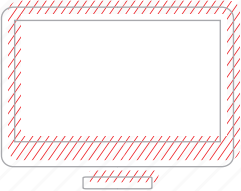
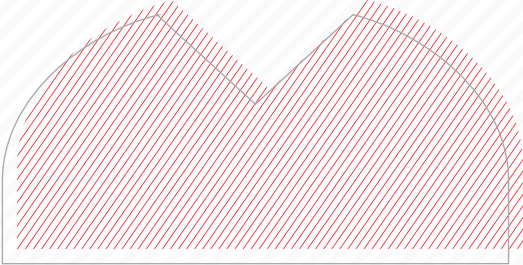
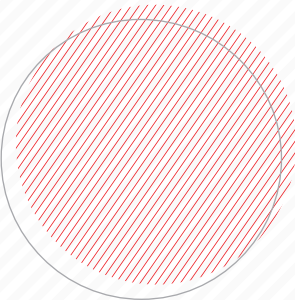
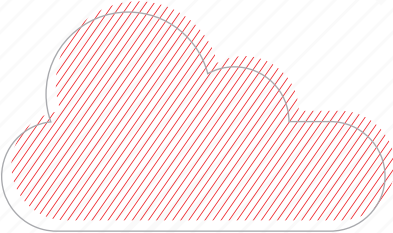
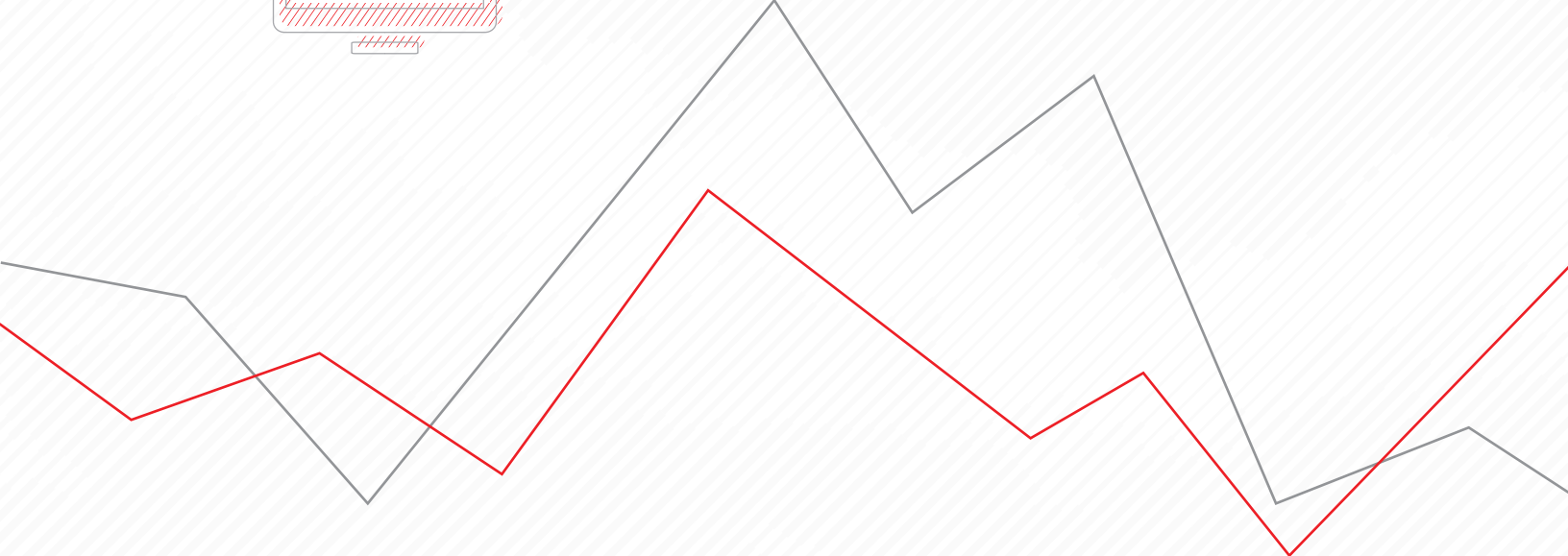


# Creating Searches in Morningstar Direct

Onboarding Guide



MORNINGSTAR Direct



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# Creating Searches in Morningstar Direct<sup>SM</sup>

How can Morningstar Direct<sup>SM</sup> help users when they need to find a set of securities with certain characteristics, such as funds belonging to a specific Morningstar category, or those with an expense ratio below a particular threshold, or stocks in an industry that also have a P/E ratio below a certain number?

## Overview

The Search function in Morningstar Direct is the solution to this problem. The Search by Criteria window returns a set of investments currently matching whatever criteria the user defines.

- Note: Prior to using this training guide, be sure to read the [Quick Start Guide for Morningstar Direct](#). Also, this guide builds on the exercises offered in [Working with Investment Lists in Morningstar Direct](#).

The screenshot displays the Morningstar Direct interface. At the top, a window titled "United States Stocks" shows a search criteria table:

	Rel	Field Name	Operator	Value
1	---	Price/Fair Value	<=	1.1
2	And	Morningstar Rating Overall	>=	3
3	And	Forward Dividend Yield %	>=	3
4	And	Div Growth % 5 Yr (FY 1)	>=	5
5	And	Total Ret Annlzd 5 Yr (Daily)	>=	5

Below this, the main application window shows a grid view of search results for "United States Stocks". The grid includes columns for Name, Ticker, Price/Fair Value, Morningstar Rating Overall, Forward Earnings Yield %, Div Growth % 5 Yr (FY 1), and Total Ret Annlzd 5 Yr (Daily) Base. A red arrow points from the search criteria window to the grid view.

Annotations on the right side of the screenshot state: "This window shows what a search by criteria looks like, in this case, for stocks." and "The results of a search by criteria are seen in the grid view."

If a search returns a set of investments, and a list is also a set of investments in Morningstar Direct, then what is the difference between the two approaches?

A search offers dynamic results each time it is run. For example, a search for five-star, open-end funds in the Large Value category, would find dozens of funds today, but the specific funds seen could (and likely will) change from month to month (because the Morningstar Rating is updated monthly).

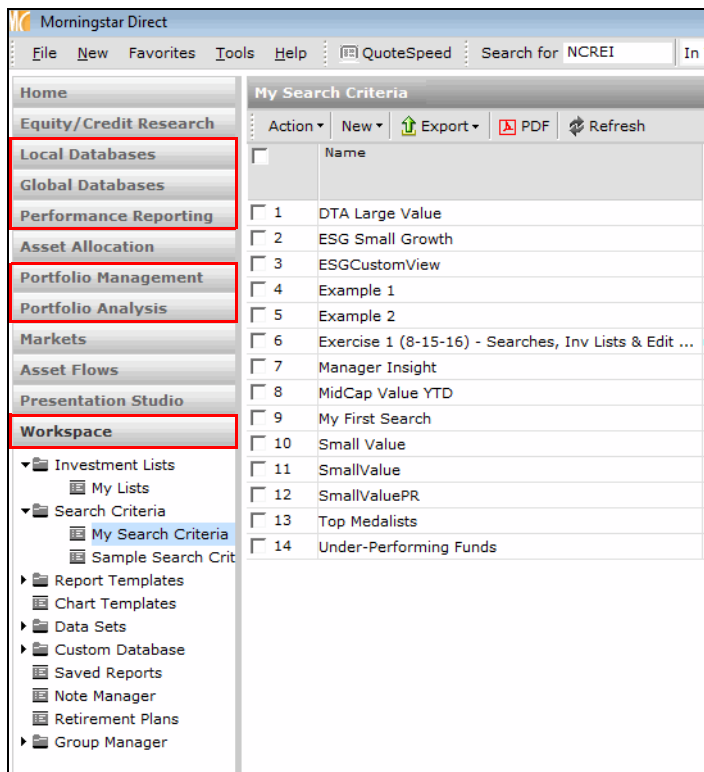
An investment list, however, is static and the items on a list do not change unless items are manually added to or removed from the list. In other words, the dozens of five-star Large Value funds from the search results could be saved to a list, and that list will not change unless items are added to it, or removed from it. To learn more about creating lists, see [Working with Investment Lists in Morningstar Direct](#).

**What is the difference between a search and a list?**

Searches can be created (or retrieved) from the following modules:

- ▶ Local Databases
- ▶ Global Databases
- ▶ Performance Reporting
- ▶ Portfolio Management
- ▶ Portfolio Analysis, and
- ▶ Workspace.

**How do searches differ in various parts of Morningstar Direct?**



The highlighted modules indicate modules in Morningstar Direct where a search can be created or retrieved.

In which module should a search be created? This depends, in part, on what is being searched for. For example, if only one type of investment available for sale in your country needs to be found, then create that search from the Local Databases module.

However, if a search needs to consider both open-end funds and exchange-traded funds, use either the Workspace or Performance Reporting module to complete that search.

Finally, if the ultimate goal is not simply to generate a set of results from a search, but to analyze the results by grouping investments, comparing them to benchmarks, and applying conditional formatting, the search should be created from the Performance Reporting module.

The following exercises offer practice in leveraging the advantages and possible limitations of a search created in various areas of Morningstar Direct.

## Working with Simple Searches

In a sense, all searches are created equal. No matter how many criteria are selected or how they are ordered in the Search by Criteria window, each search requires the following actions:

- ▶ Select a **field name** (i.e., a data point) to evaluate
- ▶ Choose an **operator** (=, <, >, etc.) for the field's value, and
- ▶ Assign a **value** to the field; this could be a number or a text label.

For example, a very basic search to find funds in the Large Value category would use the following criteria:

Field Name	Operator	Value
Morningstar Category	=	Large Value

A search to find funds whose annual net expense ratio is less than or equal to 1.25% would look use the following criteria:

Field Name	Operator	Value
Annual Net Expense Ratio	<=	1.25

This section offers practice with creating some relatively simple searches, as well as learning how to save and retrieve searches for later use.

In a word, no. While the Search by Criteria window can be used to look for items by name or ticker symbol when those values are known, this action takes an extraordinarily long time to complete. The number of clicks involved is not worth the effort.

Instead, create a list of known investments from the Workspace module. For details on how to create lists, please see [Working with Investment Lists in Morningstar Direct](#).

### Overview

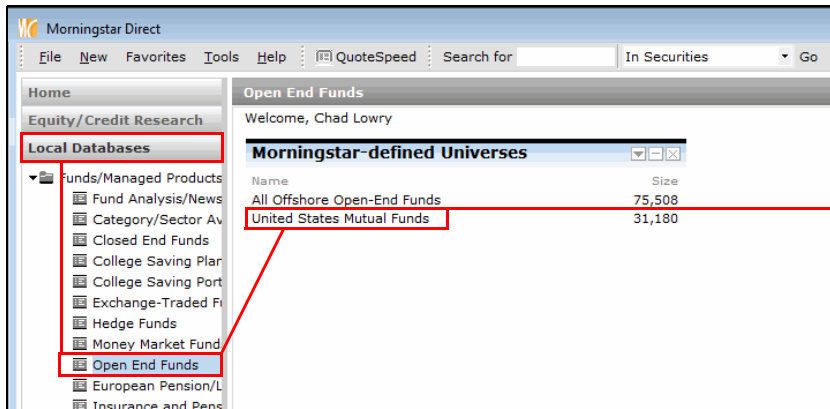
### Should I create a search to look for investments by name or ticker symbol?

A search created from the Local Databases module is effectively building on a search that already exists. For example, for users in the United States, when the Open End Funds page is selected in the Local Databases module and the United States Mutual Funds link is selected (see screen shot after step 2 below), this is a search result screening for open-end funds for sale in the U.S.

**Exercise 1: Create a search from the Local Databases module**

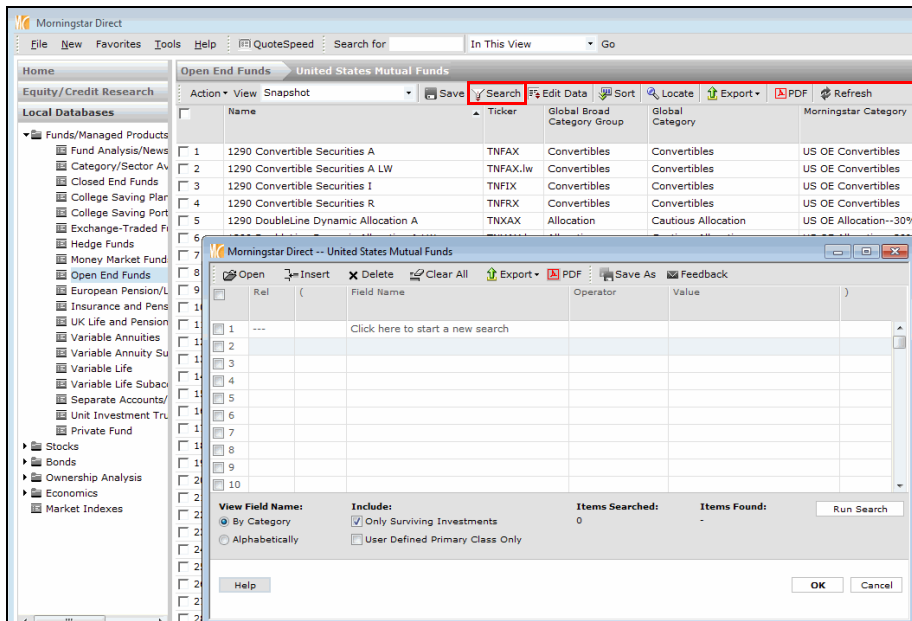
In this first exercise, U.S. Large Value funds will be found. Do the following:

1. From the left-hand navigation pane, select the **Local Databases** module.
2. Click the **Open End Funds** page.
3. Click the link for **United States Mutual Funds**. The database opens.



Be sure to select the correct page and link.

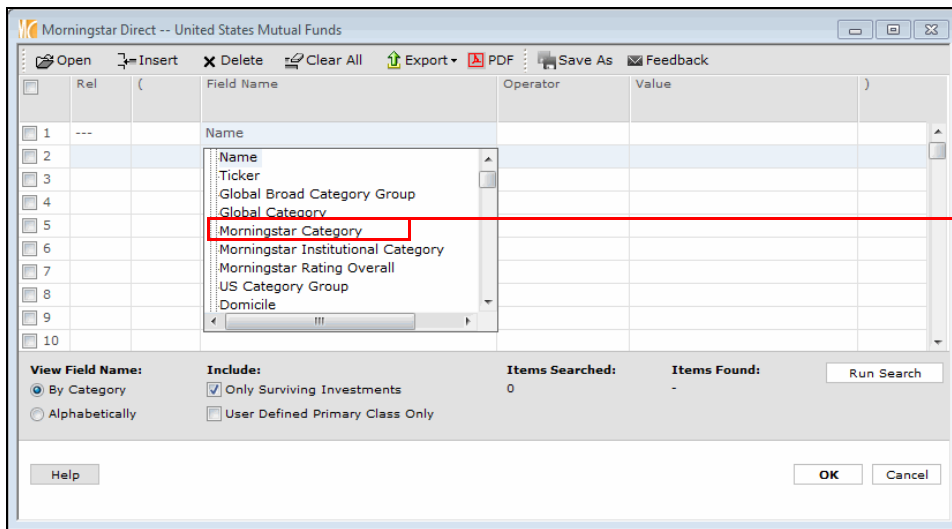
4. From the toolbar above the spreadsheet view, click the **Search** icon. The Search by Criteria window opens.



Click this icon to open the Search by Criteria window.

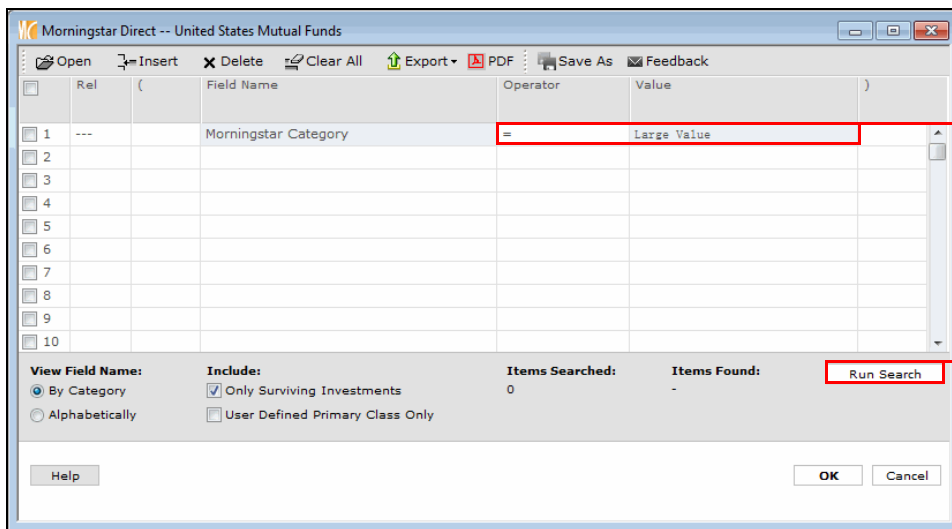


- Click in the **Field Name** cell for the row 1, and select **Morningstar Category**. The Operator cell in the first row defaults to =.



Click to select a field.

- Click the **Value** cell in the first row. Note that the categories are listed alphabetically.
- Scroll** down and click **Large Value**.
- To preview how many investments meet the criterion, click the **Run Search** button.



Note the values in these fields.

Use this button to see how many items match the criteria.

- To view the results of the search in the grid view, click **OK**. In each row, take note of what is shown under the Morningstar Category column, and note the Total: number of investments showing in the bottom-left corner of the grid view.

Name	Ticker	Global Broad Category Group	Global Category	Morningstar Category
1 AB Equity Income A	AUIAX	Equity	US Equity Large Cap Value	US Fund Large Value
2 AB Equity Income Advisor	AUIYX	Equity	US Equity Large Cap Value	US Fund Large Value
3 AB Equity Income B	AUIBX	Equity	US Equity Large Cap Value	US Fund Large Value
4 AB Equity Income C	AUICX	Equity	US Equity Large Cap Value	US Fund Large Value
5 AB Equity Income I	AUIIX	Equity	US Equity Large Cap Value	US Fund Large Value
6 AB Equity Income K	AUIKX	Equity	US Equity Large Cap Value	US Fund Large Value
7 AB Equity Income R	AUIRX	Equity	US Equity Large Cap Value	US Fund Large Value
8 AB Equity Income Z	AUIZX	Equity	US Equity Large Cap Value	US Fund Large Value
9 AB Relative Value A	CABDX	Equity	US Equity Large Cap Value	US Fund Large Value
10 AB Relative Value Advisor	CBBYX	Equity	US Equity Large Cap Value	US Fund Large Value
11 AB Relative Value B	CBBDX	Equity	US Equity Large Cap Value	US Fund Large Value
12 AB Relative Value C	CBBXC	Equity	US Equity Large Cap Value	US Fund Large Value
13 AB Relative Value I	CBBIX	Equity	US Equity Large Cap Value	US Fund Large Value
14 AB Relative Value K	CBBKX	Equity	US Equity Large Cap Value	US Fund Large Value
15 AB Relative Value R	CBBRX	Equity	US Equity Large Cap Value	US Fund Large Value
16 AB Relative Value Z	CBBZX	Equity	US Equity Large Cap Value	US Fund Large Value
17 AB Value A	ABVAX	Equity	US Equity Large Cap Value	US Fund Large Value
18 AB Value Advisor	ABVYX	Equity	US Equity Large Cap Value	US Fund Large Value
19 AB Value B	ABV BX	Equity	US Equity Large Cap Value	US Fund Large Value
20 AB Value C	ABVCX	Equity	US Equity Large Cap Value	US Fund Large Value
21 AB Value I	ABVIX	Equity	US Equity Large Cap Value	US Fund Large Value
22 AB Value K	ABVIX	Equity	US Equity Large Cap Value	US Fund Large Value
23 AB Value R	ABVRX	Equity	US Equity Large Cap Value	US Fund Large Value
24 AIG ESG Dividend A	EDFAX	Equity	US Equity Large Cap Value	US Fund Large Value
25 AIG ESG Dividend C	EDFCX	Equity	US Equity Large Cap Value	US Fund Large Value
26 AIG ESG Dividend W	EDFWX	Equity	US Equity Large Cap Value	US Fund Large Value
27 AIG Focused Dividend Strategy A	FDSAX	Equity	US Equity Large Cap Value	US Fund Large Value
28 AIG Focused Dividend Strategy B	FDSBX	Equity	US Equity Large Cap Value	US Fund Large Value
29 AIG Focused Dividend Strategy C	FDSTX	Equity	US Equity Large Cap Value	US Fund Large Value
30 AIG Focused Dividend Strategy W	FDSWX	Equity	US Equity Large Cap Value	US Fund Large Value
31 AIG Select Dividend Growth A	SDVAX	Equity	US Equity Large Cap Value	US Fund Large Value
32 AIG Select Dividend Growth C	SDVCX	Equity	US Equity Large Cap Value	US Fund Large Value
33 AIG Select Dividend Growth W	SDVWX	Equity	US Equity Large Cap Value	US Fund Large Value
34 AIG Strategic Value A	SPVAX	Equity	US Equity Large Cap Value	US Fund Large Value
35 AIG Strategic Value C	SPVTX	Equity	US Equity Large Cap Value	US Fund Large Value
36 AI Frank Adv	VALAX	Equity	US Equity Large Cap Value	US Fund Large Value
37 AI Frank Dividend Value Adv	VALEX	Equity	US Equity Large Cap Value	US Fund Large Value

Total: 1279 Selected: 0

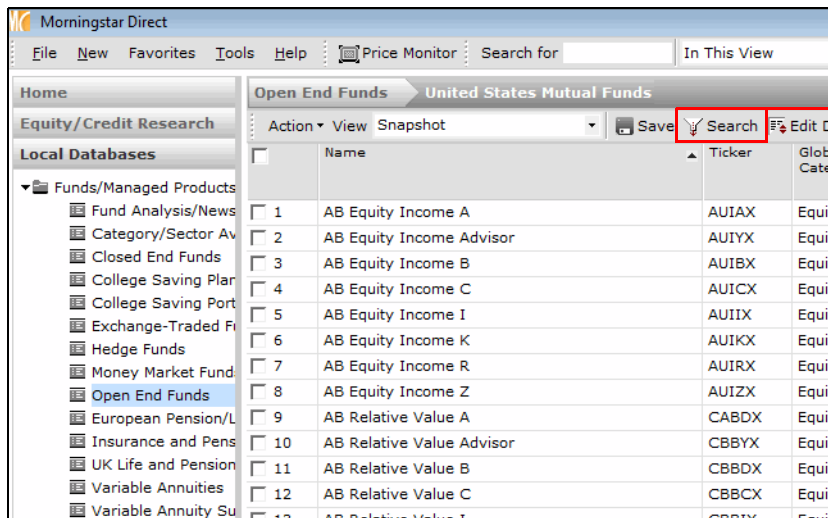
All rows now show US Fund Large Value in this column.

The number of funds matching the search parameters is shown here.

Saving a search precludes a user from having to re-enter the criteria again and again for those searches used frequently. Once saved, a search is found under the Search Criteria folder from the Workspace tab, or it can be opened from the Search window itself in other modules. To save a search, do the following:

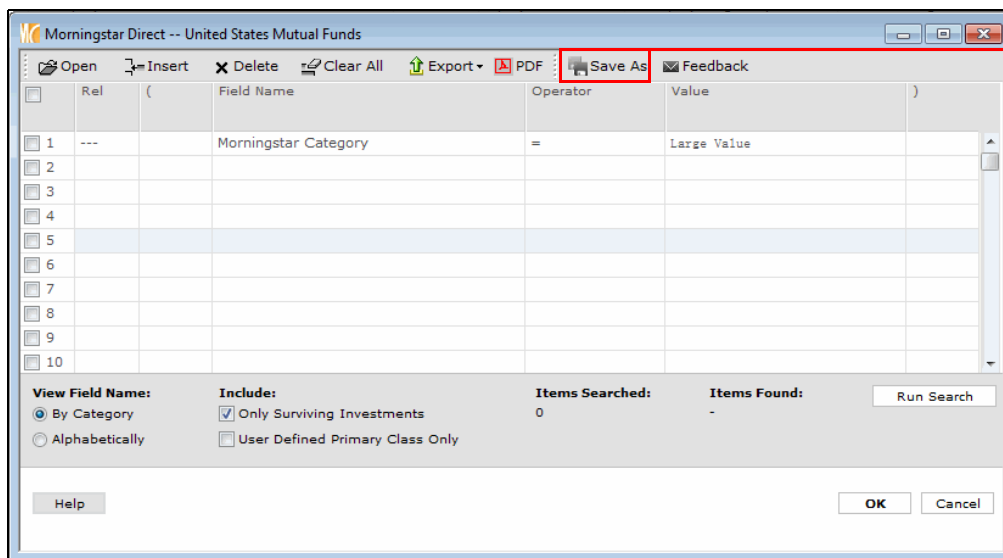
**Exercise 2: Save a search**

1. The Open End Funds universe should still be selected within the Local Databases module, with United States Mutual Funds showing. From the toolbar above the grid view, click the **Search** icon. The Search by Criteria window opens, and the criterion entered earlier should still be showing.



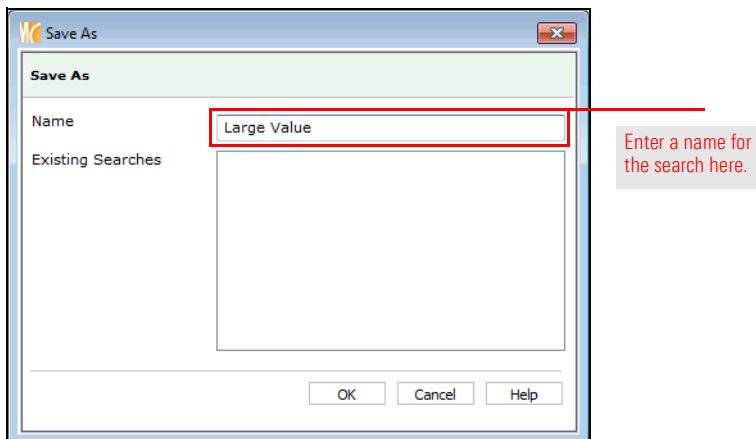
Click this icon to re-open the Search by Criteria window.

2. From the top of the Search by Criteria window, click the **Save As** icon. The Save As dialog box opens.



Click this icon to save a search.

- In the **Name** field, type **Large Value**.

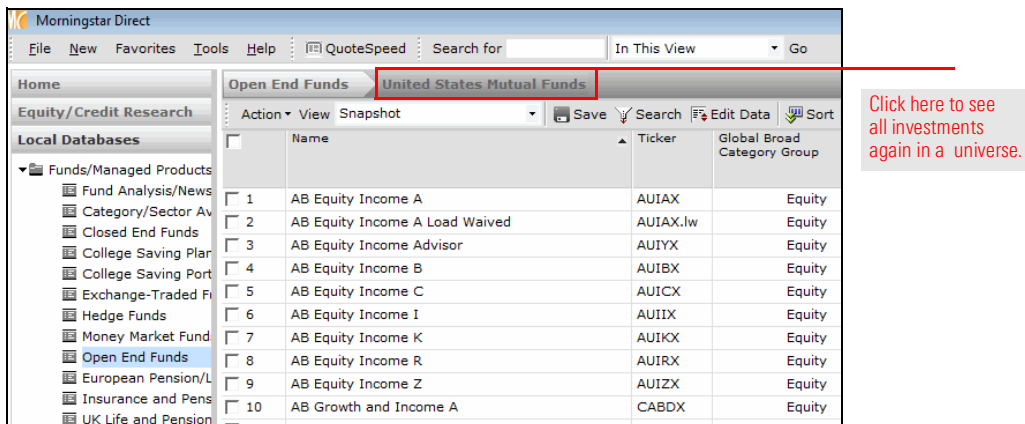


- Click **OK** to close the dialog box.
- Click **OK** to close the Search by Criteria window. The saved search can be opened from the Search by Criteria window, or by going to the **Workspace** module and selecting the **My Searches** page.

Creating the search in Exercise 1 changed the data universe (Open End Funds) selected when the exercise began. Now, instead of seeing all open end funds, only open end funds in the Large Value category are seen. To reset the universe and return to seeing all open end funds with one click, do the following:

From the toolbar above the spreadsheet view, click the name of the universe, in this case: **United States Mutual Funds**.

### Exercise 3: Reset a universe after conducting a search

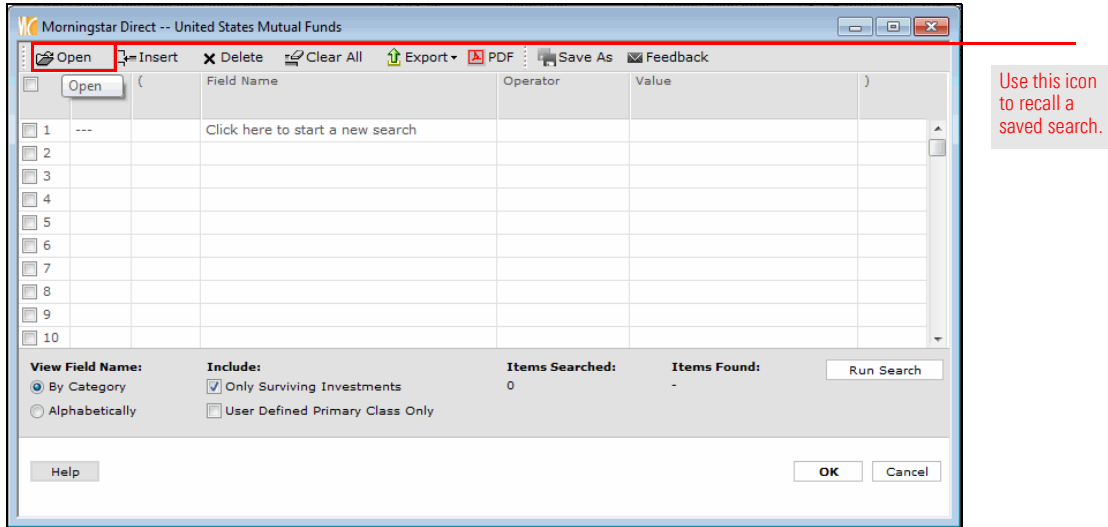


Once saved, a search is found under the Search Criteria folder in the Workspace module. Alternatively, a saved search can be opened from the Search by Criteria window itself anywhere it is accessed in another module, such as the Workspace or Performance Reporting modules.

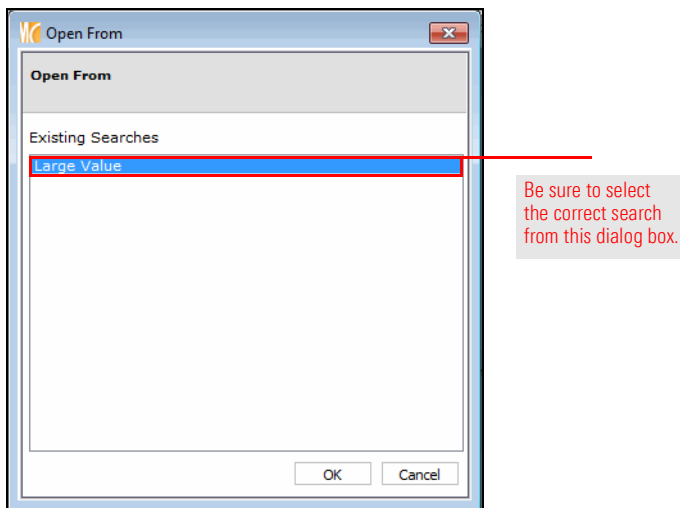
**Exercise 4: Open a saved search**

To open a saved search from the Local Databases module, do the following:

1. The Open End Funds universe should still be selected within the Local Databases module, with United States Mutual Funds showing. From the toolbar above the spreadsheet area, click the **Search** icon. The Search by Criteria window opens.
2. Click the **Open** icon. The Open From dialog box opens.



3. Click **Large Value**, then click **OK** to close the Open From dialog box.

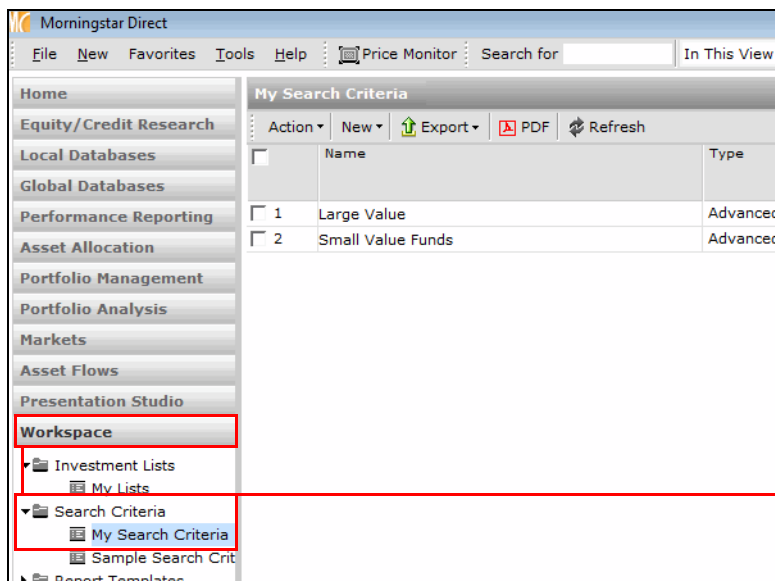


4. Click **OK** on the Search by Criteria window to execute the search.

To open a saved search from the Workspace module, do the following:

1. From the left-hand navigation pane, select the **Workspace** module.
2. Under the **Search Criteria** folder, select **My Search Criteria**. If the exercises in the [Working with Investment Lists in Morningstar Direct](#) guide were completed, the Small Value Funds search created and saved as part of that work is seen here. The Small Value Funds search did not appear in the previous set of steps (where a saved search was opened from the Local Databases module) because the Small Value Funds search considered both Open End Mutual Funds and Exchange-Traded Funds, and the search in the Local Databases module looks only for Open End Mutual Funds.

Therefore, when opening a search from the Search by Criteria window in the Local Databases (or Global Databases) module searches including other investment types cannot be seen.



Note the location where you can find saved searches in Morningstar Direct.

3. **Double-click** the **Large Value** item to open it. Note that the spreadsheet view opens with the results, without first showing the Search window.

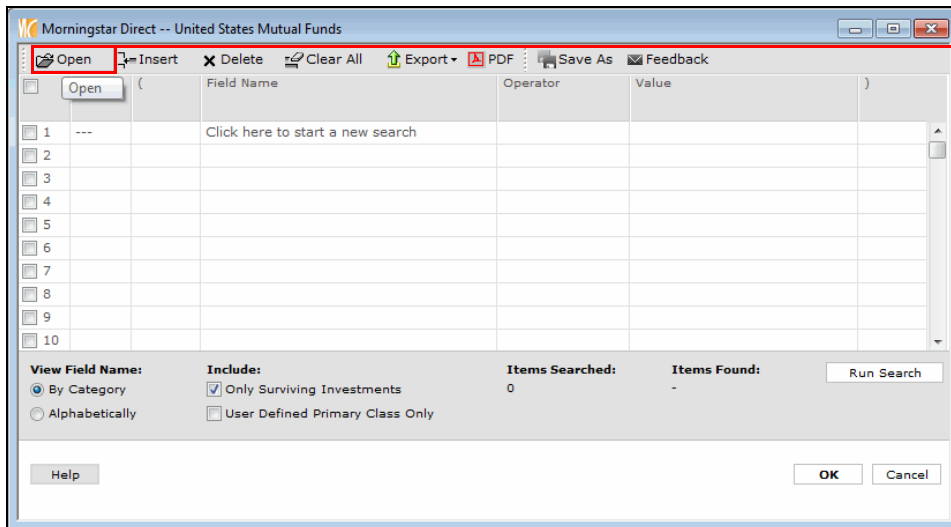
So far, the exercises in this guide have dealt with a search looking for one criterion only: Large Value funds. In practice, searches will almost always contain multiple criteria, so this exercise explores adding criteria to a search.

When the Large Value funds search from Exercise 1 was run, multiple instances of the same funds appeared in the results, rather than just a single instance of each fund. To see only one instance of a fund, a few options exist. For instance, a search could look for only a certain share class of a fund, such as the A share.

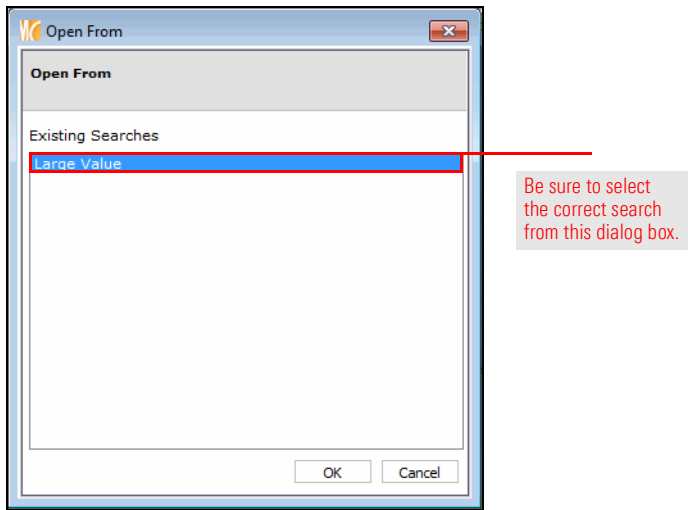
However, because not all funds have an A share class, using this as an additional criterion would eliminate any funds from a search without this feature. Instead, a criterion called Oldest Share Class can be used. Oldest Share Class finds only the original share class for each fund included in a search.

Start by opening the search saved in Exercise 2, then build on it. Do the following:

1. Select the **Local Databases** module, and open the **United States Mutual Funds** universe. From the toolbar above the spreadsheet area, click the **Search** icon. The Search window opens.
2. Click the **Open** icon. The Open From dialog box opens.



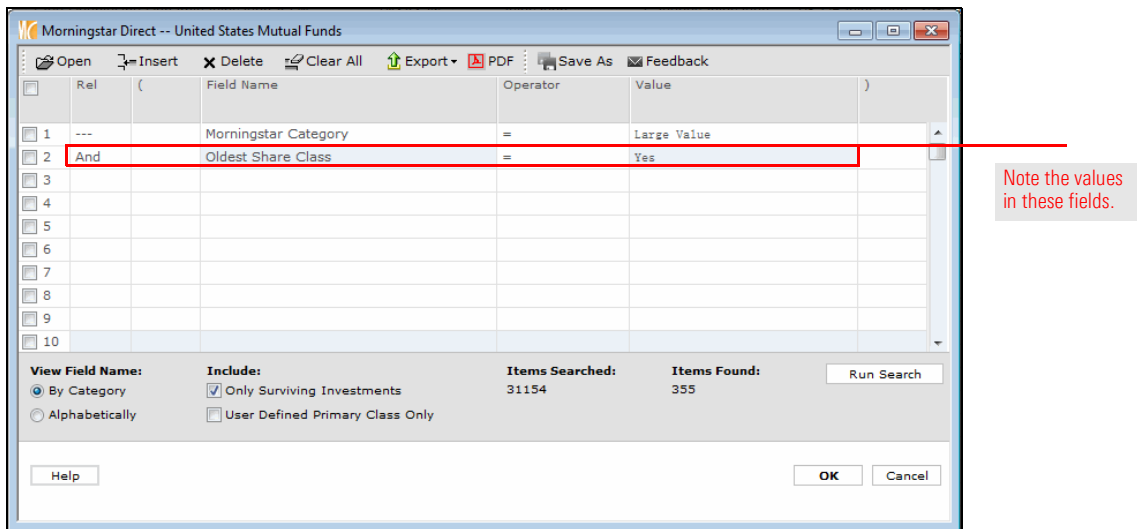
- Click **Large Value**, then click **OK** to close the Open From dialog box.



- In the Search by Criteria window, click **Run Search**, and take note of the number of items found.
- Click in the **Field Name** cell for the second row, and **scroll** down until **Oldest Share Class** can be selected. The Operator cell in the second row defaults to =.

Note: As soon as the Field Name cell for row 2 was clicked, the word “And” appeared in the Rel(ationship) column. This means both of these criteria (in rows 1 and 2) must be true in order for a fund to be returned by the search. Also, rather than scrolling down to find a criterion, another option is to type the word **Old**, and the cursor would jump to find Oldest Share Class.

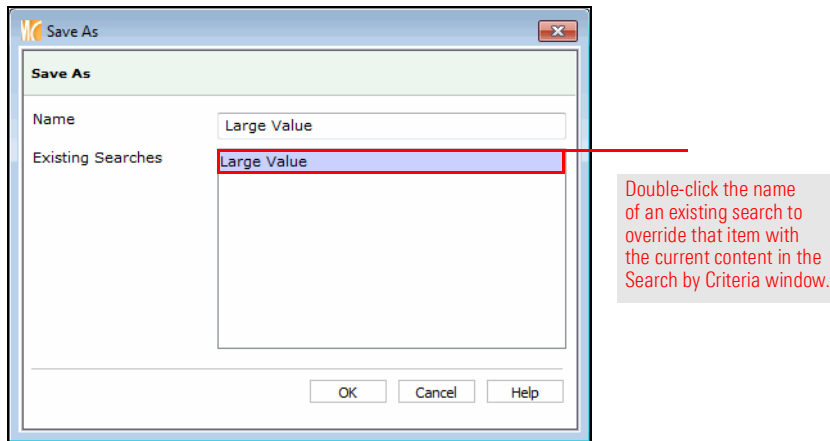
- Click in the **Value** cell for row 2 and select **Yes**.



- Click **Run Search** again, and note the number of funds that are now found.



8. Two criteria should now appear in the search for Large Value funds. To re-save the search to reflect this change, click **Save As**. The Save As dialog box opens.
9. Under the Existing Searches area, **double-click Large Value**; this populates its value in the Name field.

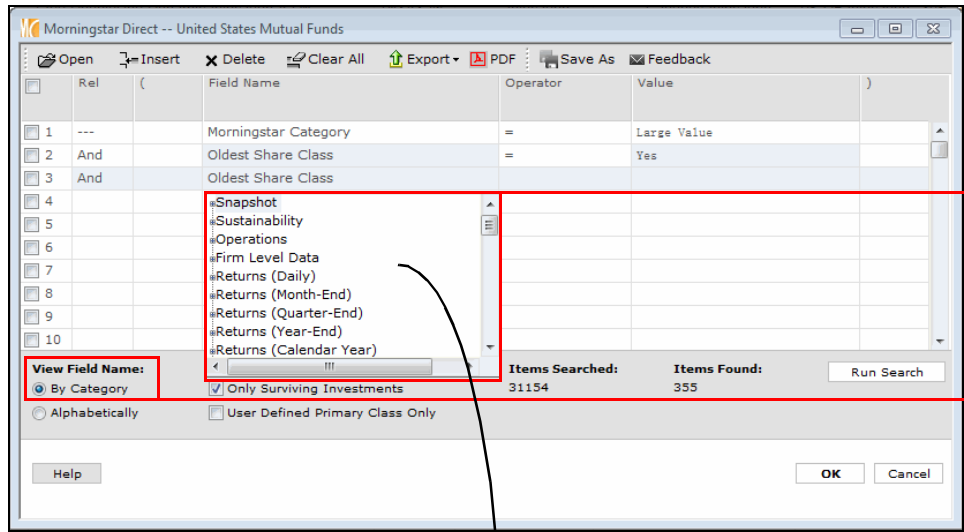


10. Click **OK**.
11. When the overwrite confirmation message opens, click **OK**. Keep the Search by Criteria window open for the next exercise.

By default, the Search by Criteria window shows the available search criteria by grouping data points into categories. These categories are identical to the pre-built views available in the Local Databases grid view. If the category (or view) a data point appears in is known, it's easy to find that field for inclusion in a search. Note that some fields, such as Ticker or Morningstar Rating, appear in more than one search category (and pre-built view).

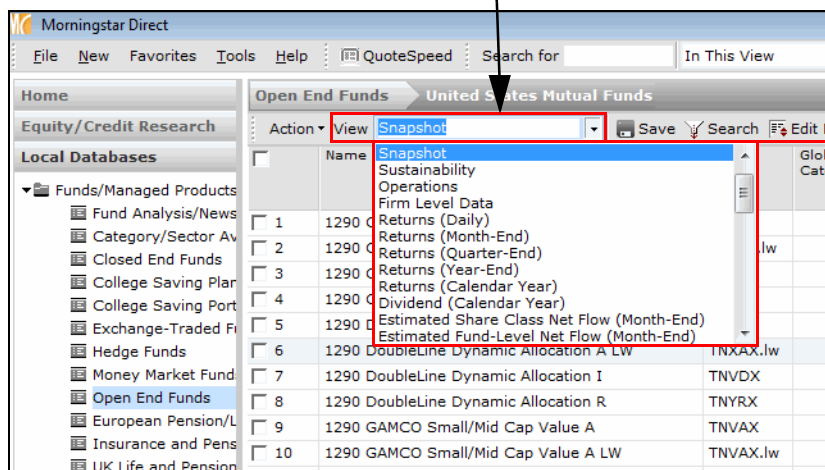
**Exercise 6: Expand a search to another category**

So far, the two criteria (Morningstar Category and Oldest Share Class) used in creating searches have appeared in the default Snapshot category, which is expanded by default when the Search by Criteria window is opened. Seeing fields grouped by category is the default setting when working with the Search by Criteria window.



The categories here correspond to the views in a universe.

Note the default display by which criteria are found.

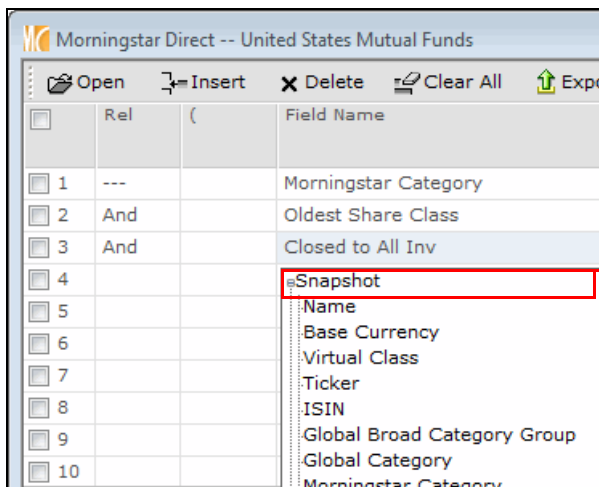


The views here are reflected in the category groupings in the Search by Criteria window.

While seeing the Snapshot category expanded by default is convenient for selecting the most popular fields being sought (which is the intent of the Snapshot view/category), this category does not allow users to access all of the criteria that may be needed for every search. For example, what if the need is to eliminate any fund from a search not open to new investors? No criterion exists for "Open to New Investors." Instead, an alternative approach needs to be taken in order to see these funds. Specifically, the search needs to look for those instances where funds have not been closed to new investors.

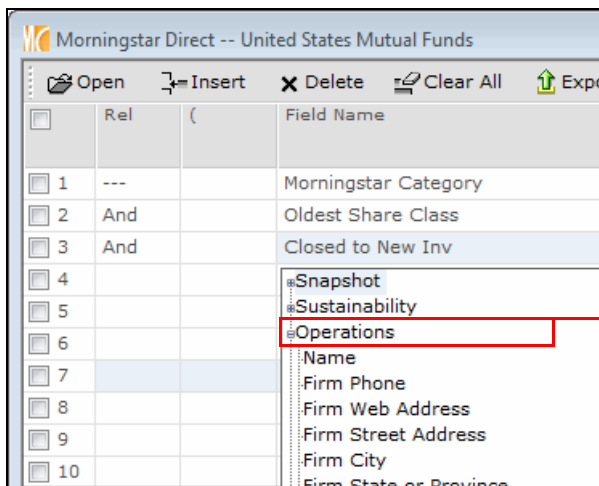
To find funds still open to new investors, do the following:

1. The Search by Criteria window should still be open, with the criteria from the Large Value search still displayed. (If not, open the saved search now.)
2. In row 3, click in the **Field Name** cell.
  - ☞ Note: Again, the word "And" appears in the Rel column for row 3.
3. **Scroll up** to the top of the Field Name list, and collapse the **Snapshot** category by clicking once on the **icon** to the left of its name.



Click the icon to the left of Snapshot to collapse the category.

4. Click the **icon** to the left of the **Operations** category to expand it.



Click the icon to the left of Operations to expand the category.

5. **Scroll down** in the Operations category and click **Closed to New Inv.**

	Rel	(	Field Name	Operator	Value	)
1	---		Morningstar Category	=	Large Value	
2	And		Oldest Share Class	=	Yes	
3	And		Oldest Share Class			

View Field Name:  By Category  Alphabetically

Only Surviving Investments  User Defined Primary Class Only

Items Searched: 27380 Items Found: 351

The field appears under the Operations category.

6. In the **Operator** cell for row 3, select **Not =**.
7. In the **Value** cell for row 3, select **Yes**.

	Rel	(	Field Name	Operator	Value	)
1	---		Morningstar Category	=	Large Value	
2	And		Oldest Share Class	=	Yes	
3	And		Closed to New Inv	Not=	Yes	

View Field Name:  By Category  Alphabetically

Only Surviving Investments  User Defined Primary Class Only

Items Searched: 31145 Items Found: 351

Note the values for this row.

8. Click **Run Search**. The number of items found now reflects the inclusion of this additional criterion. Because the Rel(ationship) column for all three rows is "And," all three criteria must be true for a fund in order for it to be found by the search.
9. Re-save the search again to include this latest change. Click the **Save As** icon. The Save As dialog box opens.
10. Under the Existing Searches area, **double-click Large Value**; this populates its value in the Name field.
11. Click **OK** to close the Save As dialog box.
12. When the overwrite confirmation message opens, click **OK**. Keep the Search by Criteria window open for the next exercise.

By default, the Search by Criteria window allows users to select criteria based on the category each data point is assigned to. This makes finding a particular data point easy, as long as its known under which category each one is found. What happens, though, when this isn't known? Rather than waste a lot of time expanding, scrolling, and collapsing categories to find a data point, it will be faster to see all fields listed alphabetically, regardless of the category in which it appears.

### Exercise 7: Look for a field by name

To find and select a data point by name, do the following:

1. The Search by Criteria window should still be open, with the criteria from the Large Value search still displayed. (If not, open the saved search now.)
2. In the bottom-left corner of the Search by Criteria window, select the option for **Alphabetically**.

	Rel	(	Field Name	Operator	Value	)
1	---		Morningstar Category	=	Large Value	
2	And		Oldest Share Class	=	Yes	
3	And		Closed to New Inv	Not=	Yes	
4						
5						
6						
7						
8						
9						
10						

**View Field Name:**  By Category  Alphabetically

**Include:**  Only Surviving Investments  User Defined Primary Class Only

**Items Searched:** 27380 **Items Found:** 336

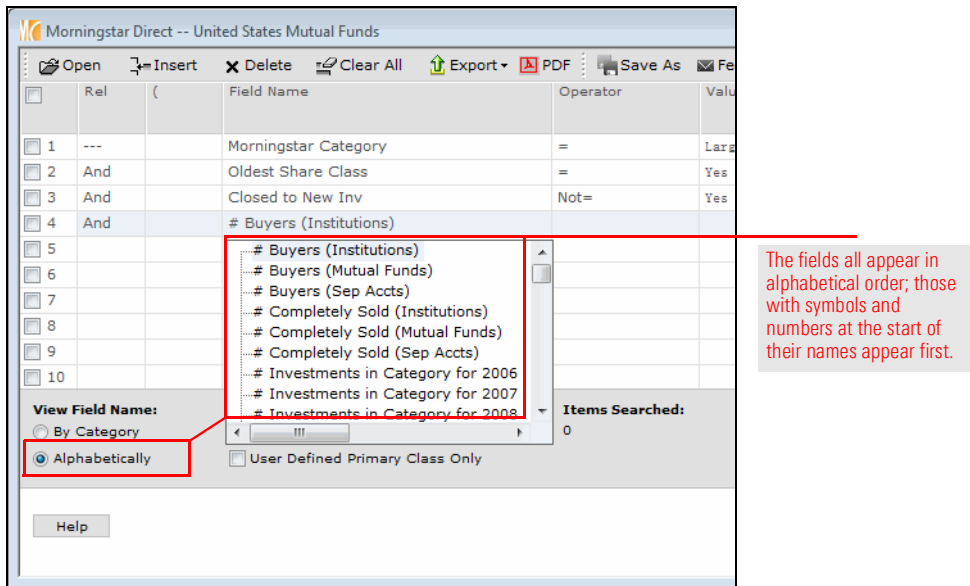
Run Search

Help OK Cancel

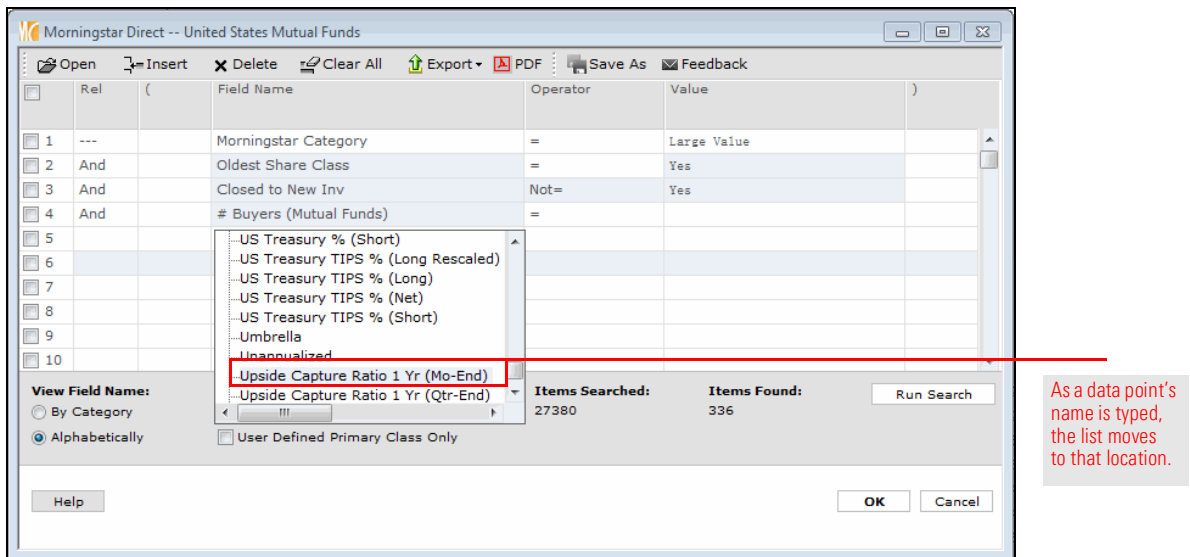
Select this option to see all criteria at once.

3. In row 4, click in the **Field Name** cell. All criteria are now listed alphabetically.

Note: Again, the word "And" appears in the Rel column for row 4.



4. Type **Up**. The list of data points automatically jumps to Upside Capture Ratio 1 Yr (Mo-End). Click **Upside Capture Ratio 1 Yr (Mo-End)**.



5. In the **Operator** cell for row 4, select **>=**.

6. In the **Value** field for row 4, enter **100**. This line now looks for only those funds achieving at least 100% of the upside of the market over the past year.

	Rel	(	Field Name	Operator	Value	)
1	---		Morningstar Category	=	Large Value	
2	And		Oldest Share Class	=	Yes	
3	And		Closed to New Inv	Not=	Yes	
4	And		Upside Capture Ratio 1 Yr (Mo-End)	>=	100	
5						
6						
7						
8						
9						
10						

**View Field Name:**  By Category  Alphabetically

**Include:**  Only Surviving Investments  User Defined Primary Class Only

**Items Searched:** 27380 **Items Found:** 336 **Run Search**

**Help** **OK** **Cancel**

7. Click **Run Search**.
8. Click the **Save As** icon. The Save As dialog box opens.
9. Under the Existing Searches area, **double-click Large Value**; this populates its value in the Name field.
10. Click **OK** to close the Save As dialog box.
11. When the overwrite confirmation message opens, click **OK**. Keep the Search by Criteria window open for the next exercise.

When searching for only one instance of a fund, look for one of the following options:

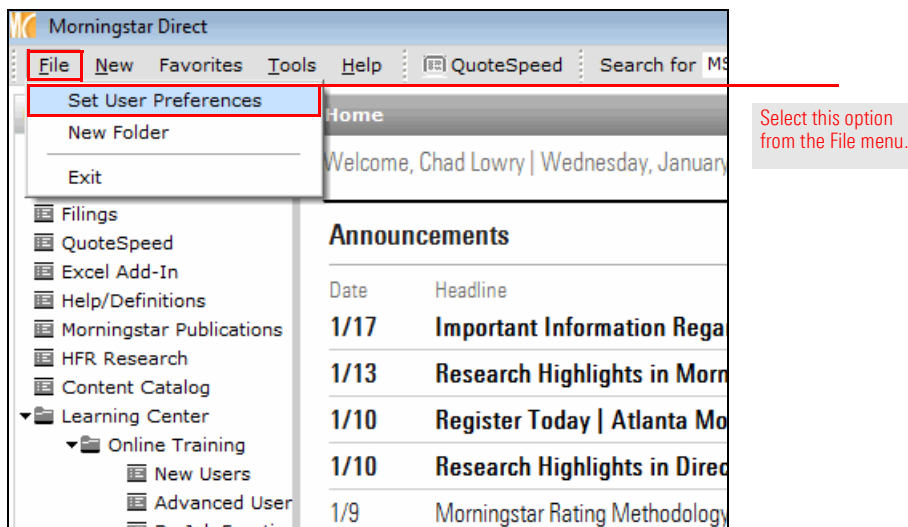
- ▶ the oldest share class of a fund
- ▶ a specific share class for a fund, such as the A share, or
- ▶ the least expensive share class for a fund.

The first example has already been explored. The second example is achieved simply by selecting the Share Class Type data point, then choosing the appropriate value. When searching for only the cheapest share class for a fund, however, the first step is to set the proper user preference from the File menu because no field exists to search on called "Cheapest Share Class." Once the correct user preference is set, a check box on the Search by Criteria window can be used to activate it and make it part of a search.

To create a user preference prioritizing the cheapest share class of a fund (over other share classes), do the following:

1. On the menu bar at the top of the Morningstar Direct window, from the **File** menu, select **Set User Preferences**. The Set User Preferences window opens.

### Exercise 8: Update the system user preferences to find the cheapest share class of a fund





2. Select the **User Defined Primary** tab.
3. Select the row for **Annual Report Net Expense Ratio**, then click the **move to top** button. (The move to top button displays two up arrows.) This ensures this element takes precedence when conducting a search.
4. Be sure the word **Lowest** appears in the Choose column.

**Set User Preferences**

General | Portfolio Management | Import | Export | Return Settings | **User Defined Primary**

**User Defined Primary Criteria**

After the rules set in the search dialog have been applied, the criteria below will be implemented, in the order chosen, to select only one share class per fund provided the 'User Defined Primary' option is checked.  
 If more than one share class shares the selected preference for the criteria (e.g. more than one share class shares the highest management fee and/or the oldest inception date) then all those share classes which match the selected preference will be judged using the next criterion (with any share classes that do not match the first preference being discarded). If, for the Currency, Distribution or Institutional criteria, no share classes for the fund match the preference chosen, then none of the share classes should be discarded and so the next criterion is considered.

Order	Criteria in order of preference	Choose
1	Annual Report Net Expense Ratio	Lowest
2	Max Management Fee	Lowest
3	Institutional	Retail Preferred
4	Minimum Investment	Lowest
5	Performance Start Date	Oldest
6	Distribution Status	Accumulation Preferred
7	Currency	US Dollar
8	Hedging Policy	Unhedged
9	Share Class Size (latest)	Lowest

Click this button to move the selected item to the top of the list.

5. Click **OK**. In the next exercise, this setting will be applied to a search.

In this exercise, large growth funds (both open-end funds and ETFs) meeting the following criteria will be found:

- ▶ an expense ratio below the category average
- ▶ still open to new investors
- ▶ an above-average Sharpe Ratio for the trailing five-year period, when compared to their category peers
- ▶ a Downside Capture Ratio below 100 for the five-year period, and
- ▶ have been around for at least five years.

### Exercise 9: Create a search by criteria in the Workspace module

Because both open end funds and exchange-traded funds are being sought at once, this search should be created from the Workspace module, where a search can look across multiple universes simultaneously. Additionally, the following exercise uses a check box on the Search by Criteria window that heretofore has not been used.

To create this search in the Workspace module, do the following:

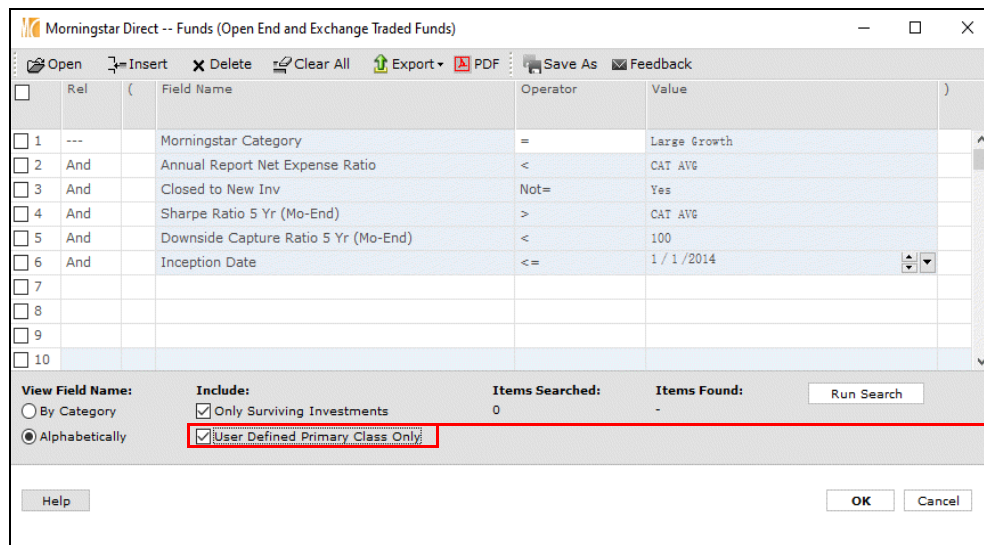
1. In Morningstar Direct, select the **Workspace** tab.
2. Under the **Search Criteria** folder, select **My Search Criteria**.
3. From the toolbar above the grid view, select **New > Advanced Search > Funds (Open End and Exchange-Traded Funds)**. The Search by Criteria window opens.

The screenshot shows the Morningstar Direct interface. On the left sidebar, the 'Workspace' tab is highlighted with a red box. Under the 'Search Criteria' folder, 'My Search Criteria' is also highlighted with a red box. In the main toolbar, the 'New' button is highlighted with a red box. A dropdown menu is open from 'New', with 'Advanced Search' selected and highlighted with a red box. A second dropdown menu is open from 'Advanced Search', with 'Funds (Open End and Exchange Traded Funds)' selected and highlighted with a red box. Two callout boxes with red text provide instructions: one points to the 'Funds (Open End and Exchange Traded Funds)' option with the text 'Select this universe as the source for the search.', and another points to the 'My Search Criteria' folder with the text 'Note the location where the search should be created.'

- Set the criteria as shown in the following table. At the bottom of the Search by Criteria window, be sure to check the checkbox for **User Defined Primary Class Only**.

Rel	(	Field Name	Operator	Value	)
--		Morningstar Category	=	US Large Growth	
And		Annual Report Net Expense Ratio	<	CAT AVG	
And		Closed to New Inv	Not=	Yes	
And		Sharpe Ratio 5 Yr (Mo-End)	>	CAT AVG	
And		Downside Capture Ratio 5 Yr (Mo-End)	<	100	
And		Inception Date	<=	1/1/2014*	

\*Note: Change this date value to the previous month-end period from five years ago. When using date fields, note that < means "before," while > means "after."



Be sure your search reflects the inputs shown here.

Remember to check this box as well.

- Click **Save As**.
- Name the search **Large Growth Watch List**.
- Click **Run Search**.
  - Note: The number shown here does not reflect those funds to be eliminated when the User Defined Primary Class rule is applied. This reduction is seen only after the Search by Criteria window is closed.
- Click **OK** to close the Search by Criteria window.
- Take note of the number of funds shown in the grid view. How does this compare to the number seen after clicking Run Search in step 7? Note, too, that only one share class of a fund is showing, although different share class types are represented.

A simple search uses the same relationship (namely, “And”) between all rows, no matter how many criteria are included in the search. The following are some additional notes to reflect on when creating simple searches:

### **Final lessons on creating simple searches**

- ▶ Searches can be created in Morningstar Direct from the Local Databases, Global Databases, Workspace, Performance Reporting, and other modules, depending on the need.
- ▶ Users can select search criteria fields within a pre-built category, or by seeing them listed alphabetically.
- ▶ When looking for data points alphabetically, type the beginning of a data point’s name to jump to that spot in the list.
- ▶ Fields taking a numeric value, such as Annual Report Net Expense Ratio, can often be entered either as a number or as a comparison to the category average.
- ▶ Each time a criterion is added to a search, click the Run Search button to ensure it does not turn out that 0 results are found. If this happens, it indicates a parameter of the search needs to be changed.
- ▶ Searches can be saved, to keep users from having to re-enter the same criteria over and over, but remember that the results seen each time a saved search is opened could change.
- ▶ Saved searches are found under the Workspace module (on the My Searches page), and these saved search files can be shared with or sent to other Morningstar Direct users, just as with lists.
- ▶ Use the User Defined Primary preference (available from the File menu) to include in a search an additional layer to eliminate all but one type of share class.

## Creating Complex Searches

Thus far, the searches created have been fairly simple. Although multiple criteria have been used, all of the rows in the Search by Criteria window are linked by the “And” relationship. At times, a more sophisticated search may be needed where the relationship between rows is more complicated and additional capabilities of the Search by Criteria window are needed. This section covers the following topics:

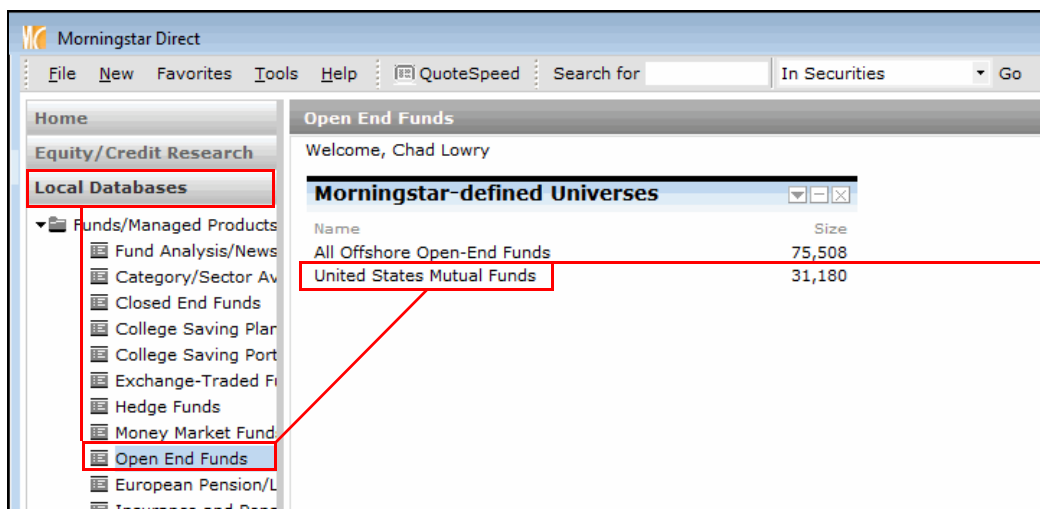
- ▶ using parentheses within the Search by Criteria window to create complex searches
- ▶ inserting additional rows into an existing search, and
- ▶ monitoring the relationship between rows as a complex search is built.

### Overview

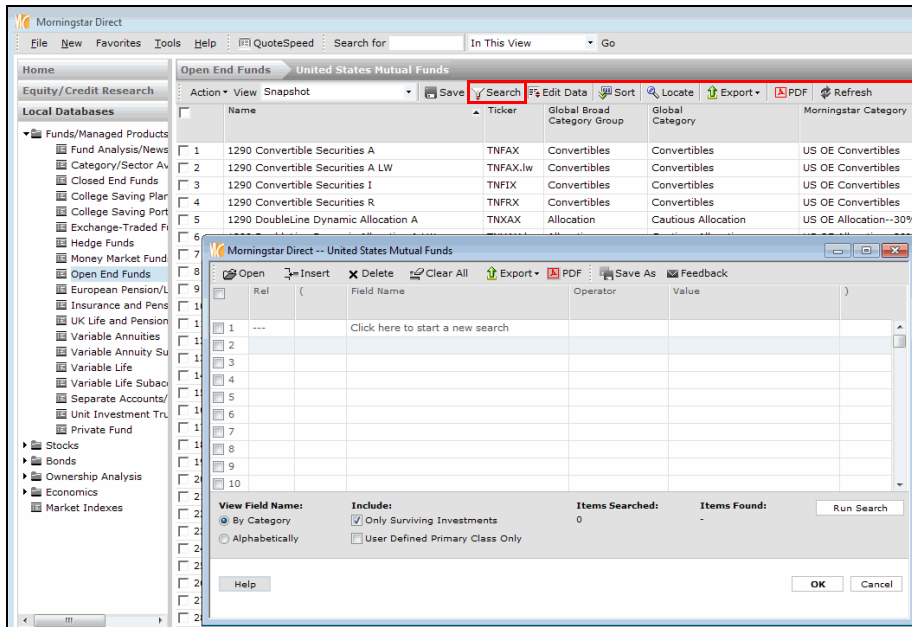
The search so far looks at the Large Value category for the oldest share class of open-end funds, still open to new investors, with a 1-year upside capture ratio of at least 100%. What if the goal is to see funds matching these criteria not just in the Large Value category, but also in the Large Blend and Large Growth categories? This can be done by building on the saved search, rather than creating three separate searches. Do the following:

1. From the left-hand navigation pane, select the **Local Databases** module.
2. If needed, select the **Open End Funds** page.
3. Click the link for **United States Mutual Funds**. The database opens.

### Exercise 10: Create a search across multiple Morningstar categories

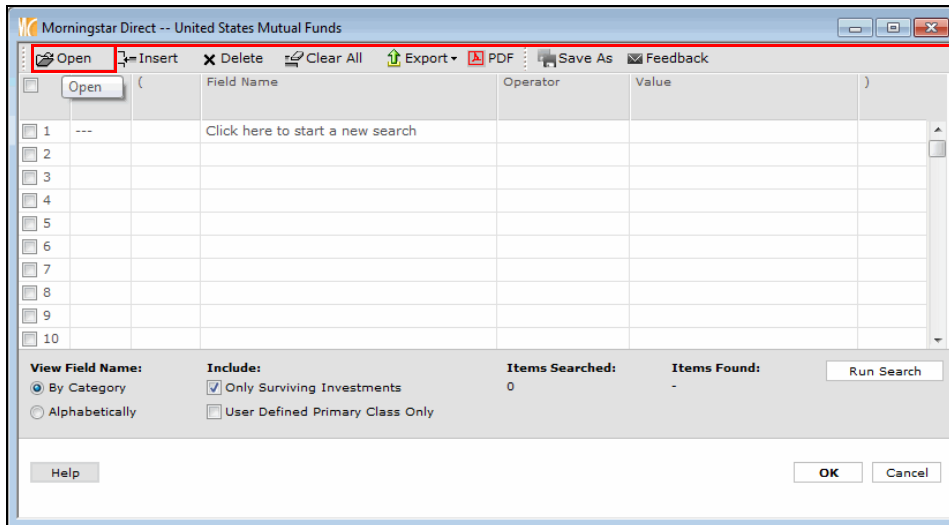


- From the toolbar above the spreadsheet view, click the **Search** icon. The Search by Criteria window opens.



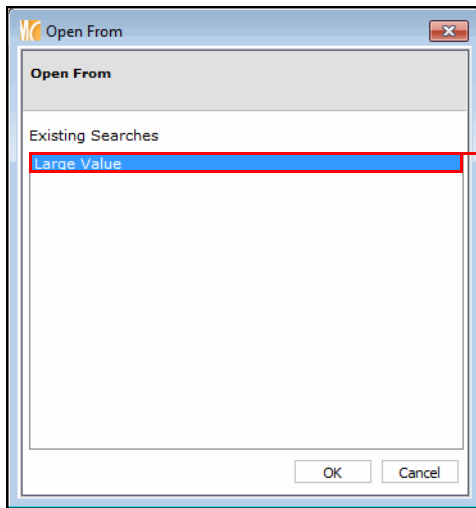
Click this icon to open the Search by Criteria window.

- Click the **Open** icon. The Open From dialog box opens.



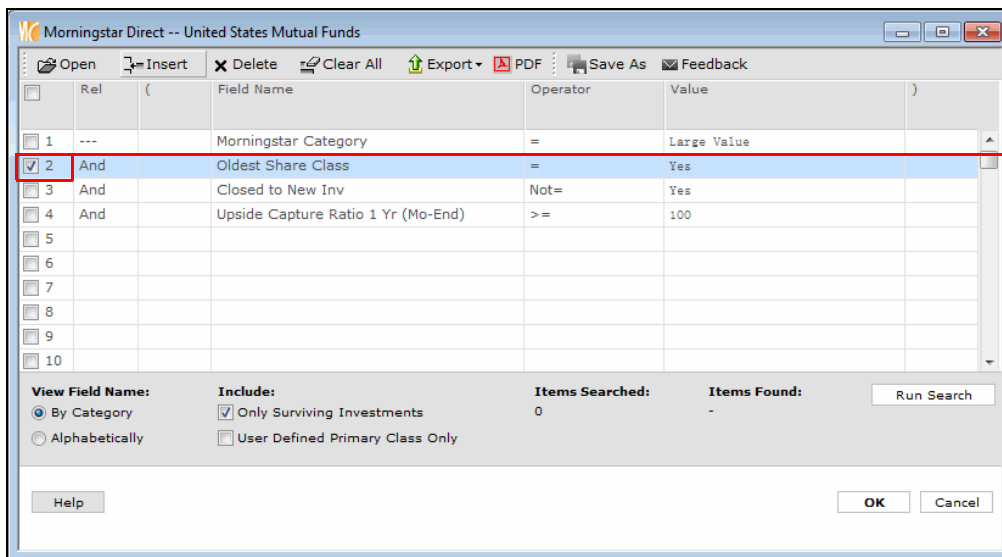
Use this icon to recall a saved search.

- Click **Large Value**, then click **OK** to close the Open From dialog box.



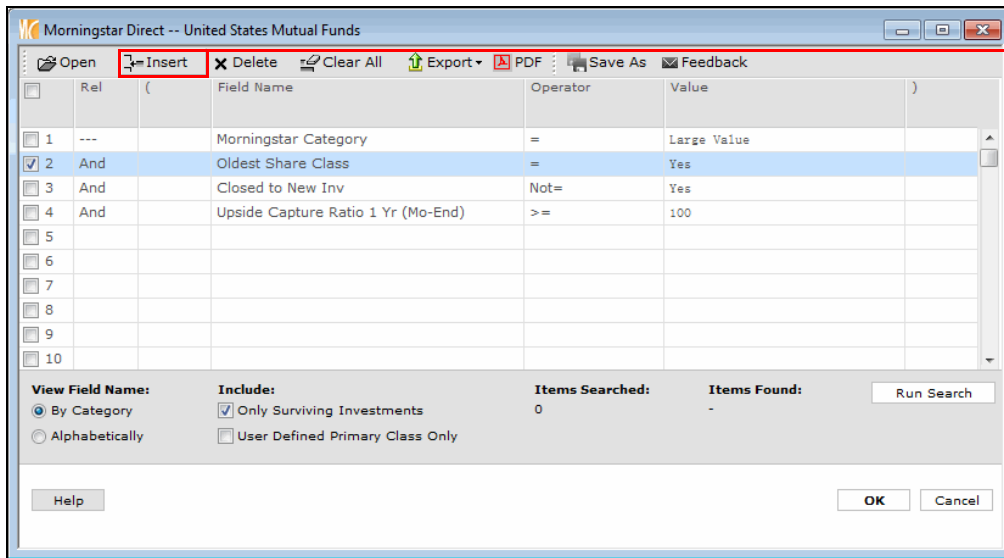
Be sure to select the correct search from this dialog box.

- The next step is to insert a new row. An insertion always goes above the selected row. To insert a row between rows 1 and 2, select the **checkbox** to the left of row 2.



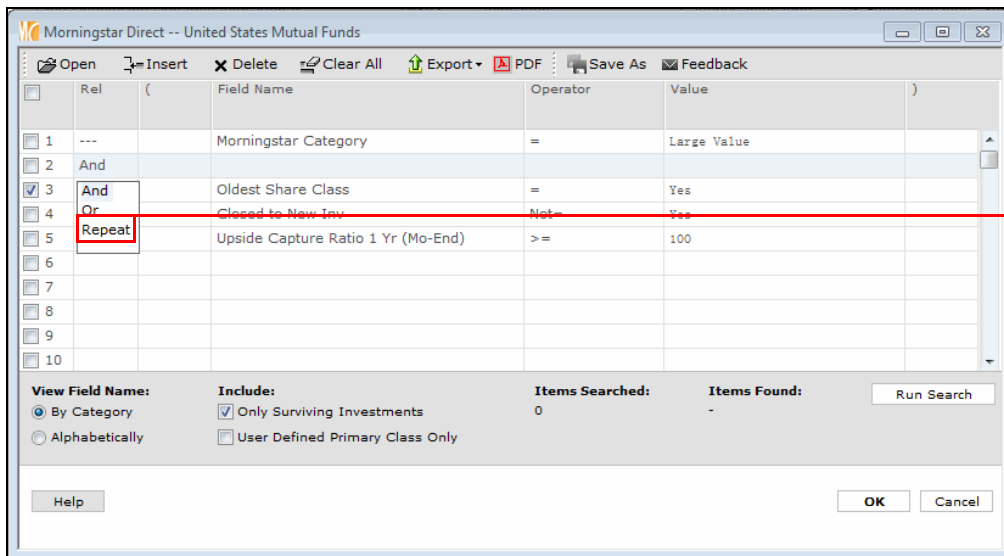
Check the box below the row where a new row should be inserted.

- From the toolbar, click the **Insert** icon. A blank row is inserted between rows 1 and 2.



Click this icon to insert a new row above the highlighted row.

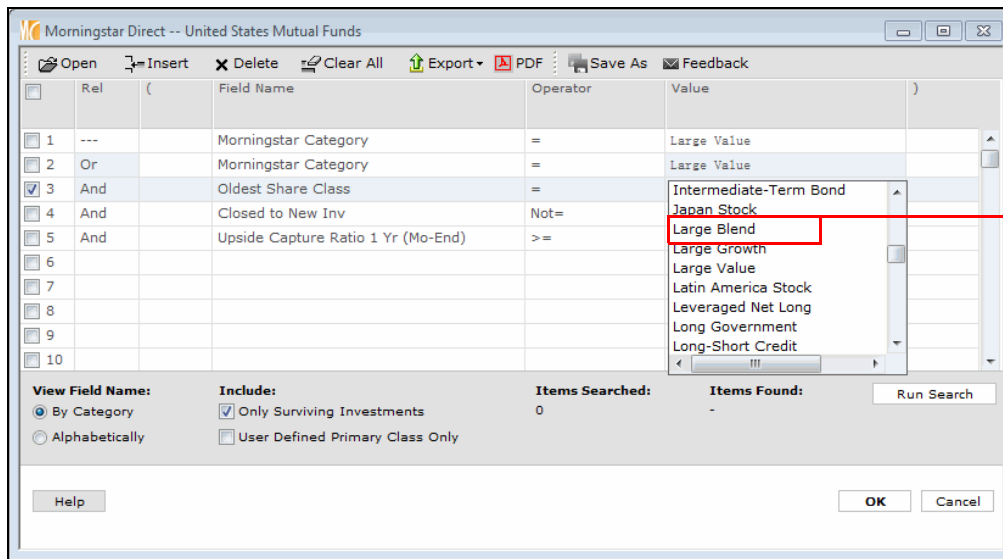
- In new row (2), click the **Rel** column, then select **Repeat**. The data from the row above is copied into row 2.



Choosing Repeat copies the content from the row above.

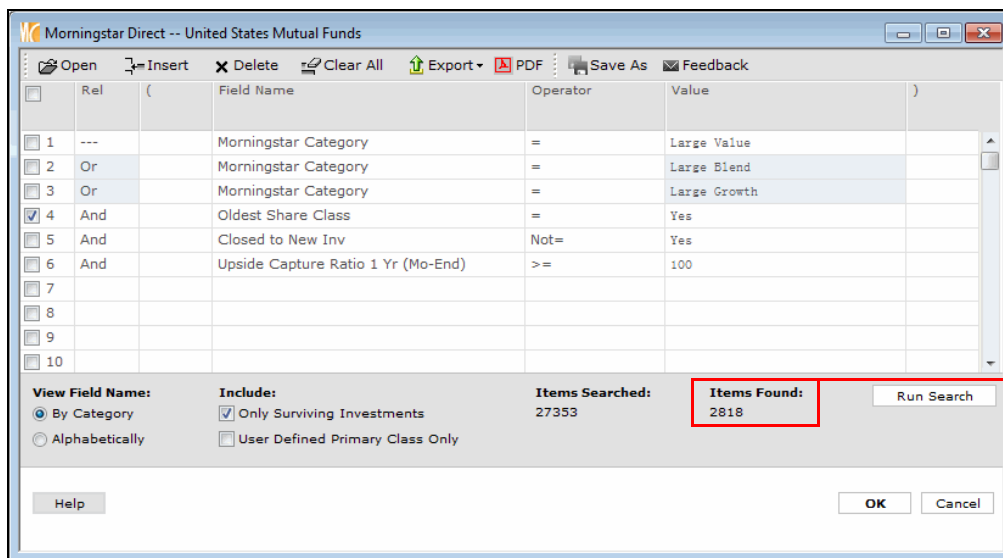


- The Field Name and Operator cells for row 2 should stay the same. Click the **Value** cell for row 2, and select **Large Blend**.



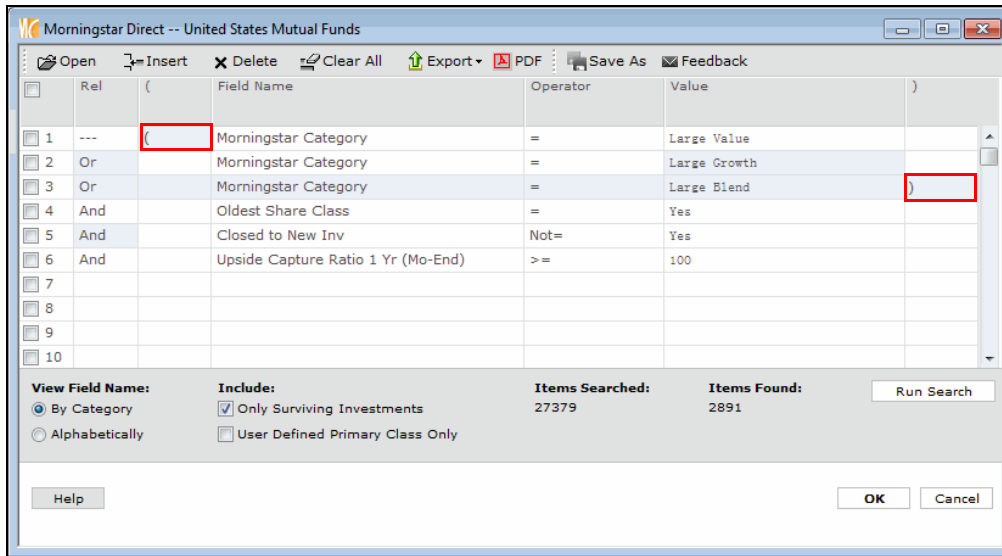
When a row is repeated, only the Value cell needs to change.

- Repeat steps 6–10 to insert another new row for **Large Growth** funds.
- Click **Run Search**. The number of funds returned seems unexpectedly high. This indicates the search needs modification. Specifically, the first three lines of the search need to be encapsulated in parentheses, to tell the system to consider them as one object. Otherwise, the system searches for any Large Value fund, or any Large Blend fund, or the oldest share class of Large Growth funds still open to new investors with an upside capture ratio of at least 100%.



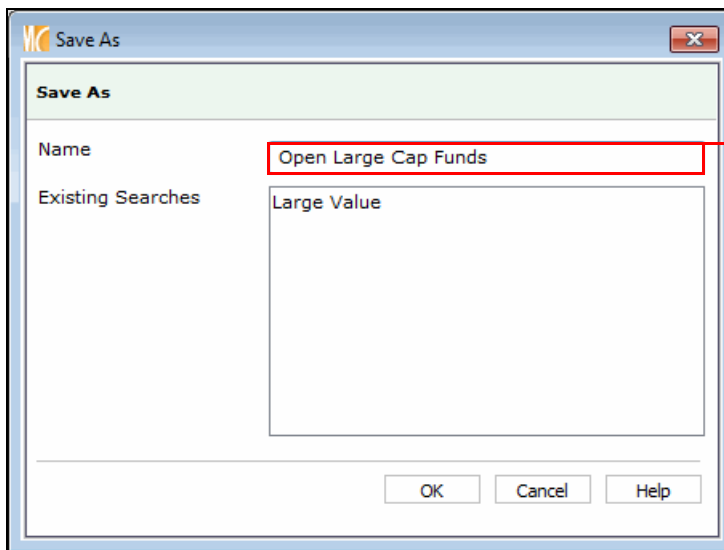
This number is far higher than expected based on the criteria being used.

13. In the ( cell of row 1, type (.
14. In the ) cell of row 3, type ).



Note the placement of parentheses.

15. Click **Run Search**. Note the much lower number of funds returned.
16. Save this search as a new item. Click the **Save As** icon.
17. In the **Name** field, type **Open Large Cap Funds**.



Note the name for the new search.

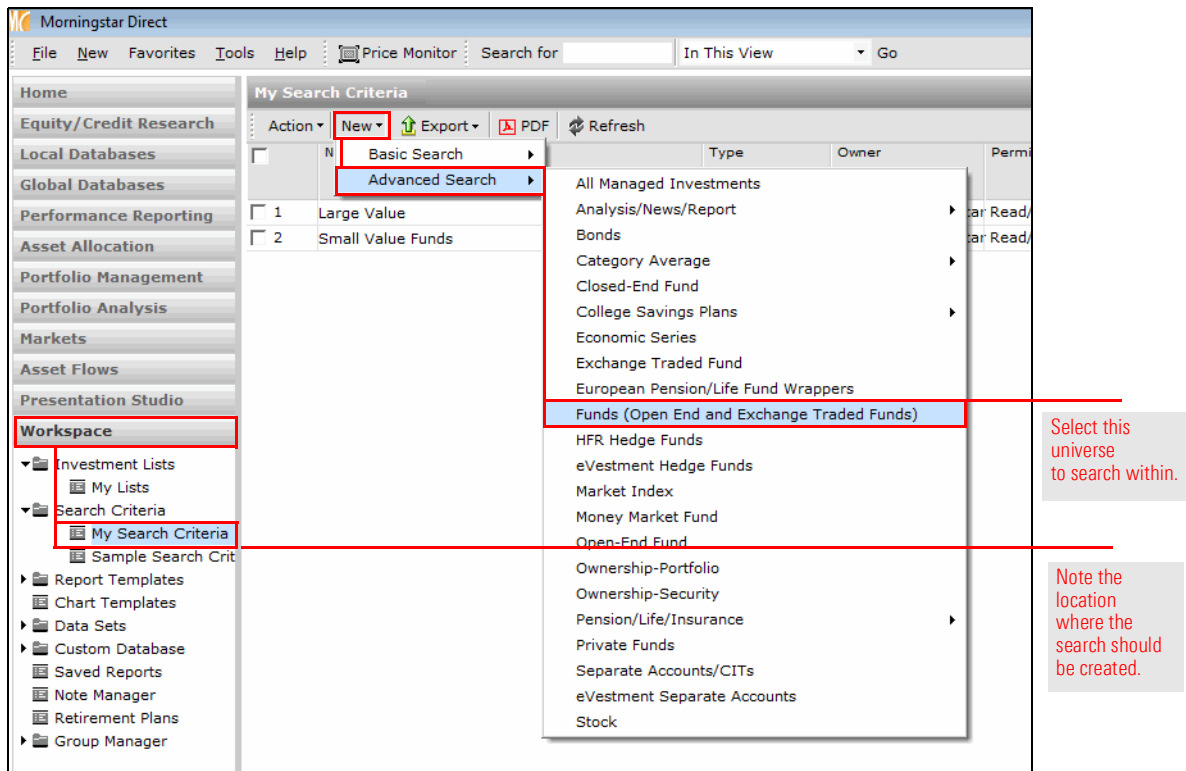
18. Click **OK** to close the Save As dialog box.
19. Click **OK** to close the Search by Criteria window.

The last exercise showed how to use a set of parentheses to encapsulate a single set of criteria. What if the goal is to look for two separate sets of data at once? For example, imagine the need is to find value-oriented funds with a P/E ratio of no more than 17, and growth-oriented funds that have a P/E ratio of at least 17? This type of search requires multiple instances of parentheses.

**Exercise 11: Create two searches at once**

To create two searches at once, do the following:

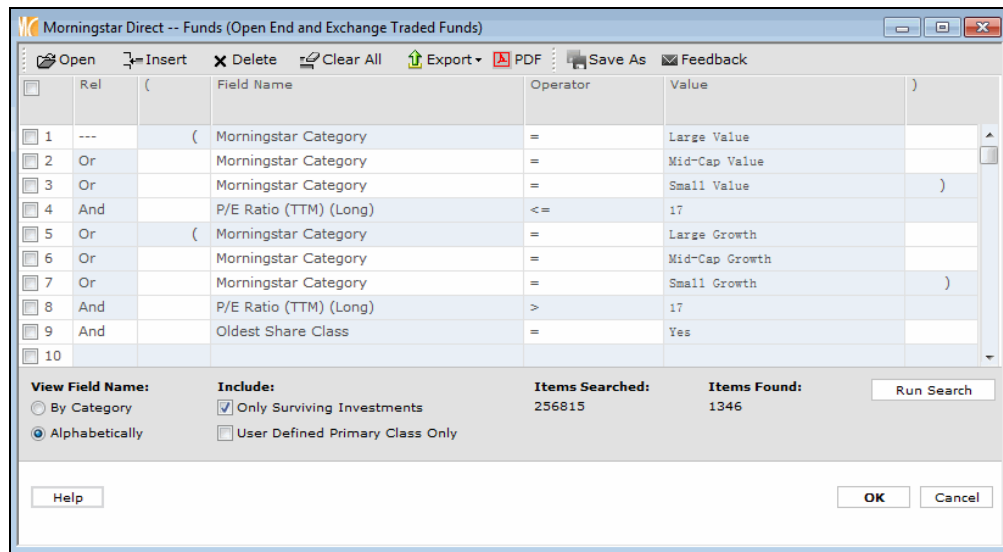
1. From the left-hand navigation pane, click the **Workspace** module.
2. Under the **Search Criteria** folder, select **My Search Criteria**.
3. From the toolbar above the grid view, select **New > Advanced Search > Funds (Open End and Exchange Traded Funds)**. The Search by Criteria window opens.



4. **Create** a search with the following criteria:

Note: Remember to use the **Repeat** option from the **Rel** column to avoid having to select the same field name multiple times. Selecting the **Alphabetically** button in the lower-left corner of the dialog box can help find the criteria more quickly.

Rel	(	Field Name	Operator	Value	)
--	(	Morningstar Category	=	U.S. > Large Value	
Or		Morningstar Category	=	U.S. > Mid-Cap Value	
Or		Morningstar Category	=	U.S. > Small Value	)
And		P/E Ratio TTM (Long)	<=	17	
Or	(	Morningstar Category	=	U.S. > Large Growth	
Or		Morningstar Category	=	U.S. > Mid-Cap Growth	
Or		Morningstar Category	=	U.S. > Small Growth	)
And		P/E Ratio (TTM) (Long)	>	17	
And		Oldest Share Class	=	Yes	



Your Search by Criteria window should reflect this image.

- Click the **Run Search** button, to see how many funds match the search.
- Click the **Save As** icon. The Save As dialog box opens.
- In the **Name** field, type **Multiple Searches**.
- Click **OK** to close the Save As dialog box.
- Click **OK** to close the Search by Criteria window.

Note: In the search results (seen in the grid view), check your work by sorting on the Morningstar Category column (click once on a column's header to sort by that column), and also by examining the P/E Ratio (TTM) (Long) statistic, which is available from the Equity Port Stats (Long) view.

An advanced search uses relationships (And, Or) between rows, and can also include the use of parentheses. When creating advanced searches, keep in mind the following additional notes:

- ▶ When the same Field Name is used for multiple consecutive rows, but a different Value, encapsulate the rows with parentheses, and use "Or" as the Rel(ationship) among them. In the row for the next criterion, remember to change the Rel column to "And."
- ▶ Selecting "Repeat" from the Rel column is an easy way to copy data from the row above, and saves a few clicks from making a selection for every cell in a row.
- ▶ Criteria can be nested in multiple levels through the proper use of both parentheses and the relationship between rows.
- ▶ Rows can be inserted between data points in the Search by Criteria window; remember that the inserted row appears above the selected row.

### **Final lessons on creating advanced searches**

## Additional Practice Exercises

The following exercises challenge you to build searches within Morningstar Direct on your own. Can you select the correct data points, relationships, operators, and values, and use parentheses correctly when needed? A link to the solution for each exercise is also provided.

How many passively managed open-end funds and ETFs in the Mid-Cap Value category are for sale in the U.S.? Only one instance of each fund needs to be shown. What should the Search by Criteria window look like for this search? The following hints will help with this exercise:

1. Create the search from the Workspace module.
2. Search within the Funds (Open End and Exchange-Traded Funds) universe.
3. To find passive funds, opt to see the criteria listed alphabetically, and look for a field called "Index Fund."

Now check your work: [Solution to Exercise 12](#).

Morningstar divides stocks into 11 sectors and three Super Sectors. What are the Total Return 1-Yr (Mo-End) values for the Total Return series of Morningstar Indexes based on the Morningstar Stock Sectors? The following hints will help with this exercise:

1. The search can be created from the Market Indexes universe under the Local Databases module.
2. The Series Name for the indexes you are searching for is Morningstar US Sector.
3. Total Return indexes can be found by looking for Return Type = Total Return.
4. Note that the search results will encompass the indexes tied to both the Morningstar stock sectors, and the Super Sectors, as well as certain specialty sector indexes.
5. The one-year return values can be seen from the pre-built Returns (Month-End) view.

Now check your work: [Solution to Exercise 13](#).

### Overview

#### **Exercise 12: Find passively managed funds in a Morningstar Category**

#### **Exercise 13: Find the annual return values for Morningstar Stock Sector indexes**

How many separate accounts or collective investment trusts (CITs) in the Diversified Emerging Markets or Emerging Markets Bond institutional categories self-identify as sustainable funds?

### Exercise 14: Find socially responsible separate accounts and CITs

☞ Note: The Morningstar Institutional Categories were launched in May 2009 in response to feedback from institutional clients of Morningstar. They felt the Morningstar Categories are typically too broad to support their business processes, such as manager compensation discussions and expense peer grouping. The Morningstar Institutional Categories were developed to address those needs by using more granular definitions to assign portfolios to peer groups. The result is a system with many more categories that more thoroughly identify distinct investment strategies.

The Morningstar Institutional Categories allocate portfolios into peer groups using the same holdings-based methodology already employed by the Morningstar Categories, which were introduced in 1996. The two structures are also parallel in that one category is assigned to each portfolio in the managed funds database at Morningstar. The key difference is that the Institutional Categories have narrower parameters, allowing for more sophisticated and detailed peer group comparisons. This new system is intended to help institutional investors identify true peers, build more thoroughly diversified portfolios, and gain more insight into an individual portfolio's strategy.

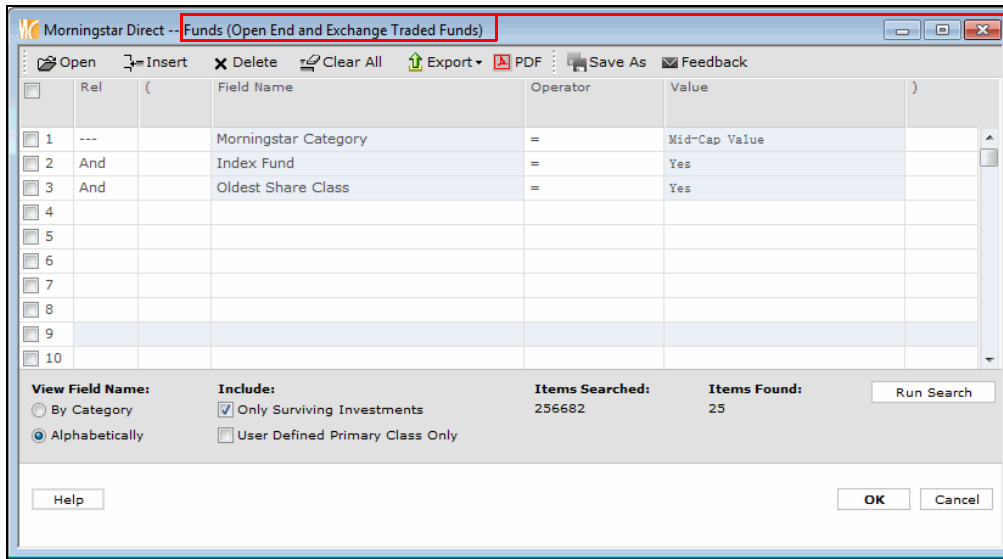
The following hints will help with this exercise:

1. Because the search involves two distinct investment universes, it should not be created from the Local Databases module.
2. When looking for the Diversified Emerging Markets and Emerging Markets Bond institutional category values, be sure to select Morningstar Institutional Category as the Field Name.
3. Remember to use parentheses to enclose multiple criteria that have the same Field Name, but different Values, and use Or as the Rel(ationship) between those rows.
4. The Sustainable Investment - Overall criterion can be found under the Sustainability category grouping.

Now check your work: [Solution to Exercise 14](#).

For Exercise 12, the Search by Criteria window should look like the following:

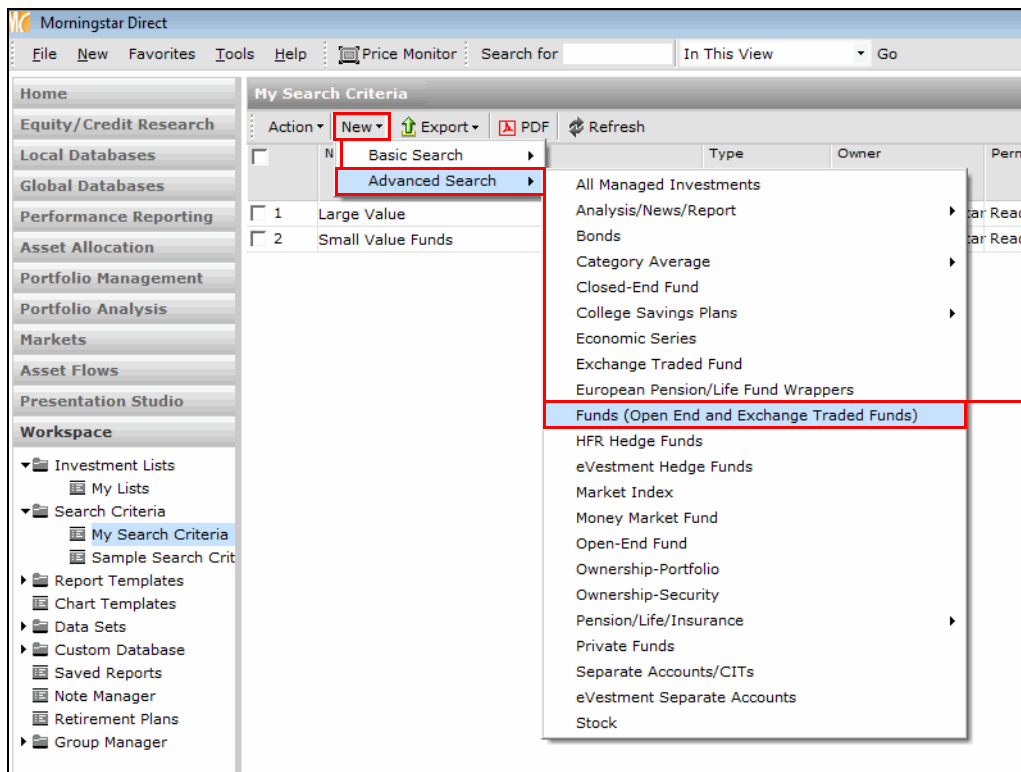
**Solution to Exercise 12**



Be sure to search within this universe from the Workspace module.

To reproduce this search, do the following:

1. From the left-hand navigation pane, click the **Workspace** module.
2. Under the **Search Criteria** folder, select **My Search Criteria**.
3. From the toolbar above the grid view, select **New > Advanced Search > Funds (Open End and Exchange-Traded Funds)**. The Search by Criteria window opens.



Search within this universe.



4. **Create** a search with the following criteria:

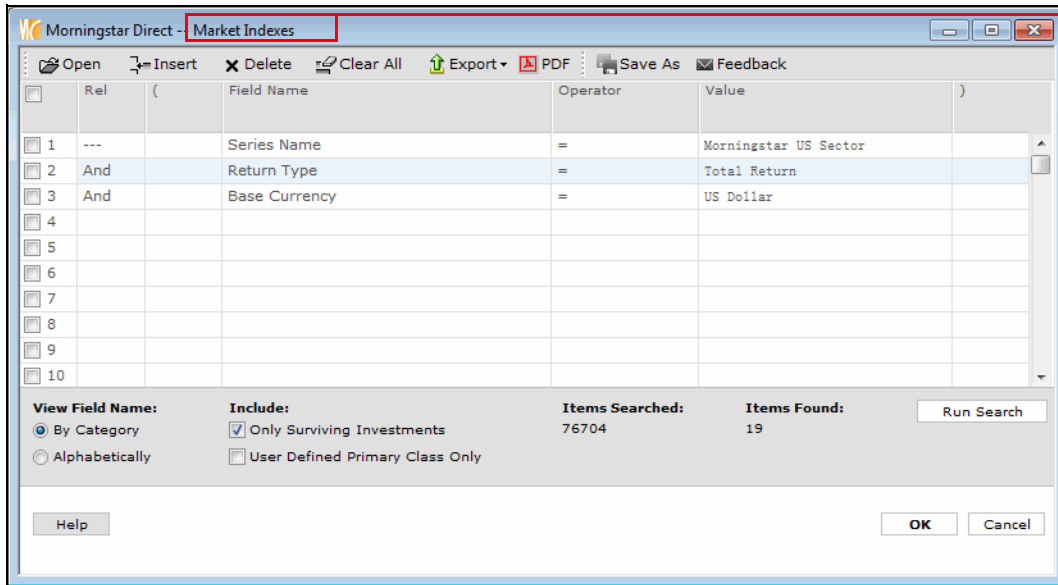
☞ Note: Selecting the **Alphabetically** button in the lower-left corner of the dialog box can help find the criteria more quickly.

Rel	Field Name	Operator	Value
--	Morningstar Category	=	U.S. > Mid-Cap Value
And	Index Fund	=	Yes
And	Oldest Share Class	=	Yes

5. Click **OK**.

For Exercise 13, the Search by Criteria window should look like the following:

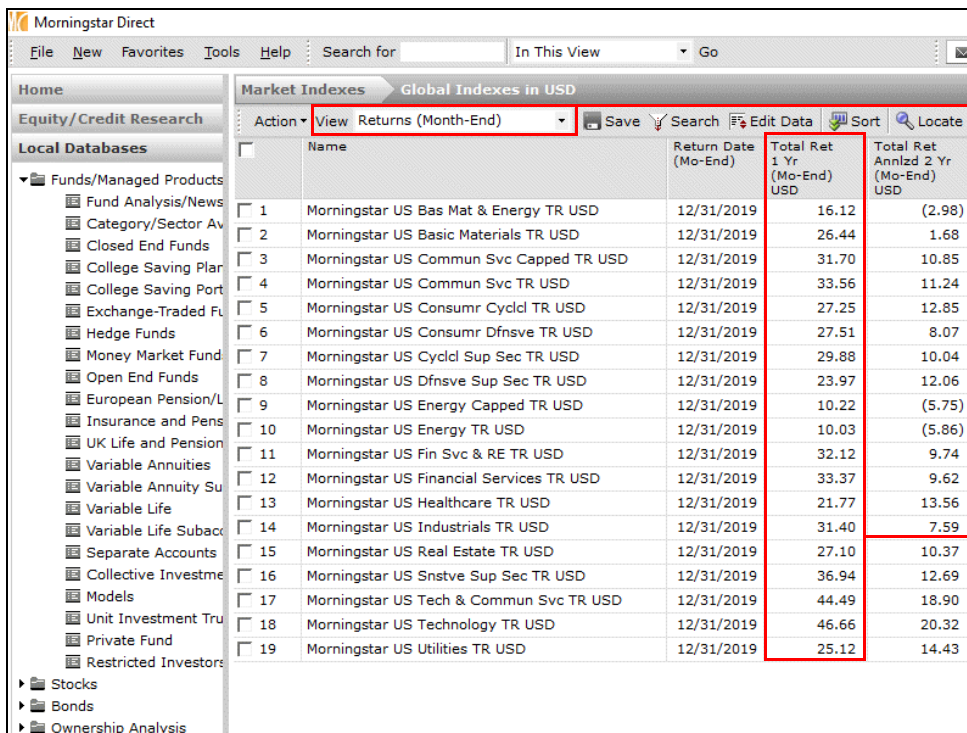
**Solution to Exercise 13**



Be sure to search within this universe from the Local Databases module.

The following results should be seen:

Note: The exact market return values you see will differ from those shown here.



Note the view to select to see the return values.

Scroll right to see this column.

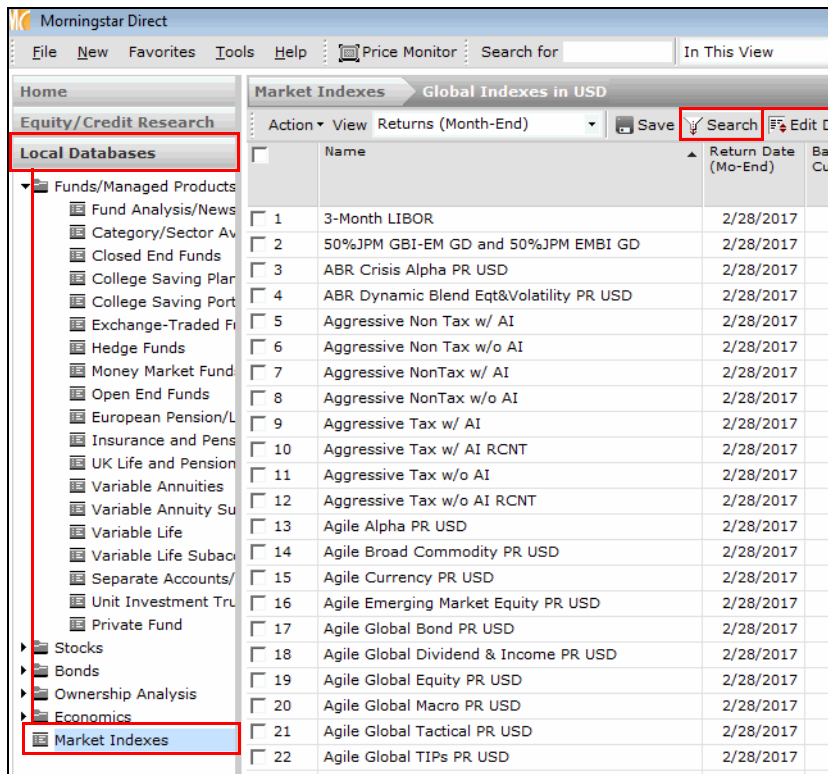
To see these same results, do the following:

1. In the left-hand navigation pane, select the **Local Databases** module.
2. Click the **Market Indexes** page.
3. Under the Morningstar-defined Universes list, click the **Global Indexes in USD** universe.

The screenshot shows the Morningstar Direct web application interface. The left-hand navigation pane is expanded to show 'Local Databases' and 'Market Indexes'. The 'Market Indexes' page is active, displaying a table of 'Morningstar-defined Universes'. A red box highlights the 'Global Indexes in USD' entry in the table, and a red arrow points from this entry to a callout box that says 'Click to open this universe.'

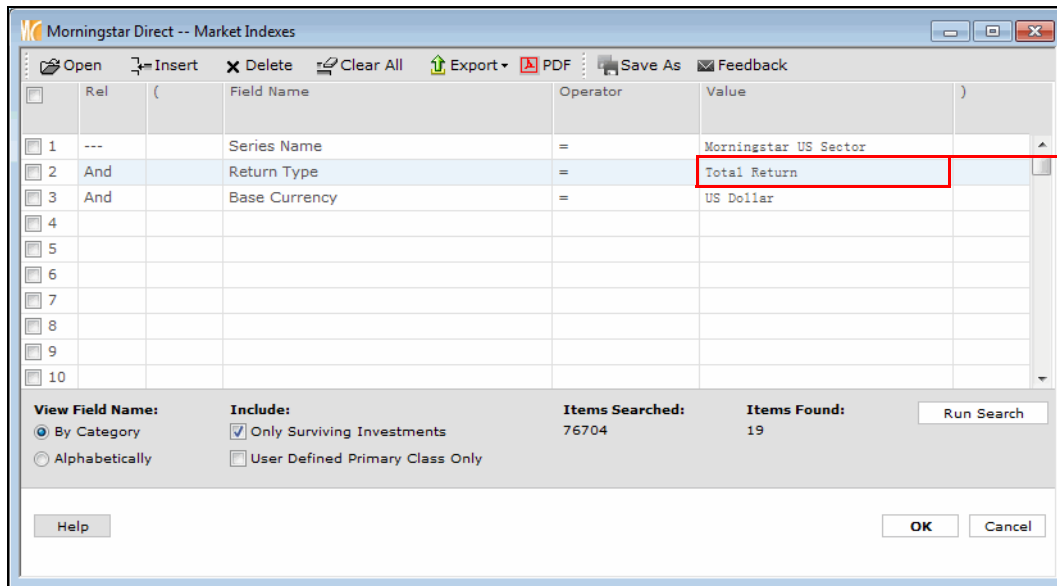
Name	Size
Global Indexes	73,543
Global Indexes in USD	38,750

- From the toolbar above the grid view, click the **Search** icon. The search by criteria window opens.

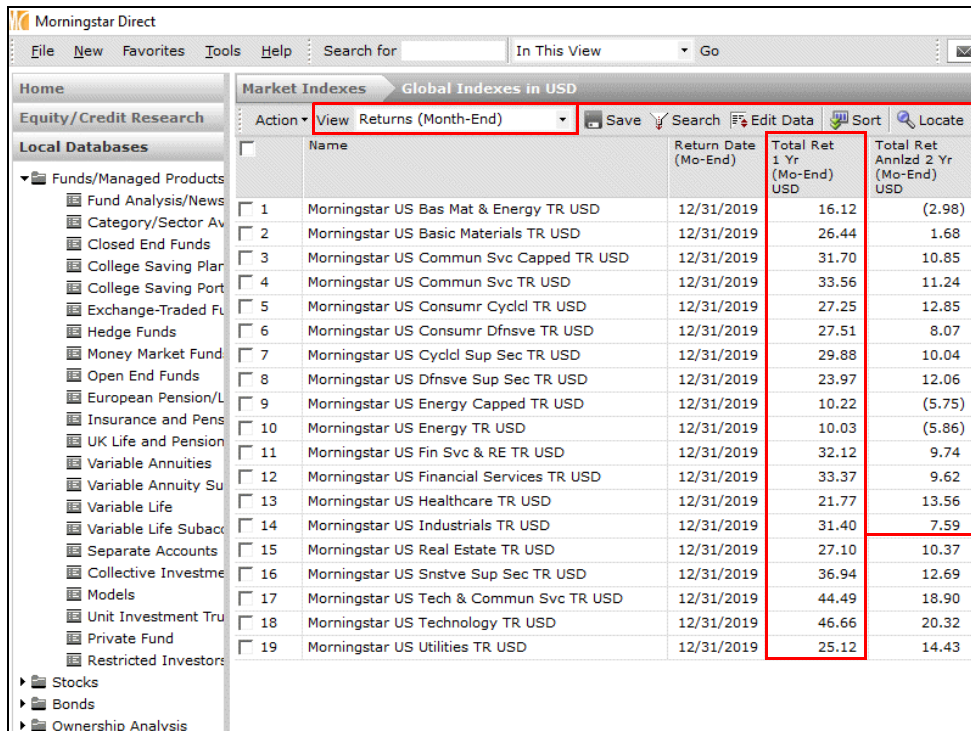


5. Create a search with the following criteria:

Rel	Field Name	Operator	Value
--	Series Name	=	Morningstar US Sector
And	Return Type	=	Total Return

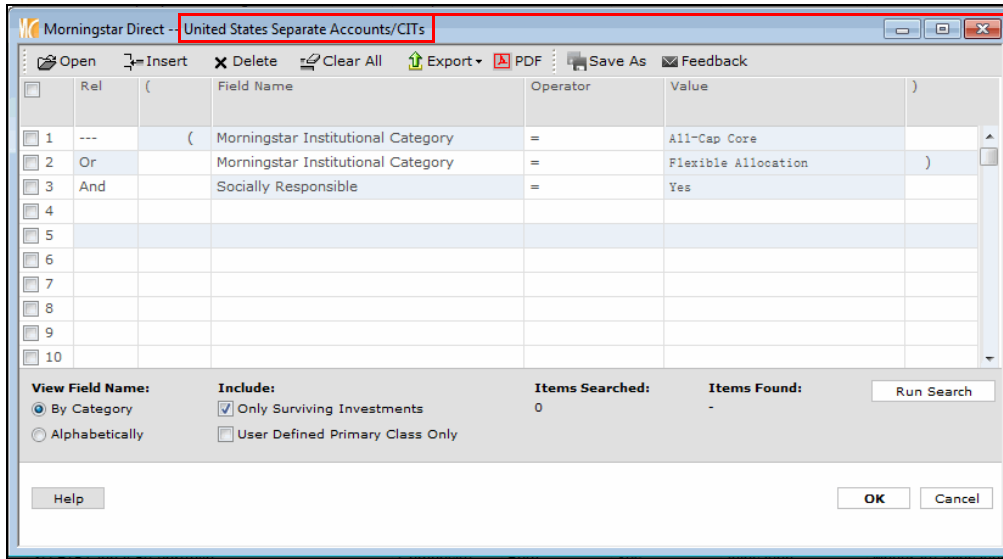


6. From the **View** drop-down field, select **Returns (Month End)**. Scroll right to see the values in the Total Return 1 Yr (Mo-End) column.



For Exercise 14, the Search by Criteria window should look like the following:

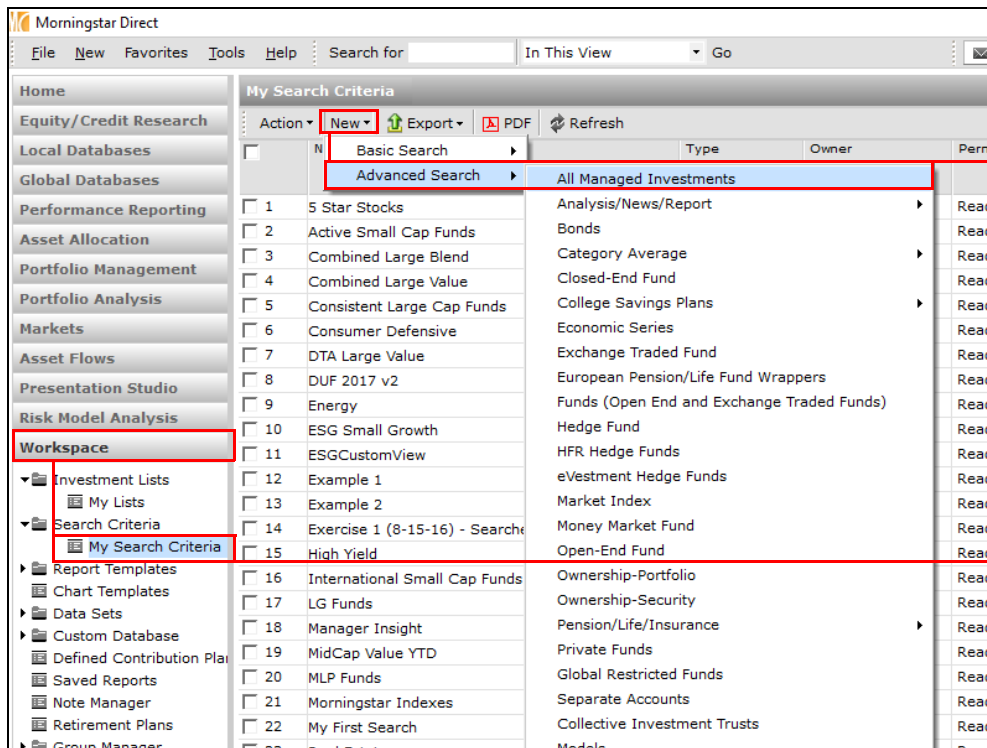
**Solution to Exercise 14**



Be sure to search within this universe from the Local Databases module.

To see these same results, do the following:

1. From the left-hand navigation pane, click the **Workspace** module.
2. Under the **Search Criteria** folder, select **My Search Criteria**.
3. From the toolbar above the grid view, select **New > Advanced Search > All Managed Investments**. The Search by Criteria window opens.



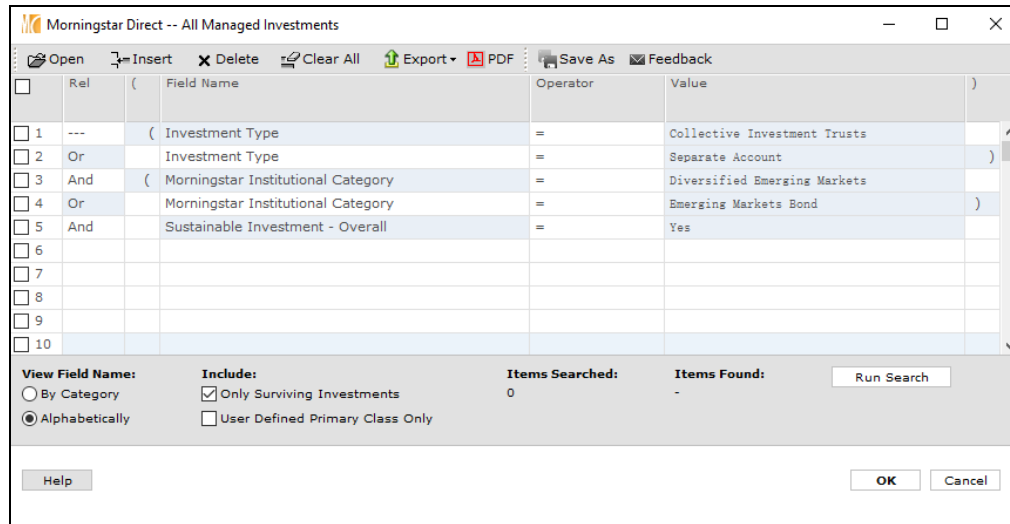
Search within this universe.

This search needs to be created from the Workspace module.

4. **Create** a search with the following criteria:

Note: Remember to use the **Repeat** option from the **Rel** column to avoid having to select the same Field Name multiple times. Selecting the **Alphabetically** button in the lower-left corner of the dialog box can help find the criteria more quickly.

Rel	(	Field Name	Operator	Value	)
--	(	Investment Type	=	Collective Investment Trusts	
Or		Investment Type	=	Separate Account	)
And	(	Morningstar Institutional Category	=	Diversified Emerging Markets	
Or		Morningstar Institutional Category	=	Emerging Markets Bond	)
And		Sustainable Investment - Overall	=	Yes	



Your Search by Criteria window should reflect this image.

- Click the **Run Search** button, to see how many investments match the search.
- Click the **Save As** icon. The Save As dialog box opens.
- In the **Name** field, type **Sustainable Investment CITs/SAs**.
- Click **OK** to close the Save As dialog box.
- Click **OK** to close the Search by Criteria window.