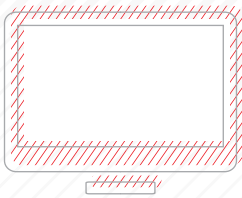
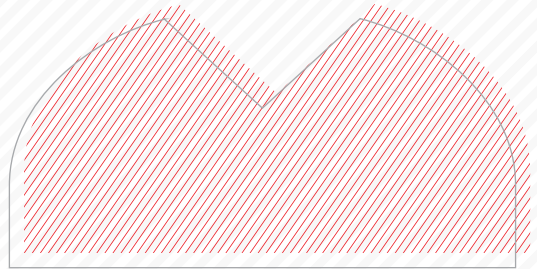
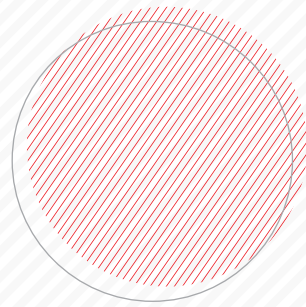
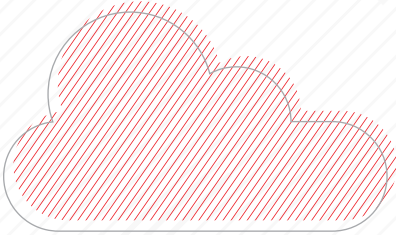
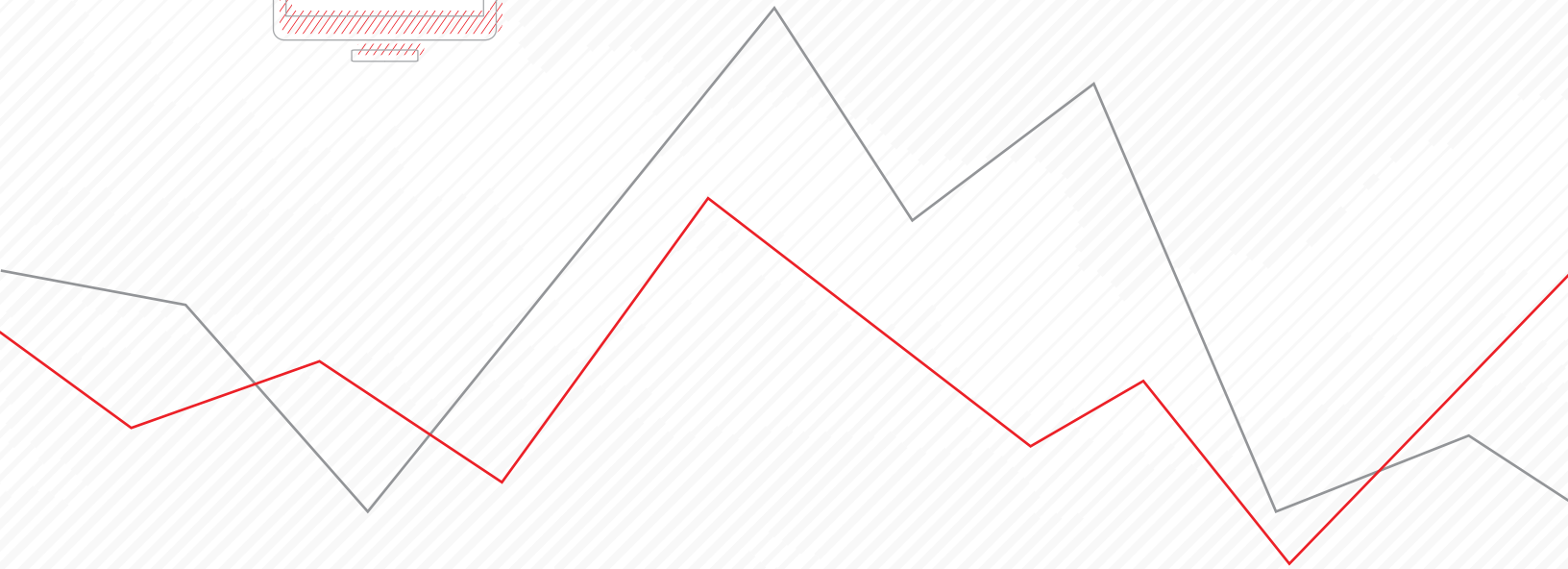


Data Import Specifications

Morningstar DirectSM Cloud



MORNINGSTAR Direct



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Morningstar DirectSM Cloud Data Import Specifications

The Morningstar DirectSM Cloud import service allows users to import data from Microsoft[®] Excel[®] into Morningstar Direct Cloud, where it can be analyzed. Users can import data from the Import utility, or as a part of an automated batch process.

Overview

The automated batch process involves a secure file transfer from the home office to Morningstar, and must be setup in coordination with the Morningstar Direct Cloud technology team. Batch processing is generally recommended for large-volume, regular-frequency data loads. For certain smaller-volume loads, the interactive Import utility within Morningstar Direct Cloud is recommended.

This document covers some basic information you need to know when it comes to importing, including the following topics:

- ▶ What types of objects can be imported
- ▶ How to identify securities when importing
- ▶ Details on importing different object types
- ▶ Speed and performance issues related to importing, and
- ▶ Security related to importing data into Morningstar Direct Cloud.



Basic Information to Know When Importing

Before exploring the details involved with importing different types of items, it's important to know exactly what can be imported via batch or the interactive format, and what file types can be used as the source for importing. It is also critical to know how to identify securities when importing.

This section covers which types of objects can be imported, and how you can identify securities when importing.

The Direct Cloud import service currently supports nine different file types. Support for batch and interactive import varies based on file type. The file types available for interactive import depend on the edition of Morningstar Direct Cloud being used. In addition, specified firm administrators have access to review batch-imported results from the Morningstar Direct Cloud interface.

The following table describes the file types you can import, which editions of Morningstar Direct Cloud allow for each file type to be imported, and what file formats are supported by both the batch and interactive import process:

File Type	Description	Applicable Editions	Interactive/Batch (File Format) Support
Investment List	A set of securities or funds to be used for analysis in Morningstar Direct Cloud workbooks	Manager Research Wealth Management Independent Advisor Buy Side	Interactive (.xls, .xlsx) No batch import available for investment lists.
Investment List with Custom Data (Security-Level Custom Data)	A set of securities or funds with associated firm-specific data values (custom classifications, credit ratings, and so on)	Manager Research Wealth Management	Interactive (.xls, .xlsx) Batch (.xls, .xlsx, .txt, .csv)
Account Holding	Positional holding information for a client account	Wealth Management	Interactive (.xls, .xlsx) Batch (.txt)
Model Portfolio	Positional holding information for a model portfolio	Wealth Management	Interactive (.xls, .xlsx) Batch (.xls, .xlsx, .txt, .csv)
Custom Benchmark	Positional holding information for a blended benchmark	Wealth Management	Interactive (.xls, .xlsx) Batch (.xls, .xlsx, .txt, .csv)
Custom Fund	Positional holding information for a client-specific fund	Manager Research Wealth Management	Interactive (.xls, .xlsx) Batch (.xls, .xlsx, .txt, .csv)

Overview

What types of objects can be imported?

File Type	Description	Applicable Editions	Interactive/Batch (File Format) Support
Account Profile	Account-level information, such as the associated portfolio manager(s) and custom data	Firm Administrator	Batch (.txt) No interactive import is available when importing account profiles.
Historical Account Return	Time series custom account return data	Firm Administrator	Batch (.txt) No interactive import is available when importing historical account returns.
Historical Security Custom Data	Time series custom price and/or return data	Firm Administrator	Batch (.txt) No interactive import is available when importing historical security custom data.

Many of the file types supported by the import process require an investment identifier, so Morningstar Direct Cloud can recognize the specific security or fund to which each row of data corresponds. The import process supports the security identifiers listed in the following table. In cases where an identifier is required, one of the fields in the Field Name column must be provided:

How can investments be identified when importing?

Import Utility Default Identifier	Description	Data Type (Maximum Length)	Example
Symbol/Ticker	Security ticker	Alpha numeric (25)	IBM
CUSIP	Committee on Uniform Securities Identification Procedures	Alpha numeric (9)	868536A0
ISIN	International Securities Identification Number	Alpha numeric (12)	US5434957743
SEDOL	Stock Exchange Daily Official List	Alpha numeric (7)	B1DDKW4
APIR	Australian Registered Body Number (issued by APIR®)	Alpha numeric (9)	AUG0018AU
KR Code	Korean Fund Code	Alpha numeric (12)	R5364AK3549
CA Fund Code	Canadian Fund Code	Alpha numeric (9)	AGF944, GWL72214
SecId	Morningstar Security ID	Alpha numeric (10)	F00000MY89
PerfID	Morningstar Performance ID	Alpha numeric (10)	0P0000INOL
FundID	Morningstar Fund ID	Alpha numeric (10)	FS00008NJG

Importing Various File Types

Depending on the type of object (security, portfolio, custom data point, and so on) being imported, certain fields are required and others are optional. This section details what you need to know to import the following objects:

Overview

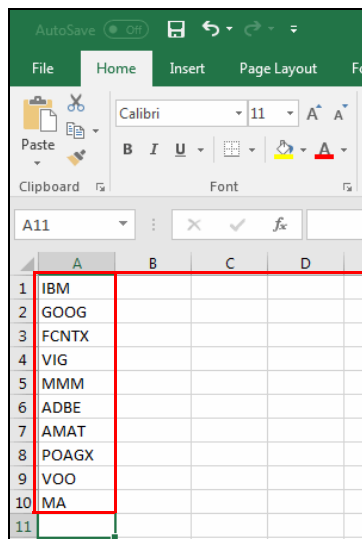
- ▶ [Investment List](#)
- ▶ [Investment List with Custom Data \(Security Custom Data\)](#)
- ▶ [Custom Data Point Types](#)
- ▶ [Account Holding](#)
- ▶ [Model Portfolio](#)
- ▶ [Custom Benchmark](#)
- ▶ [Custom Fund](#)
- ▶ [Account Profile](#)
- ▶ [Historical Account Return](#)
- ▶ [Historical Security Custom Data](#)

An investment list file can include only one list per file. The investment list file simply requires one investment identifier; no other columns are required or referenced during the import process. Mixed identifiers in the same column are not allowed for this file format (that is, the same column cannot contain a CUSIP for one security and an ISIN for another), but you can mix investment types, such as ETFs and open-end mutual funds. A header row is not needed. The following table describes the data to include when importing an investment list:

What is required to import an investment list?

Field Name	Description	Data Type (Max Length)	Required (Yes/No)	Example
Identifier	Public or Morningstar code used to recognize the investment	See How can investments be identified when importing? on page 7.	Yes	See How can investments be identified when importing? on page 7

The following is an example of an investment list you could import:



These 10 items will be imported as one list; note that only ticker symbols are used, a mix of investment types are included, and no header row is needed

Custom data files must include an identifier for each investment in the file, as well as any number of custom data points for which the user would like to load data. Prior to importing custom data, users must define their custom data points using the Custom Data Management utility in Morningstar Direct Cloud.

What is required to import an investment list with security-level custom data?

During the import process, a new list is created for the securities in the file, and the custom data values are loaded. Users may also decide to override an existing list as a part of this process. Once the custom data is imported, users need to [create a custom column set](#) in the Grid View component to see the data in an investment workbook.

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Identifier	Public or Morningstar code used to recognize the investment	See How can investments be identified when importing? on page 7	Yes	See How can investments be identified when importing? on page 7
Custom data points	The custom data points defined by the user	See the Custom Data Point Types table on page 10.	Yes	User-specific values

The following is an example of an investment list with custom data you could import:

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C
1	AMCPX	Broad Equity	
2	AMRMX	Broad Equity	
3	CWGIX	Broad Equity	
4	AEPGX	Broad Equity	
5	CGIAX	Broad Asset Allocation	
6	ANWPX	Broad Equity	
7	NEWFX	Broad Equity	
8	AWSHX	Broad Asset Allocation	
9	YACKX	Broad Equity	
10			
11			

The custom data point (and its classification values) must have already been created in Morningstar Direct Cloud in order to import it

Several types of custom data points can be loaded with an investment list. Data must match the data type associated with each custom data point column. The following table describes the types of custom data points you can load with an investment list:

What can I import as custom data with an investment list?

Custom Data Point Type	Description	Data Type (Maximum Length)
Free Text	Long, free-form data field	Alpha numeric (250)
Classification	Short, free-form data field with distinct value options	Alpha numeric (50)
Numeric	Numeric field	Numeric (19, 5)
Benchmark	Data point used to associate a security or fund with a specific benchmark. Benchmark values must be Morningstar performance IDs, so you should look these up prior to importing.	Alpha numeric (10)

The following are examples of custom data points you could import:

- ▶ Fund Description
- ▶ Fund Type
- ▶ Number of Subadvisors, and
- ▶ Custom Fund Benchmark.

Account holding files may include one or many accounts. Files should include an identifier (Account Number) and name for each account, as well as holding information. Transactional data cannot be imported; only positional data can be imported. The following table describes which data points are optional, and which are required when importing account holdings:

What is required to import account holdings?

Note: If users prefer to import market value, then shares and price are no longer required.

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Account Number	Code used to identify a specific account	Alpha numeric (100)	Yes	123456789
Account Name	Description of the client account; because accounts are not assigned to client records, it is a good idea to include the client name in the Account Name field	Alpha numeric (255)	No	Baker Retirement Account
Date	Holding as of date	Date	Yes	08/16/2015 16/08/2015 2015-08-16
Identifier	Public or Morningstar code used to recognize the holding	See How can investments be identified when importing? on page 7.	Yes	See How can investments be identified when importing? on page 7.
Holding Name	Name of the holding	Alpha numeric (255)	Yes	AQR Multi-Strategy Alternative I
Shares	Number of shares held	Numeric (19,5)	Yes	32.185
Price	The price of the holding	Numeric (19,5)	Yes	12.48
Price Currency	The currency code for the holding's price; this field should use the ISO 4217 currency code standard	Alpha (3)	Yes	USD
Market Value	Market value (shares multiplied by price), rounded to two decimal points	Numeric (19,2)	No	401.67
Market Value Currency	The currency code for the holding's market value; this field should use the ISO 4217 currency code standard	Alpha (3)	No	USD

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Security Type	Description of the type of holding according to the user's system (mapping to Morningstar standard types can be established)	Alpha numeric (25)	No	Mutual Fund
Unrealized Gain/Loss	The holding's unrealized gain/loss	Numeric (19,2)	No	123.45
Unrealized Gain/Loss Currency	The currency code for the holding's unrealized gain/loss; this field should use the ISO 4217 currency code standard	Alpha (3)	No	USD

The following is an example of an account you could import:

	A	B	C	D	E
1	Account Number	Date	Identifier	Holding Name	Market Value
2	123456789	3/31/2012	AEPGX	American Funds Europacific Growth A	10000
3	123456789	3/31/2012	AMCPX	American Funds AMCAP A	15000
4	123456789	3/31/2012	AMRMX	American Funds American Mutual A	12500
5	123456789	3/31/2012	ANWPX	American Funds New Perspective A	12500
6	123456789	3/31/2012	AWSHX	American Funds Washington Mutual A	7500
7	123456789	3/31/2012	CGIAX	American Funds Intl Gr and Inc529A	7500
8	123456789	3/31/2012	CWGIX	American Funds Capital World Gr&Inc A	10000
9	123456789	3/31/2012	DODIX	Dodge & Cox Income	10000
10	123456789	3/31/2012	NEWFX	American Funds New World A	7500
11	123456789	3/31/2012	YACKX	AMG Yacktman I	7500

Because no Account Name column is included, the Account Number field will be reused as the Account Name

Because Market Value is included here, neither Shares nor Price are needed

Model portfolio files may include one or many models. Files should include an identifier (Model Portfolio Number) and name for each model, as well as positional holding information.

What is required to import model portfolios?

- Note: If users prefer to import market value, then shares and price are no longer required. Furthermore, if users prefer to import holding by weight percentage, then neither shares and price nor market value are required.

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Model Portfolio Number	Code used to identify a specific model	Alpha numeric (100)	Yes	123456789
Model Portfolio Name	Name of the model portfolio	Alpha numeric (255)	No	My Model
Date	Holding as of date	Date	Yes	08/16/2015 16/08/2015 2015-08-16
Identifier	Public or Morningstar code used to recognize the holding	See How can investments be identified when importing? on page 7.	Yes	See How can investments be identified when importing? on page 7.
Holding Name	Description of the holding	Alpha numeric (255)	Yes	AQR Multi-Strategy Alternative I
Shares	Number of shares held	Numeric (19,5)	Yes	32.185
Price	The price of the holdings	Numeric (19,5)	Yes	12.48
Price Currency	The currency code for the holding's price; this field should use the ISO 4217 currency code standard	Alpha (3)	Yes	USD
Market Value	Market value (shares multiplied by price), rounded to two decimal points	Numeric (19,2)	No	401.67
Market Value Currency	The currency code for the holding's market value; this field should use the ISO 4217 currency code standard	Alpha (3)	No	USD
Weight %	Holding weight in the model portfolio	Numeric (8,5)	No	20.5
Security Type	Type of holding according to the user's system (mapping to Morningstar standard types can be established)	Alpha numeric (25)	No	Mutual Fund

The following is an example of a model portfolio you could import:

Note: When using Weight, as in the following example, be sure the total for the Weight column equals exactly 100%.

	A	B	C	D	E
1	Account Number	Date	Identifier	Holding Name	Weight
2	Model1	3/31/2012	AEPGX	American Funds Europacific Growth A	10
3	Model1	3/31/2012	AMCPX	American Funds AMCAP A	15
4	Model1	3/31/2012	AMRMX	American Funds American Mutual A	12.5
5	Model1	3/31/2012	ANWPX	American Funds New Perspective A	12.5
6	Model1	3/31/2012	AWSHX	American Funds Washington Mutual A	7.5
7	Model1	3/31/2012	CGIAX	American Funds Intl Gr and Inc529A	7.5
8	Model1	3/31/2012	CWGIX	American Funds Capital World Gr&Inc A	10
9	Model1	3/31/2012	DODIX	Dodge & Cox Income	10
10	Model1	3/31/2012	NEWFX	American Funds New World A	7.5
11	Model1	3/31/2012	YACKX	AMG Yacktman I	7.5

Instead of using Weight, you could use either Shares and Price, or Market Value

Custom benchmark files may include one or many benchmarks. Files should include an identifier (Custom Benchmark Number) and name for each benchmark being imported, as well as holding information.

What is required to import a custom benchmark?

Note: If users prefer to import market value, then shares and price are no longer required. Furthermore, if users prefer to import holding weight %, then neither shares and price nor market value are required.

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Custom Benchmark ID	Code used by the user to identify a specific benchmark	Alpha numeric (100)	Yes	123456789
Custom Benchmark Name	Description of the benchmark	Alpha numeric (255)	No	My Best Fit Benchmark
Date	Holding as of date	Date	Yes	08/16/2015 16/08/2015 2015-08-16
Identifier	Public or Morningstar code used to recognize the holding	See How can investments be identified when importing? on page 7.	Yes	See How can investments be identified when importing? on page 7.
Holding Name	Name of the holding	Alpha numeric (255)	Yes	S&P 500 TR USD
Shares	Number of shares held	Numeric (19,5)	Yes	32.185
Price	The price of the holdings	Numeric (19,5)	Yes	12.48
Price Currency	The currency code for the holding's price; this field should use the ISO 4217 currency code standard	Alpha (3)	Yes	USD
Market Value	Market value (shares multiplied by price), rounded to two decimal points	Numeric (19,2)	No	401.67
Market Value Currency	The currency code for the holding's market value; this field should use the ISO 4217 currency code standard	Alpha (3)	No	USD
Weight %	Holding weight in the custom benchmark	Numeric (8,5)	No	20.5
Security Type	Type of holding according to user's system (mapping to Morningstar standard types can be established)	Alpha numeric (25)	No	Mutual Fund

The following is an example of a series of benchmarks you could import:

Custom Benchmark ID	Custom Benchmark Name	Date	SecId	Holding Name	Weight
2	Custom Bench 1	3/31/2012	XIUSA000CV	MSCI EAFE PR USD	25
3	Custom Bench 1	3/31/2012	XIUSA000KO	Russell 1000 Growth TR USD	15
4	Custom Bench 1	3/31/2012	XIUSA000KP	Russell 1000 Value TR USD	10
5	Custom Bench 1	3/31/2012	XIUSA000KQ	Russell 2000 Growth TR USD	10
6	Custom Bench 1	3/31/2012	XIUSA000KR	Russell 2000 Value TR USD	10
7	Custom Bench 1	3/31/2012	XIUSA04G92	S&P 500 TR USD	20
8	Custom Bench 1	3/31/2012	FOUSA05Y32	BBgBarc Aggregate Bond Treasury TR	10
9	Custom Bench 2	3/31/2012	XIUSA000CV	MSCI EAFE PR USD	20
10	Custom Bench 2	3/31/2012	XIUSA000KO	Russell 1000 Growth TR USD	12.5
11	Custom Bench 2	3/31/2012	XIUSA000KP	Russell 1000 Value TR USD	12.5
12	Custom Bench 2	3/31/2012	XIUSA000KQ	Russell 2000 Growth TR USD	7.5
13	Custom Bench 2	3/31/2012	XIUSA000KR	Russell 2000 Value TR USD	7.5
14	Custom Bench 2	3/31/2012	XIUSA04G92	S&P 500 TR USD	20
15	Custom Bench 2	3/31/2012	FOUSA05Y32	BBgBarc Aggregate Bond Treasury TR	20
16	Custom Bench 3	3/31/2012	XIUSA000CV	MSCI EAFE PR USD	15
17	Custom Bench 3	3/31/2012	XIUSA000KO	Russell 1000 Growth TR USD	10
18	Custom Bench 3	3/31/2012	XIUSA000KP	Russell 1000 Value TR USD	12.5
19	Custom Bench 3	3/31/2012	XIUSA000KQ	Russell 2000 Growth TR USD	5
20	Custom Bench 3	3/31/2012	XIUSA000KR	Russell 2000 Value TR USD	7.5
21	Custom Bench 3	3/31/2012	XIUSA04G92	S&P 500 TR USD	20
22	Custom Bench 3	3/31/2012	FOUSA05Y32	BBgBarc Aggregate Bond Treasury TR	30
23	Custom Bench 4	3/31/2012	XIUSA000CV	MSCI EAFE PR USD	15
24	Custom Bench 4	3/31/2012	XIUSA000KO	Russell 1000 Growth TR USD	10
25	Custom Bench 4	3/31/2012	XIUSA000KP	Russell 1000 Value TR USD	10
26	Custom Bench 4	3/31/2012	XIUSA000KQ	Russell 2000 Growth TR USD	5
27	Custom Bench 4	3/31/2012	XIUSA000KR	Russell 2000 Value TR USD	5
28	Custom Bench 4	3/31/2012	XIUSA04G92	S&P 500 TR USD	15
29	Custom Bench 4	3/31/2012	FOUSA05Y32	BBgBarc Aggregate Bond Treasury TR	40
30	Custom Bench 5	3/31/2012	XIUSA000CV	MSCI EAFE PR USD	10
31	Custom Bench 5	3/31/2012	XIUSA000KO	Russell 1000 Growth TR USD	10
32	Custom Bench 5	3/31/2012	XIUSA000KP	Russell 1000 Value TR USD	10
33	Custom Bench 5	3/31/2012	XIUSA000KQ	Russell 2000 Growth TR USD	5
34	Custom Bench 5	3/31/2012	XIUSA000KR	Russell 2000 Value TR USD	5
35	Custom Bench 5	3/31/2012	XIUSA04G92	S&P 500 TR USD	10
36	Custom Bench 5	3/31/2012	FOUSA05Y32	BBgBarc Aggregate Bond Treasury TR	50

For this file, SecId is used as the Identifier

A custom fund file may include one or many custom funds. Files should include an identifier (Custom Fund ID) and a name for each custom fund, as well as positional holding information. Custom funds are imported as portfolios.

What is required to import a custom fund?

- Note: If users prefer to import market value, then shares and price are no longer required. Furthermore, if users prefer to import holding weight %, then neither shares and price nor market value are required.

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Custom Fund ID	Code used to identify a specific fund	Alpha numeric (25)	Yes	123456789
Custom Fund Name	Description of the fund	Alpha numeric (255)	No	My Firm's Custom Fund
Date	Holding as of date	Date	Yes	08/16/2015 16/08/2015 2015-08-16
Identifier	Public or Morningstar code used to recognize the holding	See How can investments be identified when importing? on page 7.	Yes	See How can investments be identified when importing? on page 7.
Holding Name	Name of a holding	Alpha numeric (255)	Yes	AQR Multi-Strategy Alternative I
Shares	Number of shares held	Numeric (19,5)	Yes	32.185
Price	The price of the holdings	Numeric (19,5)	Yes	12.48
Price Currency	The currency code for the holding's currency; this field should use the ISO 4217 currency code standard	Alpha (3)	Yes	USD
Market Value	Market value (shares X price), rounded to two decimal points	Numeric (19,2)	No	401.67
Market Value Currency	The currency code for the holding's market value; this field should use the ISO 4217 currency code standard	Alpha (3)	No	USD
Weight %	A holding's weight in the custom fund	Numeric (8,5)	No	20.5
Security Type	Type of holding according to user's system (mapping to Morningstar standard types can be established)	Alpha numeric (25)	No	Mutual Fund

The following is an example of a custom fund you could import:

Custom Fund ID	Custom Fund Name	Holding Name	Date	Ticker	Weight
123456	My FOF	iShares Core MSCI Emerging Markets ETF	3/31/2012	IEMG	10
123456	My FOF	iShares Core MSCI EAFE	3/31/2012	IEFA	15
123456	My FOF	iShares China Large-Cap	3/31/2012	FXI	10
123456	My FOF	iShares \$ High Yld Corp Bd USD Dist JDR	3/31/2012	IHYU	10
123456	My FOF	iPath Bloomberg® Comdty TR ETN	3/31/2012	DJP	15
123456	My FOF	iPath DJ-UBS Commodity Index TR ETN	3/31/2012	DJP	10
123456	My FOF	iPath Bloomberg Sugar SubTR ETN	3/31/2012	SGG	10
123456	My FOF	iPath Bloomberg Livestock SubTR ETN	3/31/2012	COW	10
123456	My FOF	iPath Bloomberg Coffee SubTR ETN	3/31/2012	JO	10

In this case, the custom fund being created is a fund-of-funds comprised of a series of ETFs

An account profile file is used to import the relationship between an account and its portfolio manager(s). In addition, account-level custom data can also be included in this file. The account profile file can be adjusted to fit each user's specific needs, but below is an example of the type of information typically included in this file:

What is required to import an account profile?

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Account Number	A code used to identify a specific account	Alpha numeric (100)	Yes	123456789
Account Name	Description of the account	Alpha numeric (255)	No	Baker Family Retirement Account
Primary Portfolio Manager ID	A code or email address to identify the primary portfolio manager for the account	Alpha (100)	Yes	PM001, joe@abc.com
Primary Portfolio Manager Name	Name of primary PM	Alpha (100)	No	John Doe
Secondary Portfolio Manager ID	A code or email address to identify the secondary PM for the account	Alpha (100)	No	PM002, jane@abc.com
Secondary Portfolio Manager Name	Name of secondary PM	Alpha (100)	No	Jane Doe
Associated Model Portfolio Number	A code identifying the model portfolio associated with the account	Alpha numeric (100)	No	123456789

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Associated Custom Benchmark Number	A code identifying the custom benchmark associated with the account	Alpha numeric (100)	No	123456789
Custom Data Point	Custom data point defined by the user	See What is required to import an investment list with security-level custom data? on page 9.	No	User-specific values

An account profile can be imported only via batch process. Please contact your Client Solutions Consultant for assistance in creating and importing this file.

The historical account return file type is used to import a custom, account-level performance stream. Before importing this data, users must define the return stream in the [Custom Data Management utility in Morningstar Direct Cloud](#). Users may define multiple return streams (for example, net return or gross return) by creating multiple custom data points.

What is required to import historical account return data?

Field Name	Description	Data Type (Max Length)	Required (Yes/No)	Examples of Valid Values
Account Number	Code defined by the user to identify a specific account	Alpha numeric (100)	Yes	123456789
Account Name	Description of the account	Alpha numeric (255)	No	My Account
Date	As of Date	Date	Yes	08/16/2015 16/08/2015 2015-08-16
Custom Return Data Point	Custom return data point defined by the user; may include up to five decimal places	Numeric (19,5)	Yes	3.45

Historical account return data can be imported only via batch process. Please contact your Client Solutions Consultant for assistance in creating and importing this file.

A historical security custom data file is used to import custom time series price and/or return data for securities. In the future, this may be expanded to other types of time series data. Prior to import, users must define the custom price and return streams in the [Custom Data Management utility in Morningstar Direct Cloud](#).

What is required to import historical security custom data?

Field Name	Description	Data Type (Maximum Length)	Required (Yes/No)	Examples of Valid Values
Identifier	Public or Morningstar code used to recognize the investment	See How can investments be identified when importing? on page 7 .	Yes	See How can investments be identified when importing? on page 7 .
Date	As of date	Date	Yes	08/16/2015 16/08/2015 2015-08-16
Custom Data Point(s)	Custom price or return data point defined by the user; may include up to five decimal places	Numeric (19,5)	Yes	1.34

Historical security custom data can be imported only via batch process. Please contact your Client Solutions Consultant for assistance in creating and importing this file.

Importing Performance and Load Statistics

How long will it take to import various data types? This section covers typical load times you will encounter when importing different quantities of various file types.

Overview

The following table describes the approximate performance of the Morningstar Direct Cloud import for each file type and various volumes of data:

What are the performance and load statistics for importing?

File Type	Data Volume	Time Cost
Investment List	100 investments	4 seconds
	1,000 investments	7 seconds
	5,000 investments	8 seconds
Investment List with Custom Data (Security Custom Data)	100 investments with 10 custom data points	15 seconds
	1,000 investments with 10 custom data points	1 minute
	5,000 investments with 10 custom data points	4 minutes
Account Holding Interactive	10 accounts with 500 holdings	15 seconds
	100 accounts with 5,000 holdings	1 minute
	1,000 accounts with 50,000 holdings	15 minutes
Account Holding Batch	300,000 accounts with 1,500,000 holdings	15–30 minutes
Model Portfolio, Custom Benchmark, Custom Fund (Interactive and Batch)	10 accounts with 500 holding	15 seconds
	100 accounts with 5,000 holdings	1 minutes
	1,000 accounts with 50,000 holdings	15 minutes
Account Profile	300,000 accounts with 10 custom data points	2–5 minutes
Historical Account Return	100 accounts with 20 custom data points	30 seconds
	1,000 accounts with 20 custom data points	35 seconds
	300,000 accounts with 4 custom data points	20 minutes
Historical Security Custom Data	10,000 securities with 20 custom data points	2 minutes
	100,000 securities with 20 custom data points	5–8 minutes

Understanding Security Parameters for the Import Process

The Morningstar Direct Cloud import service supports both tokenization and logical database separation to ensure secure management of user data. This section describes each of those approaches to security.

In data security, tokenization is the process of introducing surrogate values called “tokens.” Tokens may be used in place of more sensitive or restricted data (for example, an account number). These tokens allow systems interacting with sensitive data to descope risk as they interact with only nonsensitive tokens, and not the sensitive values they represent. Tokens have no value themselves and are merely references allowing authorized users to retrieve the original values from the system managing tokenization.

The Morningstar Direct Cloud import service supports tokenization of sensitive fields as specified by users. Users may choose to employ this functionality for sensitive fields such as account numbers or portfolio manager IDs and names.

Tokenization ensures the following:

- ▶ All proprietary, confidential, and restricted fields (as defined by the home office) are tokenized and encrypted prior to integration with the system. Other information is encrypted in transit over public networks, but not encrypted at rest.
- ▶ Only the tokenization system has the capability to tokenize or detokenize data, and is maintained under strict security controls.
- ▶ Those with access to physical media of the downstream systems have access to only tokenized data.
- ▶ Those with access to downstream database systems would have permission only to query tokenized data, and
- ▶ Those with access to the tokenization platform would have access only to the generation, but not the keys, used for tokenization itself.

Overview

What is tokenization?

In addition to tokenization, users have the option to request that their data be logically separated from that of other users. In this case, any data imported using the file types listed in this document are stored in a separate database from all other users of Morningstar Direct Cloud.

What is logical database separation?

