June 2006

Software
Tutorial

Morningstar Direct[SM]

MORNINGSTAR®

Welcome

Designed for institutional use, Morningstar Direct[SM] is an Internet-based research platform that enables you to perform in-depth investment analysis. It powers sophisticated holdings- and returns-based style analysis, insightful peer/competitive analysis, thorough manager performance evaluation, and efficient investment monitoring and reporting. Morningstar Direct fully integrates all investment universes to enable cross-universe analysis. It is the exclusive source for underlying details on proprietary Morningstar statistics.

Use Morningstar Direct to conduct a manager search and selection across investment types, conduct fund line-up reporting, deconstruct Morningstar's proprietary methodologies, support new product development, explore and highlight the differences and similarities among investments, and create insightful reports and presentations in sales and education situations.

The objective of this tutorial is to get you started quickly on the most commonly used features in Morningstar Direct. The application's help menu provides more detailed assistance.

At Morningstar we strive to exceed your expectations.

Overview

Product Layout

Morningstar Direct is organized in three main areas called modules: Home, Research, and Workspace. When you login, you begin in Home. To go to a different module, click “New” in the Global bar or click on the *Research* or *Workspace* module.

Home

Home provides quick access to analyst research, an integrated email system, market performance, alerts, support information, training, and more.

Research

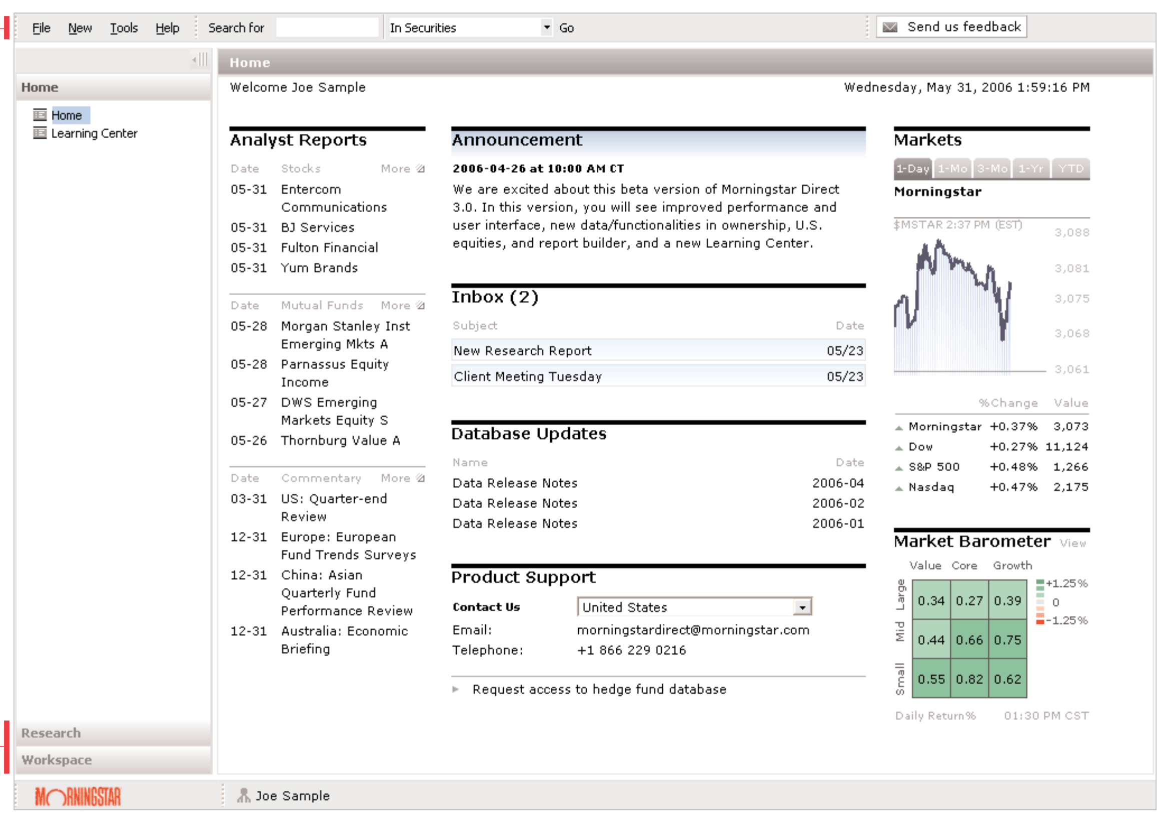
Research provides access to Morningstar Direct’s vast data. Use the research module to search for investments, compile data points to support your analysis, and move investments to lists, aggregates, charts, and reports. The Research module is a read-only module; items that you save in the Research module: search criteria, investment lists, reports, charts, and aggregates, are stored in the Workspace.

Workspace

Workspace is the electronic file cabinet for Morningstar Direct. If you save an investment list, search criteria, or aggregate while in the Research module, it will be stored it the Workspace. The Workspace also allows you to create every type of file from scratch, and it is where you can share files with other users in your company.

Global Bar

Modules



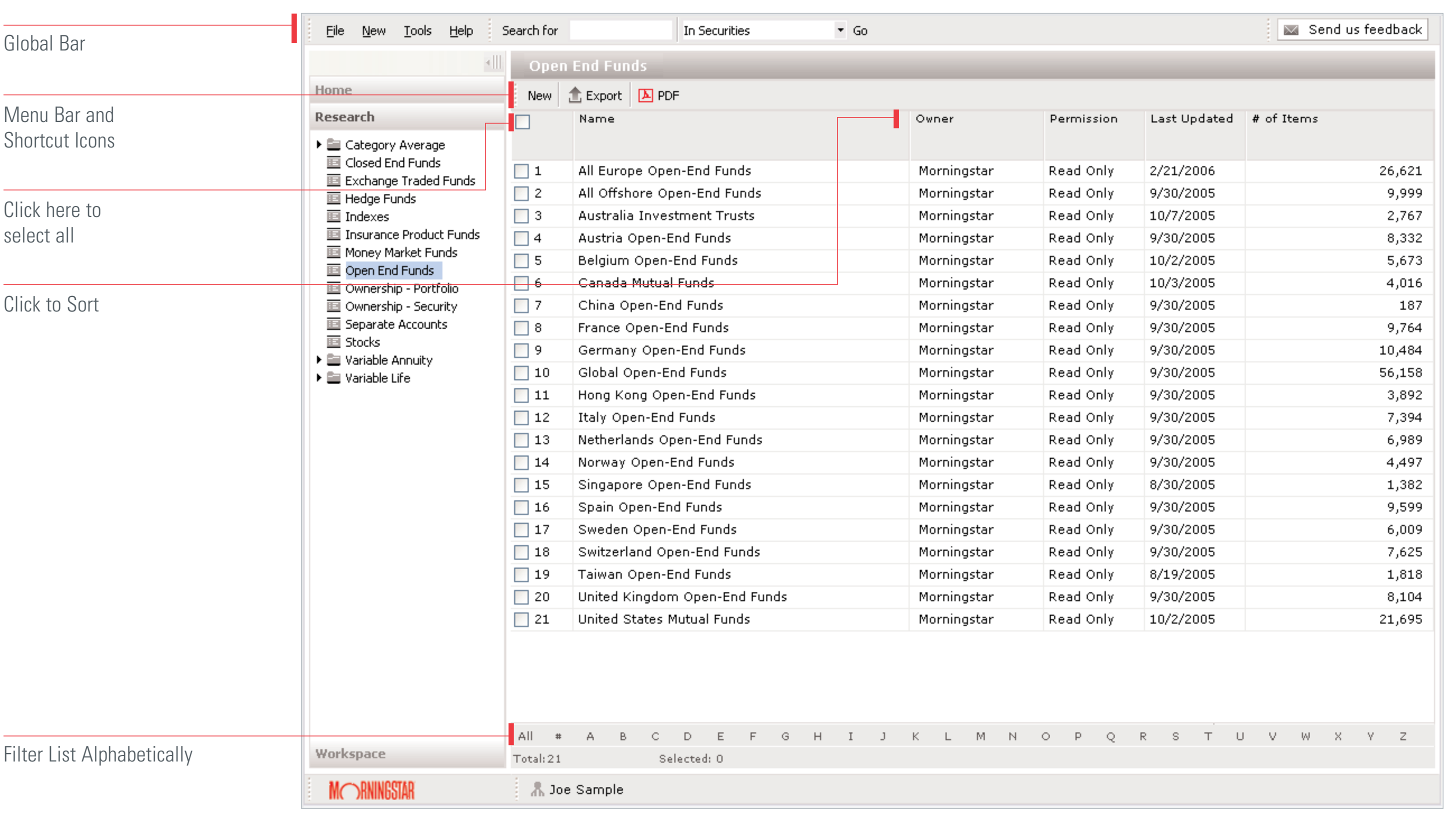
Navigating the File Area

File Area vs. Data Area
The menus and capabilities of Morningstar Direct change between File and Data sections, so it is important to know the difference. In Research, file areas contain investment universes, and data areas contain investments. In Workspace, file areas contain lists of saved files of the same type, and data areas display the file.

File Area Overview
To reach a file area, select an item from the left-hand pane. The file area contains the list of content associated with the item. Examples of file areas are the different universes inside the Research module, and the lists of saved files in the Workspace. Use the grey bar between the menu bar and the action bar to determine what file and data window you are viewing. Click on the file area segment in this bar to return to the file area.

Global Bar
The global bar does not change regardless of where you are in the application. It allows you to perform tasks such as changing application settings, creating new files, launching tools, and accessing the help menu. You can use the 'Search for' bar to quickly locate information on a specific investment.

Menu Bar
The Menu bar in each window let's you perform actions specific to the list of files—for example, here you can create a new list of open end funds. Shortcut Icons on the Action bar represent the most commonly used tasks.



Navigating the Data Area

Data Area
To reach a data area click on the file name from the list in the file area.

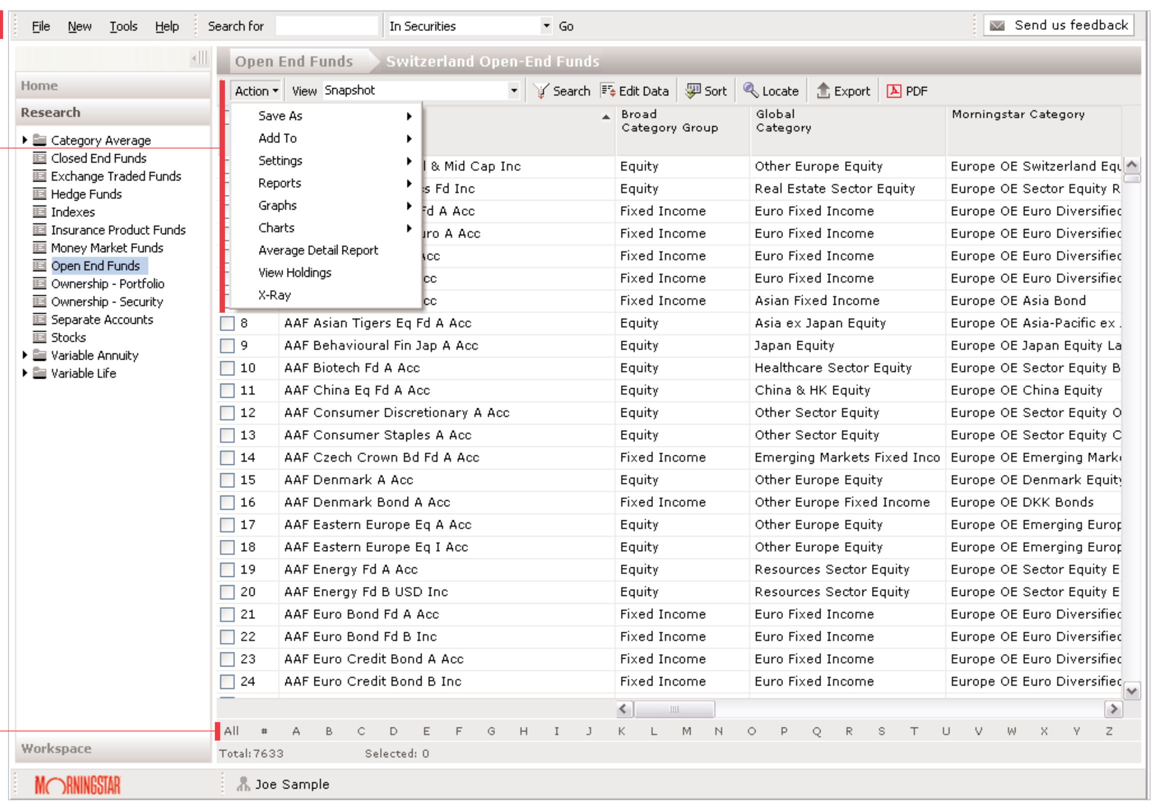
Menu Bar
The Menu bar contains the Action button, which allows you to add selected investments to Investment Lists and Aggregates, select a benchmark, and add a simple average line. You can also press Action/X-Ray to view a report on an equally weighted portfolio of the selected investments.

Next to the Action button are shortcut buttons to commonly-used tasks. These vary depending on what type of the data area you are using.

Global Bar

Use the Action button to generate Reports, Charts, and more

Filter List Alphabetically



Getting Started

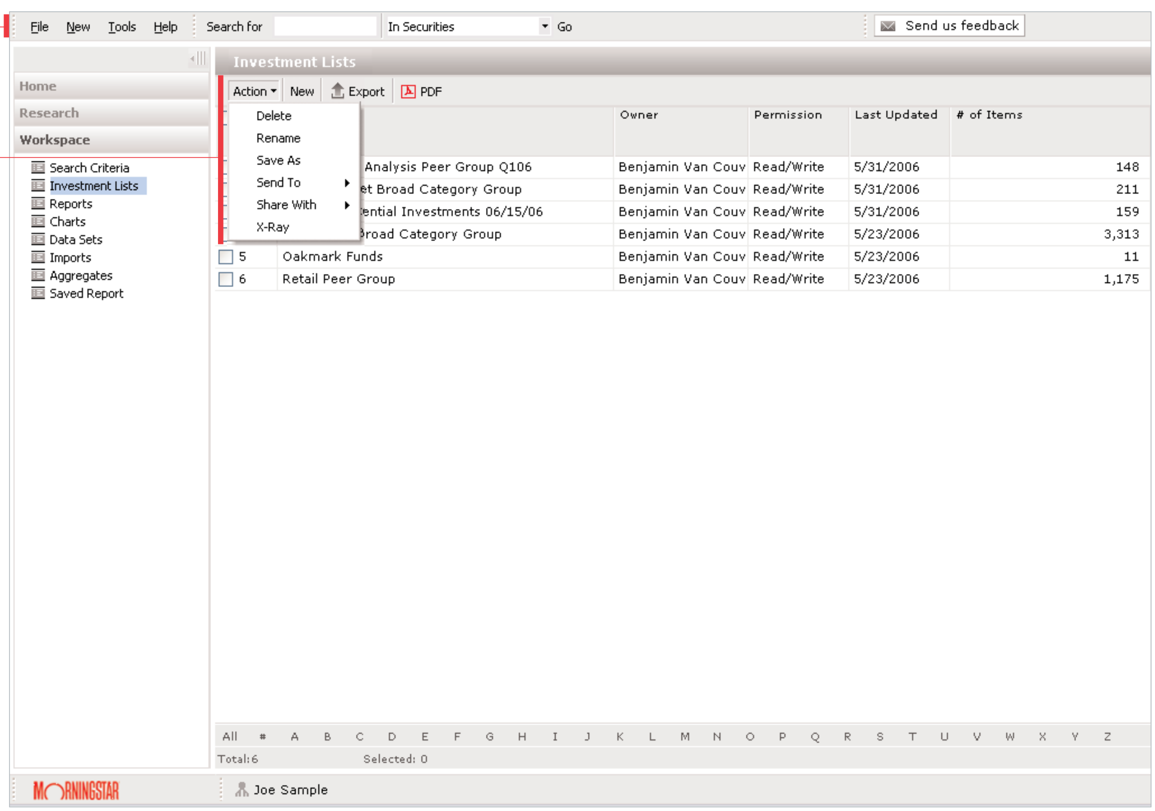
Creating New Files
Pressing New inside the menu bar will let you create a new file of the type selected in the left-hand navigation pane. Pressing the New button in the global bar allows you to create new files of any type regardless of what module you are using.

Sharing and Sending Files
In the file area of the Workspace you can use the Action button to share and send files to Sharing files allow you to give the recipient read-only access or read/write access, in which any changes they make to the file will be reflected in your original file. Sending a file gives the recipient their own version of the file, and any changes they make will not affect the original.

To share a file with another user, select Share With from the Menu bar of the corresponding data area. Choosing 'Within my firm' lets you choose colleagues in your company by name; choosing 'Outside my Firm' lets you choose other Morningstar Direct by email addresses. The shared or copied files will automatically appear in the users' file list.

Global Bar

Use the Menu Bar to share files, create new files, and export to PDF and PowerPoint



Changing Password and Account Information
To change your password or update your profile, click on your name at the bottom of the screen.

Hedge Fund Agreement
To receive access to hedge fund data, click on the Hedge Fund Agreement in the Product Support section of the Home module.

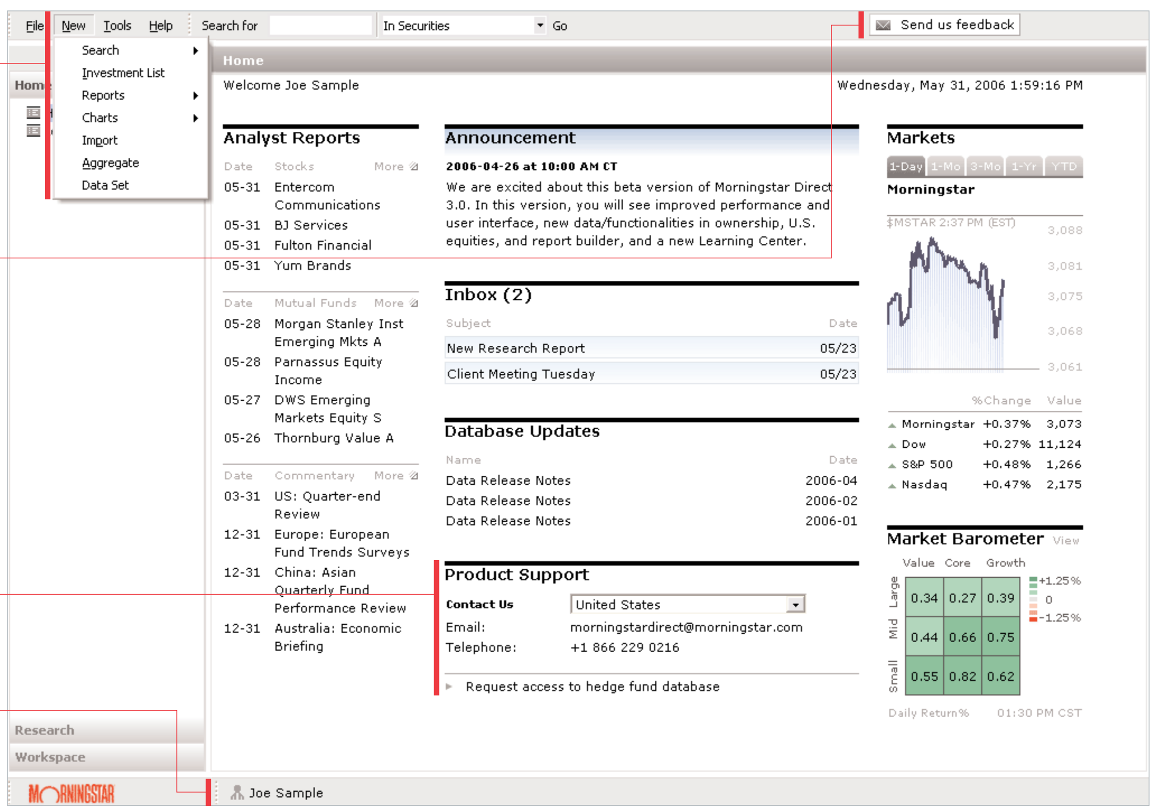
User Preferences
By pressing *File/Set User Preferences* you can change the default data universe, page size, benchmarks, risk-free proxy, currency, and decimal points. Page size controls the number of rows you can see at one time in lists of items in windows and dialogs. Increasing the number of rows in a page may impact your browsing speed. You can also change the orientation of user-created PDFs (this doesn't apply to pre-defined PDF reports and chart PDFs). Choosing to display extended performance will set Direct to include extended performance in investment returns. Extended performance simulates performance prior to inception by using the gross returns of the oldest share class and modifying them with the expense ratio of the subject share class.

Use the Global Menu to create new files

Client feedback supports future product development and training program.

The Support Section contains contact information and the Hedge Fund Agreement

Click on Your Name to Change Password



Searches and Lists

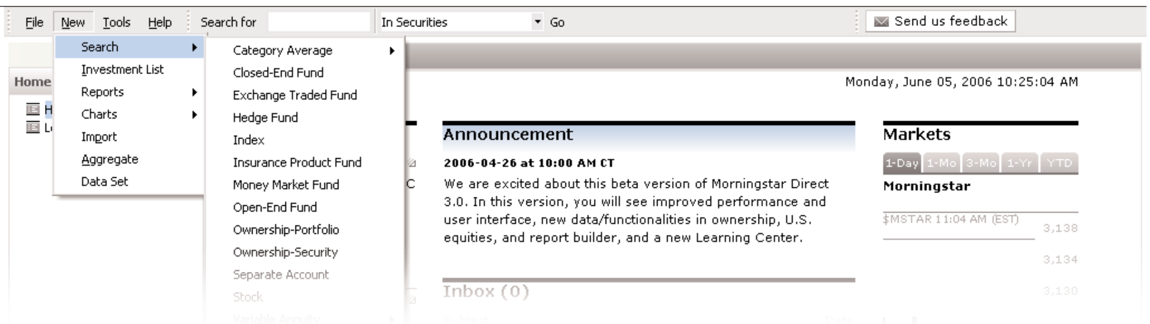
Dynamic Search Criteria

The Search Criteria function helps with manager searches, peer group creation and other research tasks. Running a Search Criteria generates a list of investments that currently match a set of user-defined parameters. When saving, users save the search criteria not the investments. Each time your saved Search Criteria file is retrieved, the members are redefined based on the latest data.

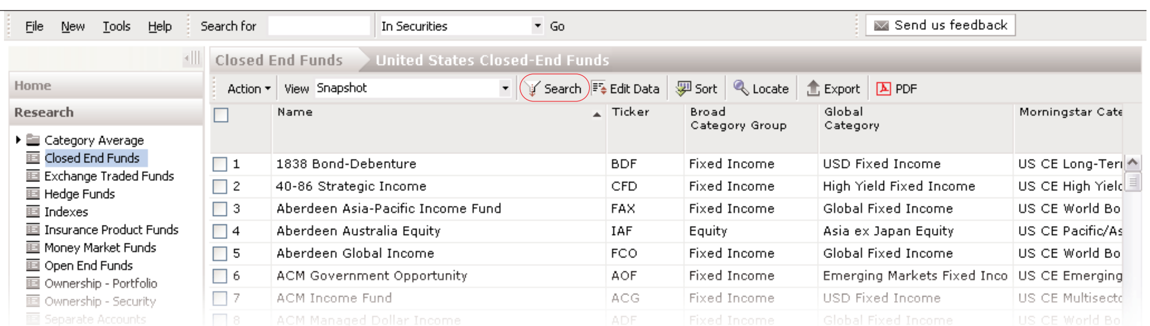
If you need to create a search and have the members remain static, create an Investment List by using the Search Criteria option (see Investment Lists). After the search has been performed, data for the investments can be added in two ways: using the system data lists from the View dropdown menu or using the 'Edit Data' button to create a custom data set.

To create a new search

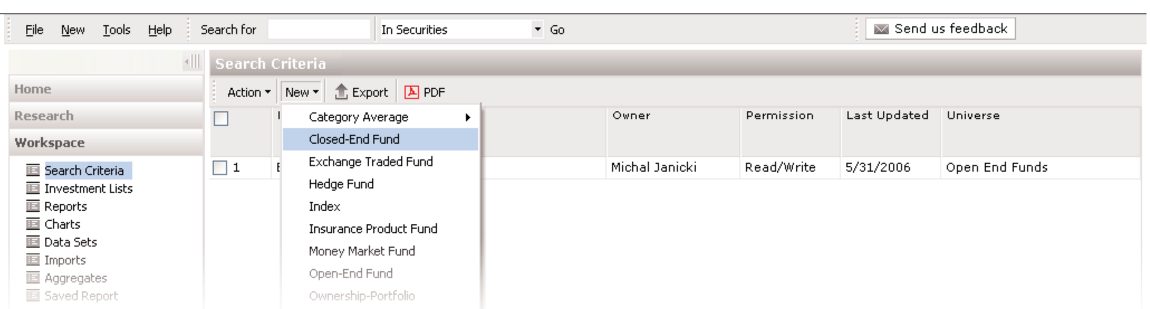
The quickest way is to press the New button in the menu bar, choose Search Criteria, and then choose your universe. You will be searching among investments in the chosen universe in all regions.



To search within a specific region, begin in the Research module. Choose the universe from the left-hand pane, and then click on one of the pre-defined searches in this file area, such as United States Closed-end Funds. Press the Search button inside this data area to search among only those funds inside this data area, in this case U.S. closed-end funds.



In the Workspace, you can create files of any type, including search criteria. Click Workspace and then Search Criteria in the left-hand pane. Press the New button, and then choose the universe in the drop-down list. The resulting search window will let you search among investments in the chosen universe in all regions.



Using Dynamic Search Criteria

Let's create a list of open-end funds in the small growth Morningstar Category with trailing 3-year total returns in the top quartile of that category.

1 Begin by pressing *New* in the menu bar, move to Search, and choose Open-end Fund.

2 In the new window, click the second row, Field column. Expand Snapshot, and click Morningstar Category. Verify that the Operator column shows "=".

3 Click in the second row, Value column, and expand the U.S. group, and choose Small Growth.

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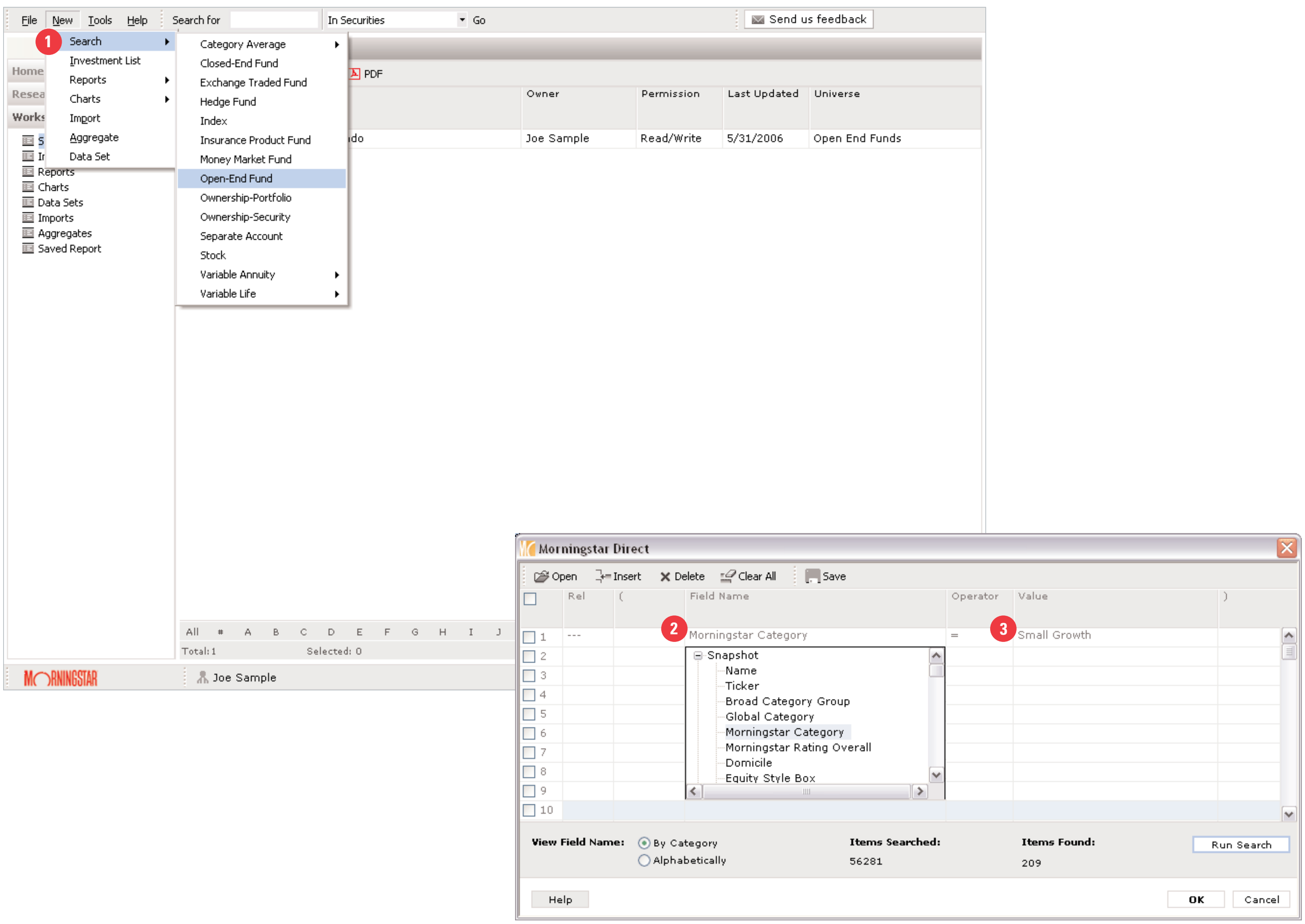


Using Dynamic Search Criteria (continued)

4 Click in the second row, Field column, and expand the Returns (Month-end) group of data points. Click Total Ret % Rank Cat 3 Mo (Mo-end). This contraction means “3-month Total Return Percentile Rank in Category (using month-end data)”.

5 Set the Operator to “=<”, and set the Value to “25”. This will return funds whose percentile rank is between 1 and 25, giving us funds in the top quartile.

6 Press *Save* to save these Search Criteria; they can be retrieved in the Workspace.

7 Press *Run Search* to verify that you have constructed a valid search (an invalid search will return 0 results).

8 Press *OK* to see the results.

Tips

For certain criteria, use *Or*. To save time, use *Repeat* if appropriate.

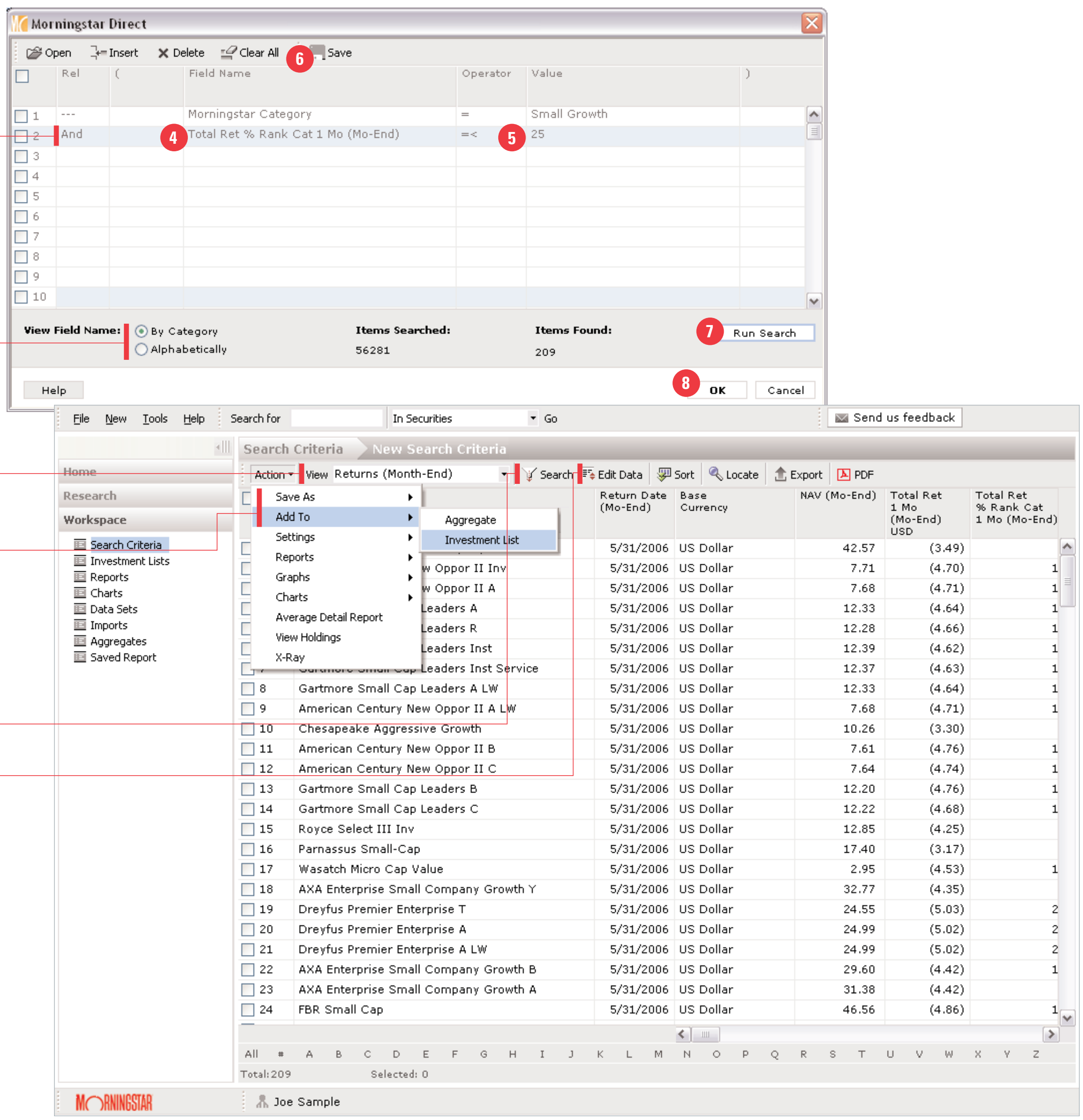
Search data tree alphabetically or by category, for example, Returns.

Select a pre-defined or previously created user-defined data view.

Save as and *Add* allow you to save investments to an aggregate or investment list. This is particularly useful when you need to combine search results across investment universes.

Edit/Access Search Criteria.

Customize data view. Refer to the “Creating Data Point Lists” section for more help.

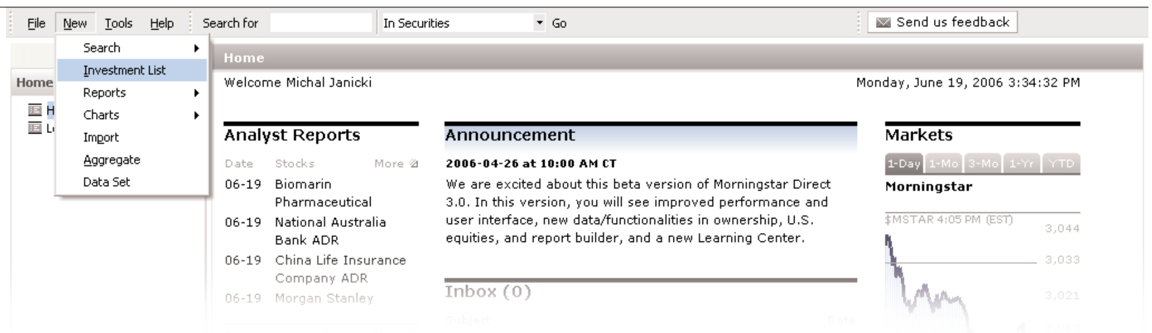


Static Investment Lists

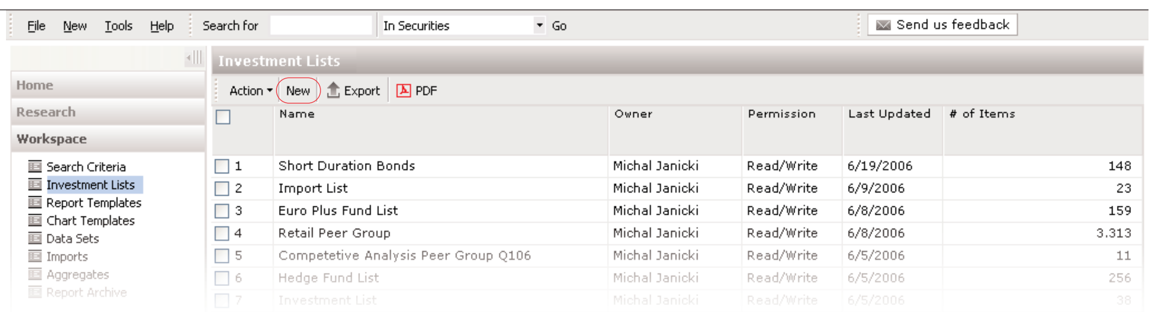
Investment Lists serve performance reporting, peer analysis, and other important tasks. The user defines the membership of the investment list in one of four ways: individually, by search criteria, accessing a pre-created investment list, or by importing. The data points associated with an investment list are defined in one of two ways: using system data lists, or with a data point list pre-created by the user.

To create a new list

The quickest way is to press the New button in the global bar, and choose Investment List.



In the menu bar of the Workspace/Investment List File area, press New.



Creating a List by Name/Ticker

1 Begin by pressing *New* in a file area, and choosing Investment List.

2 In the dialog box that opens asking you how you want to add investments, click *Name/Ticker*, and then click *OK*.

3 Click *Universes* to add from an investment universe or *My Lists* to add from an existing Investment List.

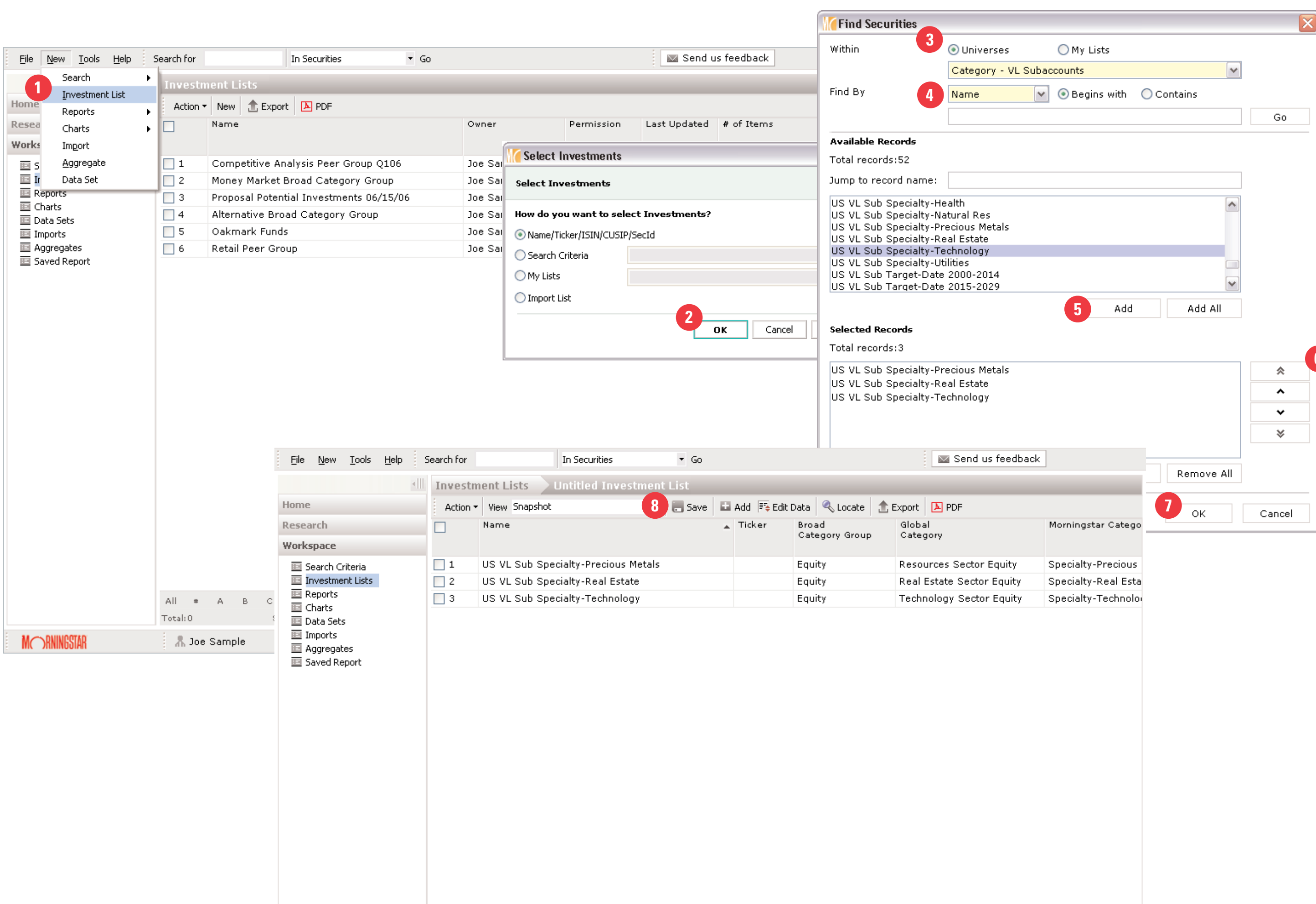
4 In the Find by field, choose how you would like to search, either by name, ticker, SecID, CUSIP, or ISIN. In the search bar, enter your search term, and click *Go* (To view all investments in the universe or list, click *Go* without entering any text). Steps 3 and 4 can be repeated to combine investments across investment universes.

5 The results of the search will appear in the Available Records pane; select the subject investment(s), and then click the *Add* button.

6 To change the order of investments in the resulting list, select specific investments in the Selected Records pane, and then use the arrow buttons.

7 Click *OK*. A new window opens with your investments.

8 To save the investment list, click *Save*.



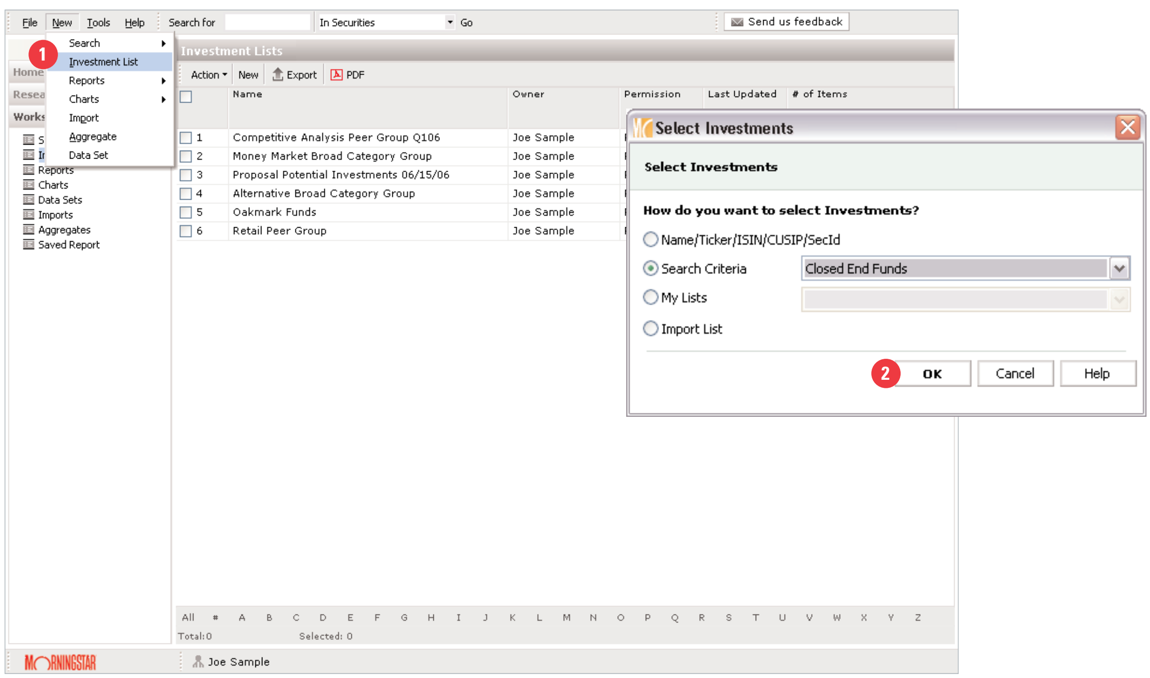
Creating Investment Lists Using Search Criteria

The process to create an Investment List using search criteria is very similar to creating a Search Criteria by itself. The only difference is that once the list has been created, the investments in the list are static, whereas opening a saved search criteria performs the search anew each time.

1 Begin by pressing the *New* button in the menu bar of any file area and choosing Investment List, or by pressing the New button in the action bar of the Workspace/Investment Lists data area.

2 In the window that asks you how you would like to create the search, select Search Criteria, select a universe, and press *OK*.

The following search process is the same whether you are creating an Investment List or generating a saved Search Criteria; please refer to the 'Using Search Criteria' section on page 15 for a step-by-step guide.



Creating a List Through Importing

Import files must contain a single column with the selected identifier. Supported file types are text and Excel.

1 Begin by pressing the *New* button in the menu bar of any file area and choosing Investment List, or by pressing the New button in the action bar of the Workspace/Investment Lists data area.

2 In the window that asks you how you would like to create the search, choose Import List.

3 To locate your import file, click *Browse*. From the File type list, choose the type of file. Select the Identifier for the investments; this can be ticker, CUSIP, ISIN, or SecID. Click *OK*.

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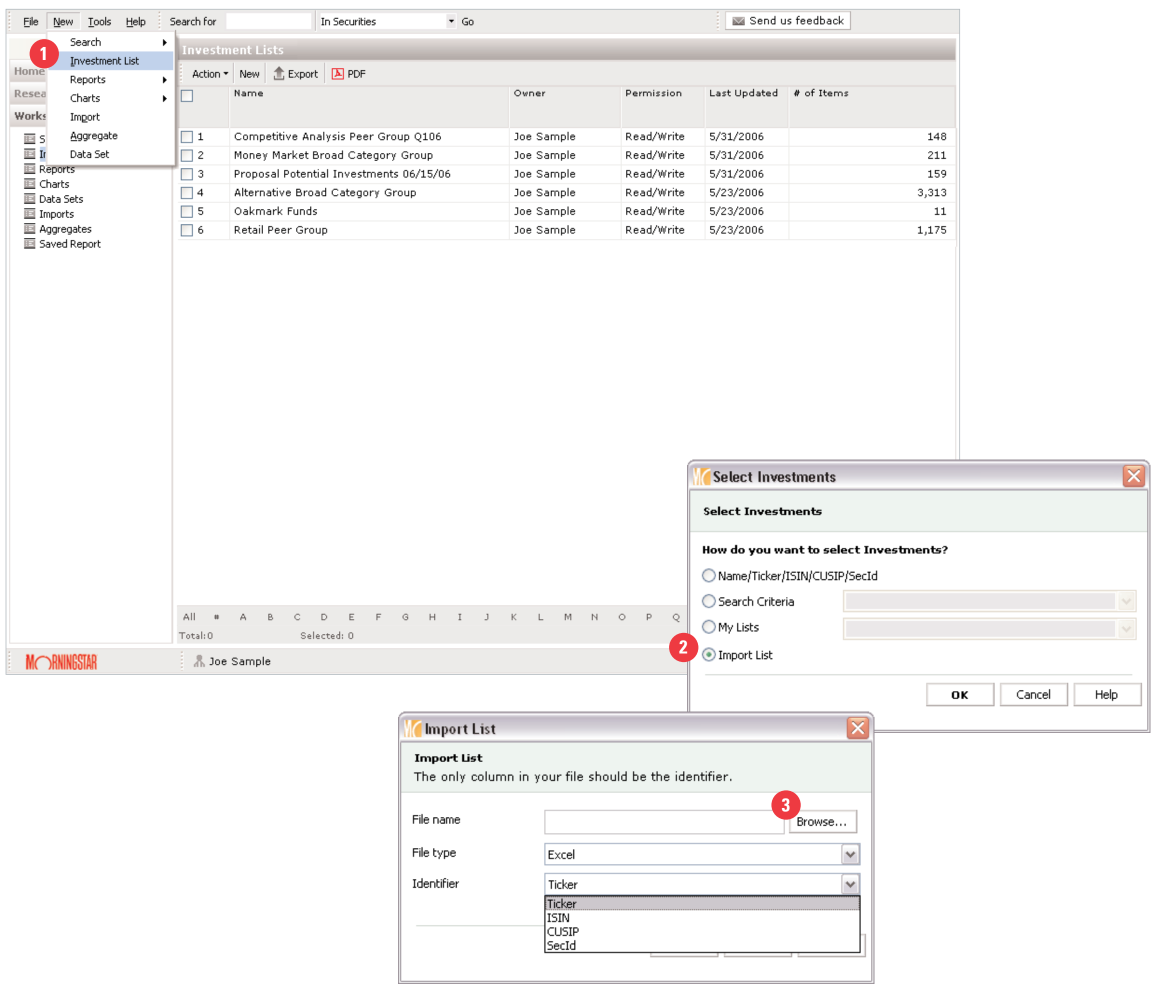
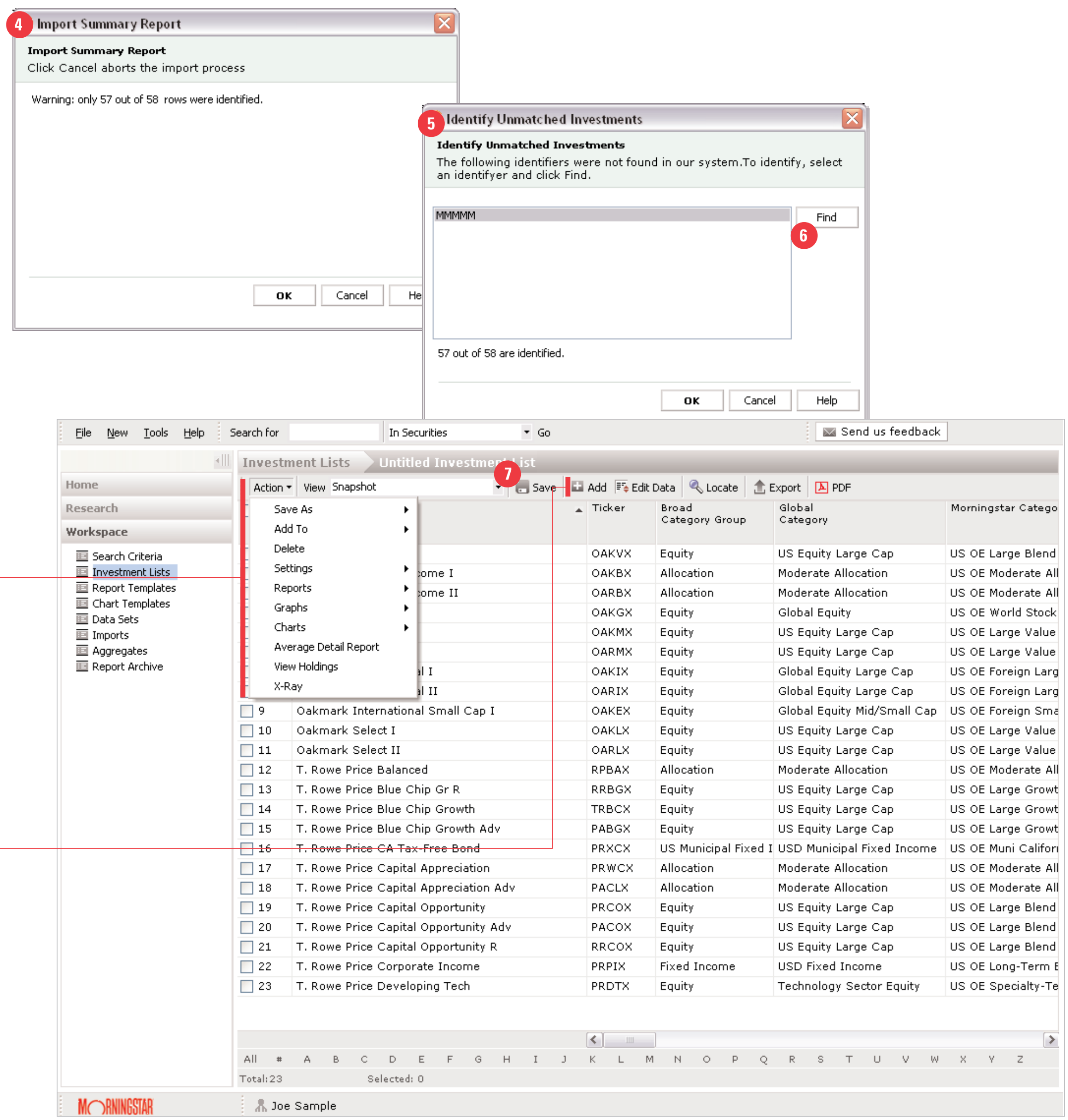


4 If the import process encounters a problem with the provided data, an import summary report will open. Read the warning(s), then click *OK* to continue the import process or *Cancel* to abort it.

5 Clicking OK will open a dialog to identify unmatched investments.

6 Select an identifier and click *Find* to match the investment. Repeat for all identifiers shown, and click *OK* to complete the import process. Clicking OK without using Find to match all investments will import only those tickers which are identified.

7 The imported list will open in the data area. To save the investment list, click *Save*.



Tips

To move or delete investments, and generate reports/charts, check the box next to an investment and select an option from the Action bar. *Save As* allows you to create another investment list from an existing list or aggregate. *Add To* allows you to add investment to another already existing list or existing aggregate.

Add to an investment list.

Portfolio Holdings

Viewing Underlying Portfolio Holdings

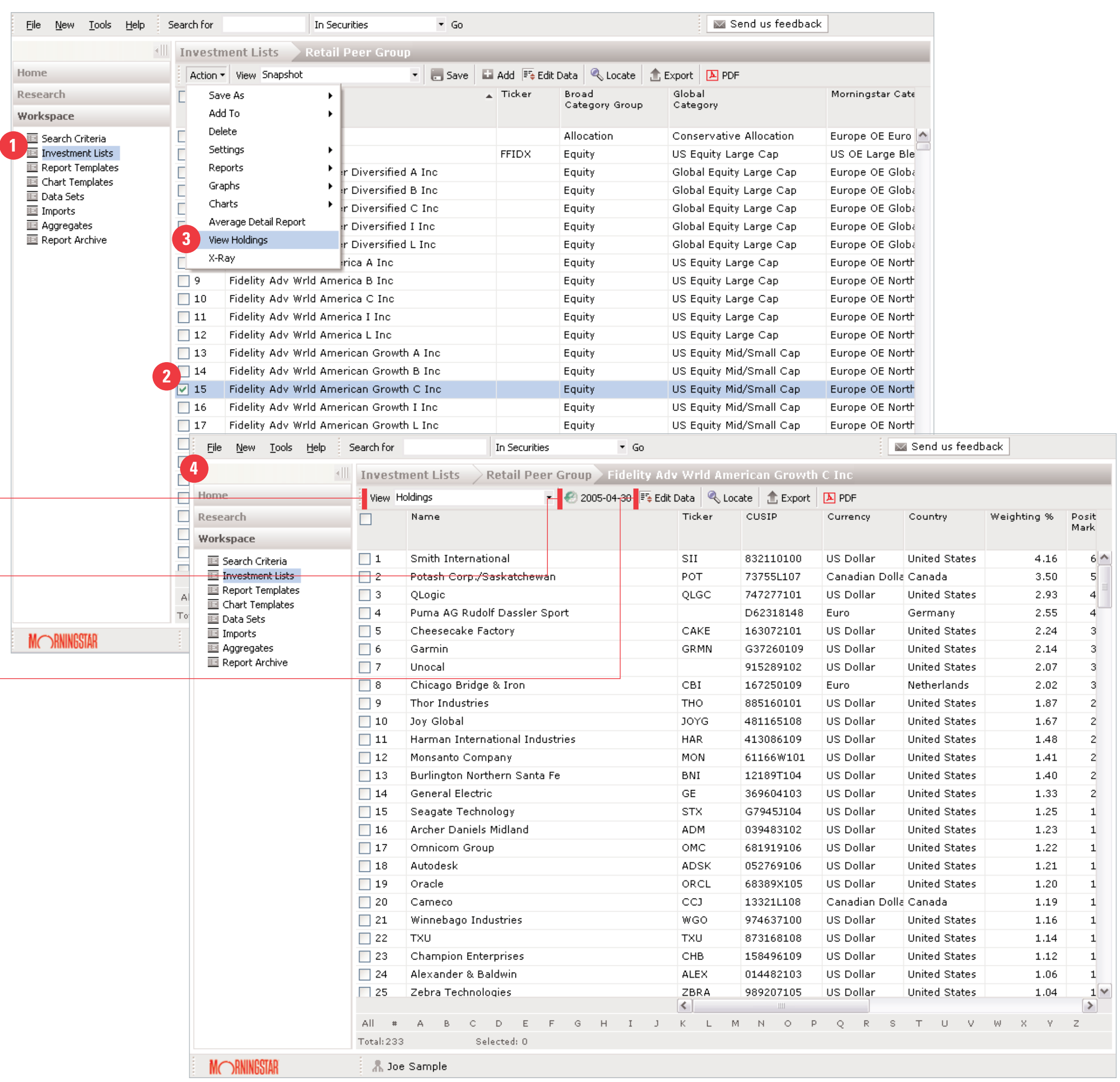
Morningstar Direct provides detailed underlying holdings for most investments, enabling you to perform in-depth analysis on bond and equity holdings. Portfolio Holdings are also accessible via the Action bar in relevant charts (see page 25).

1 Go to an investment list or search criteria.

2 Select an investment by clicking on its respective check box.

3 In the Action bar, select *View Holdings*.

4 The Holdings Viewer opens in a new window. You can access information such as the style and size scores for the underlying holdings; use these scores to deconstruct the style box of the investment. You will be viewing the holdings of the most recent portfolio; a button in the toolbar shows you this date. Press this button to view the holdings of prior portfolios.



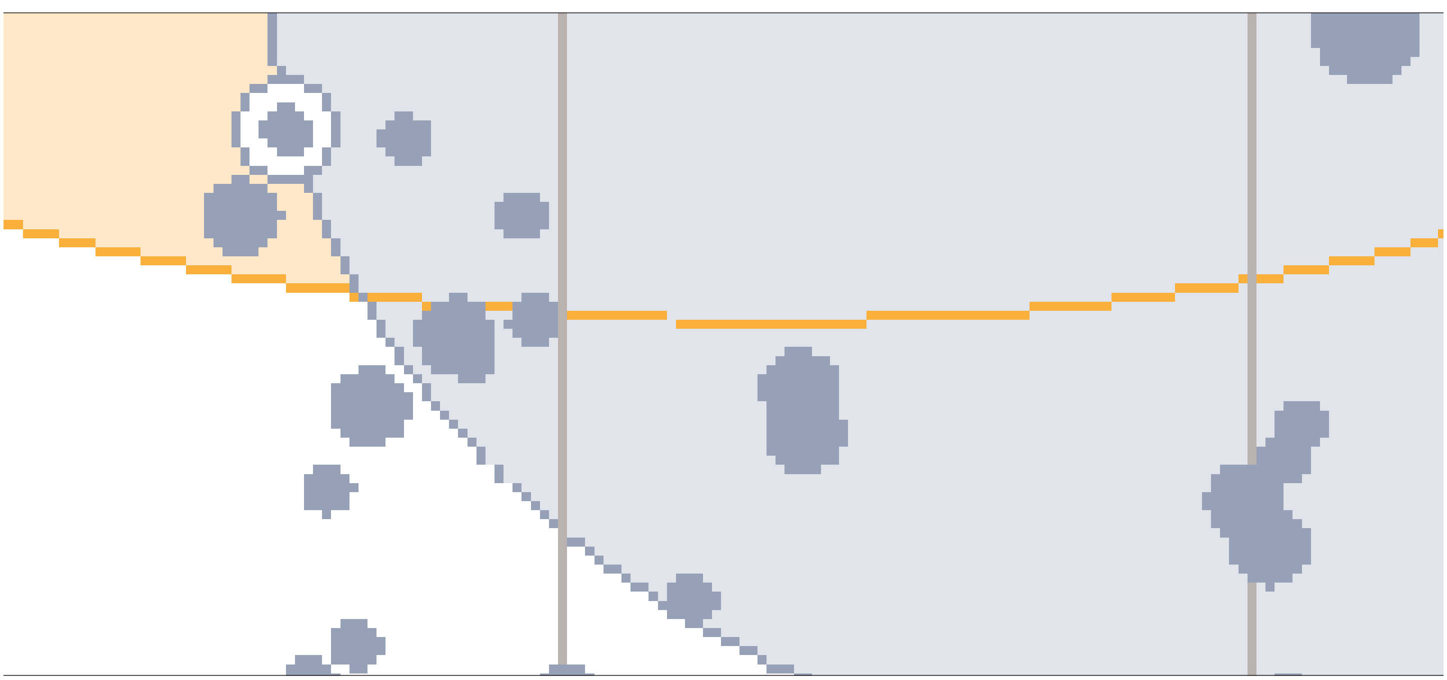
Tips

Click to view different portfolio dates.

Change the data displayed. Refer to the “Creating Data Point List” section for more help.

Customize data view. Refer to the “Creating Data Point Lists” section for more help.

Reports and Charts



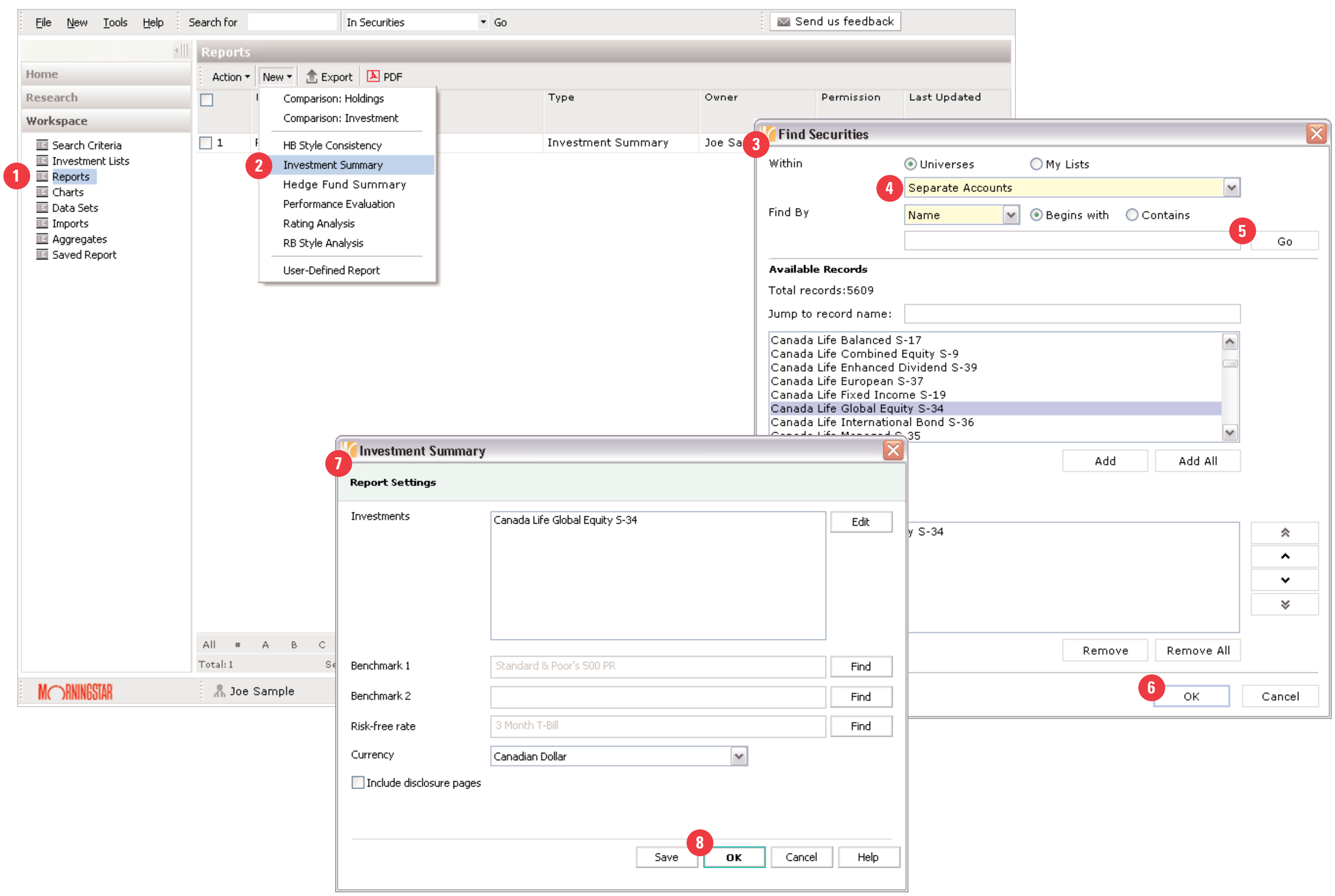
Pre-defined Reports

Generating a Pre-defined Report

Pre-defined reports add clarity and understanding to your research and communications.

1 Go to *Workspace* and select *Reports*.
2 On the Action bar, click *New*, and then select a
3 report. After selecting a report, you will be asked to select an investment(s).
4 Select the appropriate Universe.
5 In the *Find By* search bar, choose the search method (name, ticker, CUSIP, ISIN, or SecID), enter the search term, and click *Go*. To view all investments in the list, click *Go* without entering an investment name. If there are more than 100 funds use the drop down to browse all the investments.
6 After selecting an investment in the results, click *OK*.
7 Customize report settings as needed. Each report will have different options. Check “Include disclosure pages” if you wish to define terms in the report.
8 To save the report settings, click *Save*. To generate the PDF, click *OK*.

Once the report has been generated, you can save the report to the Workspace, or you can email the report using Morningstar Direct’s internal email program.



Report Builder

When the pre-formatted reports in Morningstar Direct do not suit your needs, the Report Builder lets you design custom reports. You create report templates in the Report Builder, and then use your templates to generate custom reports for investments. You can use operations, performance, ratings and risk, portfolio, and style analysis components in your custom reports. The report templates you design can have multiple pages, and the templates can be used to report on any investment.

Creating a Report Template

1 To create a report template, press *Tools* in the menu bar of a file area, and click *Report Builder*.

2 The Report Builder window displays report components in the Components tab on the left hand side of the window, and a mock-up of a report page on the right. Drag components from the left side and position them on the report mock-up.

3 Navigate between pages by pressing the *Pages* tab on the upper left, and add a new page by pressing *Edit/Add Page*.

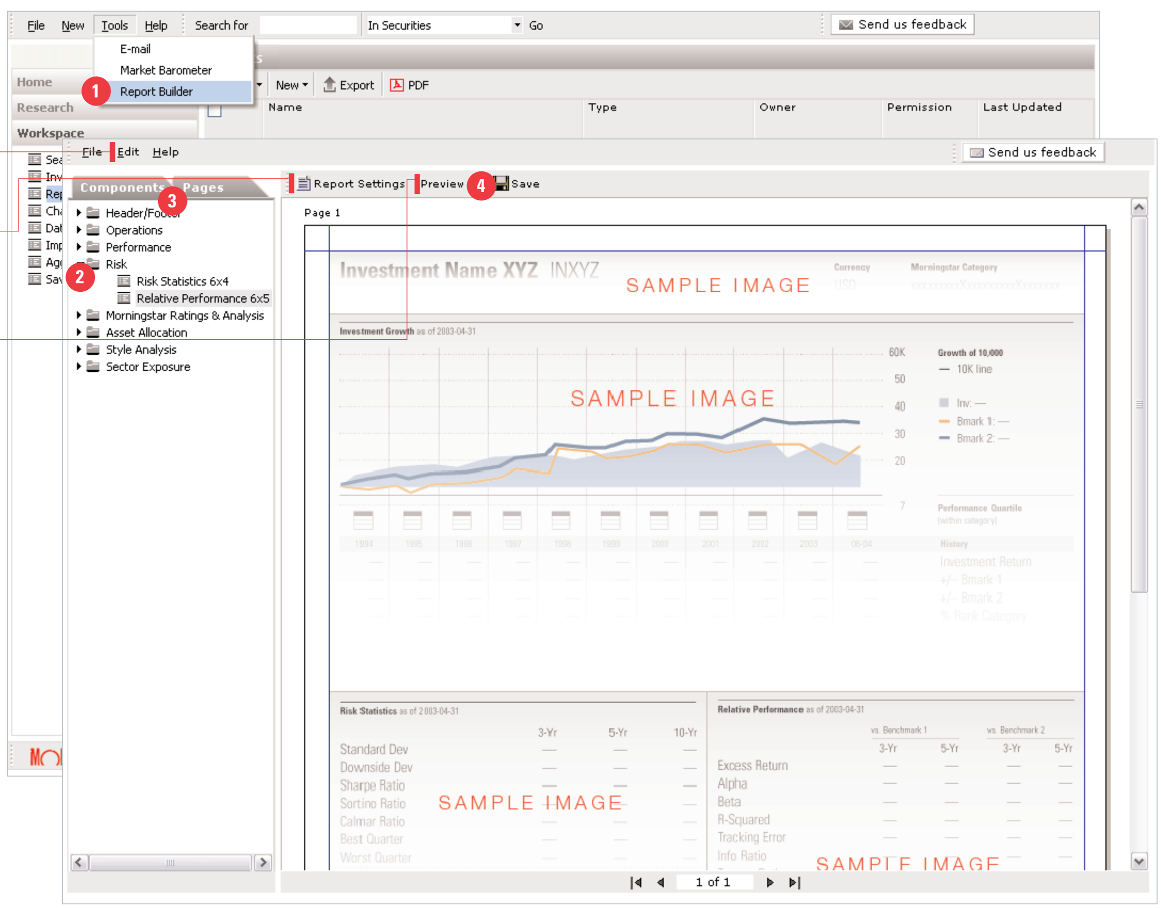
4 Press the *Save* button to save your report template.

Tips

Use Edit to insert and delete pages of your report.

Click Report Settings to set the report title, page size, benchmarks, and currency.

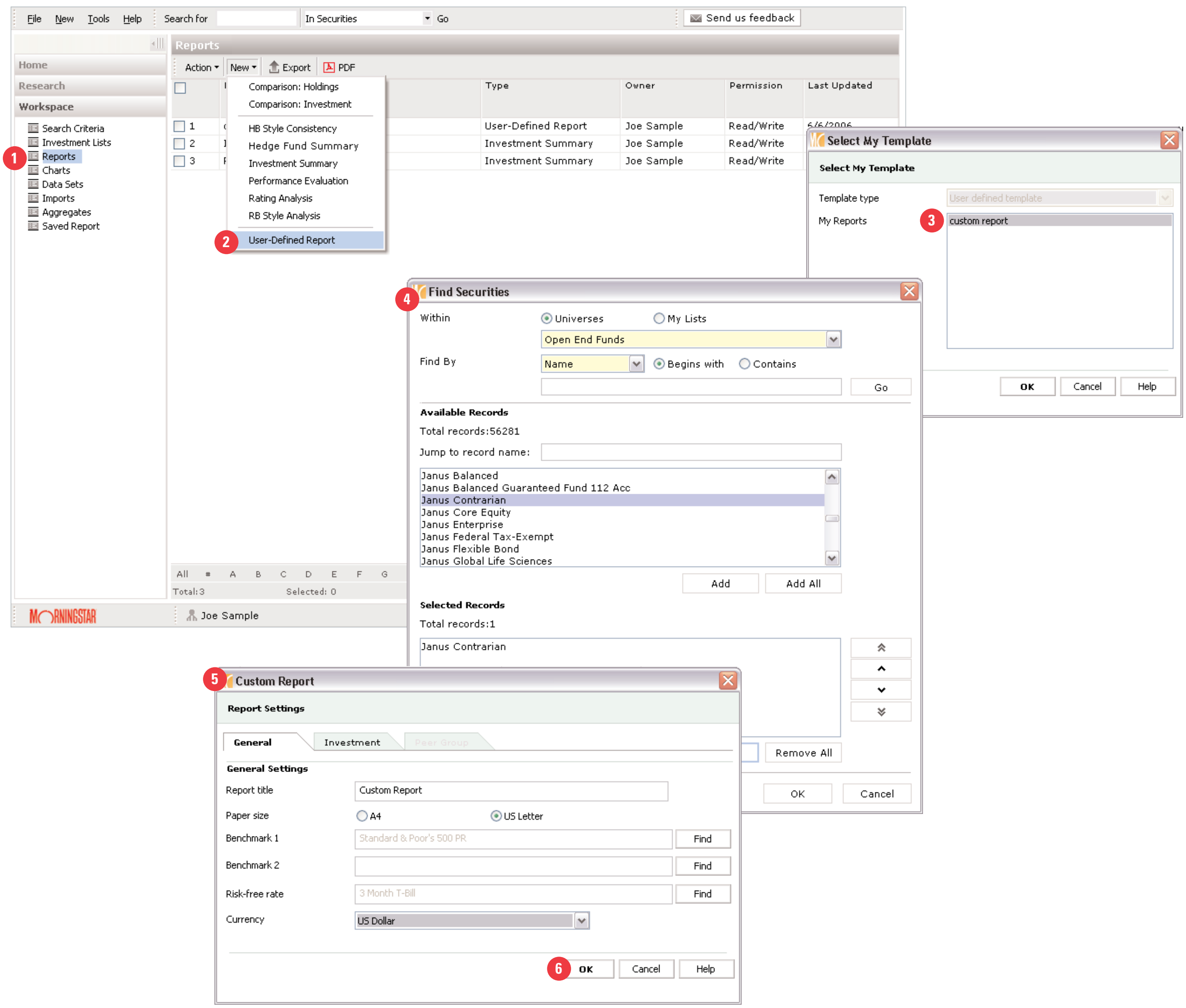
Click Preview to view your sample report in single or multiple-page format.



Using a Template to Create a Report

User-defined templates are accessible in all menu bars that contain reports, including the global bar, action menu, and Workspace. For tutorial purposes we will follow the Workspace path.

1 In the *Workspace*, click *Reports* in the left-hand pane.
2 Click the *New* button in the Action bar and choose *User-Defined Report*.
3 Choose the report template you would like to use. You can also click on a saved report template in the list of saved reports.
4 After choosing your report template, you can choose the investments you would like to use.
5 Report Settings lets you title your report, choose benchmarks, and set the currency.
6 Press *OK* to generate the report.



Charts

When information is better analyzed or conveyed visually, use Morningstar Direct's charts to display numerical data. Charts can be exported into PowerPoint, generated in PDF, or copied to the Windows clipboard, allowing you to paste the chart into many other applications.

Creating a Chart

1 To create a chart, press *New* in the global bar, click *Charts*, and choose the chart.

2 After choosing the investment selection method, the appropriate dialog will appear.

3 After selecting the investments click *OK* to generate the chart. Please note that only the first 15 investments will be charted.

To create a chart from investments in a search result or investment list, place a check mark next to the investments, press the *Action* button, click *Charts*, and then choose the chart you would like to use. Or, simply right click on the investment name.

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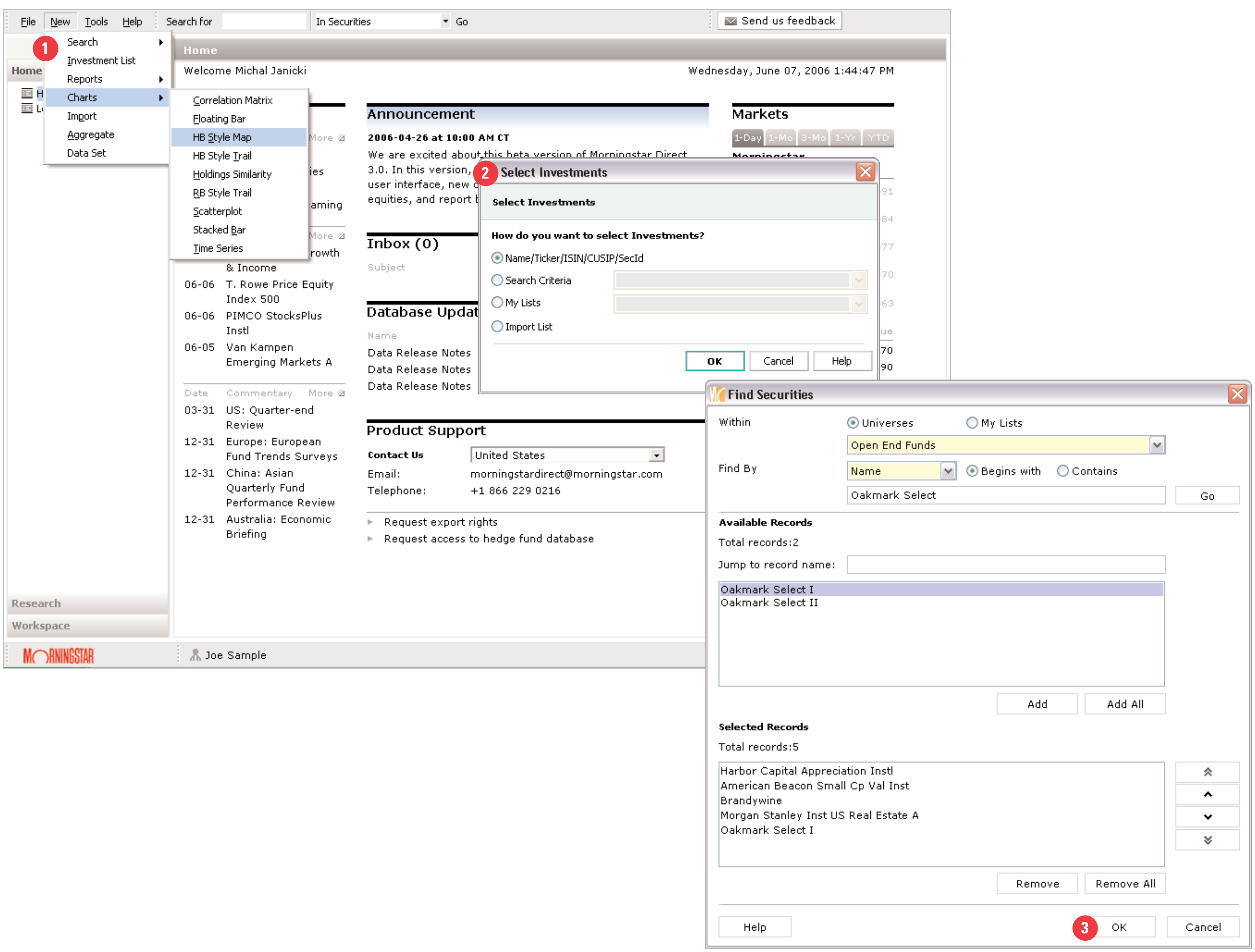


Creating a Chart (continued)

4 The Chart will open in a data area.

5 To edit investments, click *Chart Settings*.

6 In the new window, click the *Investment* tab. Highlight the investment you want to edit, and then change the associated options.

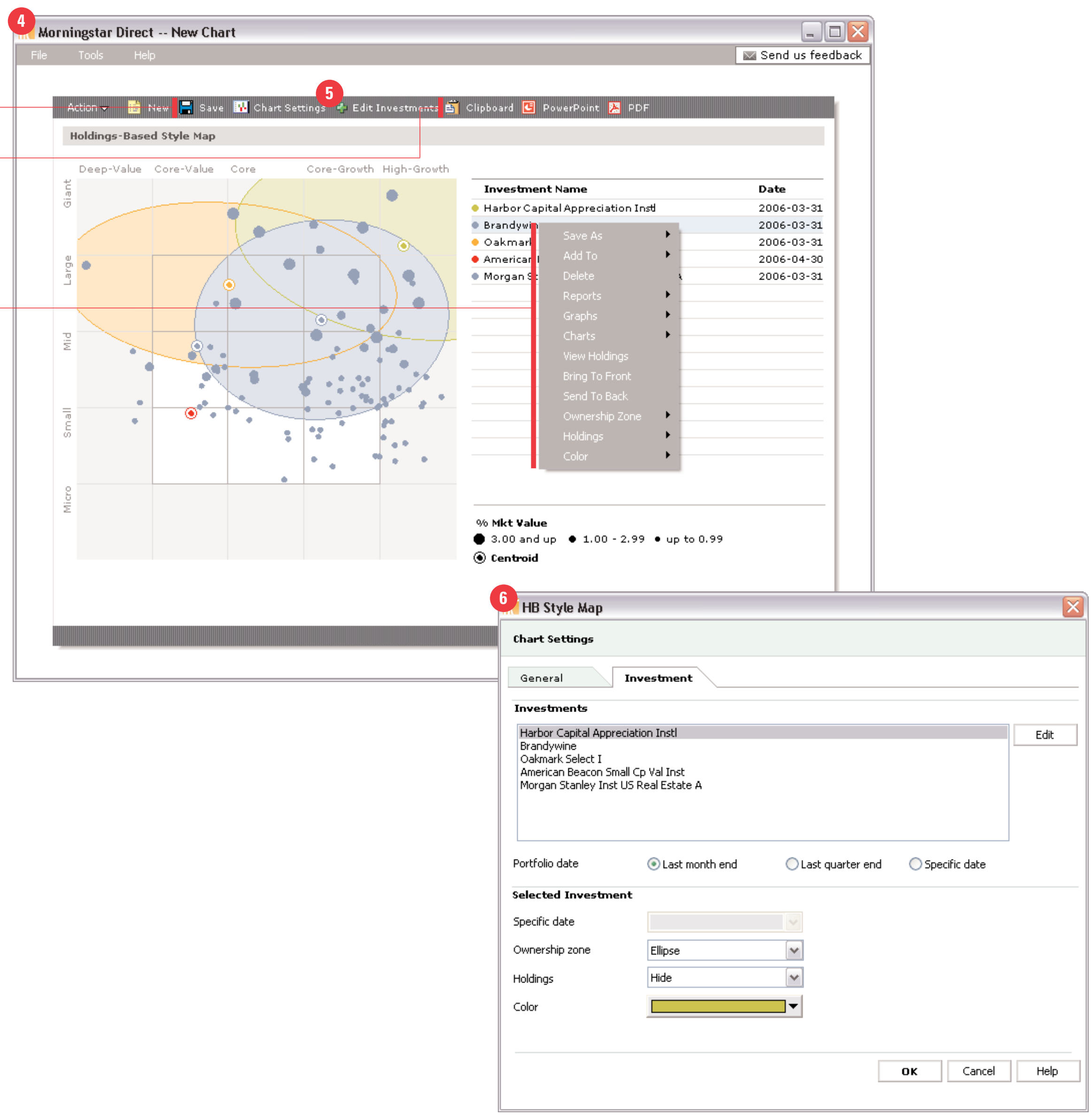
All of a chart's customization options can be found in the Chart Settings dialog. The settings depend on the chart, but there are generally three levels of options: General, Investment, and Peer Group Settings.

Tips

Save the chart.

Click *Clipboard*, *PowerPoint*, or *PDF* for output. Using *Clipboard* allows you to paste into the application of your choice (Outlook, Word, etc).

Right click on an investment or highlight the investment and use the acton drop down for a full list of options, including viewing the investment holdings, bringing the investment to the foreground or background, and changing the color. This also allows you to move into a different area of the application.



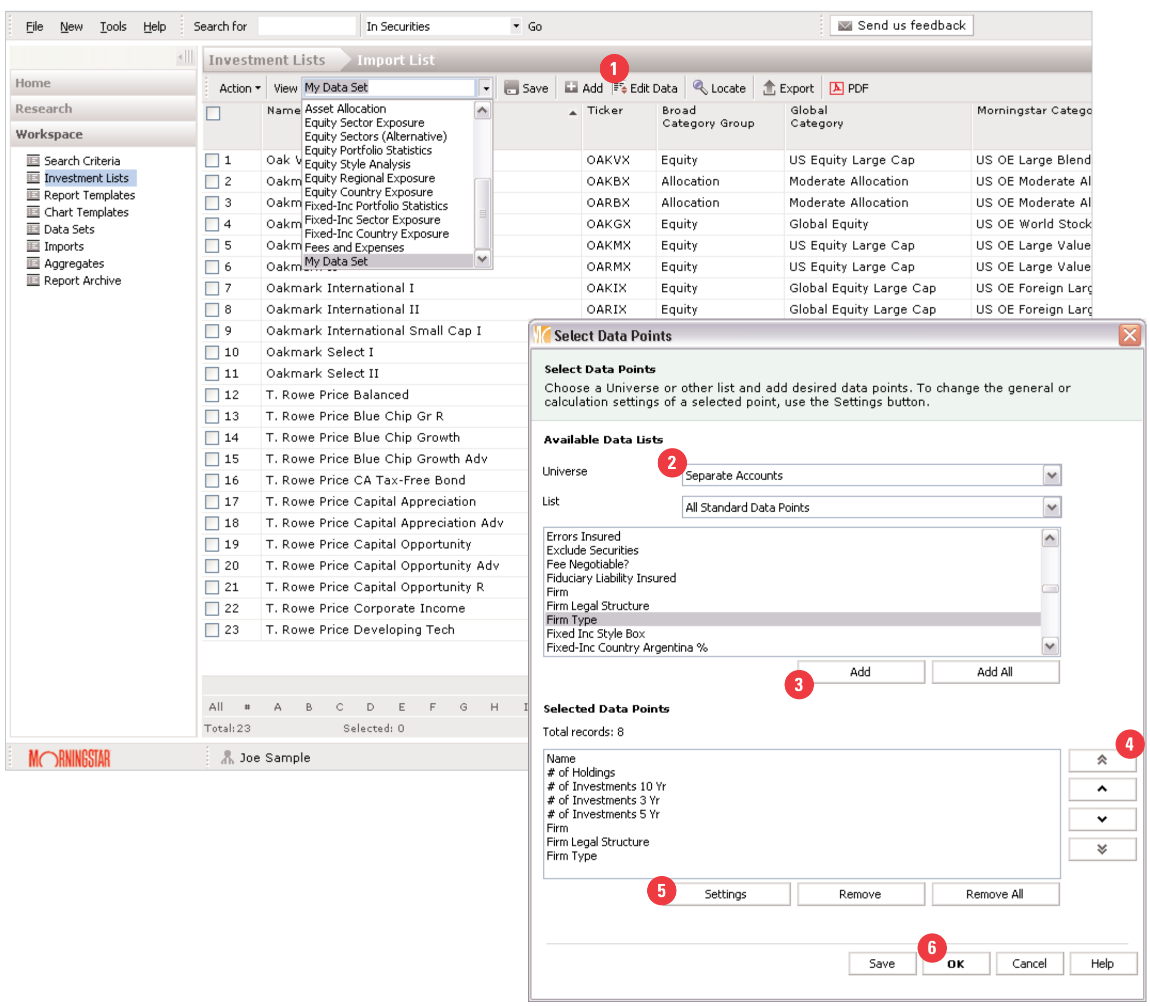
Data Sets and Customization

Data Sets

Creating a Data Set

Creating a data set allows you to access the most relevant information to you in one efficient manner. User created data sets will be available in all areas of the application with data views under *My Data Sets*.

1. From an Investment List or Search Criteria click *Edit Data*.
2. Select a data universe. The universe grouping allows the user to easily determine data points that apply to a given universe. Universe options include Morningstar pre-defined universes, custom investments (user-created through the custom investment functionality), and my data sets (previously saved data sets).
3. Select a data point list using the drop-down list. Select data from the selected data point list, and click *Add*.
4. To change the order of your selected data, select the data points and use the arrow buttons.
5. To change general or calculation point listings, select data and click *Settings*.
6. Click *OK*. A new window opens with the data.



Custom Data Points

Customizing Data Points

Custom data enables you to perform in-depth evaluation and benchmarking, and add precision to your analysis. User-created data sets will be available throughout the application under My Data Sets.

As an example let's create trailing 1-, 2-, 3-, 4-, and 5-year trailing Treynor Ratios as of 12-31-2005 and display it as a percentile rank.

1 From an Investment List or Search Criteria click *Edit Data*.

2 Choose the Custom Calculations list in the new window.

3 Choose Treynor Ratio (geometric), and then click *Add*.

4 From the Selected Data pane, select Treynor Ratio (geometric), and then click *Settings*. The data Settings dialog opens.

5 In the General tab under Display options, choose Percentile (descending). This will assign the largest value to the lowest percentile. The options under the General tab are available for any numerical data regardless of data list chosen in Step 2.

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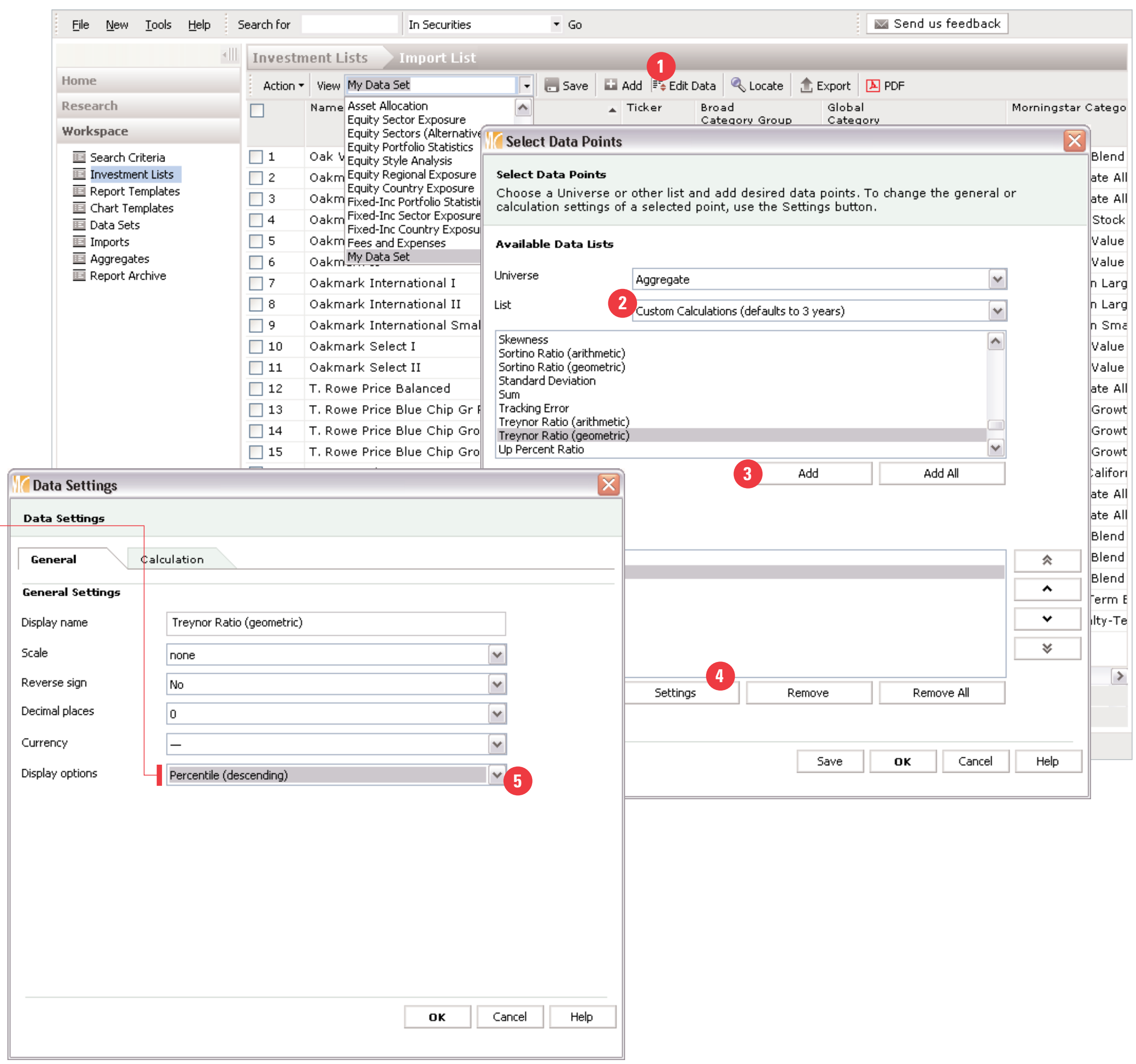
Tips

When you apply the data set to a list of investments, the percentile calculation will be done on the fly based on the investments in your window. This is useful for running percentile ranks on custom peer groups and non-return data.

Note that pre-defined percentile ranks in Morningstar Category are available for limited return data points.



Customizing Data Points (continued)

7 Click on the *Calculation* tab.

8 Type in 01-01-2000 in the Start Date box and type 12-31-2005 in the End Date box. Use the calendar button to choose dates graphically.

9 Click *Find* next to the Benchmark box. Type Russell Midcap Value, click *Go*, and then click *OK*.

10 Select Backward Extending Window. (See next page for a description of all four Calculation Window options.)

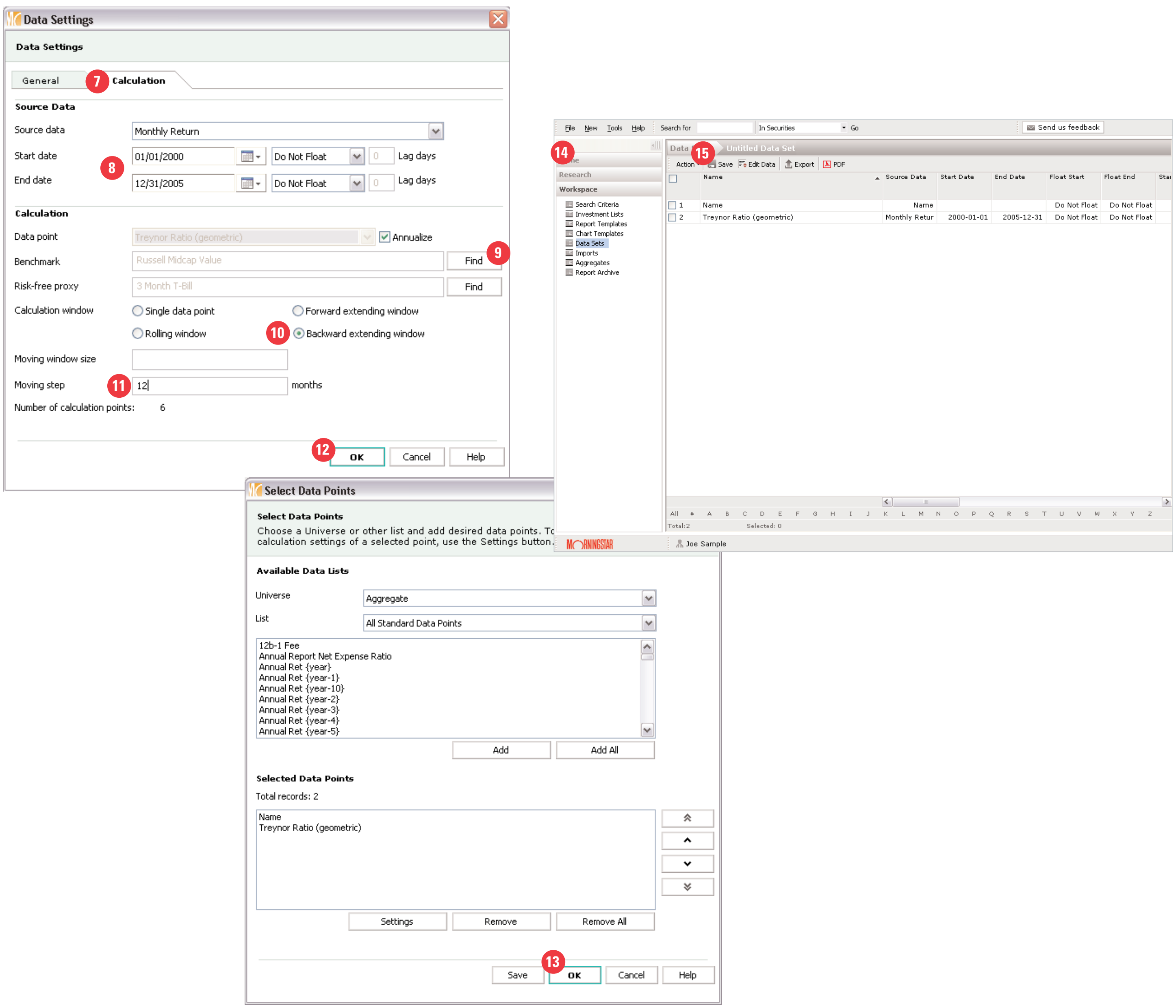
11 Type in 12 in the Moving Step box.

12 Click *OK* in the Settings dialog.

13 Click *OK* in the Select Data Points dialog.

14 A new window opens with your trailing time series defined.

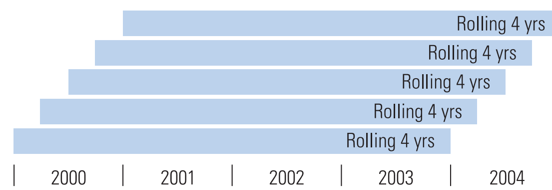
15 To save, click *Save*.



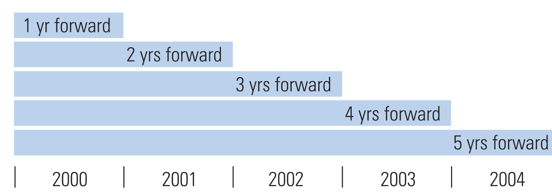
How Does the Calculation Window Work?
For all examples the start date is 1 January 2000, and the end date is 31 December 2004.

Single Data Point gives you one data point as output based on your start and end date. The following illustration is a single trailing 5 year calculation.

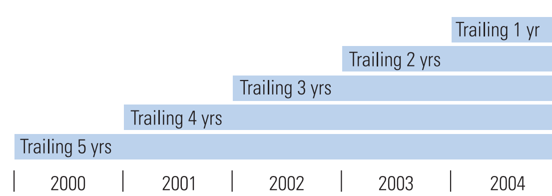
Rolling Window allows you to calculate rolling statistics, where the start date and end date both move forward together. Rolling windows are typically used to measure consistency of data. Use Moving Window Size to set the time period for each calculation and Moving Step to set how often each calculation is performed. The following illustration has a moving window size of 4 years and a moving step of three months, so you would get five data points as output.



Forward Extending Window allows you to fix the start date for each calculation. One application of this calculation would be to calculate cumulative performance (data point is total return and annualized is not checked). The following illustration has a moving step of 12 months, so you would get five data points as output.



Backward Extending Window calculation fixes the end date for the calculation. It is typically used to calculate trailing statistics. The following illustration has a moving step of 12 months, so you would get five data points as output.



Custom Investments

Users can create custom investments by creating aggregates or importing a portfolio. You can use aggregates throughout the application. Aggregates are listed under the Custom Investments data universe.

Creating and Editing Aggregates

An aggregate is a portfolio of investments or benchmarks that users create by assigning weights to each investment.

1 To create an aggregate, go to Workspace, and then click *Aggregates*.
2 On the Action bar, click *New* and select Aggregate.
3 Select investments by name, ticker, CUSIP, ISIN, or SecID.
4 Click *OK*.

You can also create aggregates using investments in an investment list, chart, or the results of a search. To do this, place a check mark next to the investments you would like to add to the aggregate. Press the Action button (or right click), and click Save As Aggregate.

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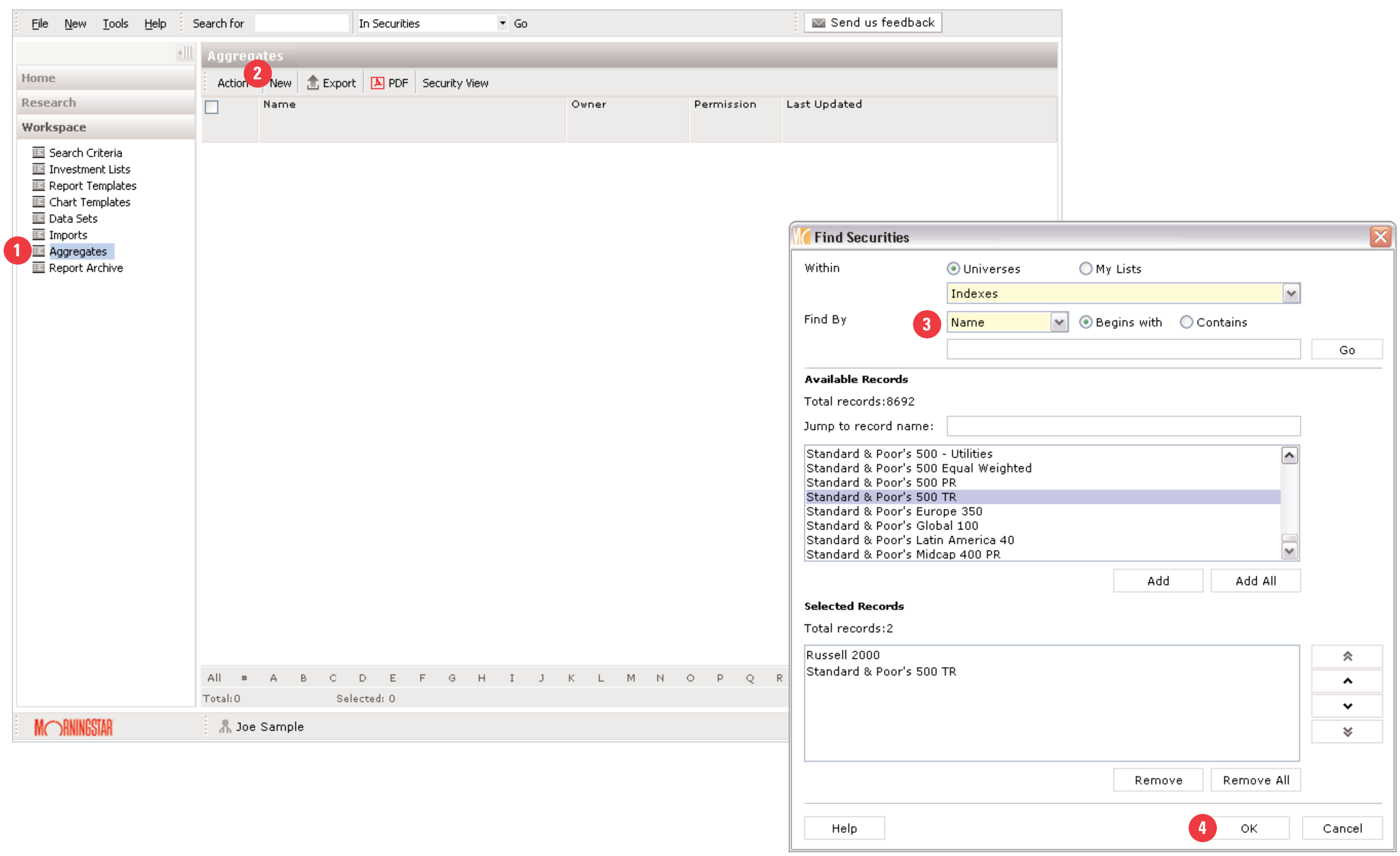


Creating and Editing Aggregates (continued)

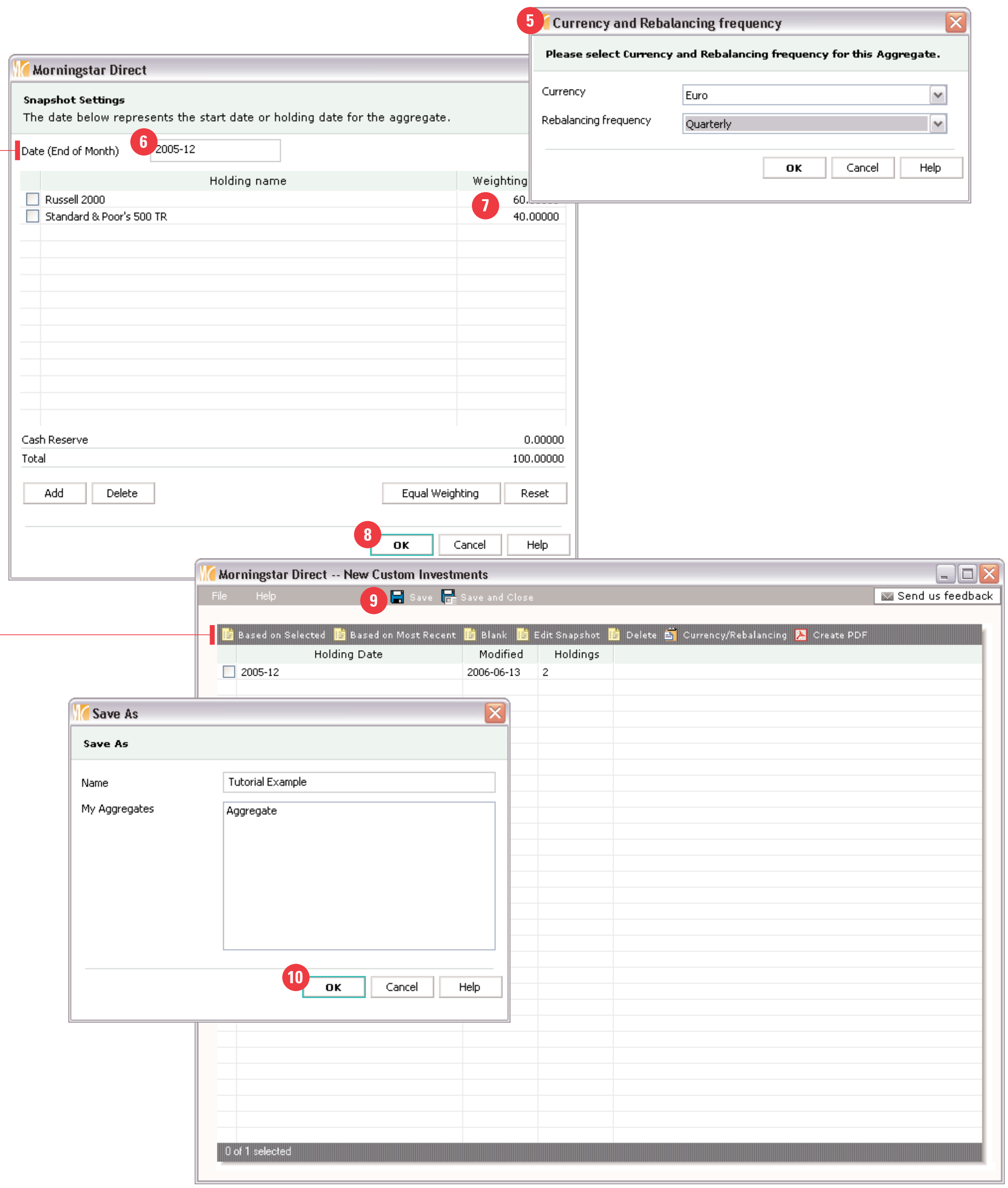
5 Select Currency and Rebalancing frequency.
6 In the Snapshot Settings window, type in the snapshot date in YYYY-MM format.
7 Assign weights to the components of the aggregate.
8 Click *OK*.
9 A new window opens with your portfolio. Assign a name by Saving the aggregate.
10 Click OK. If complete, you can close the window.

Aggregates can be added to research just like any other investment. They will appear under the Aggregate universe in the Add Investment dialog.

Tips

The earliest snapshot date is considered the inception date of the aggregate. Aggregate performance will only be generated after the earliest snapshot date.

Create a snapshot. Useful if the holdings and weights in a portfolio have changed over time.



Import Portfolios

Users can also import a portfolio that is not in the Morningstar databases into the system. Holdings data may be imported for style analysis. When you create a custom investment it is accessible to you throughout the application just like any other investment. It is located under Custom Investments universe.

Multiple portfolios and portfolio dates can be imported in the same file. Import files *need to have the following columns in this order:* Portfolio Date, Portfolio Identifier, Portfolio Name, Holding Identifier, Security Description, Shares/Par Value, Market Value, Coupon Rate (if applicable), and Maturity Date. Holding Identifier needs to be CUSIP, Ticker, ISIN or SEDOL. Since tickers are duplicated across global markets, we highly suggest using an alternative identifier.

Supported file types are: Excel, comma-delimited text, tab-delimited text, pipe-delimited text, and semi-colon delimited text.

A portfolio must meet two business rules in order to pass Morningstar's security identification process:

- All top 25 holdings must have an asset type assigned.
- At least 90% of the total market value must be identified.

1 Confirm that your file has the correct order of columns.
2 To begin the import process, click Workspace, and then click Imports.
3 On the Action bar, click New.
4 In the Operations tab, fill in the basic operations information. Investment name and currency are required.

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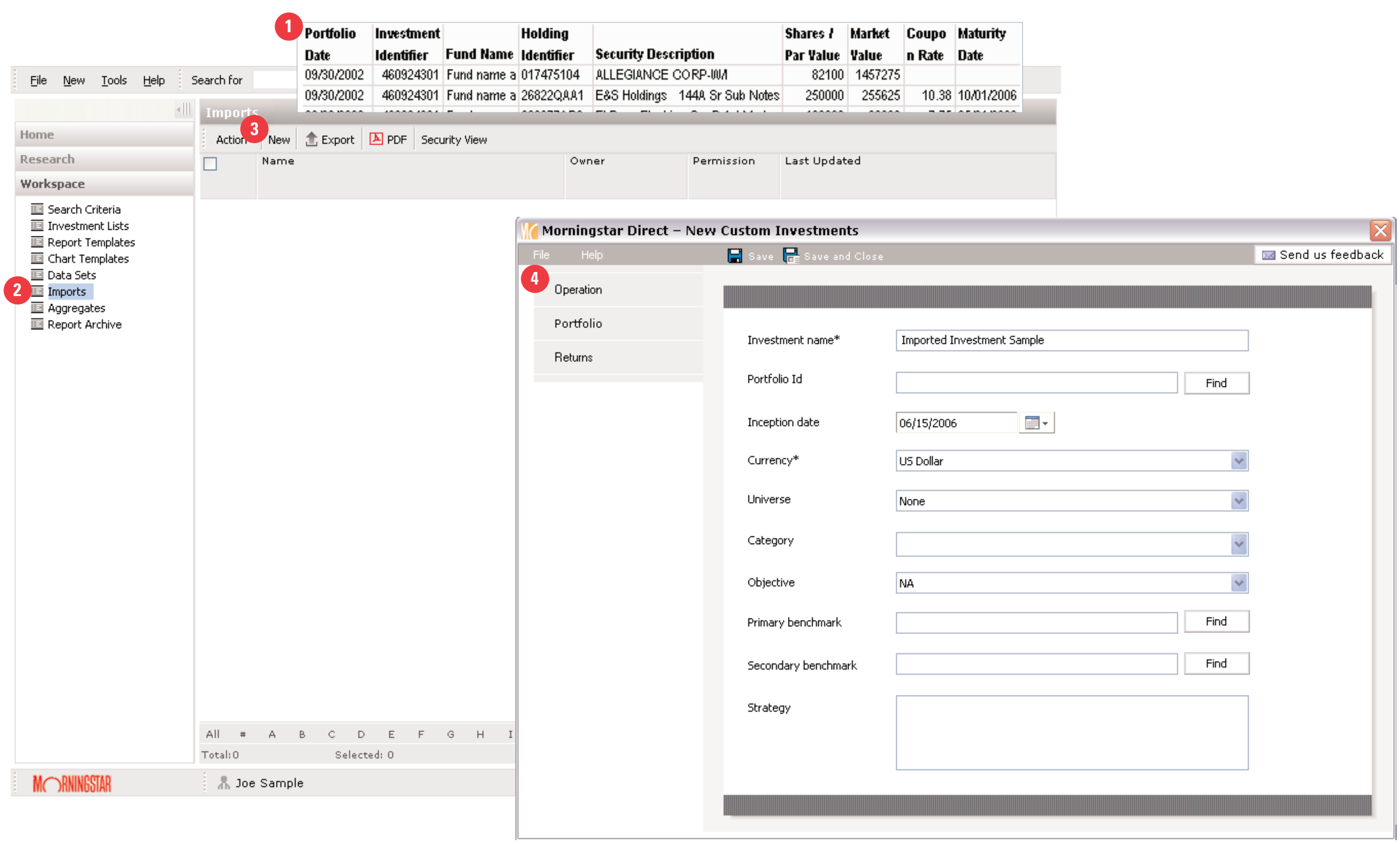


Import Portfolios (continued)

5 Click the *Portfolio* tab.

6 Click *Import* to launch the portfolio import tool.

7 Click *Browse* to locate your holdings file. Use the File Type menu to choose from one of the supported file types. Click *Next*.

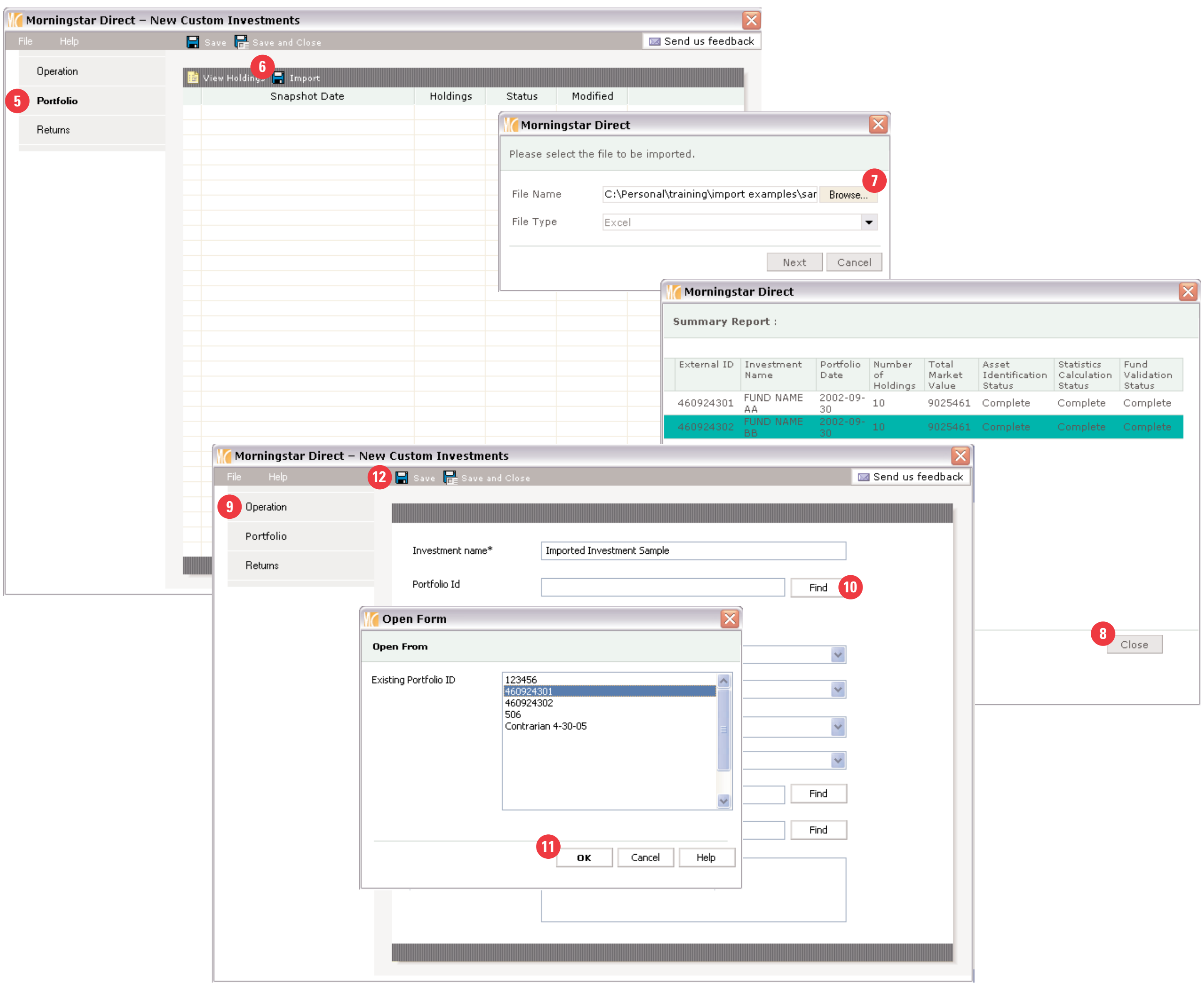
8 The import process will begin. You may see a screen reporting minor problems with your file format; click *Close* to continue through the process. You will be able to manually match securities later.

9 Click the *Operation* tab.

10 Click *Find*.

11 Select the portfolio identifier from your imported file and press *OK*. It may take a few minutes for the identifier to appear.

12 Click *Save*. If you want to import returns, see page 40.



Matching Unidentified Securities

If the process in step 7 of the previous section fails, perform the following steps:

1 Click on Portfolio.

2 Click on *Snapshot Date*.

3 Select undefined holding(s) and select *Match Holding(s)* from the Action bar.

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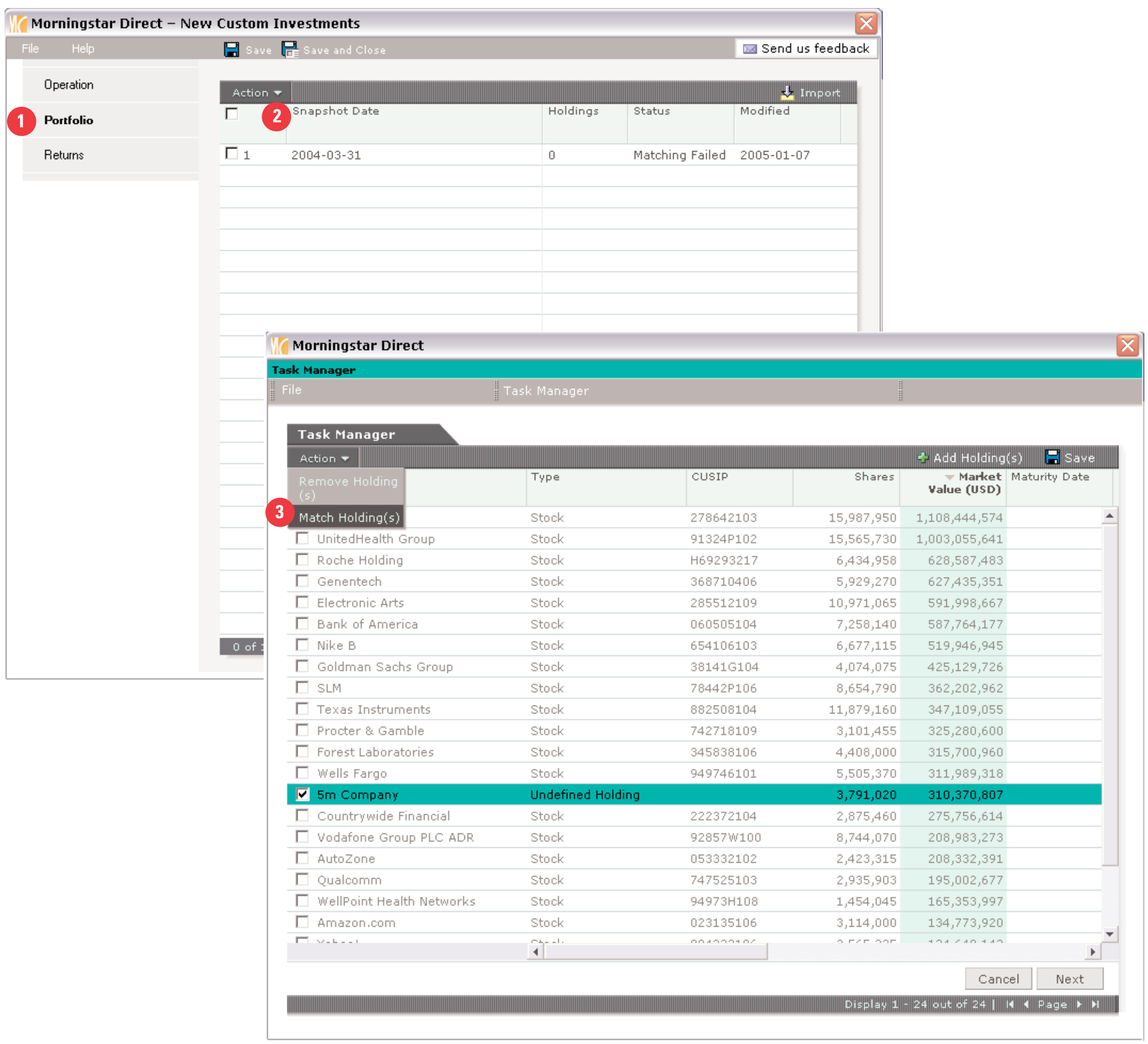


Matching Unidentified Securities (continued)

4 Select the unmatched holding.

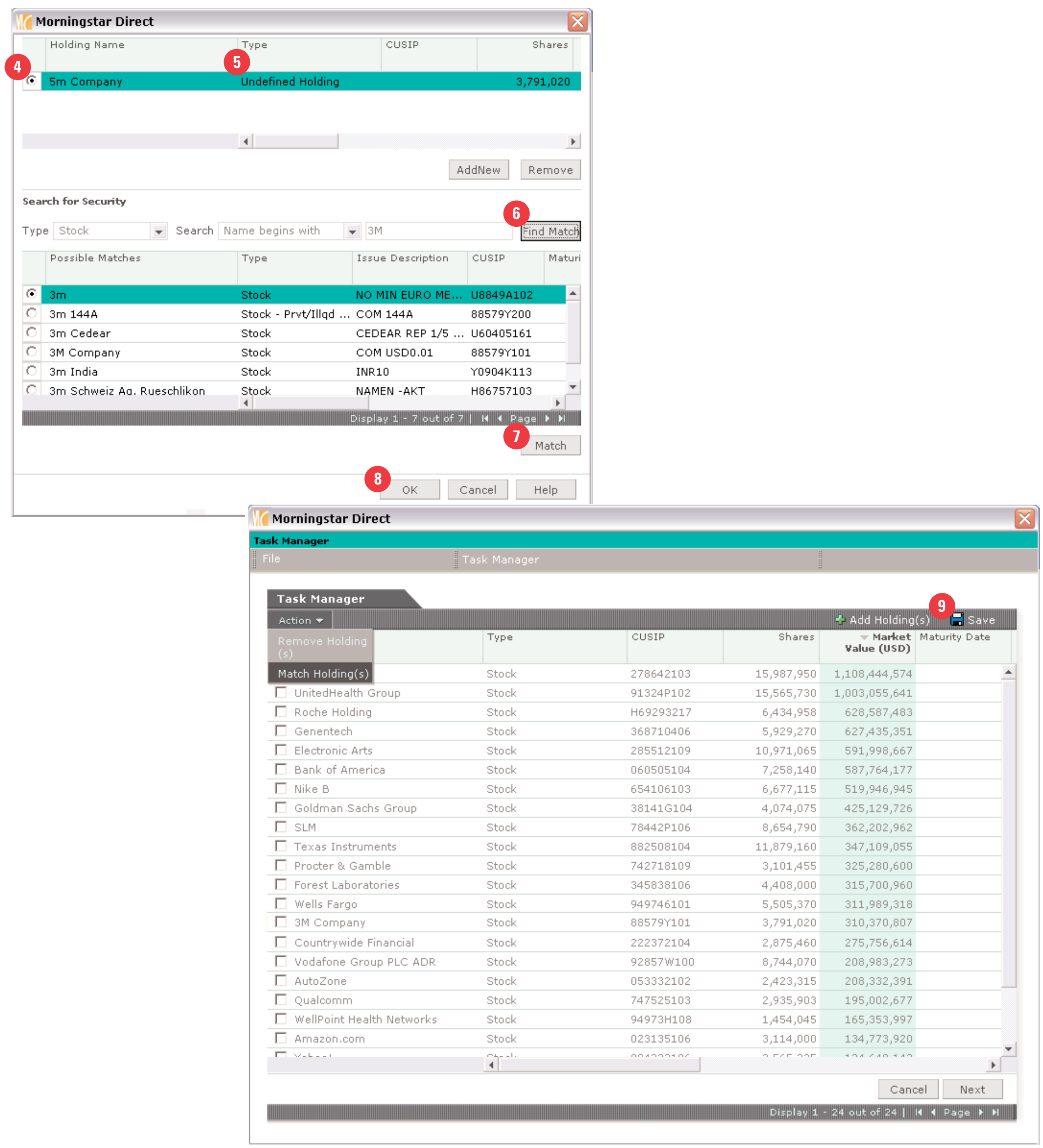
5 Select Type.

6 Enter search text and click *Find Match*.

7 Under possible matches select appropriate security and click *Match*.

8 When finished with all holdings, Click *OK*.

9 The holdings window will open with the securities matched. Click *Save*.



Import Returns

Returns associated with a custom investment may be added to facilitate peer analysis and other research.

1 Open the Import file in the Workspace, and click on the *Returns* tab.

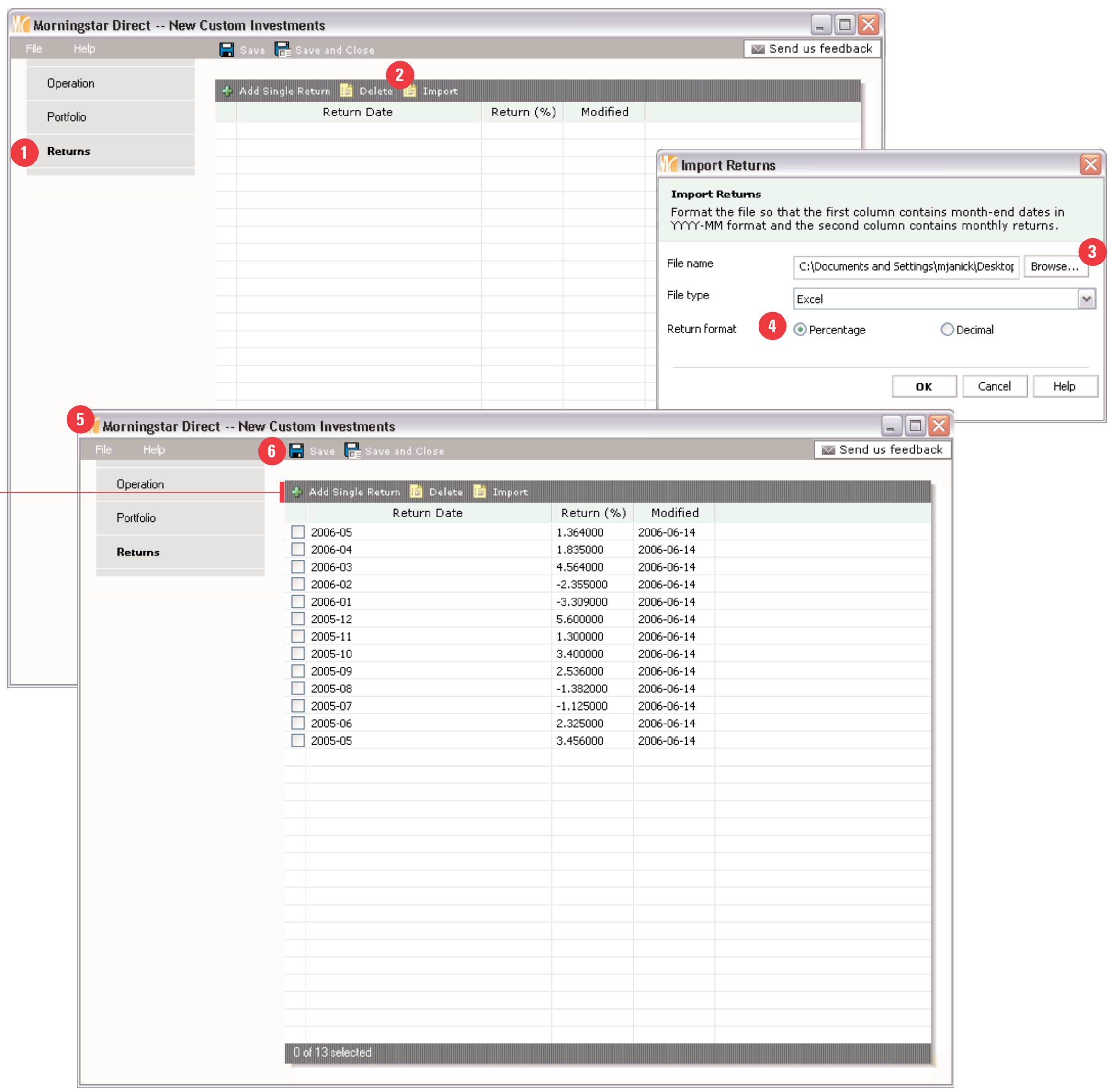
2 Click *Import*.

3 To locate your import file, click *Browse*. Choose File type (your file must have return date in YYYY-MM format and return value).

4 Choose return format.

5 The imported returns will be displayed in the Returns window.

6 Click *Save* or *Save and Close*.



Tips

Manually add a return period without importing.