in the following manner:

Date Format	Description	Example
MM/DD/YYYY	Specific day Note: DD/MM/YYYY is not a valid date format	11/1999
MM/YYYY	Month-end	6/1999
YY/FQ or YYYY/FQ	Fiscal quarter-end	1999/1F, 2000/3F, 2001/2F
YY/CQ or YYYY/CQ	Calendar quarter-end	1999/1C, 00/3C, 2001/1C
YY or YYYY	Fiscal year-end	2000, 01, 1999

3.3.2. Relative Dates

Relative dates represent a date relative to the most recently updated period.

For example:

- **0 (zero)** - represents the most recently updated period; The zero date is determined by the default time period or the natural frequency of the data being requested. Zero (0) when used with monthly data indicates the most recent month end.
- **-1(Negative one)** - represents the time period prior to the most recently updated. Negative one (-1) when used with annual data indicates one fiscal year prior to the most recently updated fiscal year.

The following table lists the Relative Date Arguments and its descriptions.

Arguments	Description
D	0D is the most recent trading day, -1D is one trading day prior to most recent trading date.
WE	0WE is the most recent trading weekend, -1AW is the one actual week (7 days) prior to the most recent trading week.
W	0W is the last day of the most recent trading week (usually Friday), -1W is the last trading day of the prior week.
AM	0AM is the most recent trading day, -1AM is the same day, one actual month prior to most recent trading day.
M	0M is the last trading day of the most recent month, -1M is the last trading day of the prior month.
AQ	0AQ is the most recent trading day, -1AQ is the same day 3 months prior to most recent trading day.
Q	0Q is the last trading day of the company's most recent fiscal quarter, -1Q is the last day of the prior to most recent fiscal quarter.
CQ	0CQ is the last trading day of the most recent calendar quarter (March, June, September, or December), -1CQ is the last trading day of the prior calendar quarter.
AY	0AY is the most recent trading day, -1AY is one actual year (365 days) prior to most recent trading day.
Y	0Y is the last trading day of the company's most recent fiscal year, -1Y is the last trading day of the prior fiscal year.
CY	0CY is the last trading day of the most recent calendar year (the last trading day in December), -1CY is the last trading day of the prior calendar year.

3.4. Understanding Rotated Databases

FactSet has two primary engines for retrieving data: Data Downloading and Universal Screening. The Data Downloading engine is non-rotated and the Universal Screening engine is rotated.

Note: When you use Screening syntax to download data, the formula relies on the Screening engine; therefore, it uses rotated data.

FactSet's databases containing company information are used in two different ways:

1. To generate reports or charts on data for a particular company.

Example:

Price History report - you may use this report to view High, Low, Close, and Volume information for a single company, such as IBM.

2. To search through many companies' data in order to screen for companies or to generate aggregate statistics on sets of companies.

Example:

Universal Screening application - you may use this application to find all companies with an EPS greater than \$2.

If only one database were available on FactSet, it would take too long to be able to accommodate both of the above features in an efficient manner. FactSet needed to develop an intelligent method of laying the data out on disk to make the "read operation" on the database as efficient as possible.

The solution was to have two copies of the database - one for each of the above desired features.

FactSet uses a non-rotated database for the single-company reports, and a rotated database for Universal Screening and quantitative modeling applications, such as Alpha Testing.

FactSet first updates the single company database version. Next, a program runs to "rotate" the database each night. The program reads through the single-company database (record by record) and re-sorts the database by date to generate a rotated database file.

From a user's perspective, you are using the same database, only in different ways.

Example:

- **Non-rotated database** - The FactSet Daily Prices database is used in the Price History report.

All the data for IBM is consolidated in one part of the database, allowing FactSet to quickly read the data from the disk and generate a report/chart, such as a price chart. (The data within the red box is accessed in one "read" of the database, making the Price History report fast.)

A	B	C	D	E	F
Ticker	Date	High	Low	Close	Volume
IBM	1/5/2001	100	80	90	1000
IBM	1/4/2001	110	85	95	500
IBM	1/3/2001	108	87	97	750
FDS	1/5/2001	35	34	34	400
FDS	1/4/2001	34	32	33	500

- **Rotated database** - The FactSet Daily Prices database is used in the Universal Screening application.

In this database, the data is sorted by date and by type (basically, the non-rotated database is flipped on its side). The data within the red box is accessed in one read. For example, in one read, you can quickly get the high price for all companies in the database for 1/5/2001. If you used the non-rotated database to perform this task, the process would take very long because every piece of data for each company would need to be read.

A	B	C	D
Date	Item	IBM	FDS
1/5/2001	High	100	35
1/4/2001	High	110	34
1/5/2001	Low	80	34
1/4/2001	Low	85	32
1/5/2001	Volume	1000	400
1/4/2001	Volume	500	500

Note: All databases created since 1994 (otherwise referred to as FDB), including OFDB databases, rotate automatically.

3.5. OnDemand Factlet Requests

The following is a list of the Factlets available using OnDemand Web Service, MATLAB, R, Developer's Toolkit and SAS integrations. Not all Factlets are available in all integrations. The description for each Factlet also highlights if the Factlet should be used with FQL or Screening syntax.

The Factlets should be chosen depending on the dataset required. There are general Factlets using either actual screening or FQL codes as input (to find the correct code please use the FactSet Sidebar look-up dialog) and specialized Factlets used for specific datasets.

3.5.1. Standard Factlets

The Standard Factlets below are used for Screening data, Economics data and FQL data. For the exact input syntax, the FactSet Sidebar dialog box can be used.

Factlet	FactSet syntax used by Factlet
<p>ExtractDataSnapshot</p> <p>Function is used for extracting one or more items for a list of ids for 1 date, both for equity or fixed income securities. Should be used to efficiently extract data for a large universe of securities as of a single date.</p> <p>The data can also be retrieved using a backtest date to avoid look-ahead bias in the analysis. The backtest functionality is available to clients subscribing to one of FactSet's quantitative applications, such as Alpha Testing or Portfolio Simulation.</p>	Screening
<p>ExtractEconData</p> <p>Function provides access to a broad array of macroeconomic content, interest rates and yields, country indices and various exchange rate measures from both the FactSet Economics and the Standardized Economic databases.</p>	FQL
<p>ExtractFormulaHistory</p> <p>Function is used for extracting one or more items for one security, an index or a list of securities over time.</p>	FQL

3.5.2. Specialized Factlets

The specialized Factlets are developed for different content sets or specialized data structures. These Factlets have been developed to simplify and standardize the data retrieval of more complex data structures.

Factlet	FactSet syntax used by Factlet
<p>CorporateActionsDividends</p> <p>Function is used for extracting stock dividend information.</p>	FQL
<p>CorporateActionsSplits</p> <p>Function is used for extracting stock split information</p>	FQL
<p>EstimatesOnDemand</p> <p>Function provides access to FactSet sourced company level estimates data. The data is accessed through the following reports that are available with this function: Actuals, BrokerDetail, BrokerSnapshot, Consensus, Guidance, Surprise, Detailed Recommendations and Consensus Recommendations.</p>	FQL
<p>ExtractAlphaTestingSnapshot</p> <p>Function provides access to data from AlphaTesting model results. Alpha Testing is a tool available in the FactSet workstation used to assess the relationship between one or more variables and subsequent returns over time. A subscription to Alpha Testing in FactSet is necessary to extract this data in the stat packages.</p>	FQL

Factlet	FactSet syntax used by Factlet
<p>ExtractBenchmarkDetail</p> <p>Function is used for extracting multiple data items for a benchmark. Benchmark data can be retrieved using other functions, such as with ExtractFormulaHistory, but the ExtractBenchmarkDetail function allows a user to retrieve a more comprehensive overview of the index constituent data, without additional codes or calculations. In the default output, identifiers are sorted in descending order by weight in the index and each row shows the index id, company id, date, ticker, and weight. Additional items are displayed at the end.</p>	<p>Screening</p> <p>Note: The <i>Extract-BenchmarkDetail</i> function by default uses Screening codes entered in the <i>Items</i> argument of the syntax. If using an FQL code, enter an <i>_</i> before the FQL items code.</p>
<p>ExtractOFDBItem</p> <p>Function provides access to a list of securities and multiple data items for a range of dates uploaded into a single Open FactSet Database (OFDB).</p>	<p>Screening</p> <p>Note: The <i>Extract-OFDBItem</i> function by default uses Screening. FQL should be used when using <i>ids</i> with spaces or short positions, indicated in the OFDB with an <i>_S</i>.</p>
<p>ExtractOFDBUniverse</p> <p>Function provides access to a list of securities belonging to a single Open FactSet Database (OFDB) file as of a single date.</p>	<p>FQL</p>
<p>ExtractScreenUniverse</p> <p>Function used for extracting a list of Identifiers stored in a single FactSet screen. In the FactSet workstation, a user can screen for securities based on specified criteria and store the result using FactSet Universal Screening for equity or debt securities.</p>	<p>Screening</p>
<p>ExtractOptionsSnapshot</p> <p>Function is used for extracting options data for one or more conditions from the FactSet-Options Derived Values database</p>	<p>FQL</p>
<p>ExtractSPARData</p> <p>Function is used for displaying SPAR data for specified funds from databases that includes S&P, Lipper, Morningstar, Russell, eVestment, Nelson, Rogerscasey, and PSN. A subscription to SPAR in FactSet is necessary to be able to extract this data in stat packages.</p>	<p>FQL</p>
<p>ExtractVectorFormula</p> <p>ExtractVectorFormula function is used for extracting FactSet data that is stored in a vector data format, where the data array does not have a predefined size and is organized by the vector position. A vector can be thought of as a list that has one dimension, a row of data. A vector position allows for a particular element of the array to be accessed.</p> <p>ExtractVectorFormula handles non-sequential data with support for matrix or vector output. The nature of the data determines if the output is a matrix or vector, it is not specified in the function to choose which format the data is returned in. This type of data includes corresponding geographic or product segment breakdowns for a company or detailed broker snapshot or history estimates/analyst information.</p>	<p>FQL</p>

Factlet	FactSet syntax used by Factlet
---------	--------------------------------

LSD_Ownership

FactSet Ownership database collects global equity ownership data for institutions, mutual fund portfolios, and insiders/stake holders. Detailed ownership data can be extracted by company or by holder (institution, mutual fund, and insider/stake). The LSD_Ownership function is used for extracting one or more data items from the FactSet Ownership database for one or multiple securities or holders.

FQL

4. ExtractDataSnapshot

The ExtractDataSnapshot function is used to efficiently extract data for multiple ids for a single date. This function uses FactSet Screening Language. The FactSet Screening Language is a way to efficiently extract data for a large universe of securities as of a single date.

The data can also be retrieved using a backtest date to avoid having look-ahead bias in the analysis. The backtest functionality is available to clients who subscribe to FactSet's quantitative applications in the workstation, such as Alpha Testing and Portfolio Simulation.

The syntax for the ExtractDataSnapshot function is-

URL:

https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&ids=&items=&date=&optional_arguments.

where,

data	variable name for the data returned
ids	CellString array with a list of one or multiple security identifiers
items	CellString array with a list of one or more FactSet data items in the Screening language
backtestDate	The backtest date for which the data is retrieved. If no date is specified, a backtest date will not be set. The date can be entered using a relative date or absolute date.

Optional arguments

curr	The currency in which the data is to be returned, using a string with the three-character ISO code (e.g. 'USD' or 'EUR').
cal	<p>Calendar setting, arguments include:</p> <ul style="list-style-type: none"> • FIVEDAY: Displays Monday through Friday, regardless of whether there were trading holidays. • FIVEDAYEOM: Displays Monday through Friday including a weekend date if falls on the last day of the month. When the month-end does not fall on a weekend, the calendar will act just as the standard five-day calendar. • SEVENDAY: Displays Monday through Sunday. • AAM: For Exchange code, uses the calendar of a specific exchange, represented by the exchange code. If there is no calendar available for a specific exchange, the calendar will default to FIVEDAY.
universe	Screening expression to limit the universe
ison	Ison-codes can be used to limit the universe ISON_MSCI_WORLD(0,1) is written as 'ison','msci_world','isonParams','0,1'
isonParams	The arguments within brackets in the ison-code

OFDB	Universe is the constituents of an OFDB file, default directory is Client, if the OFDB is stored in another location the path must be included
OFDBDate	Specific date for the constituents of the OFDB
universeGroup	Specifies what mode of screening to use. The default screening mode is Equity. For Fund screening and Debt screening the universeGroup argument has to be used with either FUND or DEBT respectively.
decimals	Positionally set according to the items in the selection, i.e. 'decimals','',3,4,3'

Example 1

This example uses the standard Screening syntax to retrieve the quarterly sales value from the FactSet Fundamentals database for IBM using the Screening code FF_SALES (QTR,20110401,RF,EUR). The data is retrieved in currency set to Euro, as of 04/01/2011. The RP default argument in the FactSet Fundamentals database codes reflects that the data is the Latest Preliminary for the Reported Period (alternative arguments could be for example RF, for the Latest Fully Reported Period, among others).

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&ids=ibm&items=FF_SALES\(QTR,20110401,RP,EUR\)&dates=20110401](https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&ids=ibm&items=FF_SALES(QTR,20110401,RP,EUR)&dates=20110401)

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="3">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="ff_sales">
<HEADER>ff_sales</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="1">
<ROW id="1">
<CELL id="1">ibm</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">17982.831357488798</CELL>
</ROW>
</BODY>
</OUTPUT>
</FASTFETCH>
```

Example 2

In this example, instead of specifying securities in the ids field, as was done in Example 1 above, the universe is specified as the constituents of an index using a so called ISON-code, here S&P 500. The items specified - price and sales, are extracted for all constituents of the index. The syntax to extract the price from the pricing database is using the code P_PRICE(20110401) and sales from the FactSet Fundamentals database is using the code FF_SALES(QTR,20110401). The code to retrieve the current constituents of S&P 500 is ISON_SP500.

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&items=FF_SALES\(QTR,20110401\),P_PRICE\(20110401\)&dates=20110401&ison=SP500](https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&items=FF_SALES(QTR,20110401),P_PRICE(20110401)&dates=20110401&ison=SP500)

The universe is specified at the end of the code with the ison and sp500 arguments, which are broken down from the actual Screening syntax for this universe which is using the code ISON_SP500.

Output

```

<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="ff_sales">
<HEADER>ff_sales</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="p_price">
<HEADER>p_price</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="505">
<ROW id="1">
<CELL id="1">17290810</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">937.827</CELL>
<CELL id="4">30.47</CELL>
</ROW>
<ROW id="2">
<CELL id="1">91301710</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">13301.</CELL>
<CELL id="4">85.32</CELL>
</ROW>
<ROW id="3">
<CELL id="1">1030</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">NA</CELL>
<CELL id="4">NA</CELL>
</ROW>
<ROW id="502">
<CELL id="1">35137L10</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">NA</CELL>
<CELL id="4">NA</CELL>
</ROW>
<ROW id="503">
<CELL id="1">22052L10</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">NA</CELL>
<CELL id="4">NA</CELL>
</ROW>
<ROW id="504">
<CELL id="1">26614N10</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">14733.</CELL>
<CELL id="4">113.729996</CELL>
</ROW>
<ROW id="505">
<CELL id="1">G0250X10</CELL>
<CELL id="2">20110401</CELL>
<CELL id="3">NA</CELL>
<CELL id="4">NA</CELL>
</ROW>
</BODY>
</FASTFETCH>

```

Example 3

In this example, the latest quarterly sales with the FactSet Fundamentals code FF_SALES in local currency for the specified universe as the constituents of the MSCI EAFE index is retrieved. The Screening code for this universe is ISON_MSCI_EAFE(0,1).

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&format=xml&items=FF_SALES\(QTR,0\)&date=0&ison=msci_eafe&isonparams=0,1](https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&format=xml&items=FF_SALES(QTR,0)&date=0&ison=msci_eafe&isonparams=0,1)

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="3">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="ff_sales">
      <HEADER>ff_sales</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="923">
    <ROW id="1">
      <CELL id="1">B4YVF5</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">3182.3</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">B601Q5</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">1794458.</CELL>
    </ROW>
    <ROW id="3">
      <CELL id="1">067760</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">40227.715502731102</CELL>
    </ROW>
    <ROW id="916">
      <CELL id="1">080808</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">NA</CELL>
    </ROW>
    <ROW id="919">
      <CELL id="1">BYZF9J</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">22475.3996950168</CELL>
    </ROW>
    <ROW id="920">
      <CELL id="1">BD2P9X</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">1755.265</CELL>
    </ROW>
    <ROW id="921">
      <CELL id="1">BJT1GR</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">1783.57974923077</CELL>
    </ROW>
    <ROW id="922">
      <CELL id="1">BYNR0T</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">NA</CELL>
    </ROW>
    <ROW id="923">
      <CELL id="1">BF5M0K</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">1164856.</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Note: The isonParams part of the code is used to specify the arguments within the brackets of the ISON_xxx code, here 0,1.

Example 4

In this example, the latest closing price for the constituents of the MSCI USA index, using the pricing database code P_PRICE is extracted. The Screening code for this Universe is ISON_MSCI_COUNTRY(984000,0,CLOSE,OFF).

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&format=xml&items=P_PRICE\(0\)&date=0&ison=msci_country&isonparams=984000,0,close,OFF](https://datadirect.factset.com/services/FastFetch?factlet=ExtractDataSnapshot&format=xml&items=P_PRICE(0)&date=0&ison=msci_country&isonparams=984000,0,close,OFF)

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="3">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="p_price">
      <HEADER>p_price</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="639">
    <ROW id="1">
      <CELL id="1">17290810</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">251.12</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">91301710</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">125.75</CELL>
    </ROW>
    <ROW id="3">
      <CELL id="1">...</CELL>
      <CELL id="2">...</CELL>
      <CELL id="3">...</CELL>
    </ROW>
    <ROW id="638">
      <CELL id="1">22052L10</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">29.9</CELL>
    </ROW>
    <ROW id="639">
      <CELL id="1">26614N10</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">66.06</CELL>
    </ROW>
    <ROW id="639">
      <CELL id="1">G0250X10</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">10.2</CELL>
    </ROW>
  </BODY>
</FASTFETCH>

```

Example 5

In this example, extract the decile ranking of the S&P 500 companies based on the most recently reported quarterly earnings per share (EPS) using the FactSet Fundamentals formula FF_EPS. The FactSet UDECILE function returns the decile rank (1-10) of a company against a specified universe when both the company and the universe are evaluated for the same formula. The number 1 is the highest rank and is assigned to the companies which fall within the top decile of the specified universe, in this case the S&P 500.

URL:

[https://datadirect.factXset.com/services/FastFetch?factlet=ExtractDataSnapshot&format=xml&items=UDECILE\(ISON_SP500,FF_EPS\(QTR,0\)\)&date=0&ison=SP500](https://datadirect.factXset.com/services/FastFetch?factlet=ExtractDataSnapshot&format=xml&items=UDECILE(ISON_SP500,FF_EPS(QTR,0))&date=0&ison=SP500)

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="3">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="udecile">
      <HEADER>udecile</HEADER>
    </COLUMN>
  </COLUMNS>
  <ROW id="1">
    <CELL id="1">5.</CELL>
  </ROW>
  <ROW id="218">
    <CELL id="1">35137L10</CELL>
    <CELL id="2">20190806</CELL>
    <CELL id="3">6.</CELL>
  </ROW>
  <ROW id="503">
    <CELL id="1">22052L10</CELL>
    <CELL id="2">20190806</CELL>
    <CELL id="3">10.</CELL>
  </ROW>
  <ROW id="504">
    <CELL id="1">26614N10</CELL>
    <CELL id="2">20190806</CELL>
    <CELL id="3">10.</CELL>
  </ROW>
  <ROW id="505">
    <CELL id="1">G0250X10</CELL>
    <CELL id="2">20190806</CELL>
    <CELL id="3">NA</CELL>
  </ROW>
</BODY>
</FASTFETCH>

```

5. ExtractFormulaHistory

The ExtractFormulaHistory function is used for extracting one or more items for one security, an index or a list of securities over time. The function is using the FactSet Query Language (FQL), which is a proprietary data retrieval language used to access a time-series of FactSet data.

The syntax for the ExtractFormulaHistory function is-

URL:

```
https://datadirect.factset.com/services/FastFetch?Factlet=ExtractFormulaHistory&ids=?&items=?&date
s=?&optional_arguments=?....
```

where,

data	variable name for the data returned
ids	CellString array with a list of one or multiple security identifiers
items	CellString array with a list of one or more FactSet data items in the Screening language
dates	Date range and frequency entered using actual or relative dates. A valid FactSet frequency (e.g. 'd' dates Alternate method of entering dates entered in start:end:freq format. (e.g. '20101215:20110115:d')

Optional arguments

curr	The currency in which the data is to be returned, using a string with the three-character ISO code (e.g. 'USD' or 'EUR').
cal	Calendar setting, arguments include: <ul style="list-style-type: none"> • LOCAL: Uses the local trading calendar for each security. Local exchange holidays will be skipped • FIVEDAY: Displays Monday through Friday, regardless of whether there were trading holidays. • FIVEDAYEOM: Displays Monday through Friday including a weekend date if it falls on the last day of the month. Where the month-end does not fall on a weekend, the calendar will act just as the standard five-day calendar. • SEVENDAY: Displays Monday through Sunday. • AAM: For Exchange code uses the calendar of a specific exchange, represented by the exchange code. If there is no calendar available for a specific exchange, the calendar will default to FIVEDAY.
universe	Screening expression to limit the universe
ison	Ison-codes can be used to limit the universe ISON_MSCI_WORLD(0,1) is written as 'ison','msci_world','isonParams','0,1'
isonParams	The arguments within brackets in the ison-code
OFDB	Universe is the constituents of an OFDB file, default directory is Client, if the OFDB is stored in another location the path must be included
OFDBDate	Specific date for the constituents of the OFDB
decimals	Positionally set according to the items in the selection, ie 'decimals','3,4,3'
dataType	The optional argument allows users to define a data type for a data item column that is NA for the entire column. This option must be defined for every column/data item requested in the command if it is used at all.
feedback	Setting to control data is not falling forward and display NAs instead of carrying forward values, for those databases that do so (using 'feedback','n').
refresh	This will refresh the connection to FactSet servers to capture the latest database updates. This only needs to be used when a refresh is necessary. It is not recommended to leave this argument in every request made. To use this, the refresh argument should be paired with the value "Y".

Example 1

In this example extract the last 6 quarters EPS for Exxon Mobile (ticker XOM) using the FQL code FG_EPS. The date argument is using relative rather than absolute dates. To specify relative dates, enter the number of periods and a period code, such as D for days, W for weeks, or Q for quarters and Y for years. When using relative dates, "0" refers to the most recent time period. Therefore, 0Q refers to the most recent quarter end, while -1Q refers to two quarters ago.

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractFormulaHistory&format=xml&ids=XOM&items=FG_EPS\(0Q,-5Q,Q\)&dates=0Q:-5Q:Q](https://datadirect.factset.com/services/FastFetch?factlet=ExtractFormulaHistory&format=xml&ids=XOM&items=FG_EPS(0Q,-5Q,Q)&dates=0Q:-5Q:Q)

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="3">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Entity Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="fg_eps">
      <HEADER>fg_eps</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="6">
    <ROW id="1">
      <CELL id="1">XOM</CELL>
      <CELL id="2">20180331</CELL>
      <CELL id="3">4.63</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">XOM</CELL>
      <CELL id="2">20180630</CELL>
      <CELL id="3">4.77</CELL>
    </ROW>
    <ROW id="3">
      <CELL id="1">XOM</CELL>
      <CELL id="2">20180930</CELL>
      <CELL id="3">4.91</CELL>
    </ROW>
    <ROW id="4">
      <CELL id="1">XOM</CELL>
      <CELL id="2">20181231</CELL>
      <CELL id="3">5.44</CELL>
    </ROW>
    <ROW id="5">
      <CELL id="1">XOM</CELL>
      <CELL id="2">20190331</CELL>
      <CELL id="3">4.88</CELL>
    </ROW>
    <ROW id="6">
      <CELL id="1">XOM</CELL>
      <CELL id="2">20190630</CELL>
      <CELL id="3">4.34</CELL>
    </ROW>
  </BODY>
</FASTFETCH>

```


Example 2

In this example, extract the last 6 quarters of pricing and sales data for Microsoft and IBM using the pricing database with the FQL code P_PRICE and the FactSet Fundamentals database for sales data with the FQL code FF_SALES. Both P_PRICE and FF_SALES in this example are used in the Items parameter.

URL:
[https://datadirect.factset.com/services/FastFetch?factlet=ExtractFormulaHistory&format=xml&ids=MSFT,IBM&items=P_PRICE\(-5,0,Q,USD\),FF_SALES\(QTR,-5,0,Q,,USD\)&dates=-5:0:Q](https://datadirect.factset.com/services/FastFetch?factlet=ExtractFormulaHistory&format=xml&ids=MSFT,IBM&items=P_PRICE(-5,0,Q,USD),FF_SALES(QTR,-5,0,Q,,USD)&dates=-5:0:Q)

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="4">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Entity Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="p_price">
      <HEADER>p_price</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="Double" key="ff_sales">
      <HEADER>ff_sales</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="12">
    <ROW id="1">
      <CELL id="1">MSFT</CELL>
      <CELL id="2">20180331</CELL>
      <CELL id="3">91.27</CELL>
      <CELL id="4">26811.</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">IBM</CELL>
      <CELL id="2">20180331</CELL>
      <CELL id="3">141.1</CELL>
      <CELL id="4">18182.</CELL>
    </ROW>
    <ROW id="11">
      <CELL id="1">IBM</CELL>
      <CELL id="2">20190630</CELL>
      <CELL id="3">137.9</CELL>
      <CELL id="4">19161.</CELL>
    </ROW>
    <ROW id="12">
      <CELL id="1">IBM</CELL>
      <CELL id="2">20190630</CELL>
      <CELL id="3">137.9</CELL>
      <CELL id="4">19161.</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Note: To most efficiently ensure that that the dates for the different items (here price and sales) align correctly with the dates field, the dates should be included both in the FQL code and in the dates parameter as specified above.

Example 3

In this example, extract the price for Apple for the date range 12/31/1975 until 12/31/2001 on a monthly frequency. Since there is no available price data for Apple starting in 1975, the data would be NA. When using the ExtractFormulaHistory function the data type can be specified for treatment of NA's, for example as a double or integer.

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="3">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Entity Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="beta">
      <HEADER>beta</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="1">
    <ROW id="1">
      <CELL id="1">XOM</CELL>
      <CELL id="2">20190807</CELL>
      <CELL id="3">0.9731183</CELL>
    </ROW>
  </BODY>
</FASTFETCH>

```

6. CorporateActionsDividends

The CorporateActionsDividends function is used for extracting stock dividend information.

The retrieved stock dividend information using the CorporateActionsDividends function includes special dividends, which are defined as nonrecurring distribution of assets by a company to its shareholders in the form of cash. Since it is unlikely to be repeated, it is often used in conjunction with a spinoff.

It also includes stock dividends, which are represented as forward stock splits, not regular cash distributions.

The policy is, only actions affecting the pro-rata adjustment will be reflected. Because employee bonus shares are not included in the pro-rata element announced by the company, the policy is to not include adjustment for employee bonus shares as a part of the stock dividend amount.

The syntax for the CorporateActionsDividends function is:

URL:

https://datadirect.factset.com/services/FastFetch?Factlet=CorporateActionsDividends&ids=&start=&end=&optional_arguments...

Where,

data	Variable name for the data returned
ids	Array with a list of one or more security identifiers.
start	Start date from which dividend data should be retrieved. Method of entering date is in MM/DD/YYYY format.
end	End date for period during which dividend data should be retrieved. The end date field is for entering a future date for which the dividend data is accessed. It can be entered as a future date in MM/DD/YYYY format or as a number, e.g. 50, which reflects 50 days from today which is set as the end date. Note: When entering number of days, the maximum value that can be entered is 50.

Optional arguments	
splitadj	Allows for split adjustment to be specified. This argument must be entered as: 'splitadj','9' to retrieve unadjusted dividends.
ngflag	Specify 'ngflag','y' to return a flag that indicate whether the dividend rate returned is a net or gross. The output would be a G or N flag.
symbol	Argument allows for the CUSIP to be retrieved as the last column (by default SecId is the first field that is retrieved when running a CorporateActionsDividends function). This argument must be entered as 'symbol','y' .
cur	The optional currency argument to specify the currency in which the stock dividend data is returned.
universe	Screening expression to limit the universe
secId	Currently, the stat packages display the ticker by default in the first column but will now display whatever values are entered in the ids= argument. The secId=Y parameter will now be used to display whatever is entered in the ids= argument.
summary	When 'summary' and 'Y' is used as an argument, it will display a more detailed view including dividend description and will group dividends paid at the same time together. This is more common for Australian securities.

Example 1

In this example, extract the stock dividend information for Volkswagen from 1/1/2011 up to 1 day from today.

URL:
<https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsDividends&format=xml&ids=VOW-DE&start=1/1/2011&end=1>

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <TITLE>Corporate Actions Dividends: VOW-DE</TITLE>
  <COLUMNS count="12">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="String" key="Iso_Currency">
      <HEADER>Iso_Currency</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="Double" key="P_DIVS">
      <HEADER>P_DIVS</HEADER>
    </COLUMN>
    <COLUMN id="6" dataType="String" key="P_DIVS_TYPED">
      <HEADER>P_DIVS_TYPED</HEADER>
    </COLUMN>
    <COLUMN id="7" dataType="String" key="P_DIVS_TYPEC">
      <HEADER>P_DIVS_TYPEC</HEADER>
    </COLUMN>
    <COLUMN id="8" dataType="Date" key="P_DIVS_PAYDATE">
      <HEADER>P_DIVS_PAYDATE</HEADER>
    </COLUMN>
    <COLUMN id="9" dataType="String" key="P_DIVS_NGFLG">
      <HEADER>P_DIVS_NGFLG</HEADER>
    </COLUMN>
    <COLUMN id="10" dataType="String" key="P_DIVS_NGEQUIV">
      <HEADER>P_DIVS_NGEQUIV</HEADER>
    </COLUMN>
    <COLUMN id="11" dataType="Date" key="P_DIVS_RECDATE">
      <HEADER>P_DIVS_RECDATE</HEADER>
    </COLUMN>
    <COLUMN id="12" dataType="String" key="CUSIP">
      <HEADER>CUSIP</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="9">
    <ROW id="1">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20110504</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">2.2</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20110504</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20110503</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20120420</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20120420</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20120419</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="3">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20130320</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.9</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20130320</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20130319</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="4">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20130320</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.9</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20130320</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20130319</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="5">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20130320</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.9</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20130320</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20130319</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="6">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20130320</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.9</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20130320</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20130319</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="7">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20130320</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.9</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20130320</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20130319</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="8">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20130320</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.9</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20130320</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20130319</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
    <ROW id="9">
      <CELL id="1">TNZ8XF-S-DE</CELL>
      <CELL id="2">20130320</CELL>
      <CELL id="3">EUR</CELL>
      <CELL id="4">Euro</CELL>
      <CELL id="5">3.9</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">20130320</CELL>
      <CELL id="9">N</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20130319</CELL>
      <CELL id="12">D94523145</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Example 2

In this example, extract the stock dividend information for multiple securities – Ericson and Nokia from 1/1/1990 up to 50 days going forward from today.

URL:
<https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsDividends&format=xml&ids=ERIC.B-SE,%20NOK1V-FI&start=1/1/1990&end=50>

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <TITLE>Corporate Actions Dividends: ERIC.B-SE,NOK1V-FI</TITLE>
  <COLUMNS count="12">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="String" key="Iso_Currency">
      <HEADER>Iso_Currency</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="String" key="C">
      <HEADER>C</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="String" key="P_DIVS_NGFLG">
      <HEADER>P_DIVS_NGFLG</HEADER>
    </COLUMN>
    <COLUMN id="10" dataType="String" key="P_DIVS_NGEQUIV">
      <HEADER>P_DIVS_NGEQUIV</HEADER>
    </COLUMN>
    <COLUMN id="11" dataType="Date" key="P_DIVS_RECDATE">
      <HEADER>P_DIVS_RECDATE</HEADER>
    </COLUMN>
    <COLUMN id="12" dataType="String" key="CUSIP">
      <HEADER>CUSIP</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="28">
    <ROW id="1">
      <CELL id="1">HR8NLN-S-SE</CELL>
      <CELL id="2">19900509</CELL>
      <CELL id="3">SEK</CELL>
      <CELL id="4">Swedish Krona</CELL>
      <CELL id="5">0.30305916</CELL>
      <CELL id="6">Yearly payment</CELL>
      <CELL id="7">5</CELL>
      <CELL id="8">NA</CELL>
      <CELL id="9">NA</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">NA</CELL>
      <CELL id="12">NA</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Example 3

In this example, extract the stock dividend information for Coca-Cola over the last two years, retrieving the unadjusted dividend.

URL:

<https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsDividends&format=xml&ids=KO&start=-2AY&end=0&splitadj=9>

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <TITLE>Corporate Actions Dividends: KO</TITLE>
  <COLUMNS count="12">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="6" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="7" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="8" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="9" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="10" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="11" dataType="String" key="Currency">
      <HEADER>Currency</HEADER>
    </COLUMN>
    <COLUMN id="12" dataType="String" key="CUSIP">
      <HEADER>CUSIP</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="8">
    <ROW id="1">
      <CELL id="1">T0JCXJ-S-US</CELL>
      <CELL id="2">20170914</CELL>
      <CELL id="3">USD</CELL>
      <CELL id="4">U.S. Dollar</CELL>
      <CELL id="5">0.37</CELL>
      <CELL id="6">U.S. Dollar</CELL>
      <CELL id="7">U.S. Dollar</CELL>
      <CELL id="8">U.S. Dollar</CELL>
      <CELL id="9">U.S. Dollar</CELL>
      <CELL id="10">NA</CELL>
      <CELL id="11">20190315</CELL>
      <CELL id="12">191216100</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">T0JCXJ-S-US</CELL>
      <CELL id="2">20190613</CELL>
      <CELL id="3">USD</CELL>
      <CELL id="4">U.S. Dollar</CELL>
      <CELL id="5">0.4</CELL>
      <CELL id="6">U.S. Currency</CELL>
      <CELL id="7">1049</CELL>
      <CELL id="8">20190701</CELL>
      <CELL id="9">NA</CELL>
      <CELL id="10">NA</CELL>
      <CELL id="11">20190614</CELL>
      <CELL id="12">191216100</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Example 4

In this example, extract for Vodafone the dividend information over the last 20 years that is flagged for a dividend rate returned that is a net or gross marker.

URL:

<https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsDividends&format=xml&ids=VOD-GB&start=0&end=-20Y&ngflag=y>

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <TITLE>Corporate Actions Dividends: VOD-GB</TITLE>
  <COLUMNS count="12">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Date" key="DIVS_RECDATE">
      <HEADER>P_DIVS_RECDATE</HEADER>
    </COLUMN>
    <COLUMN id="12" dataType="String" key="CUSIP">
      <HEADER>CUSIP</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY ROWS="45">
    <ROW id="1">
      <CELL id="1">JR2FKP-S-GB</CELL>
      <CELL id="2">20190606</CELL>
      <CELL id="3">GBP</CELL>
      <CELL id="4">British Pounds</CELL>
      <CELL id="5">0.037251</CELL>
      <CELL id="6">final dividend</CELL>
      <CELL id="7">2</CELL>
      <CELL id="8">20100000</CELL>
      <CELL id="9">
      <CELL id="10">GBP</CELL>
      <CELL id="4">British Pounds</CELL>
      <CELL id="5">0.013577141</CELL>
      <CELL id="6">Interim dividend carrying optional alternatives</CELL>
      <CELL id="7">101</CELL>
      <CELL id="8">19990813</CELL>
      <CELL id="9">/>
      <CELL id="10">0.</CELL>
      <CELL id="11">NA</CELL>
      <CELL id="12">G93882192</CELL>
    </ROW>
  </BODY>
</FASTFETCH>

```


Example 5

In this example, the CUSIP is displayed with the result here for the dividends for the current constituents of S&P 500 from 1/1/2000 to 12/31/2005.

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsDividends&format=xml&start=1/1/2000&end=12/31/2005&symbol=y&universe=\(ison_sp500=1\)](https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsDividends&format=xml&start=1/1/2000&end=12/31/2005&symbol=y&universe=(ison_sp500=1))

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="12">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="String" key="Currency">
      <HEADER>P_DIVS_CURR</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="String" key="Currency">
      <HEADER>U.S. Dollar</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="String" key="Currency">
      <HEADER>U.S. Currency</HEADER>
    </COLUMN>
    <COLUMN id="6" dataType="String" key="Currency">
      <HEADER>U.S. Dollar</HEADER>
    </COLUMN>
    <COLUMN id="7" dataType="String" key="Currency">
      <HEADER>U.S. Currency</HEADER>
    </COLUMN>
    <COLUMN id="8" dataType="String" key="Currency">
      <HEADER>U.S. Dollar</HEADER>
    </COLUMN>
    <COLUMN id="9" dataType="String" key="Currency">
      <HEADER>U.S. Currency</HEADER>
    </COLUMN>
    <COLUMN id="10" dataType="String" key="Currency">
      <HEADER>U.S. Dollar</HEADER>
    </COLUMN>
    <COLUMN id="11" dataType="String" key="Currency">
      <HEADER>U.S. Currency</HEADER>
    </COLUMN>
    <COLUMN id="12" dataType="String" key="CUSIP">
      <HEADER>CUSIP</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="15070">
    <ROW id="1">
      <CELL id="1">TKPJVY-S-US</CELL>
      <CELL id="2">20000202</CELL>
      <CELL id="3">USD</CELL>
      <CELL id="4">U.S. Dollar</CELL>
      <CELL id="5">0.18666667</CELL>
      <CELL id="6">U.S. Currency</CELL>
      <CELL id="7">1049</CELL>
      <CELL id="8">20000307</CELL>
      <CELL id="9">NA</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20000204</CELL>
      <CELL id="12">172908105</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">TKPJVY-S-US</CELL>
      <CELL id="2">20000202</CELL>
      <CELL id="3">USD</CELL>
      <CELL id="4">U.S. Dollar</CELL>
      <CELL id="5">0.18666667</CELL>
      <CELL id="6">U.S. Currency</CELL>
      <CELL id="7">1049</CELL>
      <CELL id="8">20000307</CELL>
      <CELL id="9">NA</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">20000204</CELL>
      <CELL id="12">172908105</CELL>
    </ROW>
    <ROW id="15870">
      <CELL id="1">KGZ4K4-S-US</CELL>
      <CELL id="2">NA</CELL>
      <CELL id="3">USD</CELL>
      <CELL id="4">U.S. Dollar</CELL>
      <CELL id="5">0.</CELL>
      <CELL id="6">NA</CELL>
      <CELL id="7">NA</CELL>
      <CELL id="8">NA</CELL>
      <CELL id="9">NA</CELL>
      <CELL id="10">0.</CELL>
      <CELL id="11">NA</CELL>
      <CELL id="12">G0250X107</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

7. CorporateActionsSplits

The CorporateActionsSplits function is used for extracting stock split information.

Corporate Actions - FactSet Stock Split Methodology

The retrieved stock split information using the CorporateActionsSplits function is by ex-date.

The timing of adjustments to historical prices is based on regional settings. For more comprehensive details regarding split rollover times by region, refer to Online Assistant page [14178](#).

The syntax for the CorporateActionsSplits function is:

URL:

https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsSplits&ids=&start=&end=&optional_aruguments....

where,

data	Variable name for the data returned
ids	Array with a list of one or more security identifiers.
start	Start date from which split data should be retrieved. Method of entering date is in MM/DD/YYYY format.
end	End date for period during which dividend data should be retrieved. The end date field is for entering a future date for which the split data is accessed. It can be entered as a future date in MM/DD/YYYY format or as a number, e.g. 50, which reflects 50 days from today which is set as the end date. Note: When entering number of days, the maximum value that can be entered is 50.

Optional arguments

symbol	Argument allows for the CUSIP to be retrieved as the last column (by default SecId is the first field that is retrieved when running a CorporateActionsSplits function). This argument must be entered as ' symbol ', ' y '.
universe	Screening expression to limit the universe
secd	Currently, the stat packages display the ticker by default in the first column but will now display whatever values are entered in the ids= argument. The secd=Y parameter will now be used to display whatever is entered in the ids= argument.

Example 1

In this example, extract the stock split information for Exxon Mobil from 1/1/1990 up to 1 day later from today.

URL:

<https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsSplits&format=xml&ids=XOM&start=1/1/1990&end=1>

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <TITLE>Corporate Actions Splits: XOM</TITLE>
  <COLUMNS count="5">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Double" key="P_SPLIT_FACTOR">
      <HEADER>P_SPLIT_FACTOR</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="String" key="P_SPLIT_RATIO">
      <HEADER>P_SPLIT_RATIO</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="String" key="P_SPLIT_COMMENT">
      <HEADER>P_SPLIT_COMMENT</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="2">
    <ROW id="1">
      <CELL id="1">HP44R7-S-US</CELL>
      <CELL id="2">19970414</CELL>
      <CELL id="3">0.5</CELL>
      <CELL id="4">2:1</CELL>
      <CELL id="5">NA</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">HP44R7-S-US</CELL>
      <CELL id="2">20010719</CELL>
      <CELL id="3">0.5</CELL>
      <CELL id="4">2:1</CELL>
      <CELL id="5">Split: 2 for 1</CELL>
    </ROW>
  </BODY>
</FASTFETCH>

```

Note: The retrieved items with this function are the split factor, the split ratio and any available split comments.

Example 2

In this example, extract the stock split information for multiple securities – Ericson and Nokia from 1/1/1990 up to 50 days from today.

URL:
<https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsSplits&format=xml&ids=ERIC.B-SE,%20NOK1V-FI&start=1/1/1990&end=50>

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <TITLE>Corporate Actions Splits: ERIC.B-SE,NOK1V-FI</TITLE>
  <COLUMNS count="5">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Number" key="SPLIT_RATIO">
      <HEADER>SPLIT_RATIO</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="String" key="P_SPLIT_COMMENT">
      <HEADER>P_SPLIT_COMMENT</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="7">
    <ROW id="1">
      <CELL id="1">HR8NLN-S-SE</CELL>
      <CELL id="2">19900920</CELL>
      <CELL id="3">0.2</CELL>
      <CELL id="4">5:1</CELL>
      <CELL id="5">NA</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">NOK1V-FI</CELL>
      <CELL id="2">20080602</CELL>
      <CELL id="3">0.722222</CELL>
      <CELL id="4">1.385:1</CELL>
      <CELL id="5">Rights Issue: 1 new share @ 3.8 SEK for 1 existing share</CELL>
    </ROW>
    <ROW id="7">
      <CELL id="1">HR8NLN-S-SE</CELL>
      <CELL id="2">20080602</CELL>
      <CELL id="3">5.</CELL>
      <CELL id="4">0.200:1</CELL>
      <CELL id="5">Reverse Split: 1 for 5</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Example 3

In this example the CUSIP is displayed with the result, here for the splits for the current constituents of S&P 500 from 1/1/1990 to 12/31/2012.

URL:
[https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsSplits&format=xml&start=1/1/2000&end=12/31/2012&symbol=y&universe=\(ison_sp500=1\)](https://datadirect.factset.com/services/FastFetch?factlet=CorporateActionsSplits&format=xml&start=1/1/2000&end=12/31/2012&symbol=y&universe=(ison_sp500=1))

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="6">
    <COLUMN id="1" dataType="Entity" key="FS_PERM_SEC_ID">
      <HEADER>FS_PERM_SEC_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="String" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="String" key="CUSIP">
      <HEADER>CUSIP</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="String" key="Ratio">
      <HEADER>Ratio</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="String" key="NA">
      <HEADER>NA</HEADER>
    </COLUMN>
    <COLUMN id="6" dataType="String" key="CUSIP">
      <HEADER>CUSIP</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="644">
    <ROW id="1">
      <CELL id="1">TKPJVY-S-US</CELL>
      <CELL id="2">20000308</CELL>
      <CELL id="3">0.6666667</CELL>
      <CELL id="4">1.500:1</CELL>
      <CELL id="5">NA</CELL>
      <CELL id="6">172908105</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">K6TLGQ-S-US</CELL>
      <CELL id="2">20050617</CELL>
      <CELL id="3">0.5000000</CELL>
      <CELL id="4">1:1</CELL>
      <CELL id="5">NA</CELL>
      <CELL id="6">22052L104</CELL>
    </ROW>
    <ROW id="643">
      <CELL id="1">R1CXVP-S-US</CELL>
      <CELL id="2">20000619</CELL>
      <CELL id="3">0.33333334</CELL>
      <CELL id="4">3:1</CELL>
      <CELL id="5">NA</CELL>
      <CELL id="6">26614N102</CELL>
    </ROW>
    <ROW id="644">
      <CELL id="1">KGZ4K4-S-US</CELL>
      <CELL id="2">NA</CELL>
      <CELL id="3">NA</CELL>
      <CELL id="4">NA</CELL>
      <CELL id="5">NA</CELL>
      <CELL id="6">G0250X107</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

8. ExtractBenchmarkDetail

The **ExtractBenchmarkDetail** function is used for extracting multiple data items for a benchmark. Benchmark data can be retrieved using other functions such as **ExtractFormulaHistory**, but the **ExtractBenchmarkDetail** function allows a user to retrieve a more comprehensive overview of the index constituent data, without additional codes or calculations. In the default output, identifiers are sorted in descending order by weight in the index and each row shows the index id, company id, date, ticker, and weight. Additional items are displayed at the end.

Benchmark Data

FactSet clients have access to Equity and Fixed Income Benchmarks, which include Dow Jones, FTSE, MSCI, Russell, S&P, Barclays, and BofA Merrill Lynch, among a number of others. Access to benchmarks is based on client subscription to various benchmark providers.

In addition, FactSet Market Aggregates (FMA), combines data from FactSet Fundamentals, Estimates and Prices to calculate ratios and per share values on an aggregate level. FMA comprises over 3,500 benchmarks including S&P, Russell, MSCI Global, FTSE, STOXX, TOPIX, and many local exchanges. Benchmarks also include specific sector and industry level indices. This number is constantly expanding based on client demand.

To request benchmark data as of a single date or as a time-series, dates can be designated as absolute dates or relative dates. [See section 3.3](#)

URL:
https://datadirect.factset.com/services/FastFetch?Factlet=ExtractBenchmarkDetail&ids=&items=&dates=&optional_arguments.....

where,

data	Variable name for the data returned
ids	Array with a list of one or more benchmark identifiers.
dates	One or more dates; Dates should be entered in start:end:freq format. (e.g. '20101215:20110115:d')
items	One or more items in Screening syntax, if FQL syntax is required it may be used with an underscore needs to be appended at the beginning of the code, i.e. <code>_P_PRICE</code>

Optional arguments

cutoff	Number of constituents to display; default displays all instances
useBTD	To control the alignment of historical stitching following a merger the useBTD parameter is used. When FactSet and a benchmark vendor make different choices in picking a surviving entity symbols can be returned as a dummy ticker to be used as a placeholder. To return the symbol as of the back test date 'useBTD','ON' should be used.

Example 1

In this example, the constituents of the S&P 500 is being extracted, the default columns will always be available for this Factlet.

URL:

<https://datadirect.factset.com/services/FastFetch?factlet=ExtractBenchmarkDetail&format=xml&ids=SP50>

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="4">
    <COLUMN id="1" dataType="Entity" key="BENCHMARK_ID">
      <HEADER>BENCHMARK_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="DATE">
      <HEADER>DATE</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Entity" key="SECURITY_ID">
      <HEADER>SECURITY_ID</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="Double" key="Weight">
      <HEADER>Weight</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="505">
    <ROW id="1">
      <CELL id="1">SP50</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">59491810</CELL>
      <CELL id="4">4.300767726645</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">
        </CELL>
      <CELL id="2">SP50</CELL>
      <CELL id="3">20190806</CELL>
      <CELL id="4">65566410</CELL>
      <CELL id="4">0.013387447863</CELL>
    </ROW>
    <ROW id="504">
      <CELL id="1">SP50</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">22207020</CELL>
      <CELL id="4">0.012887465785</CELL>
    </ROW>
    <ROW id="505">
      <CELL id="1">SP50</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">65249820</CELL>
      <CELL id="4">0.00680790602</CELL>
    </ROW>
  </BODY>
</FASTFETCH>

```

Example 2

In this example, extract the top 10 holdings for the France CAC 40 index and display the companies' securities price using the pricing database with the code P_PRICE and the company name using the code PROPER_NAME.

URL:
https://datadirect.factset.com/services/FastFetch?factlet=ExtractBenchmarkDetail&format=xml&ids=180454&items=P_PRICE,PROPER_NAME&date=0&cutoff=10

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="6">
    <COLUMN id="1" dataType="Entity" key="BENCHMARK_ID">
      <HEADER>BENCHMARK_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="DATE">
      <HEADER>DATE</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Entity" key="SECURITY_ID">
      <HEADER>SECURITY_ID</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="Double" key="Weight">
      <HEADER>Weight</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="Double" key="p_price">
      <HEADER>p_price</HEADER>
    </COLUMN>
    <COLUMN id="6" dataType="String" key="proper_name">
      <HEADER>proper_name</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="10">
    <ROW id="1">
      <CELL id="1">180454</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">B15C55</CELL>
      <CELL id="4">9.40821</CELL>
      <CELL id="5">42.735</CELL>
      <CELL id="6">Total SA</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">
    </ROW>
    <ROW id="10">
      <CELL id="1">180454</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">483410</CELL>
      <CELL id="4">3.5978</CELL>
      <CELL id="5">72.74</CELL>
      <CELL id="6">Schneider Electric SE</CELL>
    </ROW>
  </BODY>
</FASTFETCH>

```


Example 3

In this example, extract the price using the pricing database code P_PRICE for the CAC 40 constituents for 5 days in January in 2011.

URL:
https://datadirect.factset.com/services/FastFetch?factlet=ExtractBenchmarkDetail&format=xml&ids=180454&items=P_PRICE&dates=20110115:20110120:d

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="5">
    <COLUMN id="1" dataType="Entity" key="BENCHMARK_ID">
      <HEADER>BENCHMARK_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="DATE">
      <HEADER>DATE</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Entity" key="SECURITY_ID">
      <HEADER>SECURITY_ID</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="Double" key="Weight">
      <HEADER>Weight</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="Double" key="p_price">
      <HEADER>p_price</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="200">
    <ROW id="1">
      <CELL id="1">180454</CELL>
      <CELL id="2">20110114</CELL>
      <CELL id="3">B15C55</CELL>
      <CELL id="4">12.30476</CELL>
      <CELL id="5">42.4</CELL>
    </ROW>
    <ROW id="200">
      <CELL id="1">180454</CELL>
      <CELL id="2">20110120</CELL>
      <CELL id="3">B1HDJL</CELL>
      <CELL id="4">0.46623</CELL>
      <CELL id="5">3.874</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Note: The Constituents are as of the date specified in the dates argument, i.e. if any constituents are added or removed over the time period this will be reflected in the output.

Example 4

In this example the top 10 constituents for the fixed income index Barclays Capital EUR Corporate (1-5Y) together with the names of the constituents which include the fixed income securities coupon rate and maturity date. The index identifier is LHMN6732.

URL:
https://datadirect.factset.com/services/FastFetch?factlet=ExtractBenchmarkDetail&format=xml&ids=lhmn6732&items=lbc_name&universeGroup=debt&cutoff=10

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<FASTFETCH>
  <COLUMNS count="5">
    <COLUMN id="1" dataType="Entity" key="BENCHMARK_ID">
      <HEADER>BENCHMARK_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="DATE">
      <HEADER>DATE</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Entity" key="SECURITY_ID">
      <HEADER>SECURITY_ID</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="Double" key="Weight">
      <HEADER>Weight</HEADER>
    </COLUMN>
    <COLUMN id="5" dataType="String" key="lbc_name">
      <HEADER>lbc_name</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="10">
    <ROW id="1">
      <CELL id="1">LHMN6732</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">XS0304159576</CELL>
      <CELL id="4">0.251761124824</CELL>
      <CELL id="5">RABOBANK 4.750% 06-JUN-2022</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">LHMN6732</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">XS1888179477</CELL>
      <CELL id="4">0.375000000000</CELL>
      <CELL id="5">GOLDMAN SACHS 2.375% 15-MAY-2024</CELL>
    </ROW>
    <ROW id="10">
      <CELL id="1">LHMN6732</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">XS1888179477</CELL>
      <CELL id="4">0.179280922396</CELL>
      <CELL id="5">VODAFONE GROUP PLC 3.100% 03-JAN-2024</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
  
```

Note: Fixed income indices need to use the 'universeGroup','debt' argument.

FACTSET > SEE THE ADVANTAGE

Example 5

In this example, extract the S&P GICS classified sector names for the constituents of the S&P 500.

URL:

```
https://datadirect.factset.com/services/FastFetch?factlet=ExtractBenchmarkDetail&format=xml&ids=SP50&items=_SP_CLASS_GICS(0,,,%20%27%27SEC%27%27,%20%27%27NAME%27%27)&dates=0
```

Output

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<FASTFETCH>
  <COLUMNS count="5">
    <COLUMN id="1" dataType="Entity" key="BENCHMARK_ID">
      <HEADER>BENCHMARK_ID</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="DATE">
      <HEADER>DATE</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Entity" key="SECURITY_ID">
      <HEADER>SECURITY_ID</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="Double" key="Weight">
      <HEADER>Weight</HEADER>
    </COLUMN>
    <COLUMN id="5" key="sp_class_gics">
      <HEADER>sp_class_gics</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY ROWS="505">
    <ROW id="1">
      <CELL id="1">SP50</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">59491810</CELL>
      <CELL id="4">4.300767726645</CELL>
      <CELL id="5">NA</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">
        NA</CELL>
    </ROW>
    <ROW id="505">
      <CELL id="1">SP50</CELL>
      <CELL id="2">20190806</CELL>
      <CELL id="3">65249820</CELL>
      <CELL id="4">0.00680790602</CELL>
      <CELL id="5">NA</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
```

Note: The ExtractBenchmarkDetail Factlet, by default, works with Screening codes entered in the Items argument of the syntax. If using an FQL code, enter an _ argument before the FQL items code, as illustrated in this example using _SP_CLASS_GICS.

9. ExtractOFDBItem

The ExtractOFDBItem function provides access to a list of securities and multiple data items for a range of dates uploaded into a single Open FactSet Database (OFDB).

Open FactSet Database (OFDB)

OFDB is a high-performance multi-dimensional database system used to securely store proprietary numeric and textual data on FactSet. It is ideal for users who manage large portfolios or maintain extensive historical proprietary databases. OFDB optimizes large, multi-dimensional databases, giving FactSet users highly flexible, fast access to large volumes of complex data that can be used in many different applications. OFDB is based upon Online Analytical Processing technology, which is the basis for multi-dimensional databases.

The syntax for the ExtractOFDBItem function is:

URL:
https://datadirect.factset.com/services/FastFetch?factlet=ExtractOFDBItem&ofdb=&ids=&items=&dates=&optional_arguments.....

where,

data	Variable name for the data returned
OFDB	OFDB file from which the items should be used. The default directory is Client if other locations are used the path must be specified i.e personal:MyOFDB
ids	Array with a list of securities to extract the data for. If left blank data for all securities in the OFDB will be extracted.
dates	One or more dates; Dates should be entered in start:end:freq format. (e.g. '20101215:20110115:d')
items	One or more items from the OFDB

Optional arguments

datesOnly	Displays only the dates that are in an OFDB with the parameter datesOnly,'Y'
universe	Screening expression to limit the universe
feedback	If the feedback argument is not used, the returned data series will "feel back" over NAs to find the last actual data point and carry this data forward over the NAs. For the data not to carry forward, use 'feedback', 'N'. The data is then returned as it is in the database.
fqlflag	Optional argument that is necessary because by default, the ExtractOFDBItem factlet goes through screening, but when there are _S in the Identifier or spaces between the identifiers, it is necessary to extract the data through FQL to get the values. Need to specify 'fqlflag','y'.
cal	Calendar setting, arguments include: FIVEDAY: Displays Monday through Friday, regardless of whether there were trading holidays. FIVEDAYEOM: Displays Monday through Friday including a weekend date if it falls on the last day of the month. Where the month-end does not fall on a weekend, the calendar will act just as the standard five-day calendar. SEVENDAY: Displays Monday through Sunday. AAM: For Exchange code uses the calendar of a specific exchange, represented by the exchange code. If there is no calendar available for a specific exchange, the calendar will default to FIVEDAY.
unsplit	Displays prices with split adjustments in unsplit form.
currency	The currency in which the data is to be returned, using a string with the three-character ISO code (e.g. 'USD' or 'EUR'). This will only work when "Currency Mapping" is used in the OFDB.

Example 1

In this example, retrieve the price and shares data uploaded into the OFDB file titled MyPortfolio for Microsoft as of 4 trading days ago, denoted with the date argument -3D.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractOFDBItem&ofdb=MyPortfolio&ids=MSFT&items=PRICE,SHARES&date=-3D>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="ofdb_PRICE">
<HEADER>ofdb_PRICE</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="ofdb_SHARES">
<HEADER>ofdb_SHARES</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="1">
<ROW id="1">
<CELL id="1">MSFT</CELL>
<CELL id="2">20140101</CELL>
<CELL id="3">2000.</CELL>
<CELL id="4">500.</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 2

In this example, retrieve the uploaded shares and price data for the securities Microsoft and IBM OFDB file titled MyOFDB saved in the Personal folder for a relative date range, starting 2 trading days ago and going back 6 trading days ago.

URL

```
:https://datadirect.factset.com/services/FastFetch?Factlet=ExtractOFDBItem&ofdb=Personal:MyOFDB&ids=MSFT,IBM&items=PRICE,SHARES&date=-1:-5D:D
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="ofdb_PRICE">
<HEADER>ofdb_PRICE</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="ofdb_SHARES">
<HEADER>ofdb_SHARES</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="12">
<ROW id= 1 >
<CELL id="1">MSFT</CELL>
<CELL id="2">20140106</CELL>
<CELL id="3">2017.</CELL>
<CELL id="4">580.</CELL>
</ROW>
<ROW id="2">
<CELL id="1">IBM</CELL>
<CELL id="2">20140102</CELL>
<CELL id="3">152.</CELL>
<CELL id="4">199.</CELL>
</ROW>
<ROW id="12">
<CELL id="1">IBM</CELL>
<CELL id="2">20140101</CELL>
<CELL id="3">150.</CELL>
<CELL id="4">200.</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 3

In this example, retrieve the uploaded shares and price data for the securities IBM and GM from an OFDB file titled MyOFDB for an absolute date range, starting January 2009 and ending December 2011 on a daily frequency, with the calendar set to FIVEDAY.

URL:

```
https://datadirect.factset.com/services/FastFetch?Factlet=ExtractOFDBItem&ofdb=Personal:MyOFDB&ids=MSFT,IBM&items=PRICE,SHARES&date=20090101:20111231:D&cal=FIVEDAY
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="ofdb_PRICE">
<HEADER>ofdb_PRICE</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="ofdb_SHARES">
<HEADER>ofdb_SHARES</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="1">
<ROW id="1">
<CELL id="1">MSFT</CELL>
<CELL id="2">20090101</CELL>
<CELL id="3">2000.</CELL>
<CELL id="4">500.</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Note: If during this date range the OFDB stores a value on a date that falls on a US holiday, by default the value will be returned as an NA. However, by setting the calendar in this case to FIVEDAY this will override the default and bring back the value.

Example 4

In this example, extract the universe of securities stored in the OFDB file titled Europe stored in the subfolder Client:/Regions and their corresponding shares and price data for the last five days.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractOFDBItem&ofdb=Client:/Regions/MyOFDB&ids=MSFT,IBM&items=PRICE,SHARES&date=0:-5D:D>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="ofdb_PRICE">
<HEADER>ofdb_PRICE</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="ofdb_SHARES">
<HEADER>ofdb_SHARES</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="12">
<ROW id= 1 >
<CELL id="1">MSFT</CELL>
<CELL id="2">20140106</CELL>
<CELL id="3">2017.</CELL>
<CELL id="4">580.</CELL>
</ROW>
<ROW id="2">
<CELL id="1">IBM</CELL>
<CELL id="2">20140102</CELL>
<CELL id="3">152.</CELL>
<CELL id="4">199.</CELL>
</ROW>
<ROW id="12">
<CELL id="1">IBM</CELL>
<CELL id="2">20140101</CELL>
<CELL id="3">150.</CELL>
<CELL id="4">200.</CELL>
</ROW>
</BODY>
</FASTFETCH>
```


Example 5

In this example the OFDB contains either symbols with spaces or short positions (symbols denoted with _S) so the fqfFlag parameter must be used.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractOFDBItem&ofdb=Personal:MyOFDB&ids=MSFT,IBM&items=PRICE,SHARES&date=0:-5D:D&fqfFlag=Y>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="ofdb_PRICE">
<HEADER>ofdb_PRICE</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="ofdb_SHARES">
<HEADER>ofdb_SHARES</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="18">
<ROW id="1">
<CELL id="1">MSFT</CELL>
<CELL id="2">20140106</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="2">
<CELL id="1">IBM</CELL>
<CELL id="2">20140106</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="3">
<CELL id="1">MSFT_S</CELL>
<CELL id="2">20140106</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="4">
<CELL id="1">IBM_S</CELL>
<CELL id="2">20140106</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="5">
<CELL id="1">MSFT</CELL>
<CELL id="2">20140107</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="6">
<CELL id="1">IBM</CELL>
<CELL id="2">20140107</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="7">
<CELL id="1">MSFT_S</CELL>
<CELL id="2">20140107</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="8">
<CELL id="1">IBM_S</CELL>
<CELL id="2">20140107</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="9">
<CELL id="1">MSFT</CELL>
<CELL id="2">20140108</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="10">
<CELL id="1">IBM</CELL>
<CELL id="2">20140108</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="11">
<CELL id="1">MSFT_S</CELL>
<CELL id="2">20140108</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="12">
<CELL id="1">IBM_S</CELL>
<CELL id="2">20140108</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="13">
<CELL id="1">MSFT</CELL>
<CELL id="2">20140109</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="14">
<CELL id="1">IBM</CELL>
<CELL id="2">20140109</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="15">
<CELL id="1">MSFT_S</CELL>
<CELL id="2">20140109</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="16">
<CELL id="1">IBM_S</CELL>
<CELL id="2">20140109</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
<ROW id="17">
<CELL id="1">MSFT</CELL>
<CELL id="2">20140110</CELL>
<CELL id="3">349.</CELL>
<CELL id="4">234.</CELL>
</ROW>
<ROW id="18">
<CELL id="1">IBM</CELL>
<CELL id="2">20140110</CELL>
<CELL id="3">200.</CELL>
<CELL id="4">205.</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

10. ExtractScreenUniverse

The ExtractScreenUniverse function is used for extracting a list of CUSIPS stored in a single FactSet screen. In the FactSet workstation, a user can screen for equity securities based on specified criteria and store a list of companies using FactSet Universal Screening for equity or debt securities.

FactSet Universal Screening

Universal Screening in the FactSet workstation allows users to test investment strategies across all databases simultaneously. It is possible to screen on a predefined investable universe or on tens of thousands of companies worldwide using data items available on FactSet as the screening criteria. For a more comprehensive overview of Universal Screening refer to Online Assistant page [20593](#). The syntax for the ExtractScreenUniverse function is:

URL:
https://datadirect.factset.com/services/FastFetch?Factlet=ExtractScreenUniverse&screen=&optional_arguments...

where,

data	Variable name for the data returned
screen	Universal Screen for which the universe should be extracted. The default location is Client: for any other location the path must be specified.
name	Optional parameter to display the name of the securities extracted. Specified as 'name', 'Y'.
All	Pulls all of the columns from a saved screen.
backtestDate	Ability to set a backtest date dynamically within the stat packages. This requires an additional subscription to FactSet's backtesting utilities.
removeColumns	Ability to hide specific columns from being displayed in the output. Requires the use of the "All" parameter as well.
includeColumns	Ability to select specific columns to display in the output. Requires the use of the "All" parameter as well.

Example 1

In this example, retrieve the securities stored in the screen titled MyScreen. The output displays the CUSIPS for each security.

URL:
<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractScreenUniverse&screen=MyScreen>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="1">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="2186">
<ROW id="1">
<CELL id="1">600682</CELL>
</ROW>
<ROW id="2">
<CELL id="1">603720</CELL>
</ROW>
<ROW id="3">
<CELL id="1">
</ROW>
<ROW id="2186">
<CELL id="1">BZCNRW</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 2

In this example, retrieve all of the securities and parameters saved in the screen. Also, set a backtest date to 6/30/2014.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractScreenUniverse&screen=Personal:MyScreen&all=Y&backtestdate=20140630>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="12">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="Name">
<HEADER>Name</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="Stock Exchange">
<HEADER>Stock Exchange</HEADER>
</COLUMN>
<COLUMN id="4" dataType="String" key="Economy">
<HEADER>Economy</HEADER>
</COLUMN>
<COLUMN id="5" dataType="Double" key="Net Inc Before Extra & Disc Op">
<HEADER>Net Inc Before Extra & Disc Op</HEADER>
</COLUMN>
<COLUMN id="10" dataType="Double" key="Total Debt % Total Capital">
<HEADER>Total Debt % Total Capital</HEADER>
</COLUMN>
<COLUMN id="11" dataType="Double" key="Divs">
<HEADER>Divs</HEADER>
</COLUMN>
<COLUMN id="12" dataType="Double" key="5y BETA Rel to Loc Idx">
<HEADER>5y BETA Rel to Loc Idx</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="2021">
<ROW id="1">
<CELL id="1">609849</CELL>
<CELL id="2">3M India Limited</CELL>
<CELL id="3">BSE INDIA</CELL>
<CELL id="4">Chemical, Plastic and Rubber Materials</CELL>
<CELL id="5">4508.45</CELL>
<CELL id="6">50788.006868349403</CELL>
<CELL id="7">38.16</CELL>
<CELL id="8">92.505241090147</CELL>
<CELL id="9">429.902</CELL>
<CELL id="10">14.742168865034</CELL>
<CELL id="11">0.07671</CELL>
<CELL id="12">-0.613663</CELL>
</ROW>
<ROW id="2021">
<CELL id="1">B1GF3S</CELL>
<CELL id="2">Inspirisys Solutions Limited</CELL>
<CELL id="3">BSE INDIA</CELL>
<CELL id="4">Software and Consulting</CELL>
<CELL id="5">48.</CELL>
<CELL id="6">1428.56982421875</CELL>
<CELL id="7">1.76</CELL>
<CELL id="8">24.375</CELL>
<CELL id="9">44.9</CELL>
<CELL id="10">51.987611729653</CELL>
<CELL id="11">0.</CELL>
<CELL id="12">2.26362</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 3

In this example, retrieve all of the securities returned by the screen, as well as only the first 3 parameters.

URL:

```
https://datadirect.factset.com/services/FastFetch?Factlet=ExtractScreenUniverse&screen=Personal:PORTFOLIO%20BUILDING&all=Y&includecolumns=1,3,5
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="5">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="Name">
<HEADER>Name</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="Stock Exchange">
<HEADER>Stock Exchange</HEADER>
</COLUMN>
<COLUMN id="4">
<HEADER/>
</COLUMN>
<COLUMN id="5" dataType="Double" key="Closing Price">
<HEADER>Closing Price</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="2186">
<ROW id="1">
<CELL id="1">B96BWP</CELL>
<CELL id="2">20 Microns Limited</CELL>
<CELL id="3">BSE INDIA</CELL>
<CELL id="4">33.</CELL>
<CELL id="5">7.06</CELL>
</ROW>
<ROW id="2">
<CELL id="1">B1GF3S</CELL>
<CELL id="2">Inspirisys Solutions Limited</CELL>
<CELL id="3">BSE INDIA</CELL>
<CELL id="4">40.2</CELL>
<CELL id="5">0.22</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

11. ExtractOptionsSnapshot

The ExtractOptionsSnapshot function is used for extracting options data for one or more conditions from the FactSet-Options Derived Values database.

FactSet-Options Derived Values

The FactSet-Options derived Values provides access to expired options data such as historical pricing, strike, expiration date, call or put, contract size, option type (equity, index), option style (American or European), FactSet calculated Greeks (Delta, Theta, Vega, Rho, Gamma), and volatilities (Implied Volatility, At-the-money Volatility).

The codes that are available for use in statistical packages provide access to option chain symbols for both actively traded and expired options.

The syntax for the ExtractOFDBItem function is:

URL:
https://datadirect.factset.com/services/FastFetch?factlet=ExtractOptionsSnapshot&items=&date=&optional_arguments.....

where,

data	Variable name for the data returned
items	One or more items separated by a comma.
date	One or more dates; Dates should be entered in start:end:freq format. (e.g. '20101215:20110115:d')
cond1/2/3	Screening condition with "=" or ">" or "<"; P_OPT_UNDERLYING_SECURITY=(default);P_OPT_ALL_VOLUME>
compval1/2/3	Value that meets cond1/2/3

Example 1

In this example a put or call flag, closing price, expiry date and delta is extracted for the options passing the screening conditions that FactSet (FDS) is the underlying security and the expiration date is before 20190901.

URL:
https://datadirect.factset.com/services/FastFetch?factlet=ExtractOptionsSnapshot&items=P_OPT_C ALL_OR_PUT,P_OPT_CLOSE_PRICE,P_OPT_EXP_DATEN,P_OPT_DELTA&ids=FDS&P_OPT_EXP_DATEN>=20190901

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="6">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Integer" key="P_OPT_CALL_OR_PUT">
<HEADER>P_OPT_CALL_OR_PUT</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="P_OPT_CLOSE_PRICE">
<HEADER>P_OPT_CLOSE_PRICE</HEADER>
</COLUMN>
<COLUMN id="5" dataType="Integer" key="P_OPT_EXP_DATEN">
<HEADER>P_OPT_EXP_DATEN</HEADER>
</COLUMN>
<COLUMN id="6" dataType="Double" key="P_OPT_DELTA">
<HEADER>P_OPT_DELTA</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="240">
<ROW id="1">
<CELL id="1">FDS.US#C1742</CELL>
<CELL id="2">20190807</CELL>
<CELL id="3">0</CELL>
<CELL id="4">0</CELL>
<CELL id="5">20191220</CELL>
<CELL id="6">0.959783</CELL>
</ROW>
<ROW id="2">
<CELL id="1">FDS.US#C2TNZ</CELL>
<CELL id="2">20190807</CELL>
<CELL id="3">0</CELL>
<CELL id="4">46
<CELL id="5">20190807</CELL>
<CELL id="6">0.8564</CELL>
</ROW>
<ROW id="240">
<CELL id="1">FDS.US#PYXVD</CELL>
<CELL id="2">20190807</CELL>
<CELL id="3">1</CELL>
<CELL id="4">0</CELL>
<CELL id="5">20191018</CELL>
<CELL id="6">-0.679302</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

12. ExtractSPARData

The ExtractSPARData function is used for displaying SPAR data for specified funds from databases that includes S&P, Lipper, Morningstar, Russell, eVestment, Nelson, Rogerscasey, and PSN. A subscription to SPAR in FactSet is necessary to be able to extract this data in the Statistical Package.

SPAR (Style, Performance, and Risk)

SPAR, FactSet's returns-based portfolio analysis application, provides reports and charts that can be used to determine the style, performance, risk, and peer group analysis of selected portfolios, benchmarks, and competitor funds. SPAR incorporates the industry-standard methodology developed by Nobel Laureate William Sharpe for determining the style of a portfolio.

Note: For more information on William Sharpe's methodology, refer to www.stanford.edu/~wfsarpe/art/sa/sa.htm.

SPAR is similar to "Consumer Reports" magazine that ranks automobiles based on a list of criteria such as safety, price, and gas mileage. SPAR does a similar role for money management firms that want to sell their funds to their clients. The only difference is the criteria our clients use is annualized return, standard deviation for risk, and peer rankings relative to the competition. There are literally thousands of money management firms that individuals or institutions can select to manage their money. Typically, you want to select a manager that has consistently beaten the benchmark while managing the proper amount of risk.

The SPAR application thus allows users to analyze their portfolio's returns against 20,000 equity and fixed income benchmarks. Also, you can look at over 70 Modern Portfolio Theory risk statistics such as beta, standard deviation, r-squared, alpha, and tracking error. SPAR allows you to determine the peer rankings of your portfolio and the benchmark against the various mutual fund, institutional, and consultant databases. The specific peer universe data available is S&P, Lipper, Morningstar, Russell, eVestment, Nelson, Rogerscasey, and PSN.

URL :
https://datadirect.factset.com/services/FastFetch?factlet=ExtractSPARData&ids=&items=&date=&optimal_arguments...

where,

ids	CellString array array with a list of one or more benchmarks or funds.
items	CellString array with a list of one or more FactSet data items to display for the selected benchmarks or funds
date	One or more dates; Dates should be entered in start:end:freq format. (e.g. '20101215:20110115:d')
OFDB	OFDB file used to limit the universe
cal	Calendar setting, arguments include: FIVEDAY: Displays Monday through Friday, regardless of whether there were trading holidays. SEVENDAY: Displays Monday through Sunday.

Example 1

In this example, for the two specified Morningstar funds retrieve the fund family name and the benchmark name.

URL:

https://datadirect.factset.com/services/FastFetch?factlet=ExtractSPARData&ids=MEUR:F0GBR04AWX,MEUR:F000000GJF&items=SPAR_FUND_FAMILY,SPAR_MEUR_BM_NAME1

Output

```
<?xml version="1.0" ?>
<COLUMNS count="4">
  <COLUMN id="1" dataType="Entity" key="Id">
    <HEADER>Id</HEADER>
  </COLUMN>
  <COLUMN id="2" dataType="Date" key="Date">
    <HEADER>Date</HEADER>
  </COLUMN>
  <COLUMN id="3" dataType="String" key="spar_fund_family">
    <HEADER>spar_fund_family</HEADER>
  </COLUMN>
  <COLUMN id="4" dataType="String" key="spar_meur_bm_name1">
    <HEADER>spar_meur_bm_name1</HEADER>
  </COLUMN>
</COLUMNS>
<BODY rows="2">
  <ROW id="1">
    <CELL id="1">MEUR:F0GBR04AWX</CELL>
    <CELL id="2">20190812</CELL>
    <CELL id="3">Aberdeen Standard Investments Luxembourg S.A.</CELL>
    <CELL id="4">MSCI AC Asia Pac Ex JPN NR USD</CELL>
  </ROW>
  <ROW id="2">
    <CELL id="1">MEUR:F000000GJF</CELL>
    <CELL id="2">20190812</CELL>
    <CELL id="3">AZ Fund Management S.A.</CELL>
    <CELL id="4">Not Benchmarked</CELL>
  </ROW>
</BODY>
</FASTFETCH>
```

Example 2

In this example, for the two specified Morningstar funds retrieve the International Securities Identification Number (ISIN), the inception date, location of where the funds are domiciled and the management fee. The management fee data is a percentage (%).

URL:

https://datadirect.factset.com/services/FastFetch?factlet=ExtractSPARData&ids=MEUR:F0GBR04AWX,MEUR:F000000GJF&items=SPAR_MEUR_ISIN,%20SPAR_MEUR_INCEPTION_DATE,SPAR_MEUR_DOMICILE,SPAR_MEUR_MGMTFEE

Output

```

<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="6">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="spar_meur_isin">
<HEADER>spar_meur_isin</HEADER>
</COLUMN>
<COLUMN id="4" dataType="String" key="spar_meur_inception_date">
<HEADER>spar_meur_inception_date</HEADER>
</COLUMN>
<COLUMN id="5" dataType="String" key="spar_meur_domicile">
<HEADER>spar_meur_domicile</HEADER>
</COLUMN>
<COLUMN id="6" dataType="String" key="spar_meur_mgmtfee">
<HEADER>spar_meur_mgmtfee</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="2">
  <ROW id="1">
    <CELL id="1">MEUR:F0GBR04AWX</CELL>
    <CELL id="2">20190813</CELL>
    <CELL id="3">LU0011963245</CELL>
    <CELL id="4">04/26/1988</CELL>
    <CELL id="5">LUX</CELL>
    <CELL id="6">1.75</CELL>
  </ROW>
  <ROW id="2">
    <CELL id="1">MEUR:F000000GJF</CELL>
    <CELL id="2">20190813</CELL>
    <CELL id="3">LU0262805087</CELL>
    <CELL id="4">09/01/2006</CELL>
    <CELL id="5">LUX</CELL>
    <CELL id="6">NA</CELL>
  </ROW>
</BODY>
</FASTFETCH>

```

Example 3

In this example, for the two specified Lipper TASS funds retrieve the company name of the fund, the management fee, and location city of where the fund is based.

URL:

https://datadirect.factset.com/services/FastFetch?factlet=ExtractSPARData&ids=LT:LT001929,LT:LT073672&items=SPAR_LT_COMPANY_NAME,%20SPAR_LT_MGMNT_FEE,SPAR_LT_CITY

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="5">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="spar_lt_company_name">
<HEADER>spar_lt_company_name</HEADER>
</COLUMN>
<COLUMN id="4" dataType="String" key="spar_lt_mgmnt_fee">
<HEADER>spar_lt_mgmnt_fee</HEADER>
</COLUMN>
<COLUMN id="5" dataType="String" key="spar_lt_city">
<HEADER>spar_lt_city</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="2">
<ROW id="1">
<CELL id="1">LT:LT001929</CELL>
<CELL id="2">20190813</CELL>
<CELL id="3">Firebird Management LLC</CELL>
<CELL id="4">NA</CELL>
<CELL id="5">New York</CELL>
</ROW>
<ROW id="2">
<CELL id="1">LT:LT073672</CELL>
<CELL id="2">20190813</CELL>
<CELL id="3">Rima Management LLC</CELL>
<CELL id="4">NA</CELL>
<CELL id="5">New York</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 4

In this example, for the four specified Lipper US funds retrieve the category for these funds.

URL:

https://datadirect.factset.com/services/FastFetch?factlet=ExtractSPARData&ids=LDMF:AMDXX,LDMF:AIAGX,LDMF:ASMTX,LDMF:LS98372&items=SPAR_LIPPER_CATEGORY

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="3">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="spar_lipper_category">
<HEADER>spar_lipper_category</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="4">
<ROW id="1">
<CELL id="1">LDMF:AMDXX</CELL>
<CELL id="2">20190813</CELL>
<CELL id="3">US Govt Money Mkt</CELL>
</ROW>
<ROW id="2">
<CELL id="1">LDMF:AIAGX</CELL>
<CELL id="2">20190813</CELL>
<CELL id="3">Real Estate</CELL>
</ROW>
<ROW id="3">
<CELL id="1">LDMF:ASMTX</CELL>
<CELL id="2">20190813</CELL>
<CELL id="3">US Mortgage</CELL>
</ROW>
<ROW id="4">
<CELL id="1">LDMF:LS98372</CELL>
<CELL id="2">20190813</CELL>
<CELL id="3">Ultra-Short Oblig</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

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Example 5

In this example, instead of specifying the list of funds by using their ids, the universe is specified by an OFDB file containing a list of funds. For those funds, extract the fund family name and the Morningstar classified fund category.

URL:

```
https://datadirect.factset.com/services/FastFetch?factlet=ExtractSPARData&items=SPAR_FUND_FAMILY,SPAR_MEUR_CATEGORY&ofdb=personal:MyFUNDS
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="spar_fund_family">
<HEADER>spar_fund_family</HEADER>
</COLUMN>
<COLUMN id="4" dataType="String" key="spar_meur_category">
<HEADER>spar_meur_category</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="1">
<ROW id="1">
<CELL id="1">BLVCX-US</CELL>
<CELL id="2">20190813</CELL>
<CELL id="3">Blackrock</CELL>
<CELL id="4">NA</CELL>
</ROW>
</FASTFETCH>
```

13. ExtractVectorFormula

The ExtractVectorFormula function is used for extracting FactSet data that is stored in a vector data format, where the data array does not have a predefined size and is organized by the vector position (compared to much of FactSet data that is retrieved through FactSet OnDemand that is indexed by entity, data item, and date, such as 5 years of sales history for a security). A vector can be thought of as a list that has one dimension, a row of data. A vector position allows for a particular element of the array to be accessed.

ExtractVectorFormula handles non-sequential data with support for matrix or vector output. The nature of the data determines if the output is a matrix or vector, it is not specified in the function to choose which format the data is returned in. This type of data includes corresponding geographic or product segment breakdowns for a company or detailed broker snapshot or history estimates/analyst information.

For example, the FactSet Fundamentals business or geographic segment data for a specified data item would be in a vector output given that IBM has 5 business segments whereas GE has 8 segments. Alternatively, if requesting FactSet Mergers data, such as the current identifier of selected participant in deals. The default output of this FactSet data is in a matrix format, because if there are multiple companies playing for the sale role on the transaction, an array of data is returned. Therefore, when extracting this data using the ExtractVectorFormula function, it will automatically retrieve it in a matrix format.

The syntax for the ExtractVectorFormula function is:

URL:
https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&ids=&items=&optional_arguments...

where,

data	Variable name for the data returned
ids	CellString array with a list of one or multiple security identifiers
items	CellString array with a list of one or more FactSet data items in the FQL language

Optional arguments

universe	Screening expression to limit the universe
ison	Ison-codes can be used to limit the universe ISON_MSCI_WORLD(0,1) is written as 'ison','msci_world','isonParams','0,1'
isonParams	The arguments within brackets in the ison-code
OFDB	Universe is the constituents of an OFDB file, default directory is Client, if the OFDB is stored in another location the path must be included
OFDBDate	Specific date for the constituents of the OFDB
combinedOutputTypes	Required argument when matrix and vector output formats are requested in the same call.

Example 1

In this example, extract the business segment sales breakdown, with labels, as of the most recent fiscal year end for IBM and GE using the FactSet Fundamentals database. The **ExtractVectorFormula** function is used to extract this data because the output is a row of data, and it is not indexed by Id, data item and date. Rather it is a list where IBM has 5 business segments and GE has 8 segments.

URL:

```
https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&ids=IBM&items=FF_SEGMENT_RPT_DATA(ANN,0,,,,%27SALES%27,,BUS,%27SEG%27),FF_SEGMENT_RPT_LABELS(ANN,0,,,,BUS,%27SEG%27)
```

Output

```
<?xml version="1.0" ?>
<COLUMNS count="3">
  <COLUMN id="1" dataType="Entity" key="Id">
    <HEADER>Id</HEADER>
  </COLUMN>
  <COLUMN id="2" dataType="Double" key="ff_segment_rpt_data">
    <HEADER>ff_segment_rpt_data</HEADER>
  </COLUMN>
  <COLUMN id="3" dataType="String" key="ff_segment_rpt_labels">
    <HEADER>ff_segment_rpt_labels</HEADER>
  </COLUMN>
</COLUMNS>
<BODY rows="16">
  <ROW id="2">
    <CELL id="1">IBM</CELL>
    <CELL id="2">34462.</CELL>
    <CELL id="3">Technology Services & Cloud Platforms</CELL>
  </ROW>
  <ROW id="3">
    <CELL id="1">IBM</CELL>
    <CELL id="2">1847.</CELL>
    <CELL id="3">Solutions</CELL>
  </ROW>
  <ROW id="4">
    <CELL id="1">IBM</CELL>
    <CELL id="2">1847.</CELL>
    <CELL id="3">Capital</CELL>
  </ROW>
  <ROW id="15">
    <CELL id="1">GE</CELL>
    <CELL id="2">3873.</CELL>
    <CELL id="3">Transportation</CELL>
  </ROW>
  <ROW id="16">
    <CELL id="1">GE</CELL>
    <CELL id="2">1721.</CELL>
    <CELL id="3">Lighting</CELL>
  </ROW>
</BODY>
</FASTFETCH>
```

Example 2

In this example, extract the business segment sales data for the universe of securities stored in the Open FactSet Database (OFDB) titled MyOFDB.

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&ofdb=MyOFDB&items=FF_SEGMENT_RPT_LABELS\(ANN,0,,,,BUS,%27SEG%27\)&new=y](https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&ofdb=MyOFDB&items=FF_SEGMENT_RPT_LABELS(ANN,0,,,,BUS,%27SEG%27)&new=y)

Output

```

<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="2">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="ff_segment_rpt_labels">
<HEADER>ff_segment_rpt_labels</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="15">
<ROW id="1">
<CELL id="1">IBM</CELL>
<CELL id="2">NA</CELL>
</ROW>
<ROW id="2">
<CELL id="1">IBM</CELL>
<CELL id="2">Technology Services & Cloud Platforms</CELL>
</ROW>
<ROW id="3">
<CELL id="1">IBM</CELL>
<CELL id="2">Technology Services & Cloud Platforms</CELL>
</ROW>
<ROW id="15">
<CELL id="1">FDS</CELL>
<CELL id="2">Integrated Financial Information & Analytical Applications</CELL>
</ROW>
</BODY>
</FASTFETCH>

```

Example 3

In this example, extract the offer date (with the offer type being the follow-ons) from the FactSet New Issues database based on the pricing date for security associate with the specified company identifier. The specified universe is the constituents of the MSCI AC World Index. The code for this universe is ISON_MSCI_REGION. In the output, the ID field brings back the CUSIPs of the companies in the index.

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&items=FNI_OFFR_DATE_CO\(%27FO%27,%27PRC%27,3,1\)&ison=msci_region&isonparams=892400,0,close&new=y](https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&items=FNI_OFFR_DATE_CO(%27FO%27,%27PRC%27,3,1)&ison=msci_region&isonparams=892400,0,close&new=y)

Output

```

<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="2">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="fni_offr_date_co">
<HEADER>fni_offr_date_co</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="3993">
<ROW id="1">
<CELL id="1">17290810</CELL>
<CELL id="2">20120924</CELL>
</ROW>
<ROW id="3983">
<CELL id="1">G1890L10</CELL>
<CELL id="2">20120924</CELL>
</ROW>
<ROW id="3984">
<CELL id="1">BJ8PB</CELL>
<CELL id="2">NA</CELL>
</ROW>
</BODY>
</FASTFETCH>

```

Example 4

In this example, extract from the FactSet Mergers database, the current identifier of the seller participant on the deal for all of the most recent deals for IBM. If there are multiple companies playing for the same role on the transaction, an array of data will be returned. For example, if there are two buyers on the deal, two data points will return from this formula. The default output format of this FactSet data is in a matrix format, and the ExtractVectorFormula function automatically retrieves this data as a matrix.

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&ids=IBM&items=FMG_ID_CO_CO\(-1,%27S%27,%27TICKER%27,0\)](https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&ids=IBM&items=FMG_ID_CO_CO(-1,%27S%27,%27TICKER%27,0))

Output

```

<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="2">
<COLUMN id="1" dataType="Entity" key="Position">
<HEADER>Position</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Matrix" key="45920010 fmg_id_co_co">
<HEADER>45920010 fmg_id_co_co</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="500">
<ROW id="1">
<CELL id="1">1</CELL>
<CELL id="2">IBM-US</CELL>
</ROW>
<ROW id="2">
<CELL id="1">DTE-DE</CELL>
<CELL id="2"></CELL>
</ROW>
<ROW id="3">
<CELL id="1">IBM-US</CELL>
<CELL id="2"></CELL>
</ROW>
<ROW id="508">
<CELL id="1">IBM-US</CELL>
<CELL id="2"></CELL>
</ROW>
<ROW id="509">
<CELL id="1"></CELL>
</ROW>
</BODY>
</FASTFETCH>

```

Example 5

In this example, extract the Northfield Correlation Matrix of Factors using the NIS US Fundamental Model.

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&items=NIS_CORREL_MATRIX\(%27NIS:FUND%27,0\)&new=y](https://datadirect.factset.com/services/FastFetch?factlet=ExtractVectorFormula&items=NIS_CORREL_MATRIX(%27NIS:FUND%27,0)&new=y)

Output

```

<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Integer" key="Row">
<HEADER>Row</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Integer" key="Col">
<HEADER>Col</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="NIS_CORREL_MATRIX">
<HEADER>NIS_CORREL_MATRIX</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="4489">
  <ROW id="1">
    <CELL id="1">NA</CELL>
    <CELL id="2">1</CELL>
    <CELL id="3">1</CELL>
    <CELL id="4">1.</CELL>
  </ROW>
  <ROW id="2">
    <CELL id="1">NA</CELL>
    <CELL id="2">67</CELL>
    <CELL id="3">67</CELL>
    <CELL id="4">1.</CELL>
  </ROW>
</BODY>
</FASTFETCH>

```

14. ExtractEconData

The ExtractEconData function provides access to a broad array of macroeconomic content, interest rates and yields, country indices and various exchange rate measures from both the FactSet Economics and the Standardized Economic databases.

FactSet Economics Database

FactSet Economics is a database of primary-sourced information on the global economy. The database includes specialty sources such as Eurostat, ICIS, IMF, LME, NYMEX, and OECD.

Each data series from the database has a mnemonic identifying that requested series. For example, GDP published by the National Bureau of Statistics of China Seasonally Adjusted, will have an id or mnemonic assigned to it that's different from a mnemonic assigned for China's GDP value that is not seasonally adjusted. To find the mnemonic for a series, use the Series Lookup. For a demonstration covering how to use the Series Lookup please refer to FactSet Online Assistant page [15694](#).

Standardized Economic Data

FactSet's Standardized Economic database includes a wide variety of commonly-used economic items that are consistent across countries, letting you integrate country-level and company-level economic data into FactSet reports and screens.

Different reporting standards across countries can present challenges to working with economic data. For example, United States Real GDP may have a base year of 2005, whereas Canada's Real GDP may have a base year of 2002. Items may also be reported in different currencies, making direct country-to-country comparisons difficult.

FactSet's Standardized Economic Data solves these challenges by creating one set of commonly-used economic items that are standardized and comparable across 95 countries plus five country aggregates. The database's rebase year is 2005. Please refer to Online Assistant page [2022](#) for further information. The syntax for the ExtractEconData function is:

URL:
https://datadirect.factset.com/services/factlet=FastFetch?&ids=&items=&optional_arguments.....

where,

data	Variable name for the data returned
ids	CellString array with a list of the country identifiers when used for the standardized economic database only, if other databases the ids argument should be left blank.
items	CellString array with a list of one or more FactSet data items from the Economic database

Optional arguments

date	One or more dates; Dates should be entered in start:end:freq format. (e.g. '20101215:20110115:d')
NFB	NFB is the optional "no feel back" argument in FQL codes. If you do not use the NFB argument, the returned data series will contain NAs where the data is not available (default is NFB=1). If you want the data to "feel back" over NAs to find the last actual data point and carry this data forward, set the NFB argument to either 0 or 2.
TSName	Used to display the time series value of the item in the label of the column where the data is being displayed. Ie SPEC_ID_DATA('WTI-FDS:FG_PRICE',-121,-1,M) is displayed in the column label as WTI-FDS. Specified as 'TSName','Y'
decimals	Positionally set according to the items in the selection, ie 'decimals','',3,4,3'

Example 1

This example retrieves industrial production data for the United States using the FactSet Economics database, starting 122 months ago (denoted with -121) until two months ago (denoted with -1).

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractEconData&items=FDS_ECON_DATA\(%27FRBIPSB50001%27,-121,-1,M,STEP,AVERAGE,1\)](https://datadirect.factset.com/services/FastFetch?factlet=ExtractEconData&items=FDS_ECON_DATA(%27FRBIPSB50001%27,-121,-1,M,STEP,AVERAGE,1))

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="3">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Entity Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="fds_econ_data">
<HEADER>fds_econ_data</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="121">
<ROW id="1">
<CELL id="1">fds_econ_data</CELL>
<CELL id="2">20090630</CELL>
<CELL id="3">87.0742</CELL>
</ROW>
<ROW id="2">
<CELL id="1">fds_econ_data</CELL>
<CELL id="2">20090701</CELL>
<CELL id="3">109.2243</CELL>
</ROW>
<ROW id="120">
<CELL id="1">fds_econ_data</CELL>
<CELL id="2">20190531</CELL>
<CELL id="3">109.2243</CELL>
</ROW>
<ROW id="121">
<CELL id="1">fds_econ_data</CELL>
<CELL id="2">20190628</CELL>
<CELL id="3">109.4144</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 2

In this example, extract multiple data series from the IMF database – population for the United States, denoted with series IMF_IFS[11199Z_F], and for the UK, denoted with series IMF_IFS[11299Z_F].

URL:

```
https://datadirect.factset.com/services/FastFetch?factlet=ExtractEconData&items=IMF_IFS_DATA(
%2711199Z_F%27,31/12/2000,-1,y),IMF_IFS_DATA(%2711299Z_F%27,31/12/2000,-
1,y)&tsName=Y
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Entity Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="11199Z_F">
<HEADER>11199Z_F</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="11299Z_F">
<HEADER>11299Z_F</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="15">
<ROW id="1">
<CELL id="1">imf_ifs_data</CELL>
<CELL id="2">20031231</CELL>
<CELL id="3">290.02762</CELL>
<CELL id="4">59.580223</CELL>
</ROW>
<ROW id="2">
<CELL id="1">imf_ifs_data</CELL>
<CELL id="2">20041231</CELL>
<CELL id="3">292.53</CELL>
</ROW>
<ROW id="15">
<CELL id="1">imf_ifs_data</CELL>
<CELL id="2">20171229</CELL>
<CELL id="3">324.45947</CELL>
<CELL id="4">66.18159</CELL>
</ROW>
</BODY>
</OUTPUT>
</FASTFETCH>
```

Note: The optional argument `tsName` here is used to display the mnemonics for each series.

Example 3

In this example, extract multiple data series from the Eurostat and FactSet Economics database sources. The series are - Consumer Survey Consumer confidence indicator Balance for the Euro Zone, denoted

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with series EURO_STAT[CONSCONFBAL@EUZ], and US Consumer Confidence, denoted with series TCB_CCI[CCI].

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractEconData&items=EURO_STAT_DATA\(%27CONSCONFBAL@EUZ%27,0,-11,M\),TCB_CCI_DATA\(%27CCI%27,0,-11,M\)](https://datadirect.factset.com/services/FastFetch?factlet=ExtractEconData&items=EURO_STAT_DATA(%27CONSCONFBAL@EUZ%27,0,-11,M),TCB_CCI_DATA(%27CCI%27,0,-11,M))

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
  <COLUMNS count="4">
    <COLUMN id="1" dataType="Entity" key="Id">
      <HEADER>Entity Id</HEADER>
    </COLUMN>
    <COLUMN id="2" dataType="Date" key="Date">
      <HEADER>Date</HEADER>
    </COLUMN>
    <COLUMN id="3" dataType="Float" key="euro_stat_data">
      <HEADER>euro_stat_data</HEADER>
    </COLUMN>
    <COLUMN id="4" dataType="Double" key="tcb_cci_data">
      <HEADER>tcb_cci_data</HEADER>
    </COLUMN>
  </COLUMNS>
  <BODY rows="12">
    <ROW id="1">
      <CELL id="1">euro_stat_data</CELL>
      <CELL id="2">20180831</CELL>
      <CELL id="3">NA</CELL>
      <CELL id="4">134.7</CELL>
    </ROW>
    <ROW id="2">
      <CELL id="1">euro_stat_data</CELL>
      <CELL id="2">20180928</CELL>
      <CELL id="3">NA</CELL>
      <CELL id="4">135.7</CELL>
    </ROW>
  </BODY>
</FASTFETCH>
```

Example 4

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This example retrieves the z-score of the Greece unemployment rate with FactSet Economics series FDS_ECON[GRLM0347861]

URL:

[https://datadirect.factset.com/services/FastFetch?factlet=ExtractEconData&items=ECON_EXPR_DATA\(%27ZSCORE\(FDS_ECON\[GRLM0347861\]\)%27,-10,0,M,STEP,AVERAGE\)](https://datadirect.factset.com/services/FastFetch?factlet=ExtractEconData&items=ECON_EXPR_DATA(%27ZSCORE(FDS_ECON[GRLM0347861])%27,-10,0,M,STEP,AVERAGE))

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="3">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Entity Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="Date" key="Date">
<HEADER>Date</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Float" key="econ_expr_data">
<HEADER>econ_expr_data</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="11">
<ROW id="1">
<CELL id="1">econ_expr_data</CELL>
<CELL id="2">20180928</CELL>
<CELL id="3">-0.82030535</CELL>
</ROW>
<ROW id="2">
<CELL id="1">econ_expr_data</CELL>
<CELL id="2">20181031</CELL>
<CELL id="3">-0.82030535</CELL>
</ROW>
<ROW id="3">
<CELL id="1">econ_expr_data</CELL>
<CELL id="2">20190731</CELL>
<CELL id="3">NA</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

The FactSet ZSCORE function, expressed in units of the distribution's standard deviation calculates how far and in what direction the specified series deviates from the distribution mean of data points in the array.

15. ExtractAlphaTestingSnapshot

The ExtractAlphaTestingSnapshot function provides access to data from AlphaTesting model results. Alpha Testing is a tool available in the FactSet workstation used to assess the relationship between one or more variables and subsequent returns over time. A subscription to Alpha Testing in FactSet is necessary to extract this data in the statistical package.

Alpha Testing

The Alpha Testing application in FactSet is used to build models specifying the factors to test, the historical context, and customizing fractile assignments. After building and running a model, the data can be viewed in the FactSet workstation in overview charts, an overall report or in detailed reports for any specific fractile or time period.

For a more comprehensive overview of Alpha Testing refer to FactSet Online Assistant page [20828](#). The syntax for the ExtractAlphaTestingSnapshot function is:

URL:

```
https://datadirect.factset.com/services/FastFetch?Factlet=ExtractAlphaTestingSnapshot&useStat=&headers=&model=&report=&items=&security=&date=&resultType=&sortOrder=&sortCol=&reportSettingName
```

Note: The ExtractAlphaTestingSnapshot function is used for extracting model results that use the Alpha Testing codes AT3_RESULT_DATA or AT3_RESULT_STAT.

where,

data	Variable name for the data returned
useStat	Blank or N. Leave a blank in quotes ("") to extract the main report data and extracted with the code AT3_RESULT_STAT. Specify (N) to extract the constituent data for the report, with each security/period in each row and each data item result in each column. This includes the raw, universe return and fractile data to display the raw data available for the companies in the specified universe, compared to the data available if outlier limitations are set within the model, along with the fractile values. This company level data is extracted with the code AT3_RESULT_DATA and goes into the aggregate calculation extracted with AT3_RESULT_STAT.
headers	Y or N. Specify if headers are required. If "Y" is specified, this will return ONLY headers in the result. No other data will be retrieved.
model	String specifying a AT3 model. Format as client:model name.
report	Name of the report to be extracted, i.e. CONSITUENTS, FRACTILES or PERIODS etc.
items	CellString specifying items (headers) or column numbers, ALL will return all items in report.
security	A single security can be specified.
date	A single date can be specified.
resultType	M or S. Main or Summary data respectively. Defaults to M.
sortOrder	A or D. Displays data in either Ascending or descending order.
sortCol	Column from which to sort the data
reportSettingName	String specifying name of the report setting or template.

Example 1

In this example, extract column 6 and 7 from the Constituents report sorted by column 6 of the Alpha Testing model titled Calculation Example Model.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractAlphaTestingSnapshot&useStat=N&headers=N&model=Factset:Calculation%20Example%20Model&report=CONSTITUENTS&items=6,7&sortOrder=D&sortCol=6>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="5">
<COLUMN id="1" dataType="Entity" key="Identifier">
<HEADER>Identifier</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="Company_Name">
<HEADER>Company_Name</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Date" key="Periods">
<HEADER>Periods</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="Weight">
<HEADER>Weight</HEADER>
</COLUMN>
<COLUMN id="5" dataType="Double" key="Market_Capitalization">
<HEADER>Market_Capitalization</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="100">
  <ROW id="1">
    <CELL id="1">G8865370</CELL>
    <CELL id="2">Wellco Enterprises Inc.</CELL>
    <CELL id="3">20040528</CELL>
    <CELL id="4">0.792022</CELL>
    <CELL id="5">28015056.000000</CELL>
  </ROW>
  <ROW id="2">
    <CELL id="1">G8865312</CELL>
    <CELL id="2">Waco Holdings Corp.</CELL>
    <CELL id="3">20040528</CELL>
    <CELL id="4">0.792022</CELL>
    <CELL id="5">28015056.000000</CELL>
  </ROW>
  <ROW id="100">
    <CELL id="1">00794210</CELL>
    <CELL id="2">1-800 Contacts Inc.</CELL>
    <CELL id="3">20040130</CELL>
    <CELL id="4">0.000004</CELL>
    <CELL id="5">0.000000</CELL>
  </ROW>
</BODY>
</FASTFETCH>
```

Example 2

In this example, extract all of the columns of data from the Constituents report of the Alpha Testing model titled Calculation Example Model.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractAlphaTestingSnapshot&useStat=N&headers=N&model=Factset:Calculation%20Example%20Model&report=CONSTITUENTS&items=ALL>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="16">
<COLUMN id="1" dataType="Entity" key="Identifier">
<HEADER>Identifier</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="Company_Name">
<HEADER>Company_Name</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="Perf_Raw">
<HEADER>Perf_Raw</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="5" dataType="Double" key="Days_to_Cover_Fractile">
<HEADER>Days_to_Cover_Fractile</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="100">
<ROW id="1">
<CELL id="1">56501R10</CELL>
<CELL id="2">NAVIŠTAR INTL CORP PREF D CVADJDV</CELL>
<CELL id="3">20040323</CELL>
<CELL id="4">7.850850</CELL>
<CELL id="5">8.439649</CELL>
<CELL id="6">0.178314</CELL>
<CELL id="7">1711532.750000</CELL>
<CELL id="8">19.036568</CELL>
<CELL id="9">19.036568</CELL>
<CELL id="10">1.000000</CELL>
<CELL id="11">4.749751</CELL>
<CELL id="12">-7.817966</CELL>
<CELL id="13">1.000000</CELL>
<CELL id="14">156.857147</CELL>
<CELL id="15">156.857147</CELL>
<CELL id="16">1.000000</CELL>
</ROW>
<ROW id="100">
<CELL id="1">91728640</CELL>
<CELL id="2">URSTADT BIDDLE PPTYS INS PFD SR C 8.5%</CELL>
<CELL id="3">20040528</CELL>
<CELL id="4">0.114286</CELL>
<CELL id="5">1.828575</CELL>
<CELL id="6">0.000168</CELL>
<CELL id="7">43750.000000</CELL>
<CELL id="8">-0.168860</CELL>
<CELL id="9">-0.168860</CELL>
<CELL id="10">1.000000</CELL>
<CELL id="11">0.000000</CELL>
<CELL id="12">0.000000</CELL>
<CELL id="13">1.000000</CELL>
<CELL id="14">739.400024</CELL>
<CELL id="15">739.400024</CELL>
<CELL id="16">1.000000</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

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Example 3

In this example, extract specifically the columns titled Weight and Market Capitalization from the Constituents report of the Alpha Testing model titled Calculation Example Model.

URL:

```
https://datadirect.factset.com/services/FastFetch?Factlet=ExtractAlphaTestingSnapshot&useStat=N&headers=N&model=Factset:Calculation%20Example%20Model&report=CONSTITUENTS&items=Weight,Market%20Capitalization
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="5">
<COLUMN id="1" dataType="Entity" key="Identifier">
<HEADER>Identifier</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="Company_Name">
<HEADER>Company_Name</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Date" key="Periods">
<HEADER>Periods</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="Weight">
<HEADER>Weight</HEADER>
</COLUMN>
<COLUMN id="5" dataType="Double" key="Market_Capitalization">
<HEADER>Market_Capitalization</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="100">
<ROW id="1">
<CELL id="1">56501R10</CELL>
<CELL id="2">Manulife Financial Corp.</CELL>
<CELL id="3">20040130</CELL>
<CELL id="4">0.792022</CELL>
<CELL id="5">28015056.000000</CELL>
</ROW>
<ROW id="100">
<CELL id="1">91728640</CELL>
<CELL id="2">URSTADT BIDDLE PPTYS INS PFD SR C 8.5%</CELL>
<CELL id="3">20040528</CELL>
<CELL id="4">0.000168</CELL>
<CELL id="5">43750.000000</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 4

In this example data from the Constituents report for the company Biacore International (ID: 08865810) of the Alpha Testing model titled Calculation Example Model is extracted.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractAlphaTestingSnapshot&useStat=N&headers=N&model=Factset:Calculation%20Example%20Model&report=CONSTITUENTS&items=all&security=08865810>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="16">
<COLUMN id="1" dataType="Entity" key="Identifier">
<HEADER>Identifier</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="Company_Name">
<HEADER>Company_Name</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Date" key="Periods">
<HEADER>Periods</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Date" key="Periods">
<HEADER>Periods</HEADER>
</COLUMN>
<COLUMN id="5" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="6" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="7" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="8" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="9" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="10" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="11" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="12" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="13" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="14" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="15" dataType="Double" key="Days_to_Cover_Raw">
<HEADER>Days_to_Cover_Raw</HEADER>
</COLUMN>
<COLUMN id="16" dataType="Double" key="Days_to_Cover_Fractile">
<HEADER>Days_to_Cover_Fractile</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="4">
<ROW id="1">
<CELL id="1">08865810</CELL>
<CELL id="2">Biacore International AB</CELL>
<CELL id="3">20040130</CELL>
<CELL id="4">3.762996</CELL>
<CELL id="5">-1.130182</CELL>
<CELL id="6">0.001153</CELL>
<CELL id="7">234487.500000</CELL>
<CELL id="8">4.925609</CELL>
<CELL id="9">4.925609</CELL>
<CELL id="10">1.000000</CELL>
<CELL id="11">2.340424</CELL>
<CELL id="12">2.340424</CELL>
<CELL id="13">2.000000</CELL>
<CELL id="14">894.594971</CELL>
<CELL id="15">894.594971</CELL>
<CELL id="16">1.000000</CELL>
</ROW>
<ROW id="2">
<CELL id="1">08865810</CELL>
<CELL id="2">Biacore International AB</CELL>
<CELL id="3">20040430</CELL>
<CELL id="4">-0.430888</CELL>
<CELL id="5">-39.957340</CELL>
<CELL id="6">0.001467</CELL>
<CELL id="7">228540.000000</CELL>
<CELL id="8">2.824605</CELL>
<CELL id="9">2.824605</CELL>
<CELL id="10">1.000000</CELL>
<CELL id="11">-1.130182</CELL>
<CELL id="12">-1.130182</CELL>
<CELL id="13">2.000000</CELL>
<CELL id="14">894.594971</CELL>
<CELL id="15">894.594971</CELL>
<CELL id="16">1.000000</CELL>
</ROW>
<ROW id="3">
<CELL id="1">08865810</CELL>
<CELL id="2">Biacore International AB</CELL>
<CELL id="3">20040430</CELL>
<CELL id="4">-0.430888</CELL>
<CELL id="5">-39.957340</CELL>
<CELL id="6">0.001467</CELL>
<CELL id="7">228540.000000</CELL>
<CELL id="8">2.824605</CELL>
<CELL id="9">2.824605</CELL>
<CELL id="10">1.000000</CELL>
<CELL id="11">-1.130182</CELL>
<CELL id="12">-1.130182</CELL>
<CELL id="13">2.000000</CELL>
<CELL id="14">894.594971</CELL>
<CELL id="15">894.594971</CELL>
<CELL id="16">1.000000</CELL>
</ROW>
<ROW id="4">
<CELL id="1">08865810</CELL>
<CELL id="2">Biacore International AB</CELL>
<CELL id="3">20040430</CELL>
<CELL id="4">-0.430888</CELL>
<CELL id="5">-39.957340</CELL>
<CELL id="6">0.001467</CELL>
<CELL id="7">228540.000000</CELL>
<CELL id="8">2.824605</CELL>
<CELL id="9">2.824605</CELL>
<CELL id="10">1.000000</CELL>
<CELL id="11">-1.130182</CELL>
<CELL id="12">-1.130182</CELL>
<CELL id="13">2.000000</CELL>
<CELL id="14">894.594971</CELL>
<CELL id="15">894.594971</CELL>
<CELL id="16">1.000000</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

Example 5

In this example summary data for columns 5 and 7 from the Periods report of the Alpha Testing model titled Calculation Example Model is extracted.

URL:

<https://datadirect.factset.com/services/FastFetch?Factlet=ExtractAlphaTestingSnapshot&headers=N&model=Factset:Calculation%20Example%20Model&report=PERIODS&items=1,2,7&resulttype=S>

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="3">
<COLUMN id="1" dataType="Date" key="Period">
<HEADER>Period</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="Number">
<HEADER>Number</HEADER>
</COLUMN>
<COLUMN id="3" dataType="Double" key="Standard_Deviation_Return">
<HEADER>Standard_Deviation_Return</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="1">
  <ROW id="1">
    <CELL id="1">20001231</CELL>
    <CELL id="2">NA</CELL>
    <CELL id="3">2.399874448776</CELL>
  </ROW>
</BODY>
</FASTFETCH>
```

16. LSD_Ownership

The FactSet Ownership database collects global equity ownership data for institutions, mutual fund portfolios, and insiders/stake holders. Detailed ownership data can be extracted by company or by holder (institution, mutual fund, and insider/stake). The LSD_Ownership function is used in for extracting one or more data items from the FactSet Ownership database for one or multiple securities or holders.

FactSet Ownership Database

The FactSet Ownership database provides detailed share ownership data including shares held, position change, market value adjusted for daily pricing and corporate actions, percent of both portfolio and shares outstanding, source, metro region, state, style, and turnover. For a more comprehensive overview of the FactSet Ownership database and data collection methodology, refer to Online Assistant page [17615](#).

For details on the Request Code syntax for ownership code see Online Assistant page [11728](#).

The syntax for the FDS.LSD_Ownership function is:

URL:
https://datadirect.factset.com/services/FastFetch?factlet=LSD_ownership&ids=&items=&Optional_arguments.....

where,

data	Variable name for the data returned
ids	CellString array with one or more identifiers for securities or holders.
items	CellString array with a list of one or more FactSet data items from the FactSet Ownership Database

Optional arguments

combinedOutputTypes	Required argument when matrix and vector output formats are requested in the same call.
----------------------------	---

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Example 1

In this example, extract the names in English of the top 3 institutional (signified by the F in the request code) holders (signified by the H in the request code) for Apple using the code LSD_NAME_TOP_HLDR.

URL:

```
https://datadirect.factset.com/services/FastFetch?factlet=LSD_ownership&ids=AAPL-US&items=OS_TOP_HLDR_NAME(3,0D,,MTD,,F,SEC,%27EN%27)
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="2">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="os_top_hldr_name">
<HEADER>os_top_hldr_name</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="3">
<ROW id="1">
<CELL id="1">AAPL-US</CELL>
<CELL id="2">The Vanguard Group, Inc.</CELL>
</ROW>
<ROW id="2">
<CELL id="1">AAPL-US</CELL>
<CELL id="2">Berkshire Hathaway, Inc. (Investment Management)</CELL>
</ROW>
<ROW id="3">
<CELL id="1">AAPL-US</CELL>
<CELL id="2">BlackRock Fund Advisors</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

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Example 2

In this example, extract the names of all (signified by the -1 in the first position of the code) of the institutional holders for IBM and GE using the code LSD_NAME_TOP_HLDR and the report date of the institutional holders ownership using the code LSD_RD_TOP_HLDR.

URL:

```
https://datadirect.factset.com/services/FastFetch?factlet=LSD_ownership&ids=IBM,GE&items=OS_T  
OP_HLDR_NAME(ALL,0D,,MTD,,F,SEC,%27EN%27),OS_TOP_HLDR_RDATE(ALL,0D,,MTD,,F,%  
27DATE%27)
```

Output

```
<?xml version="1.0" ?>  
<FASTFETCH>  
<COLUMNS count="3">  
<COLUMN id="1" dataType="Entity" key="Id">  
<HEADER>Id</HEADER>  
</COLUMN>  
<COLUMN id="2" dataType="String" key="os_top_hldr_name">  
<HEADER>os_top_hldr_name</HEADER>  
</COLUMN>  
<COLUMN id="3" dataType="String" key="os_top_hldr_rdate">  
<HEADER>os_top_hldr_rdate</HEADER>  
</COLUMN>  
</COLUMNS>  
<BODY rows="4654">  
<ROW id="1">  
<CELL id="1">IBM</CELL>  
<CELL id="2">The Vanguard Group, Inc.</CELL>  
<CELL id="3">06/30/2019</CELL>  
</ROW>  
<ROW id="2">  
<CELL id="1">IBM</CELL>  
<CELL id="2">SSgA Funds Management, Inc.</CELL>  
<CELL id="3">06/30/2019</CELL>  
</ROW>  
<ROW id="4653">  
<CELL id="1">GE</CELL>  
<CELL id="2">Lake Point Wealth Management LLC</CELL>  
<CELL id="3">06/30/2019</CELL>  
</ROW>  
<ROW id="4654">  
<CELL id="1">GE</CELL>  
<CELL id="2">Princeton Global Asset Management LLC</CELL>  
<CELL id="3">03/31/2019</CELL>  
</ROW>  
</BODY>  
</FASTFETCH>
```


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Example 3

It is also possible that instead of extracting the holders to extract the holdings as in this example where the top 10 holdings for Fidelity Management and Research (identifier: F16925) is extracted with the security identifiers, name and the percent position.

URL:

```
https://datadirect.factset.com/services/FastFetch?factlet=LSD_ownership&ids=F16925&items=OS_TOP_HLDG_ID(10,0D,,MTD,,ALL),OS_TOP_HLDG_NAME(10,0D,,MTD,,ALL),OS_TOP_HLDG_PCTOS(10,0D,,MTD,,ALL)
```

Output

```
<?xml version="1.0" ?>
<FASTFETCH>
<COLUMNS count="4">
<COLUMN id="1" dataType="Entity" key="Id">
<HEADER>Id</HEADER>
</COLUMN>
<COLUMN id="2" dataType="String" key="os_top_hldg_id">
<HEADER>os_top_hldg_id</HEADER>
</COLUMN>
<COLUMN id="3" dataType="String" key="os_top_hldg_name">
<HEADER>os_top_hldg_name</HEADER>
</COLUMN>
<COLUMN id="4" dataType="Double" key="os_top_hldg_pctos">
<HEADER>os_top_hldg_pctos</HEADER>
</COLUMN>
</COLUMNS>
<BODY rows="10">
<ROW id="1">
<CELL id="1">F16925</CELL>
<CELL id="2">594918104</CELL>
<CELL id="3">MICROSOFT CORP COM</CELL>
<CELL id="4">2.9966835</CELL>
</ROW>
<ROW id="2">
<CELL id="1">F16925</CELL>
<CELL id="2">3135106</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">4.1111111</CELL>
</ROW>
<ROW id="3">
<CELL id="1">F16925</CELL>
<CELL id="2">1000000000</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">0.0000000</CELL>
</ROW>
<ROW id="4">
<CELL id="1">F16925</CELL>
<CELL id="2">1000000000</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">0.0000000</CELL>
</ROW>
<ROW id="5">
<CELL id="1">F16925</CELL>
<CELL id="2">1000000000</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">0.0000000</CELL>
</ROW>
<ROW id="6">
<CELL id="1">F16925</CELL>
<CELL id="2">1000000000</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">0.0000000</CELL>
</ROW>
<ROW id="7">
<CELL id="1">F16925</CELL>
<CELL id="2">1000000000</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">0.0000000</CELL>
</ROW>
<ROW id="8">
<CELL id="1">F16925</CELL>
<CELL id="2">1000000000</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">0.0000000</CELL>
</ROW>
<ROW id="9">
<CELL id="1">F16925</CELL>
<CELL id="2">1000000000</CELL>
<CELL id="3">AMGEN INC COM</CELL>
<CELL id="4">0.0000000</CELL>
</ROW>
<ROW id="10">
<CELL id="1">F16925</CELL>
<CELL id="2">00724F101</CELL>
<CELL id="3">ADOBE INC COM</CELL>
<CELL id="4">7.3074705</CELL>
</ROW>
</BODY>
</FASTFETCH>
```

17. UploadToOFDB

The UploadToOFDB functionality allows clients to upload data into an OFDB file stored in Data Central in the FactSet workstation.

OFDB, which stands for Open FactSet Database, is a high-performance multi-dimensional database system used to securely store proprietary numeric and textual data on FactSet. OFDB is ideal for users who manage large portfolios or maintain extensive historical proprietary databases. OFDB optimizes large, multi-dimensional databases, giving FactSet users highly flexible, fast access to large volumes of complex data that can be used in many different applications.

Note: The optimal use of the UploadToOFDB functionality from MATLAB or R is for ad-hoc and smaller scale data uploads and would not replace a client's needs for FTP processes or production services, for larger scale or holdings uploads into FactSet.

Requirements for UploadToOFDB

The following are the necessary requirements to upload data into an OFDB:

- Data set must have at least ID, Date and Items field
- Fields uploaded can be iterated of any frequency or non-iterated
- Date types can be High Precision, Integer, or Text
- MATLAB - Dates need to be uploaded as integers in YYYYMMDD format for MATLAB or a MATLAB native date format
- R – Dates can be uploaded as yyyyymmdd and mm/dd/yyyy formats.
- Data Central subscription in the FactSet workstation is necessary:
 - Basic data storage access available to all clients with a premium FactSet workstation in Data Central is 1GB of storage space. Additional data storage is available and should be discussed with a FactSet sales representative.
 - If attempting to upload data to a full OFDB file and thus exceeding data storage space access, there will be an error message, "Client Data Space is Full", after running an upload from MATLAB/R.
- FactSet does not need to be launched when uploading data into an OFDB.

17.1. Creating a New OFDB

The following details are regarding the behavior of an OFDB file that is created through UploadToOFDB:

- If the OFDB does not already exist, it will be created.
- OFDBs created by UploadToOFDB have all fields iterated with Daily Frequency and data type High Precision for numbers and Text(32) for strings.
- OFDB schemas define the database. If another schema is required for the OFDB file, it should first be created in Data Central. For more details regarding creating or editing schemas refer to Online Assistant page [11502](#).
- Once an OFDB is created, no changes to the schema can be made through the UploadToOFDB functionality. A new OFDB would need to be created to make the necessary changes.

17.2. Modifying an Existing OFDB

The following details are regarding modifying an OFDB file through UploadToOFDB, when adding additional dates or values to that file:

- Data for an additional date can be appended for existing sssecurities in an OFDB file.
- Data for additional securities can be appended to an OFDB file for the existing dates in the file or for a new date range.
- The headers of the data uploaded must match the existing column names.
- New Data items cannot be appended to an existing OFDB through the UploadtoOFDB functionality.

UploadToOFDB Syntax

Before uploading data into an OFDB file, it is necessary to first create a structure, similar to the structure of the results returned by a factlet request.

The syntax for the UploadToOFDB functionality is:

URL:
<https://datadirect.factset.com/services/fastfetch?factlet=uploadtoofdb&ofdb=&columnnames=&columnTypes=&data=.....>

where,

OFDB	The name of the OFDB file to which the data is getting uploaded (default directory is Personal, for other locations the path must be specified).
data	The Data structure that is uploaded to the OFDB.
columnName	Names of the columns
columnTypes	Data Structure of the column

18. EstimatesOnDemand

The EstimatesOnDemand function provides access to FactSet sourced company level estimates data. The data is accessed through the following reports that are available with this function: Actuals, Broker Detail, Broker Snapshot, Consensus, Guidance, Surprise, Consensus Recommendations, Detailed Recommendations and Broker Coverage.

FactSet Estimates

FactSet Estimates provides consensus- and detail-level estimates and statistics from leading investment banks and research firms. With over 780 contributing brokers globally, FactSet Estimates covers more than 16,300 active global companies and 100 data items. Categories of data include sector specific items, commodity estimates, EPS, DPS, guidance and more. Global scope of companies covered is approximately 31% from North America, 27% from Europe, and 35% from Asia. Historical information is available from 1997 for European companies and 2000 for companies in the Americas and Asia. A subscription to the FactSet Estimates database is necessary to be able to extract this data.

The manner in which contributed content is displayed and available on FactSet for individual users and user groups is ultimately determined by the contributing partner. Several of FactSet brokerage partners have additional restrictions on their data. Clients can request that the broker allow greater entitlements and/or greater access to their supplied data on FactSet. Please contact your FactSet representative for additional details.

For more information regarding the FactSet Estimates database refer to Online Assistant page [13369](#). For a list of active brokers available in FactSet Estimates refer to Online Assistant page [14706](#).

The syntax for the EstimatesOnDemand function is:

URL:

https://datadirect.factset.com/services/fastfetch?factlet=EstimatesOnDemand&report=&ids=&items=&startdate&optional_arguments.....

Output

data	variable name for the data returned
ids	CellString array with a list of one or multiple security identifiers
items	CellString array with a list of one or more FactSet data items from the FactSet Estimates database (e.g., EPS, Sales, Net Debt). Note: Table 1 in Appendix has a comprehensive list of items for which estimates are available using this function.
report	Allows specification of the types of estimates report through which the data is retrieved. The available reports as Actuals, BrokerDetail, BrokerSnapshot, Consensus, Guidance, Surprise, Consensus Recommendations, Detailed Recommendations, and Broker Coverage.
startDate	The start date as of which the estimate data is retrieved.

Optional arguments

end	The end date as of which the estimate data is retrieved
freq	The frequency of which the estimate data is retrieved
fiscalPeriod	The fiscal period for the estimate item. The option is available of looking at historical, current, or future fiscal periods. The fiscal period can be specified using relative dates. The arguments entered as relative dates represent a date relative to the most recently updated period. For example, 0 (zero) represents the most recently reported period; -1 represents the time period prior to the most recently reported period. Arguments entered can be -1, 0, 1, 2, etc.
periodType	The argument can be entered as “annual”, “quarterly”, or “semi”, depending on the type of estimates data request. Not all equities have estimates for all period types.

	Specification of a select number of fields to extract.
fields	Note: Each section provides a detailed list of the output fields associated with each FactSet Estimates report.
timeStamp	Display the publication time associated with the publication date. The argument would be set up as: 'timestamp', 'y' and it can be used with an actuals report.
reportDate	Display report date. The argument would be set up as: 'reportDate', 'y' and can be used with the Broker Detail report.
previousDates	Used with the Consensus report and refers to previous date as of which estimates can be retrieved and compared to the estimates retrieved as of the date argument. For example, if EPS estimates are displayed as of now, allows clients to compare the EPS estimates as of i.e. 30 days ago.
prev	If the previousDates argument is used the 'fields' and 'prev' should be appended.
display	Used with the Broker Detail report. If utilizing HISTO for the historical look an 'end date' argument must be entered. If utilizing the SNAP mode, an 'end date' parameter is not needed unless looking for the current consensus less than 100 days old. Otherwise SNAP will bring back the current consensus as of the last 100 days.
statistic	Used with the Surprise report. There are a number of different statistics that the client can bring back using the Surprise Report. They have the ability to specify which one they prefer. The list includes: Mean, Median (MED), High Estimate (HIGH), Low Estimate (LOW), Sigma and Standard Deviation (STDDEV).
offset1/offset2	Used with the Surprise report. This parameter is to change the number of days used before and after the report date to calculate price impact. The argument would be set up as: 'offset1', 'offset2'.
currency	Allows all values to be changed to the specified currency. By default, the currency is the value of the security.
meanText	To display the Rating Name. The argument would be set up as: 'meanText', 'y' and can be used with the Consensus Recommendation report.
estCurrency	In cases where the security's local currency does not match the Currency of the estimates the argument 'estCurrency', 'Y' can be used, this changes the currency field to display the Estimate Currency. Also, the field heading changes to EST_CURRENCY.
showExcluded	Available for BrokerDetail and BrokerSnapshot, specifying this to N will only display the broker estimates that are included in the consensus; default is to show all values.
universe	Screening expression to limit the universe
ison	Ison-codes can be used to limit the universe ISON_MSCI_WORLD(0,1) is written as 'ison', 'msci_world', 'isonParams', '0,1'
isonParams	The arguments within brackets in the ison-code
OFDB	Universe is the constituents of an OFDB file, default directory is Client, if the OFDB is stored in another location the path must be included
OFDBDate	Specific date for the constituents of the OFDB
cal	Calendar setting, arguments include: FIVEDAY: Displays Monday through Friday, regardless of whether there were trading holidays. SEVENDAY: Displays Monday through Sunday.

18.1. Estimates Report - Actuals

The FactSet Estimates Actuals report provides access to the income statement, balance sheet, cash flow statement and per share data for all companies covered by FactSet Estimates; as well as the median value of the post-event consensus, known as the Broker Actual.

The data extracted by this report is accessible by using other functions such as `ExtractFormulaHistory` and `ExtractDataSnapshot`, but the value added of this function is that the default output includes a more comprehensive overview of the estimate actuals value, date and a flag explaining from where the actuals value is extracted. This default output would entail making multiple requests using the other functions.

Actuals Methodology

Estimates are data points representing information about a future period: FY1, or FQ1, and beyond. Actuals are data points representing information about the past: FY0, FQ0, or earlier.

An "Actuals" can have two forms:

- The value collected directly from the company's income statement, balance sheet, cash flow statement, known as the Actual.
- The median value of the post-event consensus, known as the Broker Actual.
 - Mean can be used to calculate Broker Actual if desired.
 - The Broker Actual is the default value for the European zone, even if an Actual is present.

FactSet Estimates actuals data is collected through a variety of channels, but the primary source is financial statements published by the company. For the U.S., European, and Japanese sources mentioned below, FactSet collects earnings announcements as soon as the data is made available to these news services. Depending on local regulations, this can be anywhere from one to six months after the end of the fiscal period.

These sources include:

For U.S. Companies:

- CallStreet Transcripts
- PR Newswire
- Business Wire
- CCN Matthews
- GlobeNewswire
- Market Wire
- CallStreet

For European Companies:

- Financial Express Company Announcements
- Europe PR Newswire
- Hugin Southern Europe
- Hugin
- Europe Business Wire for Japanese Companies:
- TDNet

Data Fields extracted with the FactSet Estimates Actuals Report

The following table provides a detailed description of each of the 9 data fields that are by default retrieved when using the FactSet Estimates Actuals Report.

Field Name	Description
SecId	The security identifier.
CURRENCY	The currency in which the selected estimate actual item is displayed.
FE_ITEM	The estimates actual item that is being retrieved, i.e. EPS.
FE_PER_REL	The relative fiscal period that is specified in the syntax. For example, when the syntax specified fiscal period=1 and period type=annual, the data is retrieved for the current unreported fiscal year for the company. This field retrieves a 1 for this example since the fiscal period argument is 1. If the argument is for the current reported fiscal year or quarter it would be FY0 or FQ0, respectively.
FE_REPORT_FY	The actual report date.
PUBDATE	The date when the company actually release their data.
Date	The period ending date.
FE_ACTUAL	The actual value.
FE_ACTUAL_FLAG	The Flag for the actual report type being retrieved. + 1 is returned if an actual is available outside of Europe (U.S., Canada, Latin America, Asia/Pacific, and Australia). Note: This is not a broker actual. + 2 is returned if a European actual is available. Note: This is not a broker actual. + 3 is returned if the data is a broker actual (consensus coverage).

Estimates Report – Broker Detail

The BrokerDetail report provides access to detail level broker estimates from the FactSet Estimates database. The data extracted by this report is accessible by using other functions such as ExtractVectorFormula, but the value added of this function is that the default output includes more comprehensive broker detail information in terms of the Brokers, Analysts and the change from their historical estimates.

Broker Detail Methodology

The methodology used with the FactSet Estimates database is to group consensus estimates classes into estimate groups, according to the different accounting methodologies used by various brokers. The default consensus (class 0) regroups estimates according to FactSet Estimates methodology.

The goal of FactSet Estimates consensus classes is to identify and exclude brokers that use a different methodology from the default methodology used by FactSet Estimates.

A consensus estimate is calculated for one class at a time because creating an average across different classes can be misleading. FactSet Estimates provides a more meaningful consensus estimate figure through the consensus class functionality.

For example, in the insurance sector, some brokers make an estimate based on gross premium and others on net premium. If the FactSet Estimates methodology uses net premium as a default, then the estimates of the brokers who use gross premium will belong to a new class of consensus which will be different from the default class.

Data Fields extracted with the FactSet Estimates BrokerDetail Report

The following table provides a detailed description of each of the 18 data fields that are by default retrieved when using the FactSet Estimates Broker Detail report.

Field Name	Description
SecId	The security identifier.
FE_FP_END	The date corresponding to the fiscal period type that is entered. For example, if the arguments entered in the syntax are fiscal period=1 and period type=annual, the relative date is FY1 which is the current unreported fiscal year for the company.
CURRENCY	The currency in which the selected estimate item is displayed.
FE_ITEM	The estimates item that is being retrieved, i.e. EPS.
FE_PER_REL	The relative fiscal period that is specified in the syntax. For example, when the syntax specified fiscal period=1 and period type=annual, the data is retrieved for the current unreported fiscal year for the company. This field retrieves a 1 for this example since the fiscal period argument is 1.
Date	The research date for the estimate item. This corresponds to the date of the report issued by a broker. Whenever a broker sends a new estimate or opinion, it is considered a research date. It reflects the date indicated in the actual report issued by the broker, not the date FactSet received it.
FE_BROKER	The FactSet Estimates Broker code. For a list of active brokers available in FactSet Estimates and their corresponding codes refer to Online Assistant page 14706 .
FE_BROKERNAME	The Broker Name, i.e. Goldman Sachs. See Online Assistant page 14706 for a full list.
FE_ANALYST	The code for the analyst. The code is based on a FactSet people map and allows brokers to control readership entitlements. See Online Assistant page 14706 for a full list of Broker codes
FE_ANALYSTNAME	The name of the Analyst making providing the estimate.
ENTRY_DATETIME	The entry date of the estimate.
FE_ESTIMATE	The detail estimate history from contributing brokers over specified date range for the specified period (i.e. EPS for FY1).
OTHER_CC	Consensus Class that pertains to a particular estimate. The details of this methodology described in section 2 above.
FE_SECTION	Indicates if according to the default FactSet Estimates consensus methodology the broker is included or excluded from the calculation.
FE_STATUS	Displays exclusion information. Explains the reason for the exclusion (i.e. Dropping Coverage).
FE_EST_REV_VAL	The previous estimate value from the same analyst, for the same fiscal period.
FE_EST_REV_VAL_ARROW	Retrieves a -1, 0, 1 or NA to indicate the direction of the estimate change from the analyst. A -1 indicates that the latest estimate value retrieved with FE_ESTIMATE is lower than the value retrieved with the previous estimate, retrieved with the field FE_EST_REV_VAL. A 0 indicates that there has been no change in the estimate. A 1 indicates that the latest estimate is higher than the previous value from the same analyst. An NA indicates that there was no previous value from that analyst for this security.
FE_EST_REV_VAL_DATE	Retrieves the research date of the previous estimate value that corresponds to FE_EST_REV_VAL

18.2. Estimates Report – Broker Snapshot

The Broker Snapshot function provides access to a historical snapshot of detail level broker estimates from the FactSet Estimates database. The difference between the FactSet Estimates BrokerSnapshot and the FactSet Estimates BrokerDetail reports is that the BrokerSnapshot provides a snapshot only and does not accept a date range, but the snapshot is an annual or quarterly roll argument to look at historical estimates. Estimates on a rolling basis return data for the current unreported fiscal year or quarter as of the date entered.

Data Fields extracted with the FactSet Estimates Broker Snapshot Report

The following table provides a detailed description of each of the 18 data fields that are by default retrieved when using the Broker Snapshot report.

Field Name	Description
SecId	The security identifier.
FE_FP_END	The date corresponding to the fiscal period type that is entered. For example, if the arguments entered in the syntax are fiscal period=1 and period type=annual, the relative date is FY1 which is the current unreported fiscal year for the company.
CURRENCY	The currency in which the selected estimate item is displayed.
FE_ITEM	The estimates item that is being retrieved, i.e. EPS.
FE_PER_REL	The relative fiscal period that is specified in the syntax. For example, when the syntax specified fiscal period=1 and period type=annual, the data is retrieved for the current unreported fiscal year for the company. This field retrieves a 1 for this example since the fiscal period argument is 1.
Date	The research date for the estimate item. This corresponds to the date of the report issued by a broker. Whenever a broker sends a new estimate or opinion, it is considered a research date. It reflects the date indicated in the actual report issued by the broker, not the date FactSet received it.
FE_BROKER	The FactSet Estimates Broker code. For a list of active brokers available in FactSet Estimates and their corresponding codes refer to Online Assistant page 14706 .
FE_BROKERNAME	The Broker Name, i.e. Goldman Sachs.
FE_ANALYST	The code for the analyst. The code is based on a FactSet people map and allows brokers to control readership entitlements.
FE_ANALYSTNAME	The name of the Analyst making providing the estimate.
ENTRY_DATETIME	The entry date of the estimate.
FE_ESTIMATE	The detail estimate history from contributing brokers over specified date range for the specified period (i.e. EPS for FY1).
OTHER_CC	Consensus Class that pertains to a particular estimate. The details of this methodology described in section 2 above.
FE_SECTION	Indicates if according to the default FactSet Estimates consensus methodology the broker is included or excluded from the calculation.
FE_STATUS	Displays exclusion information. Explains the reason for the exclusion (i.e. Dropping Coverage).
FE_EST_REV_VAL	The previous estimate value from the same analyst, for the same fiscal period.
FE_EST_REV_VAL_AR ROW	Retrieves a -1, 0, 1 or NA to indicate the direction of the estimate change from the analyst. A -1 indicates that the latest estimate value retrieved with FE_ESTIMATE is lower than the value retrieved with the previous estimate, retrieved with the field FE_EST_REV_VAL. A 0 indicates that there has been no change in the estimate. A 1 indicates that the latest estimate is higher than the previous value from the same analyst. An NA indicates that there was no previous value from that analyst for this security.
FE_EST_REV_VAL_DATE	Retrieves the research date of the previous estimate value that corresponds to FE_EST_REV_VAL.

18.3. Estimates Report – Consensus

The Consensus report provides access to consensus level estimates from the FactSet Estimates database. The data extracted by this report is accessible by using other functions such as ExtractFormulaHistory and ExtractDataSnapshot, but the value added of this function is that the default output includes more comprehensive consensus information in terms of the mean, median, high, low and standard deviation of estimates. This default output would entail making multiple requests using the other functions.

Consensus Methodology

The methodology used with the FactSet Estimates database is to group consensus estimates classes into estimate groups, according to the different accounting methodologies used by various brokers. The default consensus (class 0) regroups estimates according to FactSet Estimates methodology. The goal of FactSet Estimates consensus classes is to identify and exclude brokers that use a different methodology from the default methodology used by FactSet Estimates.

A consensus estimate is calculated for one class at a time because creating an average across different classes can be misleading. FactSet Estimates provides a more meaningful consensus estimate figure through the consensus class functionality. For example, in the insurance sector, some brokers make an estimate based on gross premium and others on net premium.

If the FactSet Estimates methodology uses net premium as a default, then the estimates of the brokers who use gross premium will belong to a new class of consensus which will be different from the default class.

Broker estimates can be received and processed in a multitude of formats of the brokers choosing. The main two types of formats are manual contribution and automatic contribution. FactSet Estimates does not make or alter estimates received from contributors, but does however, convert currency (i.e., USD to EUR) and convert units (i.e., KM to Miles, Cubic feet to Barrels of Oil (BOE), etc.) when appropriate.

The “consensus window” refers to the time period associated with estimates used in the consensus. By default, consensus estimates calculated by FactSet are based on estimates that have been validated via broker research within the past 100 days. When an estimate does not exist in the past 100 days, typically for small cap companies, FactSet Estimates automatically selects the latest estimate received within a predetermined time period. This window is used to ensure that clients are analyzing meaningful consensus estimates.

Data Fields extracted with the FactSet Estimates Consensus Report

The following table provides a detailed description of each of the 17 data fields that are by default retrieved when using the Consensus report.

Field Name	Description
SecId	The security identifier.
FE_FP_END	The date corresponding to the fiscal period type that is entered. For example, if the arguments entered in the syntax are fiscal period=1 and period type=annual, the relative date is FY1 which is the current unreported fiscal year for the company.
CURRENCY	The currency in which the selected estimate item is displayed.
FE_ITEM	The estimates item that is being retrieved, i.e. EPS.
FE_PER_REL	The relative fiscal period that is specified in the syntax. For example, when the syntax specified fiscal period=1 and period type=annual, the data is retrieved for the current unreported fiscal year for the company. This field retrieves a 1 for this example since the fiscal period argument is 1.
Date	The research date for the estimate item. This corresponds to the date of the report issued by a broker. Whenever a broker sends a new estimate or opinion, it is considered a research date. It reflects the date indicated in the actual report issued by the broker, not the date FactSet received it.

Field Name	Description
FE_MEAN	Consensus – Estimate Mean
FE_MEDIAN	Consensus – Estimate Median
FE_NUM_EST	Consensus – Number of Estimates
FE_LOW	Consensus – Lowest Estimate
FE_HIGH	Consensus – Highest Estimate
FE_STD_DEV	Consensus – Standard Deviation from Estimate
FE_UP	Consensus – Number of Estimates Revised Up
FE_DOWN	Consensus – Number of Estimates Revised Down
FE_UNCHANGED	Consensus – Number of Estimates Unchanged Revisions
FE_TOTAL	Consensus – Number of Total Estimates Revised
FE_MEPS_INFO	Estimate Description Label

18.4. Estimates Report – Guidance

The Guidance report provides access to the estimates guidance that companies provide as an indication or estimate of their future earnings. FactSet Estimates provides high, low, and mean guidance estimates for companies. The data extracted by this function is accessible by using other functions such as `ExtractFormulaHistory` and `ExtractDataSnapshot`, but the value added of this report is that the default output includes information in terms of the mean, high and low guidance values compared to the mean estimate based on the broker contributions. This default output would entail making multiple requests using the other functions.

Source of Guidance

Companies provide guidance as an indication or estimate of their future earnings.

The estimate guidance is collected by FactSet from the following sources:

For U.S Companies:

- CallStreet Transcripts
- PR Newswire
- Business Wire
- CCN Matthews
- GlobeNewswire
- Market Wire

For European Companies:

- Financial Express Company Announcements
- Europe PR Newswire
- Hugin Southern Europe
- Hugin
- Europe Business Wire for Japanese Companies:
- TDNet

Data Fields extracted with the FactSet Estimate Guidance Report

The following table provides a detailed description of each of the 12 data fields that can be retrieved when using the Guidance report.

Field Name	Description
SecId	The security identifier.
CURRENCY	The currency in which the selected estimate guidance item is displayed.
FE_ITEM	The estimates guidance item that is being retrieved, i.e. EPS.
FE_PER_REL	The relative fiscal period that is specified in the syntax. For example, when the syntax specified fiscal period=1 and period type=annual, the data is retrieved for the current unreported fiscal year for the company. This field retrieves a 1 for this example since the fiscal period argument is 1.
FE_MEAN_DATE	The research date for the estimate item. This corresponds to the date of the report issued by a broker. Whenever a broker sends a new estimate or opinion, it is considered a research date. It reflects the date indicated in the actual report issued by the broker, not the date FactSet received it.
Guidance Min	Guidance – Low Estimate
Guidance Max	Guidance – High Estimate
Guidance Mean	Guidance - Mean of High and Low
FE_MEAN	Consensus - Mean of Estimates
Guidance Min Date	Guidance Min Record Date
Guidance Max Date	Guidance Max Record Date
Guidance Mean Date	Guidance Mean Record Date

18.5. Estimates Report – Surprise

The Surprise report provides data to measure adjustments made to the consensus vis-à-vis corporate announcements. The data extracted by this function is accessible by using other functions such as ExtractFormulaHistory and ExtractDataSnapshot, but the value added of this report is that the default output includes more comprehensive overview of the change in consensus estimates before and after the surprise event as well as the effect on the security price. This default output would entail making multiple requests using the other functions.

Surprise Methodology

There are two types of Surprise calculations, either using the Actual or the post-event consensus. The Actual is used as the default calculation for Australia, Japan, and the US geographic regions.

The post-event consensus is used for all other regions, primarily Europe. However, if there is no Actual present, then the post-event consensus will be used.

Surprise calculations are triggered by events, which include profit warnings, preliminary releases, or an earnings release, whether quarterly, semi-annual, or annual. The first event of the quarter will trigger the surprise calculation.

Thus, there can be more than one surprise calculation within a single quarter. Only after a company rolls will an Actual or Broker Actual be used. The Surprise Event is, by default, the first event of the quarter. In this case, the surprise calculation can be based on a profit warning if available, instead of a publication date.

The post-event consensus is continuously updated as relevant data is received until 100 days after the event. At that point the post-event consensus is finalized and thus the Surprise value for that fiscal period will remain static unless there is more than one event in the same quarter. If the two events occur within the same quarter and they are not 100 days apart, the first post-event consensus will be finalized as of just before the release of the second event.

Both annual and quarterly surprise values are calculated for every event. Either the quarterly or annual calculation must be designated by the user. Annual surprises are recalculated quarterly. The FactSet Estimates database assumes that recent quarterly results affect annual estimates. Thus, to retrieve a surprise figure as of the year end, the last fiscal quarter in the FactSet Estimates code should be referenced.

Data Fields extracted with the FactSet Estimates Surprise Report

The following table provides a detailed description of each of the 13 data fields that are by default retrieved when using the Surprise report.

Field Name	Description
SecId	The security identifier.
CURRENCY	The currency in which the selected estimate item is displayed.
FE_ITEM	The estimates item that is being retrieved, i.e. EPS.
FE_PER_REL	The relative fiscal period that is specified in the syntax. For example, when the syntax specified fiscal period=1 and period type=annual, the data is retrieved for the current unreported fiscal year for the company. This field retrieves a 1 for this example since the fiscal period argument is 1.
Surprise_Before_Event	Displays the Consensus figure one day prior to the surprise event. It can be displayed in several forms: median, mean, low, high, standard deviation, and number of estimates.
Surprise_After_Event	Displays the Consensus figure post the surprise event. It can be displayed in several forms: median, mean, low, high, standard deviation, and number of estimates.
Surprise_Amount	Displays the value of surprise after minus surprise before.
Surprise (%)	Displays the Surprise percentage, calculated as Surprise Amount/Surprise Before.
Price_Impact (%)	Displays the Impact Surprise amount has on the Stock Price. It is the percentage in price change between the dates before the report date and after. By default, the price impact will calculate 1 day before and 0 day after the report date.
Surprise_Date	Surprise event date.
Surprise_Event	Description of the event surprise that the figures are based on.
Surprise_Period	Displays the fiscal period related to the surprise date.
Surprise_Date_Before_Event	Displays the date one day prior to a surprise event.

18.6. Estimates Report – Consensus Recommendation

The Consensus Recommendation report provides access to the number of different recommendations given by brokers as well as the mean recommendation based on the recommendation mark mapping.

Recommendation Methodology

Recommendation data covers all broker recommendations received over the past 100 days. When a broker issues several recommendations over the past 100 days, only the most recent is retained. Recommendations are divided into five broad categories: Buy, Overweight, Hold, Underweight, and Sell. Then, a rating of between 1 and 3 is attributed to each category according to the table below.

Recommendation Mark	Recommendation Name
1	Buy
1.5	Overweight
2	Hold
2.5	Underweight
3	Sell

The methodology used with the FactSet Estimates database is to keep recommendations consistent across the FactSet database. Not every broker uses the same recommendations that FactSet has in place. Therefore, FactSet works with all its contributors in order to correctly map their recommendations. The Estimates database builds out a recommendation dictionary for each broker which tells exactly how each of their recommendations corresponds to FactSet's own categories. These recommendations can be changed at any time should a contributor begin to give new recommendations or want to change their existing mapping. By doing so, FactSet ensure that its contributor recommendations are captured correctly in the Estimates Database.

Data Fields extracted with the FactSet Estimates Consensus Recommendation Report

The following table provides a detailed description of each of the 10 data fields that are retrieved when using the FactSet Estimates Consensus Recommendation report.

Field Name	Description
SecId	The security identifier.
Consensus Date	The consensus date for the mean recommendations.
FE_BUY	The aggregate number of buy recommendations.
FE_OVER	The aggregate number of overweight recommendations.
FE_HOLD	The aggregate number of hold recommendations.
FE_UNDER	The aggregate number of underweight recommendations.
FE_SELL	The aggregate number of sell recommendations.
FE_TOTAL	The aggregate number of recommendations.
FE_MARK	The mean recommendation.
FE_MARK_TEXT	The mean recommendation with text string; accessible only with 'meanText', 'Y'
FE_NO_REC	The aggregate number of brokers covering the security that are not providing a recommendation for the particular period.

18.7. Estimates Report – Detailed Recommendation

The Detailed Recommendation report provides access to the number of different recommendations given by brokers.

Recommendation Methodology

Recommendation data covers all broker recommendations received over the past 100 days. When a broker issues several recommendations over the past 100 days, only the most recent is retained. Recommendations are divided into five broad categories: Buy, Overweight, Hold, Underweight, and Sell. Then, a rating of between 1 and 3 is attributed to each category according to the table below.

Recommendation Mark	Recommendation Name
1	Buy
1.5	Overweight
2	Hold
2.5	Underweight
3	Sell

The methodology used with the FactSet Estimates database is to keep recommendations consistent across the FactSet database. Not every broker uses the same recommendations that FactSet has in place. Therefore, FactSet works with all its contributors in order to correctly map their recommendations.

The Estimates database builds out a recommendation dictionary for each broker which tells exactly how each of their recommendations corresponds to FactSet's own categories. These recommendations can be changed at any time should a contributor begin to give new recommendations or want to change their existing mapping. By doing so, FactSet ensure that its contributor recommendations are captured correctly in the Estimates Database.

Data Fields extracted with the FactSet Estimates Detailed Recommendation Report

The following table provides a detailed description of each of the 10 data fields that are by default retrieved when using the FactSet Estimates Detail Recommendation report.

Field Name	Description
SecId	The security identifier.
FE_BROKER	The FactSet Estimates Broker code. For a list of active brokers available in FactSet Estimates and their corresponding codes refer to Online Assistant page 14706 .
FE_BROKERNAME	The Broker Name, i.e. Goldman Sachs.
FE_ANALYST	The code for the analyst. The code is based on a FactSet people map and allows brokers to control readership entitlements.
FE_ANALYSTNAME	The name of the Analyst making providing the estimate.
FE_ESTIMATE	The detailed recommendation mark from contributing brokers over specified date range for the specified period (i.e. EPS for FY1).
FE_ESTIMATE_VALUE	The detailed recommendation name from contributing brokers over specified date range for the specified period (i.e. EPS for FY1).
FE_EST_REV_VAL	The previous estimate value from the same analyst, for the same fiscal period.

Field Name	Description
FE_EST_REV_VAL_ARROW	Retrieves a -1, 0, 1 or NA to indicate the direction of the recommendation change from the analyst. A -1 indicates that the latest recommendation value retrieved with FE_ESTIMATE is lower than the value retrieved with the previous estimate, retrieved with the field FE_EST_REV_VAL. A 0 indicates that there has been no change in the recommendation. A 1 indicates that the latest recommendation is higher than the previous value from the same analyst. An NA indicates that there was no previous value from that analyst for this security.

18.8. Appendix

Following is a list of Items for estimates available with EstimatesOnDemand

Description	Item Code
Adjusted Funds From Operations	AFFO
Annual Subscription Value	ASV
Tangible Book Value per Share	BPS_TANG
Book Value Per Share	BVPS
Capital Expenditures	CAPEX
Cash Flow From Financing	CFF
Cash Flow From Investing	CFI
Cash Flow From Operations	CFO
Cash Flow Per Share	CFPS
CurrentAssets	CURRENTASSETS
CurrentLiabilities	CURRENTLIABILITIES
EPS - Non-GAAP	CUSTOM_EPS
Dividends Per Share	DIV
Reported Earnings Per Share	EAG
Earnings Per Share Excluding Exceptions	EBG
EBIT	EBIT
EBITDA	EBITDA
Earnings Per Share	EPS
EPS - Non-GAAP ex. SOE	EPSA
EPS - GAAP	EPSR
Stock Option Expense	FASB123IMP
Free Cash Flow	FCF
Free Cash Flow Per Share	FCFPS
Funds From Operations	FFO
Adjusted Funds From Operations	FFOA
Gross Income	GROSSINCOME
Interest Expense	INTEXP
Long Term Growth	LTG
Number of Shares	NBTITB
Number of Shares Basic	NBTITBAS
Net Income - Non-Consolidated	NET_P
Net Profit Adjusted	NETBG
Net Debt	NETDEBT
Declared Dividend Per Share	NETDIV
Net Profit	NETPROFIT
Net Income Adjusted	NETPROFITA
Pretax Income	PTP
Pre-Tax Income - Non-Consolidated	PTP_P
Pre-Tax Profit Reported	PTPBG

Description	Item Code
Pretax Income - Reported	PTPR
Research And Development	RD_EXP
Selling and Marketing	S_M_EXP
Sales	SALES
Sales - Non-Consolidated	SALES_P
Same Store Sales	SAMESTORESALES
Selling, General and Administrative Expense	SGA
Shareholder's Equity	SH_EQUITY
Shares Basic	SHARB
Shares Diluted	SHARD
Shareholder's Equity	SHEQUITY
Shares Dilute	SHR
Shares Basic	SHRB
Number of Shares Basic	SHRBLA
Shares	SHRLA
Stock Option Expense	SOE
Tax Expense	TAX_EXPENSE
Book Value per Share - Tangible	TBVPS
Target Price	TGP
Total Debt	TOTALDEBT
Total Assets	TOTASSETS
Total Goodwill	TOTGW
Total Revenue	TOTREV
Airlines	
Airlines - Available Seat Km	AVAILABLESEATKM
Airlines - Load Factor	LOADFACTOR
Airlines - Operating Expenses per ASK	OPEX_ASK
Airlines - Passenger Revenue Km	REVPASSENGERKM
Airlines - Passenger Revenue per ASK	PASS_REV_ASK
Airlines - Passenger Revenue per RPK	PASS_REV_RPK
Airlines - Revenue Passenger	REV_PASSENGER
Airlines - Total Revenue per ASK	TOT_REV_ASK
Airlines Operating Expenses per ASK excluding fuel costs	OPEX_ASK_X
Banks	
Bank - ASSETS_NONPERF	ASSETS_NONPERF
Bank - Average Earnings Assets	AVG_EARN_ASSETS
Bank - AVG_EARN_ASSETS	AVG_EARN_ASSETS
Bank - DEPS_AVG	DEPS_AVG
Bank - INT_INC_MARGIN	INT_INC_MARGIN
Bank - LOAN_NET_AVG	LOAN_NET_AVG
Bank - Net Charge Offs	NET_CHARGE_OFFS
Bank - Net Interest Margin	INT_INC_MARGIN

Description	Item Code
Bank - NET_CHARGE_OFFS	NET_CHARGE_OFFS
Bank - Non performing Loans	LOAN_NONPERF
Bank - Non-Performing Assets	ASSETS_NONPERF
Bank - Operating Expense	OperExpen
Bank - Tier 1 Common Capital Ratio	COMCAP_RATIO_TIER1
Bank - Capital Adequacy Ratio - Tier 1 - Banks	CAP_RATIO_TIER1
Bank - Cost to Income	COST_INCOME
Bank - Income from Fees & Commissions	INC_FEES
Bank - Net Interest Income	NetInterestInc
Bank - Net Loans	LOAN_NET
Bank - Provisions for Credit Losses	ProvLoans
Bank - Risk Weighted Assets	ASSETS_RISK_WGHT
Bank - Total Deposits	DEPS
Bank - Trading Income	TradInc
Education	
Education - New Student Enrollment	STUDENTENROLL_NEW
Education - Total Student Enrollment	STUDENTENROLL_TOT
Commodities	
Commodities - Mean Target Price	MTGP
Home Builders	
Home Builders - Backlog Avg Price	BACKLOG_AVG_PRICE
Home Builders - Backlog Units	BACKLOG_UNITS
Home Builders - Backlog Value	BACKLOG_VALUE
Home Builders - Deliveries Average Price	DELIVERIES_AVG_PRICE
Home Builders - Deliveries Units	DELIVERIES_UNITS
Home Builders - Financial Services	FIN_SERVICES
Home Builders - Home Sales	HOME_SALES
Home Builders - Land Sales	LAND_SALES
Home Builders - Orders Avg Price	NEW_ORDERS_AVG_PRICE
Home Builders - Orders Units	NEW_ORDERS_UNITS
Home Builders - Orders Value	NEW_ORDERS_AVG_VALUE
Hospitals	
Hospitals - Other Operating Expenses	OTHER_OPEX
Hospitals - Provision for Bad Debt	BAD_DEBT_PROV
Hospitals - Salaries and Benefits	SAL_BENEFITS
Hospitals - Same Store Adjusted Admissions	SS_ADJ_ADM
Hospitals - Same Store Admissions	SS_ADM
Hospitals - Same Store Revenue per Adjusted Admissions	SS_REV_PER_ADJ_AM
Hospitals - SUPPLIES	SUPPLIES
Hotels	
Hotels - Revenue per Available Room-International	RevPar_intl
Hotels - ADR	Adr_Tot

Description	Item Code
Hotels - ADR - Dom.	ADR_Dom
Hotels - ADR - Intl.	ADR_Intl
Hotels - Occupancy % Dom	Occupancy_dom
Hotels - Occupancy % Intl	Occupancy_intl
Hotels - Occupancy % Total	Occupancy_tot
Hotels - RevPAR	RevPar_tot
Hotels - RevPAR - Dom	RevPar_Dom
Insurance	
Combined Ration	COMBINED_RATIO
Embedded Value	EMBEDDED_VALUE
Insurance - Gross Premiums Written	GROSS_PREM_WRITTEN
Insurance - Net Investment Income	RevPar_intl
Insurance - Net Premiums Earned	PREM_EARN
Insurance - Net Premiums Written	PREM_WRITTEN
Mining	
Mining - Cash Cost	CASH_COST
Mining - Realized Price	REAL_PRICE
Mining - Total Production	TOTAL_PROD
Multi Financial	
Multi Financial - Asset Under Management Average	AUM_AVG
Multi Financial - Asset Under Management End of the Period	AUM
Multi Financial - Long Term Flows	LT_FLOWS
Multi Financial - Net Flows	NETFLOWS
Oil Companies	
Debt-Adjusted Cash Flow	DACF
Oil companies - 1P Proved Reserves	Proved_1P
Oil companies - 2P Proved and Probable Reserves	Proved_2P
Oil companies - 3P Proved Probable and Possible Reserves	Proved_3P
Oil companies - Chemicals Income	Chemicals_OpInc
Oil companies - Chemicals Income - Dom	CHEM_DOM
Oil companies - Chemicals Income - Intl	CHEM_INTL
Oil companies - Downstream Income - Dom	R_M_DOM
Oil companies - Downstream Income - Downstream	R_M_OPINC
Oil companies - Downstream Income - Intl	R_M_INTL
Oil companies - Exploration Expense	Exploration_Exp
Oil companies - OPEX Per Unit	OPEX_UNIT
Oil companies - Production Per Day	PRODPERDAY
Oil companies - Production Per Day - Natural Gas	PROD_DAY_GAS
Oil companies - Production Per Day - Oil & NGLs	PROD_DAY_OIL
Oil companies - Realized Price	REAL_PRICE
Oil companies - Realized Price - Natural Gas	REAL_PRICE_GAS
Oil companies - Realized Price - Oil & NGLs	REAL_PRICE_OIL

Description	Item Code
Oil companies - Upstream	E_P_OPINC
Oil companies - Upstream Income - Dom	E_P_DOM
Oil companies - Upstream Income - Intl	E_P_INTL
Total Production	TOTAL_PROD
Real Estate	
Real Estate - Adjusted Funds from Operations	AFFO
Real Estate - Funds from Operations	FFO
Real Estate - Net Asset Value per Share	NAVPS
Real Estate - Net Asset Value per Share - NTM	RNAVPS
Retailers	
Retailers - Total Production	StoresEnd
Retailers - # of Stores Opened	StoresClosed_I
Retailers - # Stores at Period End	StoresEnd
Retailers - # Stores at Period End - Intl.	StoresEnd_I
Retailers - # Stores at Period End- Dom.	StoresEnd_D
Retailers - # Stores Closed During Period	StoresClosed
Retailers - # Stores Closed During Period - Dom.	StoresClosed
Retailers - # Stores Closed During Period - Intl.	StoresClosed
Retailers - # Stores Opened During Period - Dom.	StoresOpened_D
Retailers - # Stores Opened During Period - Intl.	StoresOpened_I
Retailers - # Stores Relocated During Period	StoresReloc
Retailers - # Stores Relocated During Period - Dom.	StoresReloc_D
Retailers - # Stores Relocated During Period - Intl.	StoresReloc_I
Retailers - Net Sales per Retail Square Foot	NetSalesRetailSq
Retailers - Same Store Sales	SameStoreSales
Retailers - Same Store Sales Dom.	SameStoreSales_D
Retailers - Same Store Sales INTL.	SameStoreSales_I
Retailers - Same Store Sales Monthly	SAMESTORESALESM
Retailers - Selling Space Sq. Ft. (Gross)	SellingSpace
Retailers - Selling Space Sq. Ft. (Gross)- Dom	SellingSpace_D
Retailers - Selling Space Sq. Ft. (Gross)- Intl	SellingSpace_I
SSS_WMT	SSS_WMT
SSS_WMT_samsclub	SSS_WMT_samsclub
Telecom	
ACCESS LINES	ACCESS_LINES
Average Revenue Per User	ARPU
CHURN	CHURN
Cost per Gross Add	CPGA
Gross Adds	GROSS_ADDS
Minute of Use	MOU
Net Adds	NET_ADDS
Number of Subscribers	SUBSCRIBERS_NB

Description	Item Code
Subscriber Acquisition Cost	SAC