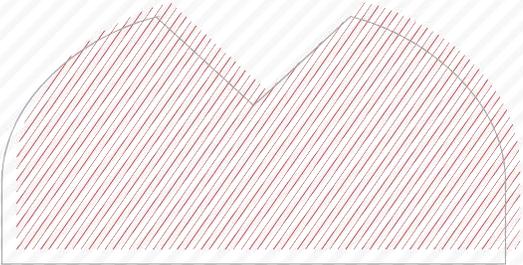
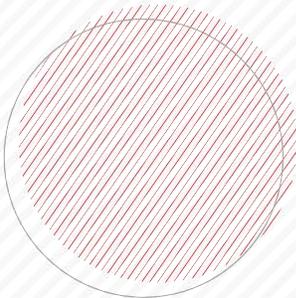
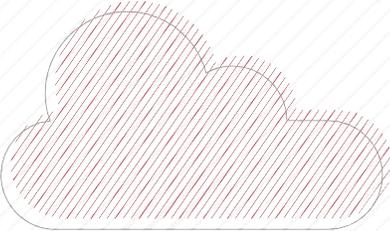


Morningstar Direct Training Guide
Creating Searches
in Morningstar Direct



MORNINGSTAR Direct



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Creating Searches in Morningstar DirectSM

What do you do in Morningstar DirectSM when you need to create 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 you define.

Note: Prior to using this training guide, you should be familiar with the content in 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 grid:

	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 "Search by Criteria" window is open, showing a grid of 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 (+Y 1), and (Daily) Base. The results list various companies such as Amer Gas Partners LP, Anheuser-Busch InBev SA/RYV ADR, and Apartment Investment & Management Co.

Annotations in the image include:

- A red box highlights the "United States Stocks" window title.
- A red arrow points from the search criteria grid to the "Search by Criteria" window.
- Text boxes explain: "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, if you search for five-star, open-end funds in the Large Value category, you might find 145 funds today, but the specific funds you see could (and likely will) change from month to month (because the Morningstar Rating is updated monthly).

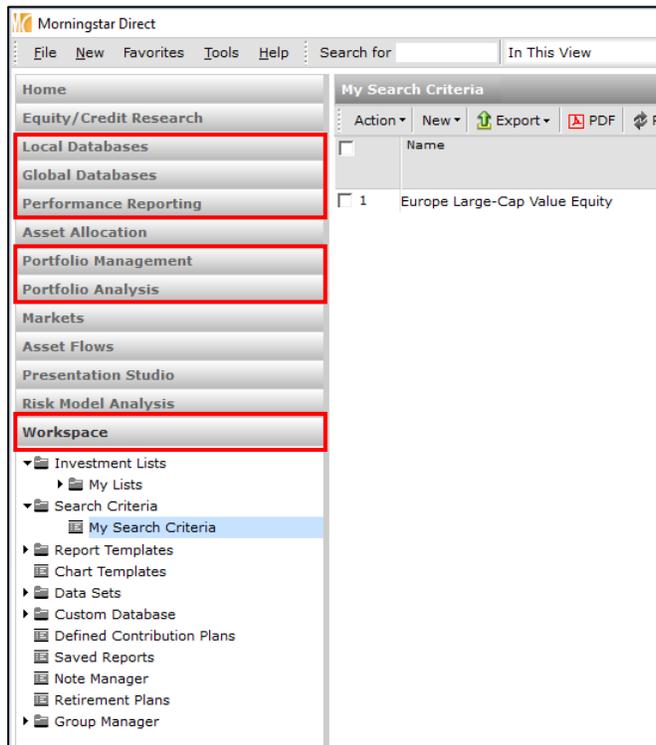
An investment list, however, is static and the items on a list do not change unless you manually add or remove members to/from the list. In other words, you could save the 145 five-star Large Value funds from your search results to a list, and that list will not change unless you add items to it, or remove items from it. To learn more about creating lists, see [Working with Investment Lists in Morningstar Direct](#).

What is the difference between a Search Criteria and an Investment List?

You can create searches (or retrieve saved searches) from the following modules in Morningstar Direct:

- ▶ 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 areas in Morningstar Direct where you can create or retrieve a search

Which part of Morningstar Direct you create a search from depends, in part, on what you need to search for in order to complete a task. For example, if you need to search among only one type of investment, such as open-end funds for sale in your country, you can create that search from the Local Databases module.

However, if you need to create a search that considers both open-end funds and exchange-traded funds, you could go to the Workspace or Performance Reporting module to complete that search.

Finally, if your ultimate goal is not simply to generate a set of results from a search, but to analyse the results, you would create the search from the Performance Reporting module.

In the exercises that follow, you will see examples of the advantages and possible limitations of a search created in each area of Morningstar Direct.

Working with Simple Searches

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

- ▶ 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 Europe Large-Cap Value Equity funds would use the following criteria (with the Europe/Africa/Asia market classification):

Field Name	Operator	Value
Morningstar Category	=	Europe Large-Cap Value Equity

A search to find funds whose ongoing charge is less than or equal to 1.25% would look use the following criteria:

Field Name	Operator	Value
KIID Ongoing Charge	<=	1.25

In this section, you will practice creating some relatively simple searches, and learn how to save and retrieve the searches you create as well.

In a word, no. While you can use the Search by Criteria window to look for items by name or ISIN code when you know those values, 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 the [Working with Investment Lists in Morningstar Direct](#) document.

Overview

Should I create a search to look for investments by name or ISIN code?

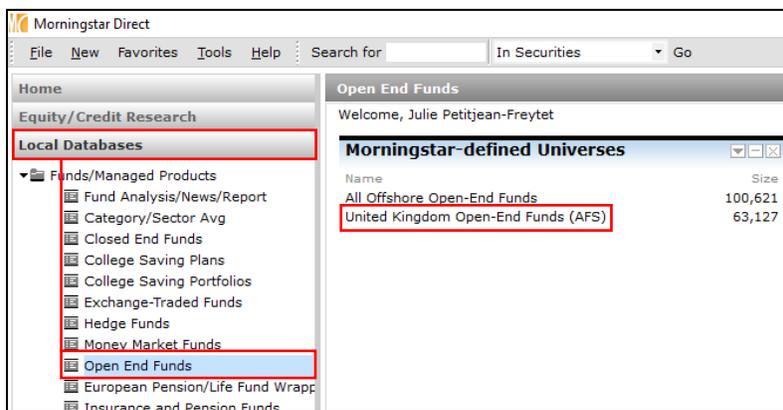
When you create a search from the Local Databases module, you are effectively building on a search that already exists. For example, for users in the United Kingdom, when the Open-End Funds page is selected in the Local Databases module and you click the United Kingdom Open-End Funds (AFS) link (see screen shot after step 2 below), you are viewing a search result screening for open-end share classes for sale in the United Kingdom.

Exercise 1: Create a search from the Local Databases module

In this first exercise, you will look for Europe Large-Cap Value Equity funds. Do the following:

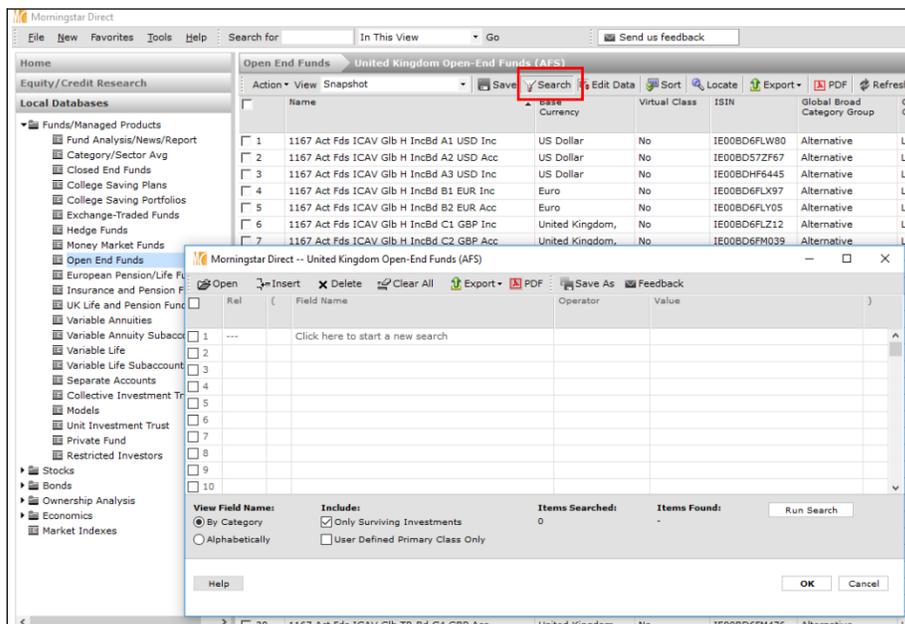
1. From the left-hand navigation pane, select the **Local Databases** module.
2. Click the **Open-End Funds** page.
3. Click the link for **United Kingdom Open-End Funds (AFS)**. The database opens.

Note: the database depends on the Local Country you selected under **File > Set User Preferences > Local Country**.



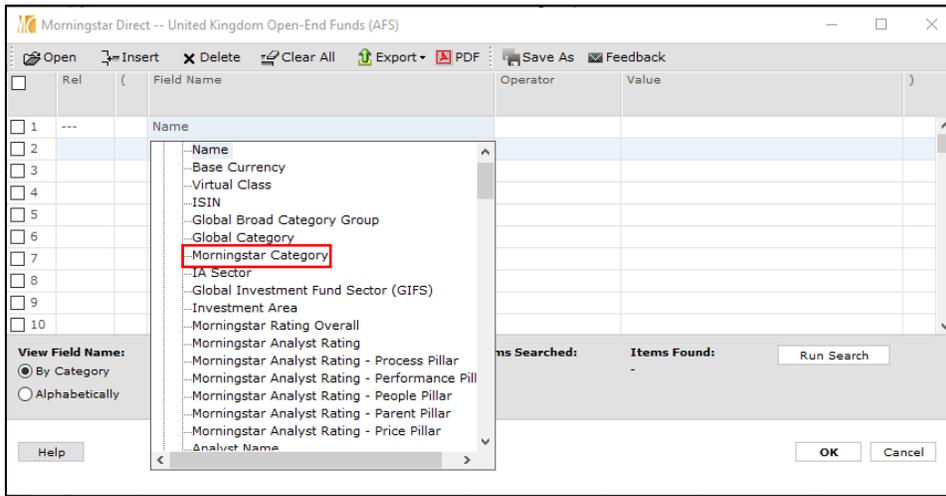
Be sure to select the correct page and link

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



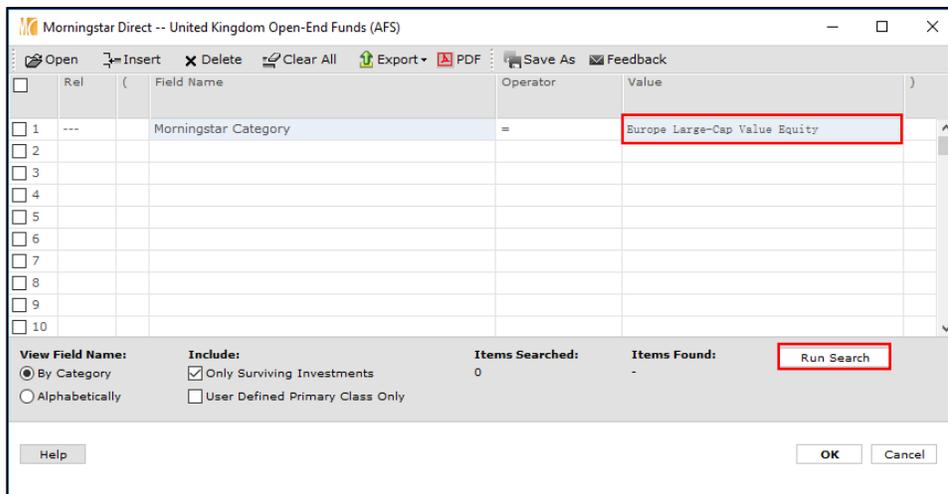
Click this icon to open the Search by Criteria window

- Click in the **Field Name** cell for the row 1 and select **Morningstar Category**. The Operator cell in the row 1 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 **Europe Large-Cap Value Equity**.
- 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 you have entered

- 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	Base Currency	Virtual Class	ISIN	Global Broad Category Group	Global Category	Morningstar Category
AAF-Pzena European Equities A € Acc	Euro	No	LU0849850408	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AAF-Pzena European Equities I \$ Acc	US Dollar	No	LU1890797969	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AAF-Pzena European Equities I € Acc	United Kingdom	No	LU1313464924	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AAF-Pzena European Equities I € Acc	Euro	No	LU0949827214	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AAF-Pzena European Equities R \$ Acc	US Dollar	No	LU1890797886	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AAF-Pzena European Equities R € Acc	Euro	No	LU1670607495	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AB European Eq PF I Acc	Euro	No	LU0128316840	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AB European Eq PF I Acc	US Dollar	Yes	LU0232465384	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AB European Eq PF I Acc	Singapore Dollar	Yes	LU0289941253	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
Allianz Europe Equity Value IT EUR	Euro	No	LU1111123391	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
Allianz Europe Equity Value P EUR	Euro	No	LU1543696436	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
Allianz Europe Equity Value R EUR	Euro	No	LU1913126379	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AMUNDI European Equity Value FAM KEURAcc	United Kingdom	Yes	IE00BHMXX464	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AMUNDI European Equity Value FAM KEURAcc	Euro	No	IE00BHMXX464	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
Amundi Fds European Eq Val A EUR C	Euro	No	LU1883314244	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
Amundi Fds European Eq Val J3 GBP C	United Kingdom	No	LU0252286916	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
Amundi Fds European Eq Val J3 GBP QD D	United Kingdom	No	LU0252287054	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AXA Rosenberg Pan-Europ Eq Alpha A EURAcc	Euro	No	IE0008365730	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AXA Rosenberg Pan-Europ Eq Alpha A USDAcc	US Dollar	No	IE000807QV54	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
AXA Rosenberg Pan-Europ Eq Alpha B EURAcc	Euro	No	IE0003436098	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
B & G Long Term Value I EUR	Euro	No	LU1266664989	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
B & G Long Term Value R EUR	Euro	No	LU1266667996	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
B & G Long Term Value S GBP	United Kingdom	No	LU1266666257	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
B & G Long Term Value S EUR	Euro	No	LU1266666091	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value A2 EUR	United Kingdom	Yes	LU0171282212	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value A2 EUR	US Dollar	Yes	LU0171281750	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value A2 EUR	Euro	No	LU0072462186	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value A4 EUR	Euro	No	LU0162890340	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value A4 GBP	United Kingdom	No	LU0204062672	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value D2	United Kingdom	Yes	LU0827879338	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value D2	US Dollar	Yes	LU0827879411	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value D2	Euro	No	LU032992454	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value D4 GBP	United Kingdom	No	LU0827879502	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BGF European Value J2 EUR	Euro	No	LU0949170939	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BNP Paribas Europe Value CI C	US Dollar	Yes	LU0177332227	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BNP Paribas Europe Value CI C	Euro	No	LU0177332227	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BNP Paribas Europe Value CI D	Euro	No	LU0177332490	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BNP Paribas Europe Value CI D	US Dollar	Yes	LU0177332490	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BNP Paribas Europe Value I C	US Dollar	Yes	LU0177332904	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BNP Paribas Europe Value I C	Euro	No	LU0177332904	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity
BNP Paribas Europe Value Prvl C	Euro	No	LU0177332730	Equity	Europe Equity Large Cap	EAA Fund Europe Large-Cap Value Equity

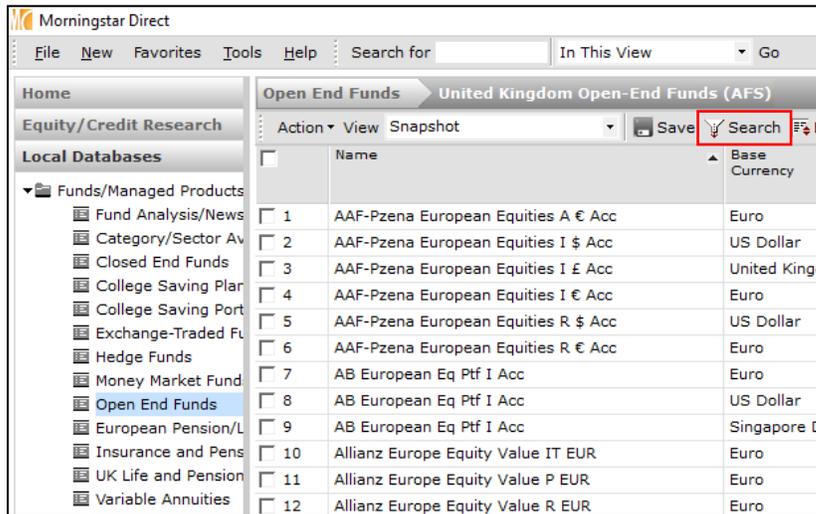
All rows now show Europe Large-Cap Value Equity in this column

The number of funds matching the search parameters is shown here

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

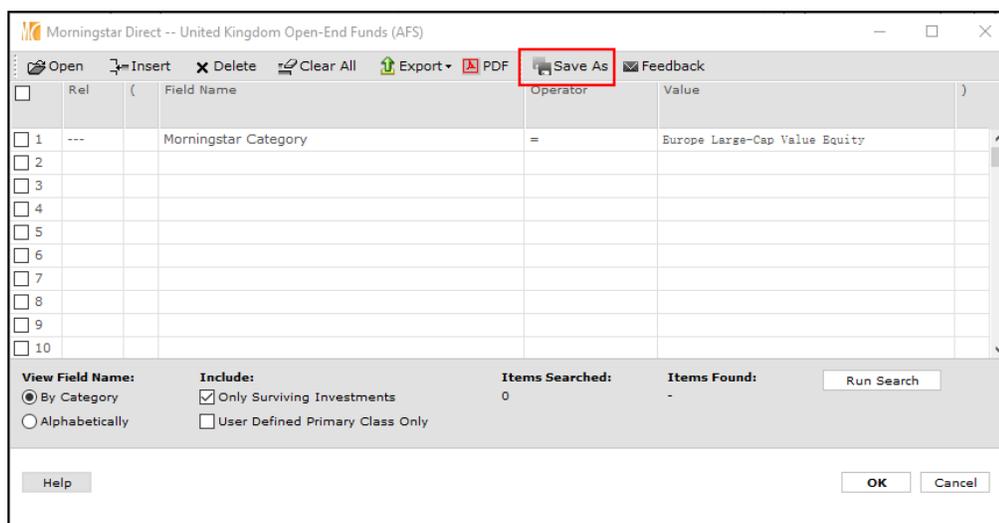
Exercise 2: Save a search

1. You should still be in the Open-End Funds universe, with United Kingdom Open-End Funds (AFS) showing. From the toolbar above the grid view, click the **Search** icon. The **Search by Criteria** window opens, and the criteria you entered earlier should still be showing.



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

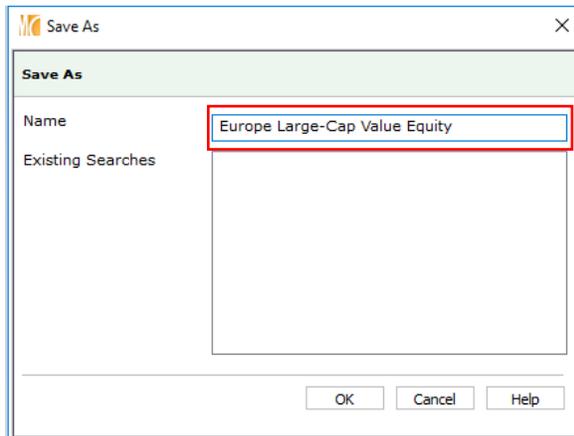
2. From the top of the Search by Criteria window, click the **Save As** icon. The **Save As** dialogue box opens.



Click this icon to save a search

Note: You could also have clicked **Save** from the toolbar whilst still in the grid, but the **Save As** option is only available via the Search by Criteria window displayed above.

- In the **Name** field, type **Europe Large-Cap Value Equity**.



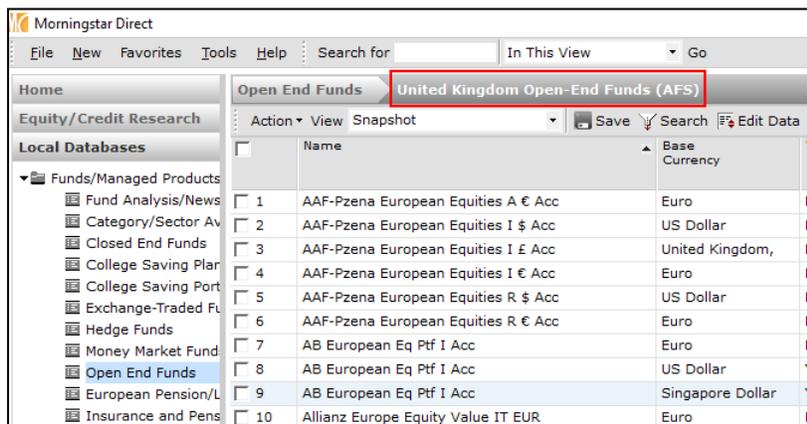
Enter a name for the search here

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

Creating the search in Exercise 1 changed the data universe (Open-End Funds) you selected when you began the exercise. Now, instead of seeing all Open-End funds, you see only Open-End funds in the Europe Large-Cap Value Equity category. You can reset the universe and return to seeing all Open-End funds with one click.

From the toolbar above the spreadsheet view, click the name of the universe, in this case: **United Kingdom Open-End Funds (AFS)**.

Exercise 3: Reset a universe after conducting a search



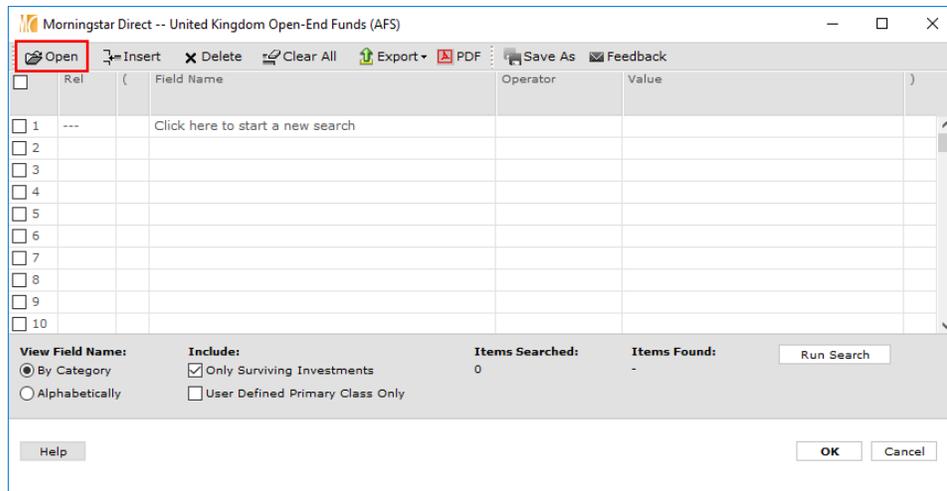
Click here to see all investments again in a universe

Once saved, a search is found under the My Search Criteria folder in the Workspace module. Alternatively, you can also open a saved search from the Search by Criteria window itself anywhere you can access it in another module, such as the Local Databases module.

Exercise 4: Open a saved search

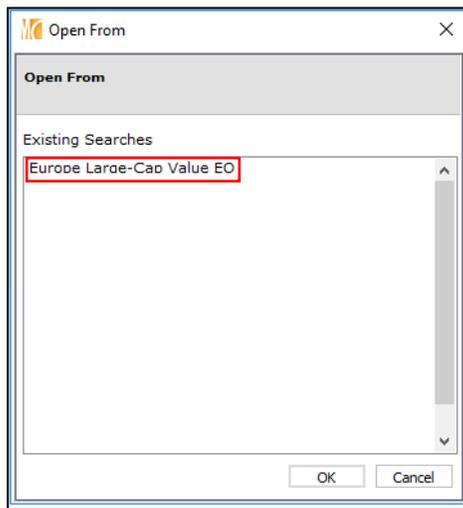
To open a saved search from the Local Databases module, do the following:

1. You should still be in the **United Kingdom Open-End Funds (AFS)** universe. 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** dialogue box opens.



Use this icon to recall a saved search

3. Click **Europe Large-Cap Value EQ**, then click **OK** to close the **Open From** dialogue box.

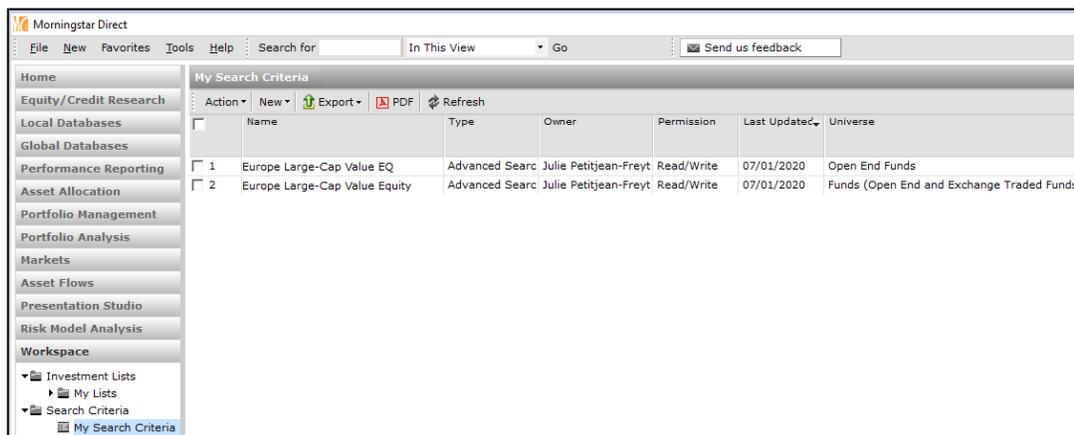


Be sure to select the correct search from this dialogue box

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 you completed the exercises in the [Working with Investment Lists in Morningstar Direct](#) guide, you will see the **Europe Large-Cap Value Equity** search you created and saved as part of that work. The Europe Large-Cap Value Equity search did not appear in the previous set of steps (where you opened a saved search from the Local Databases module) because the Europe Large-Cap Value Equity search considered both Open-End Funds and Exchange-Traded Funds, and the search in the Local Databases module was looking only for Open-End Funds. Therefore, searches including other investment types cannot be seen when opening a search from the Search by Criteria window in the Local Databases (or Global Databases) module.
3. **Double-click** the **Europe Large-Cap Value Equity** item to open it (the second one in the screenshot below, with Funds (Open-End and Exchange Traded Funds as universe). Note that the spreadsheet view opens with the results, without first showing the Search window.



Note the location where you can find saved searches in Direct

So far, the exercises you have completed have dealt with a search that looked for one criterion only: Europe Large-Cap Value Equity funds. In practice, your searches will almost always contain multiple criteria, so let's explore adding criteria to a search.

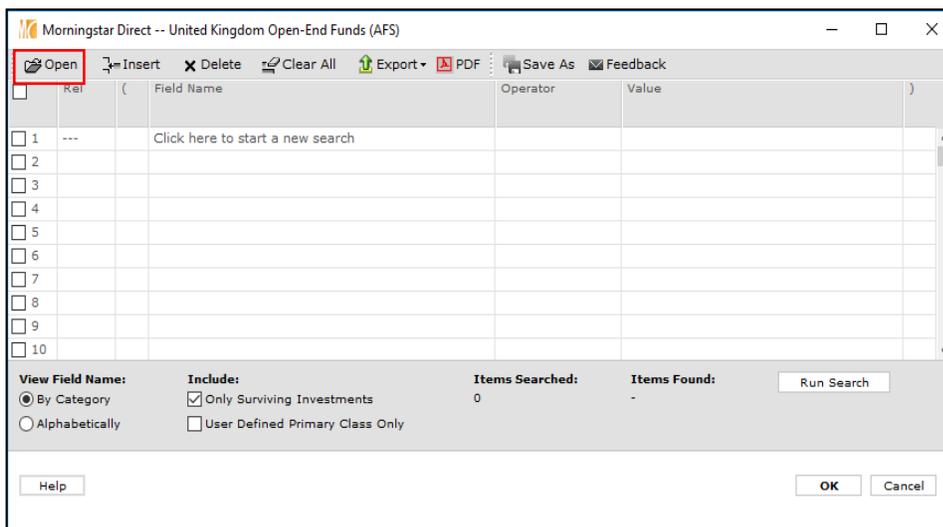
When you ran the search for Europe Large-Cap Value Equity funds in Exercise 1, you may have noticed that multiple instances of funds appeared in the results, rather than just a single instance of each fund. To see only one instance of a fund, you have a few options. For instance, you could ask to see only a certain share class of a fund, such as the oldest share class.

For this, we can use a criterion called **Oldest Share Class**. This finds only the original share class for each fund included in a search. You will open the search you saved in Exercise 2 and build on it.

Do the following:

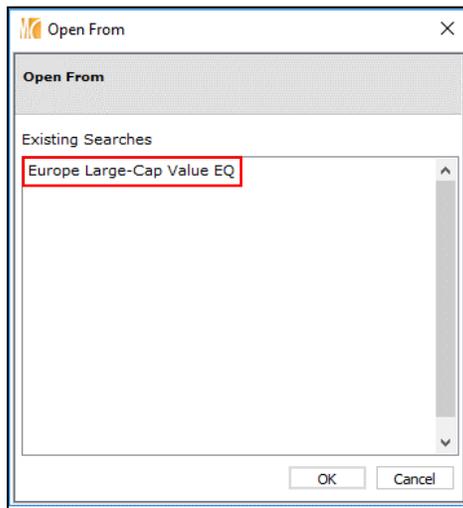
1. Select the **Local Databases** module and open the **United Kingdom Open-End Funds** universe. From the toolbar above the spreadsheet area, click the **Search** icon. The Search window opens.
2. Click the **Open** icon. The **Open From** dialogue box opens.

Exercise 5: Create a simple search with multiple criteria



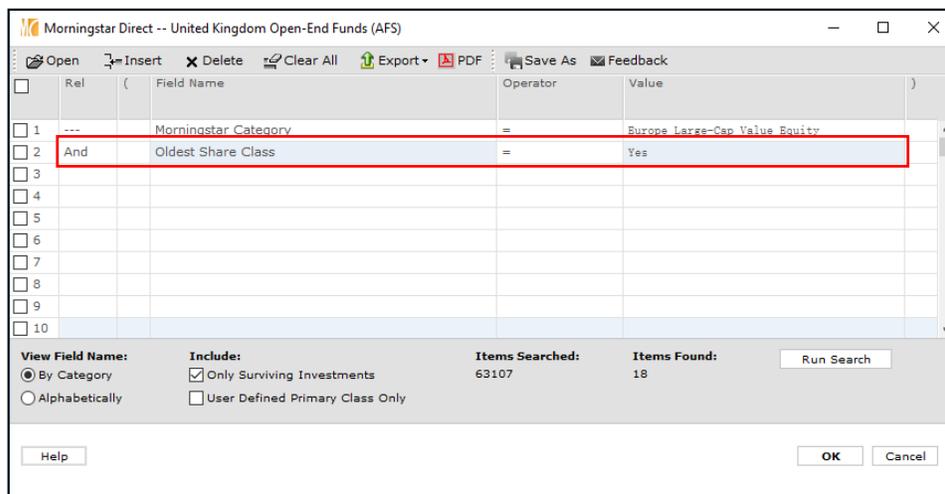
Use this icon to recall a saved search

- Click **Europe Large-Cap Value Equity**, then click **OK** to close the **Open From** dialogue box.



Be sure to select the correct search from this dialogue box

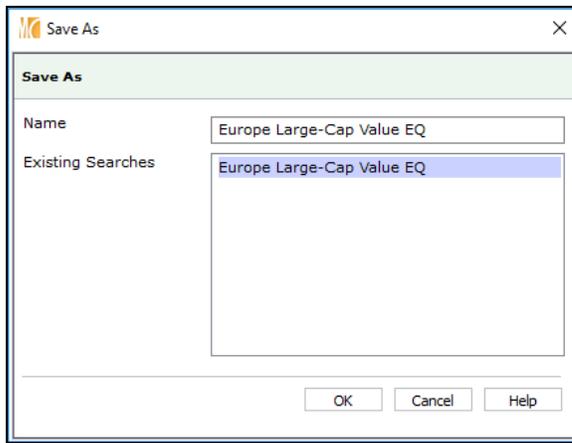
- In the Search by Criteria window, click **Run Search**, and take note of the number of items found.
 - Click in the **Field Name** cell for the second row, and **scroll** down until you can select **Oldest Share Class**. The **Operator** cell in the row 2 defaults to **=**.
- Note:** As soon as you clicked in the Field Name cell for row 2, 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, you could also have typed the word **Old**, and the cursor would jump to find Oldest Share Class.
- Click in the **Value** cell for row 2 and select **Yes**.



Note the values in these fields

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

8. You now have two criteria in your search for Europe Large-Cap Value Equity funds. You can re-save the search to reflect this change. Click the **Save As** icon. The **Save As** dialogue box opens.
9. Under the Existing Searches area, **double-click Europe Large-Cap Value Equity**; this populates its value in the **Name** field.



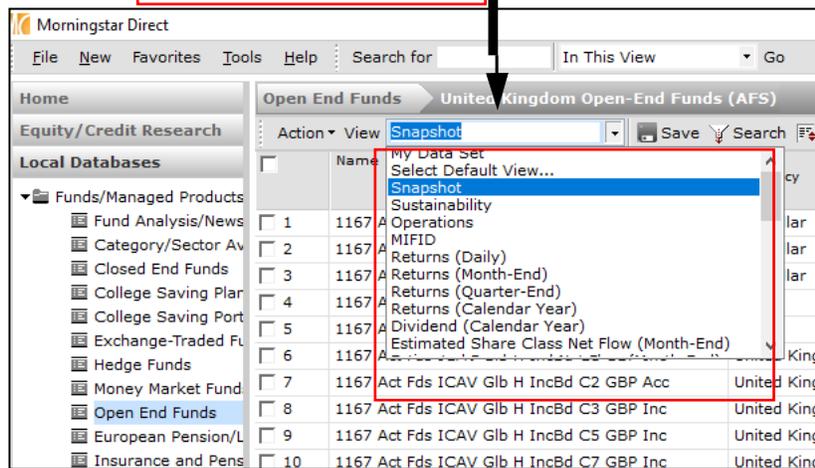
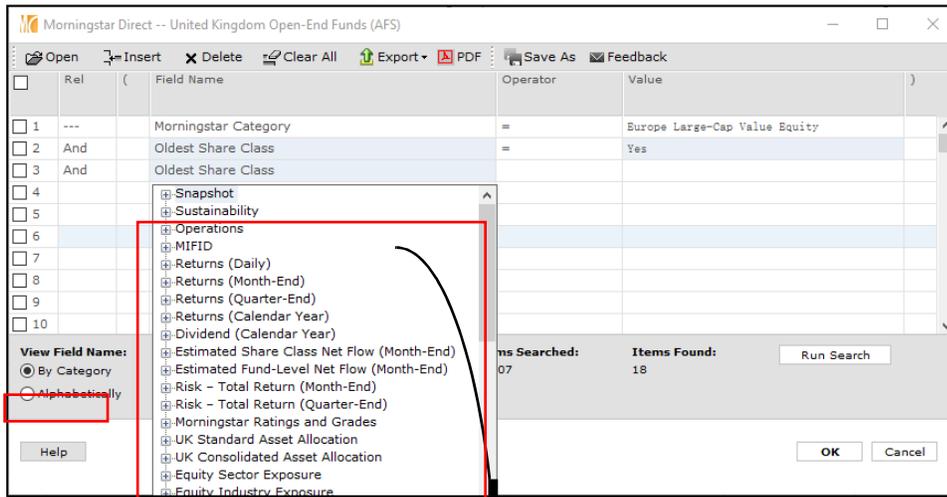
Double-click the name of an existing search to override that item with the current content in the Search by Criteria window

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

Exercise 6: Expand your search to another category

By default, the Search by Criteria window shows you available search criteria by grouping fields into categories. These categories are identical to the pre-built views available in the Local Databases grid view. If you know which category (or view) a field appears in, it is easy to find that field when you want to include it in a search. Some fields, such as ISIN or Morningstar Rating, appear in more than one search category (and pre-built view).

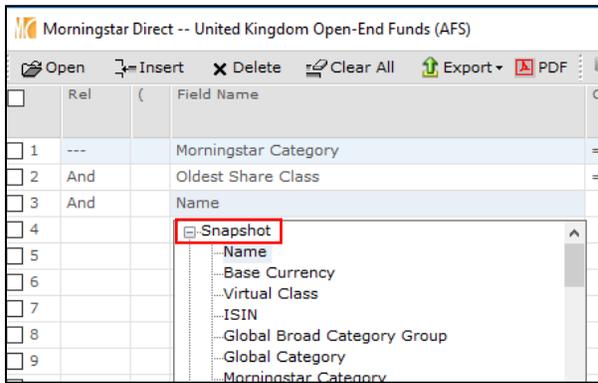
So far, the two criteria (Morningstar Category and Oldest Share Class) you have used in creating searches have appeared in the default Snapshot category, which is expanded by default when you open the Search by Criteria window. In fact, you might not have even realised the fields were grouped by category in the Search by Criteria window. Seeing fields by category is the default setting when working with the Search by Criteria window.



While seeing the Snapshot category expanded by default is convenient for selecting the most popular fields you may be looking for (which is the intent of the Snapshot view/category), this category does not allow you to access all of the criteria you might need for every search. For example, what if you want to eliminate any funds from your search where the ongoing charges are too high?

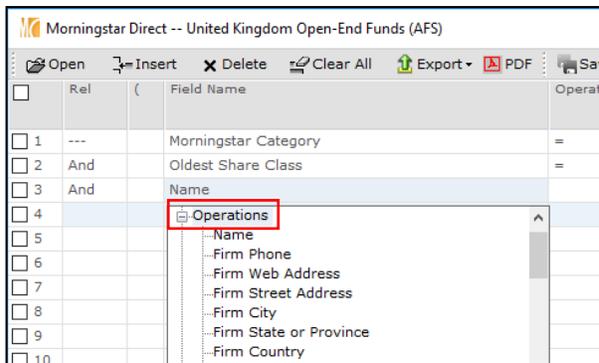
To find funds with a lower ongoing charge, do the following:

1. You should have the Search by Criteria window open, with the criteria from the Europe Large-Cap Value Equity search still displayed. (If not, open the saved search now, or open the Search from **Workspace > My Search Criteria** > double-click on Europe Large-Cap Value EQ (the Open-End Universe) > click **Search**.)
 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.



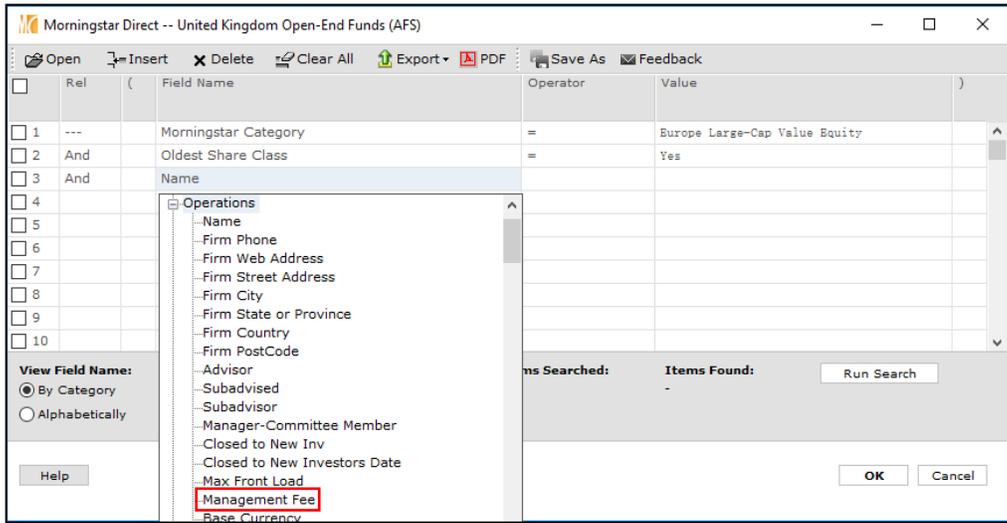
Click the icon to the left of Snapshot to collapse the category

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



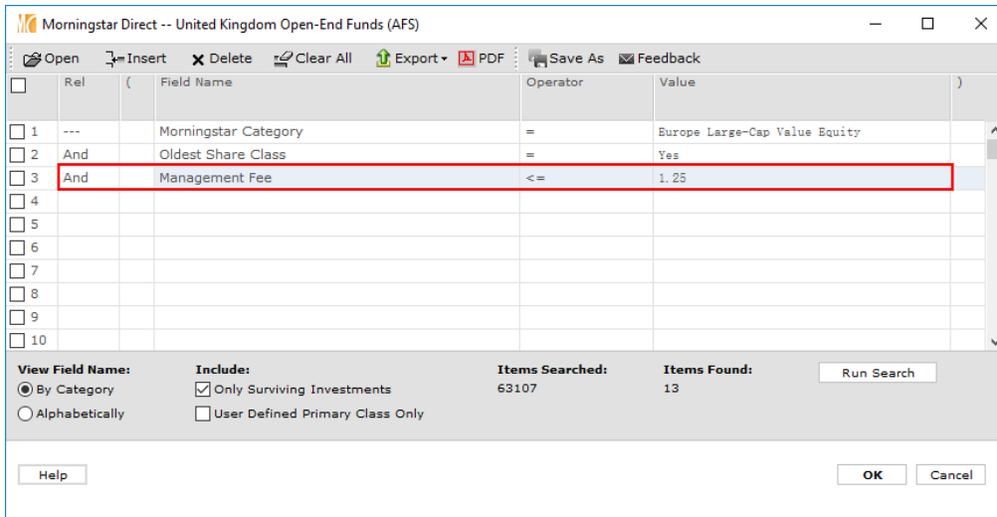
Click the icon to the left of Operations to expand the category

5. **Scroll down** in the Operations category and click **Management Fee**.



The field appears under the Operations category

6. In the **Operator** cell for row 3, select **<=**.
7. In the **Value** cell for row 3, type **1.25**.



Note the values for this row

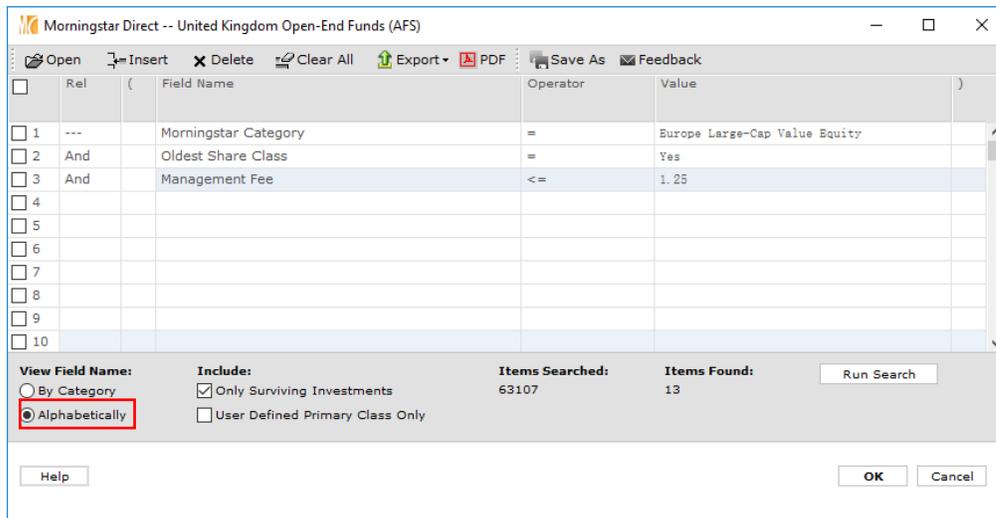
8. Click **Run Search**. The number of items found now reflects the inclusion of this additional criterion. Because the Rel(ationship) column for all three rows is "And," all three criteria must be true for a fund in order for it to be found by this search.
9. Re-save the search again to include this latest change. Click the **Save As** icon. The **Save As** dialogue box opens.
10. Under the **Existing Searches** area, **double-click Europe Large-Cap Value EQ**; this populates its value in the **Name** field.
11. Click **OK** to close the **Save As** dialogue 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 you to select criteria based on the category each one is assigned to. This works out fine as long as you know under which category each criterion can be found. What happens when you aren't sure which category to look in for a criterion? Rather than waste a lot of time expanding, scrolling, and collapsing categories as you look for a field, you can instead see all criteria listed alphabetically, regardless of category.

Exercise 7: Look for a field by name

To look for a field by name, do the following:

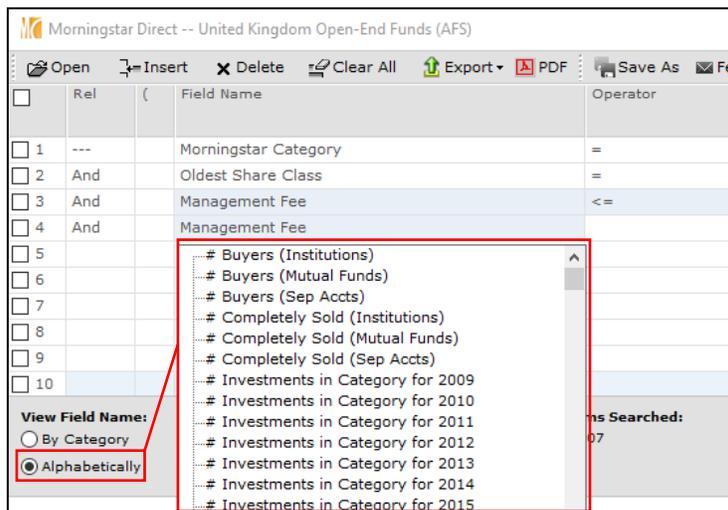
1. The Search by Criteria window should still be open, with the criteria from the Europe Large-Cap Value Equity search still displayed. (If not, open the saved search now.)
2. In the bottom-left corner of the Search by Criteria window, select the option for **Alphabetically**.



Select this option to see all criteria at once

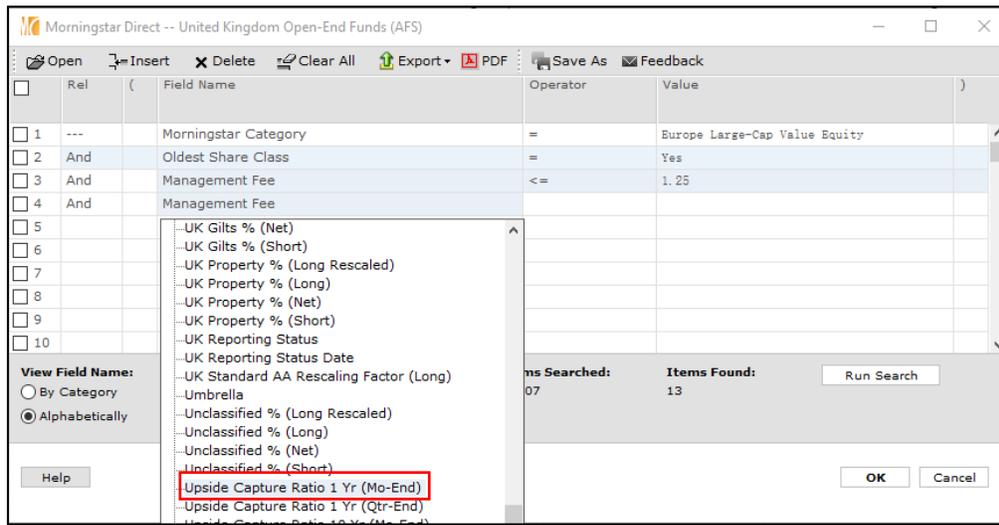
3. In row 4, click in the **Field Name** cell. All criteria are now listed alphabetically.

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



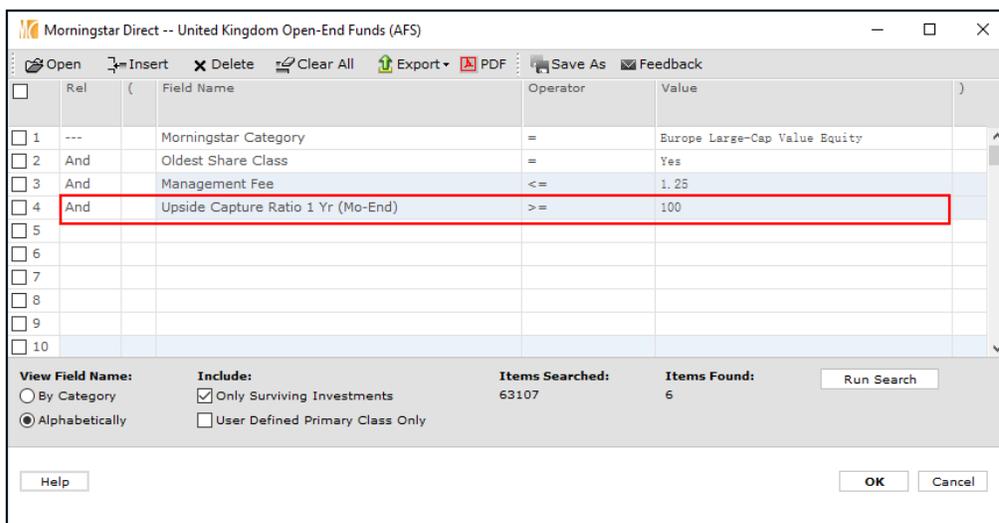
The fields all appear in alphabetical order; those with symbols and numbers at the start of their names appear first

- Type **Up**. You are moved down in the list of criteria and land on **Upside Capture Ratio 1 Yr (Mo-End)**. Click **Upside Capture Ratio 1 Yr (Mo-End)**.



As you type the name of a criterion, you are moved to that location in the list of criteria

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



Note the values for this row

- Click **Run Search**.
- Click the **Save As** icon. The **Save As** dialogue box opens.
- Under the **Existing Searches** area, **double-click Europe Large-Cap Value EQ**; this populates its value in the **Name** field.
- Click **OK** to close the **Save As** dialogue box.
- When the overwrite confirmation message opens, click **OK**.
- Click **OK** again to exit the Search by Criteria window.

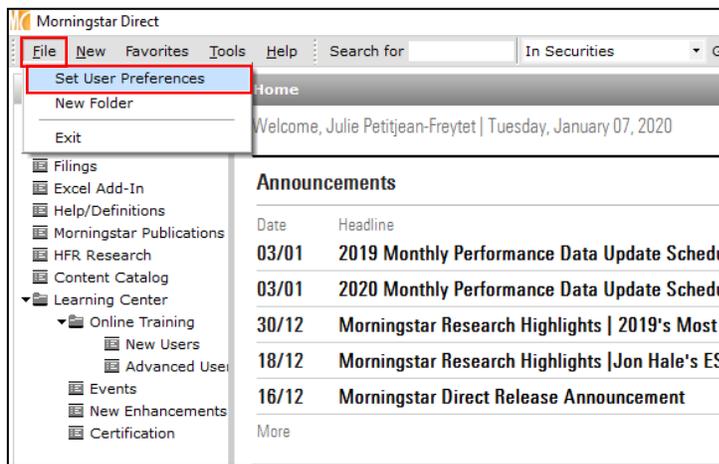
When creating a search to look for only one instance of a fund, you have the following options:

- ▶ You can look for the oldest share class of a fund
- ▶ You can look for a specific share class for a fund, such as Institutional or Retail, or
- ▶ You can look for the share class for a fund with the lowest management fee.

The first example has already been explored. The second example is achieved simply by selecting the **Institutional** field and choosing the appropriate value (Yes/No). When conducting a search to look for the share class for a fund with the lowest management fee, however, you need to first set the proper user preference from the **File** menu because no field exists to search on called "Lowest Management Fee." Once you set the correct user preference, you can check a special box on the Search by Criteria window to activate it and make it part of a search.

To create a user preference prioritising 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** dialogue box opens.



Select this option from the File menu

Exercise 8: Update your user preferences to find the share class with the lowest management fee

2. Select the **User Defined Primary** tab.
3. Select the row for **Max Management Fee**, 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.
5. Select **Institutional** and move it to be in 2nd position.
6. Be sure the word **Institutional Preferred** 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	Max Management Fee	Lowest
2	Institutional	Institutional Preferred
3	Performance Start Date	Oldest
4	Annual Report Net Expense Ratio	Lowest
5	Minimum Investment	Lowest
6	Currency	Euro
7	Distribution Status	Accumulation Preferred
8	Hedging Policy	Unhedged
9	Share Class Size (latest)	Highest

Use the arrows to switch order

7. Click **OK**. In the next exercise, you will learn to leverage this setting.

In this exercise, you will search for those large growth funds (both open-end funds and ETFs) meeting the following criteria:

- ▶ 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 you are looking for both open end funds and exchange-traded funds at once, this search should be created from the Workspace module, where you can look across both universes simultaneously. Additionally, you will see the following exercise use a checkbox 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. Under 'Search Criteria', 'My Search Criteria' is selected. In the main toolbar, the 'New' button is clicked, opening a dropdown menu. The 'Advanced Search' option is selected, which opens a sub-menu. In this sub-menu, the option 'Funds (Open End and Exchange Traded Funds)' is highlighted. Two callout boxes are present: one on the right side pointing to the 'Funds' option with the text 'Select this universe as the source for the search', and another on the right side pointing to the 'Workspace' tab with the text 'Note the location where the search should be created'.

- Set your 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	=	EAA > Europe Large-Cap Growth Equity	
And		Annual Report Net Expense Ratio	<	CAT AVG	
And		Closed to New Inv	Not=	Yes	
closedAnd		Sharpe Ratio 5 Yr (Mo-End)	>	CAT AVG	
And		Downside Capture Ratio 5 Yr (Mo-End)	<	100	

- Note:** Change this date value to the previous month-end period from five years ago. When using date fields, note that "less than" means "earlier than," while "greater than" means "later than."
- Note:** Since we are using the Share Ratio and Downside Ratio pre-calculated statistics for 5 years, our selection will already reflect funds with a 5-year history; therefore, it is not necessary to add the Inception Date data point backdated to 5 years ago.

Be sure your search reflects the inputs shown here

Be sure to check this box as well

- Click **OK**. As you look at the results in the grid view, note that only one instance for each fund is shown, but a variety of share classes are represented.
- You may save the search as Europe Large-Cap Growth Equity OE & ETFs.

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 your needs.
- ▶ You can select search criteria fields within a pre-built category, or by seeing them listed alphabetically.
- ▶ When looking for a field alphabetically, you can type the beginning of its name to jump to that spot in the list.
- ▶ For fields that take a numeric value, such as Annual Report Net Expense Ratio, you can often enter either a number or opt to compare results to the category average.
- ▶ Each time you add a criterion to a search, click the Run Search button to ensure you do not end up with 0 results found. If this happens, it indicates a parameter of the search needs to be changed.
- ▶ Searches can be saved, to keep you from having to re-enter the same criteria over and over again, but remember that the results you see each time you run a saved search could change.
- ▶ Saved searches are found under the Workspace module (on the My Search Criteria page), and these saved search files can be shared with or sent to other Morningstar Direct users, just as you can with lists.
- ▶ Use the User Defined Primary preference (available from the **File** menu) to include in your searches an additional layer to eliminate all but one type of share class.

Creating Complex Searches

Thus far, the searches you have created have been fairly simple. Although you have looked for multiple criteria, all of the rows are linked by the “And” relationship. At times, you may need to create a more sophisticated search where the relationship between rows is more complicated and you need to leverage additional capabilities of the Search by Criteria window.

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 you build a complex search.

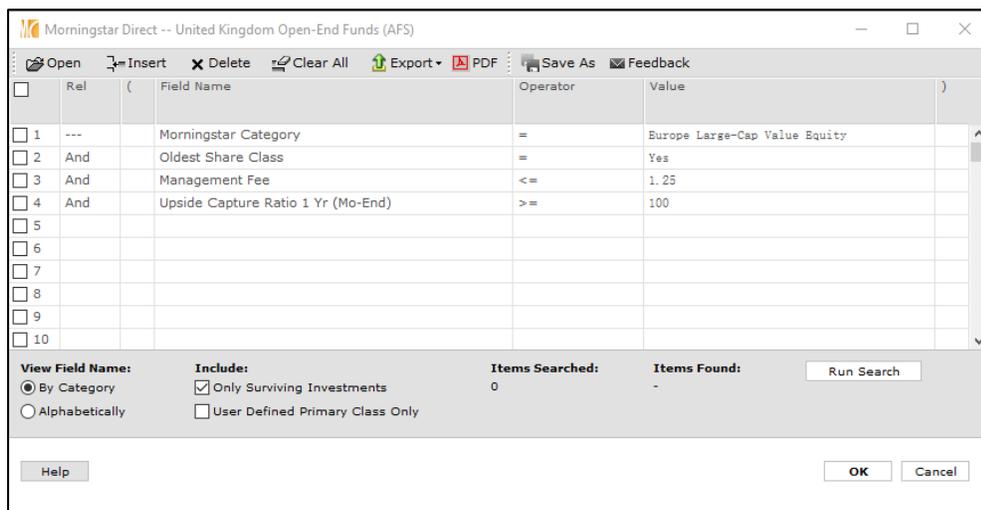
The search you have created so far searches the Europe Large-Cap Value Equity category for the oldest share class of open-end funds with a management fee below 1.25% and have a 1-year upside capture ratio of at least 100%. What if you want to see funds matching these criteria, not just in the Europe Large-Cap Value Equity category, but also in the Large Blend and Large Growth categories? You can do this by building on the search you have saved, rather than creating three separate searches.

Do the following:

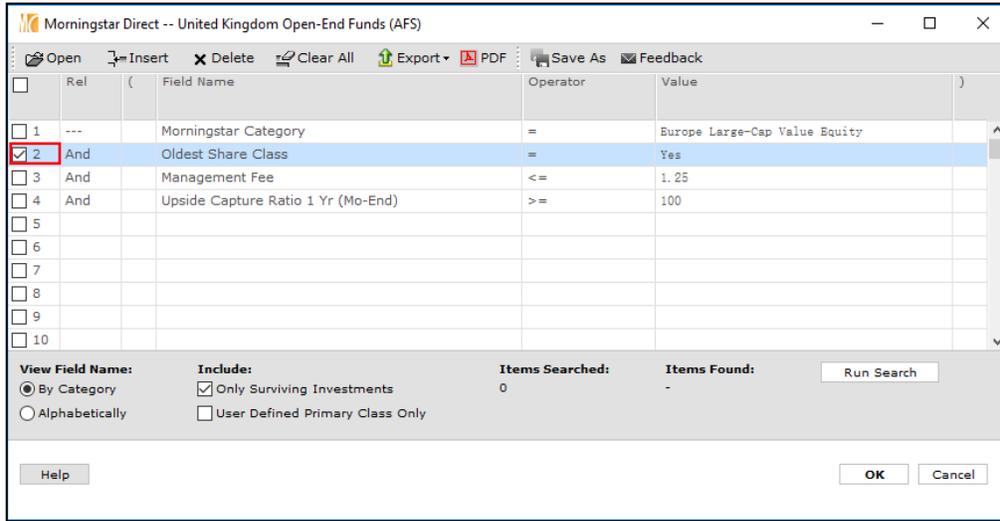
1. From the left-hand navigation pane, select the **Workspace** module.
2. Go to My Search Criteria and open the Europe Large-Cap Value EQ search (the Open-End universe) you created.
3. From the toolbar above the spreadsheet view, click the **Search** icon. The Search by Criteria window opens.

Overview

Exercise 10: Create a search across multiple Morningstar categories

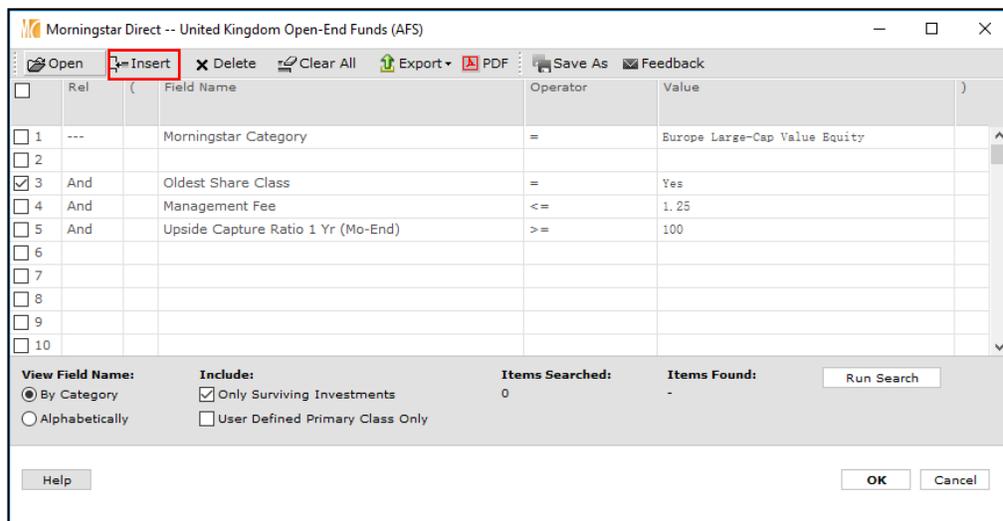


- You are going to insert a new row. An insertion always goes above the row you select. To insert a row between rows 1 and 2, select the **checkbox** to the left of row 2.



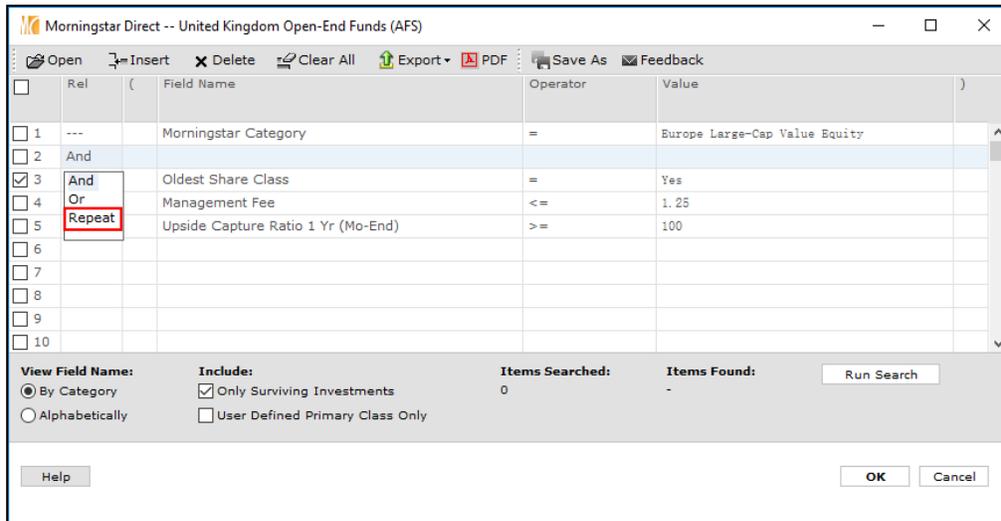
Check the box below the row where you want to insert a row

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



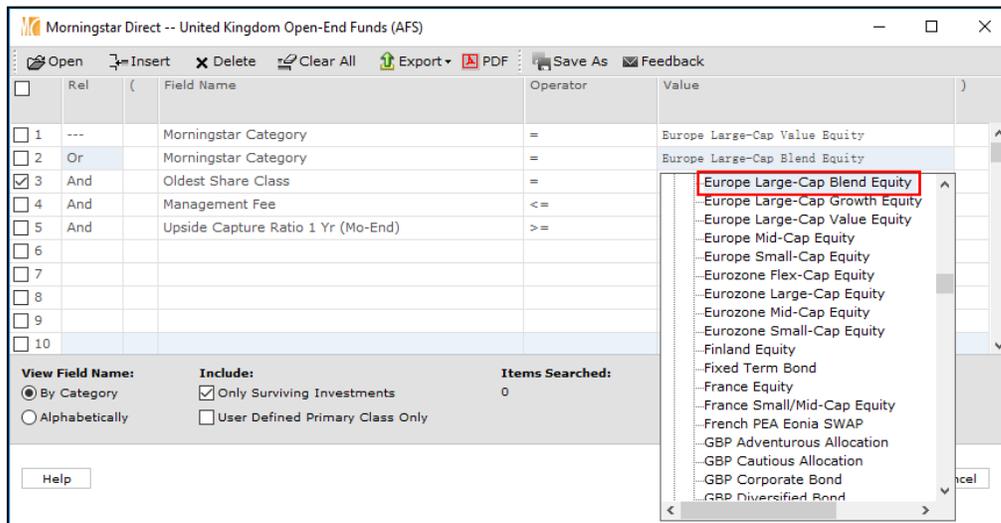
Click this icon to insert a new row above the highlighted row

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



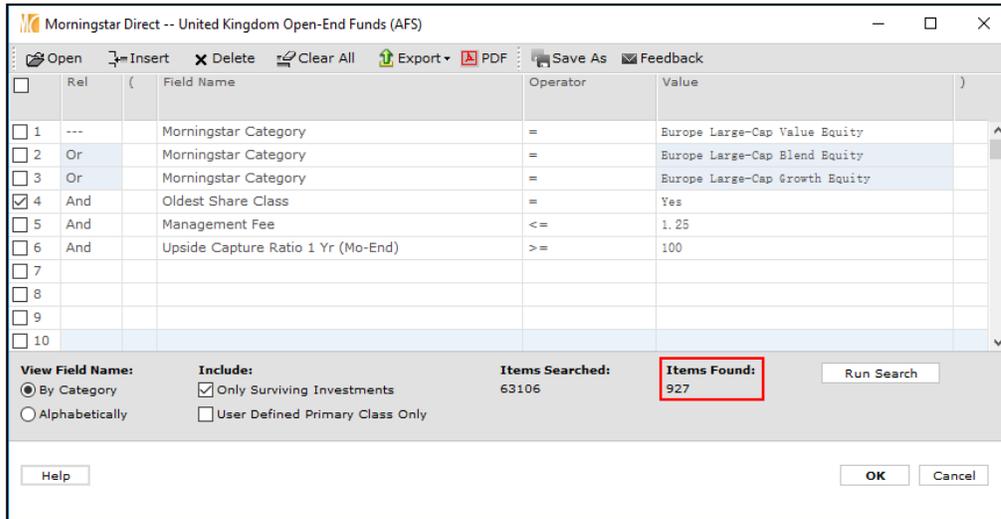
Choosing Repeat copies the content from the row above

- The Field Name and Operator cells for row 2 should stay the same. Click the **Value** cell for row 2 and select **Europe Large-Cap Blend Equity** (expand the Europe/Africa/ Asia section first).



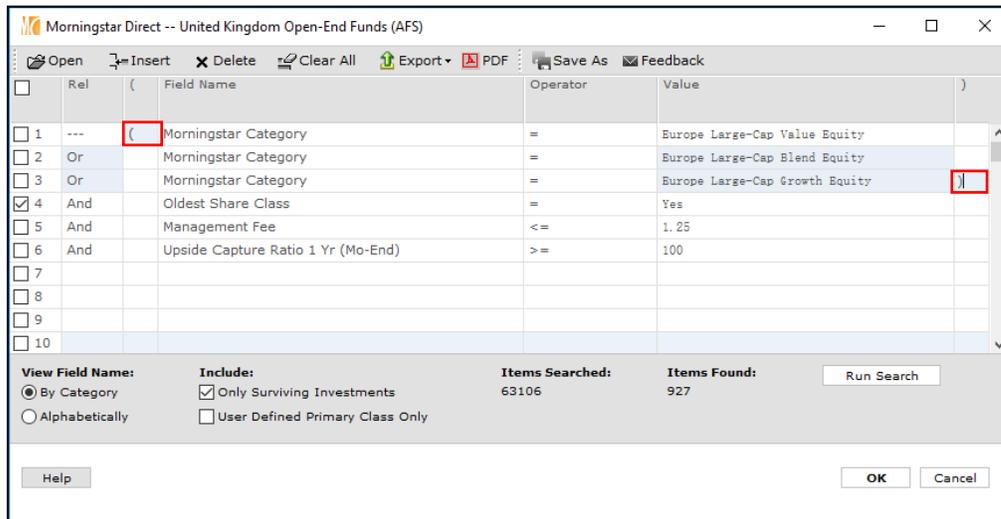
When a row is repeated, you need to change only the Value cell

8. Repeat steps 6–10 to insert another new row for **Europe Large-Cap Growth Equity** funds.
9. Click **Run Search**. The number of funds returned seems unexpectedly high. This indicates that you need to encapsulate the first three lines of the search in parentheses, to tell the system to consider them as one object. Otherwise, the system thinks you are looking for any Europe Large-Cap Value Equity fund, or any Europe Large-Cap Blend Equity fund, or the oldest share class of Europe Large-Cap Growth Equity funds with an ongoing charge below 2% with an upside capture ratio of at least 100%.



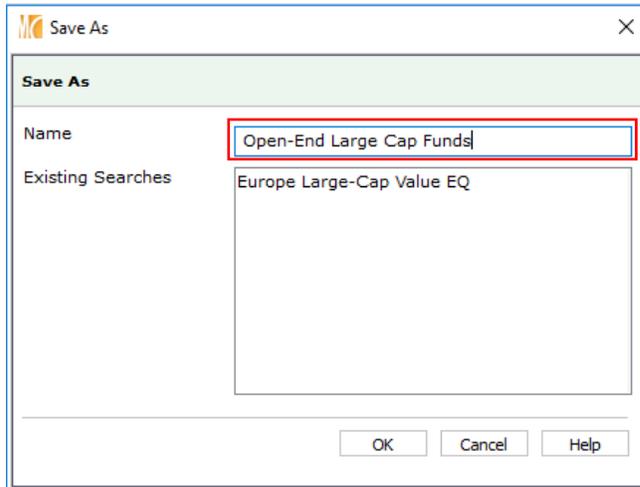
This number is far higher than what you should expect to see for what you are looking for

10. In the (cell of row 1, type (.
11. In the) cell of row 3, type).



Note the inclusion of parentheses

12. Click **Run Search**. Note the much lower number of funds returned.
13. Save this search as a new item. Click the **Save As** icon.
14. In the **Name** field, type **Open-End Large Cap Funds**.



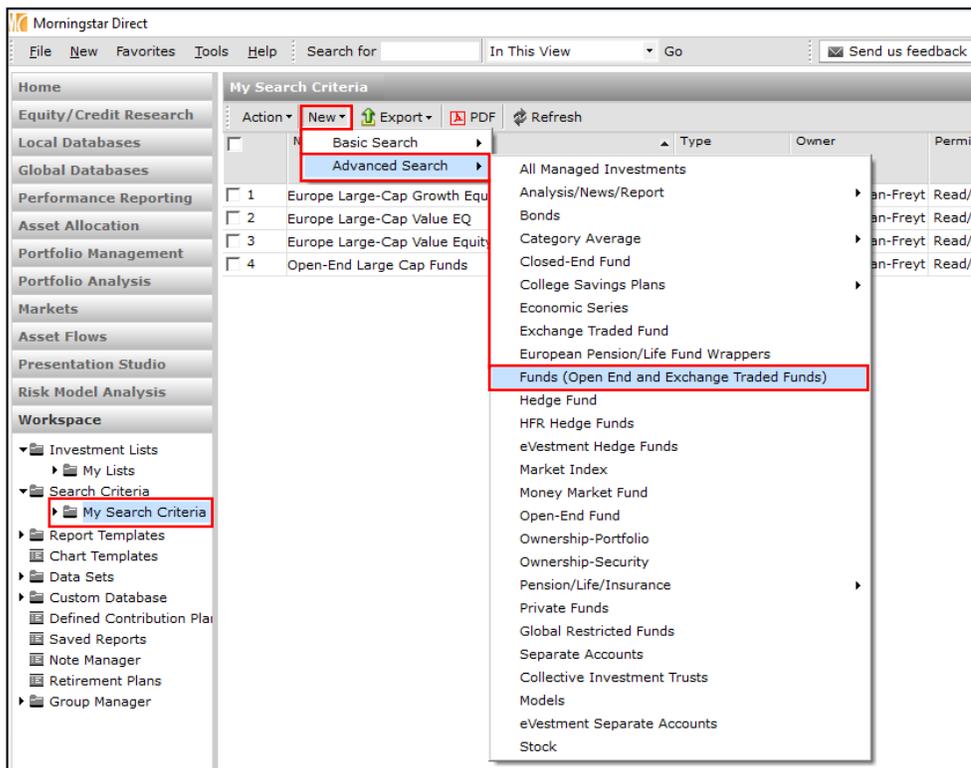
Note the name for the new search

15. Click **OK** to close the **Save As** dialogue box.
16. Click **OK** to close the Search by Criteria window.

In the last exercise, you saw how to use a set of parentheses to encapsulate a single set of criteria. What if you need to look for two separate sets of data at once? For example, imagine you have been asked 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. To create two searches at once, do the following:

Exercise 11: Create two searches at once

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.



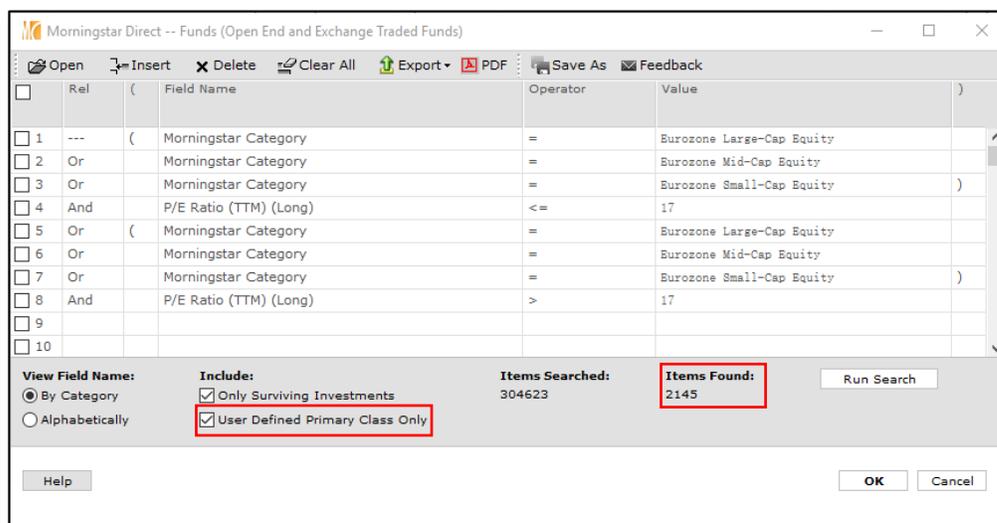
Select this universe to search within

Note the location where the search should be created

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 dialogue box can help find the criteria more quickly.

Rel	(	Field Name	Operator	Value)
--	(	Morningstar Category	=	EAA > Eurozone Large-Cap Equity	
Or		Morningstar Category	=	EAA > Eurozone Mid-Cap Equity	
Or		Morningstar Category	=	EAA > Eurozone Small-Cap Equity)
And		P/E Ratio TTM (Long)	<=	17	
Or	(	Morningstar Category	=	EAA > Eurozone Large-Cap Equity	
Or		Morningstar Category	=	EAA > Eurozone Mid-Cap Equity	
Or		Morningstar Category	=	EAA > Eurozone Small-Cap Equity)
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 your search.
- Activate the **User Defined Primary Class Only** option.
- Click the **Save As** icon. The **Save As** dialogue box opens.
- In the **Name** field, type **Multiple Searches**.
- Click **OK** to close the **Save As** dialogue box.
- Click **OK** to close the Search by Criteria window.

Note: The **User Defined Primary Class Only** option is not taken into account by the Run Search function. To know the true number of resulting investments, check the bottom left corner of the grid window to see the Total number of investments.

Note: In the search results (seen in the grid view), you can 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:

Final lessons on creating advanced searches

- ▶ When you have the same Field Name 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 you a few clicks from making a selection for every cell in a row.
- ▶ You can nest criteria in multiple levels through the proper use of both parentheses and the relationship between rows.
- ▶ You can insert rows in the Search by Criteria window; remember that the inserted row appears above the row you have selected.

Additional Practice Exercises

The following exercises provide challenges for you to see how well you can build searches within Morningstar Direct. Answers to each exercise are provided on the following pages.

How many passively managed Open-End funds and ETFs in the Europe Mid-Cap Equity category are for sale in the United Kingdom? 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 you with this exercise:

1. Create the search from the Workspace module.
2. Search within the Funds (Open End and Exchange-Traded Funds) universe.
3. Use the Europe/Africa/Asia category classification.
4. Opt to see the criteria listed alphabetically and look for a field called "IndexFund."

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

Overview

Exercise 12: Find passively managed funds in a Morningstar Category

How many global emerging markets equity Open-End funds have at least 4 globes, a low carbon designation from Morningstar, and don't invest in tobacco companies? Please display only the oldest share class per fund.

Exercise 13: Find ESG funds

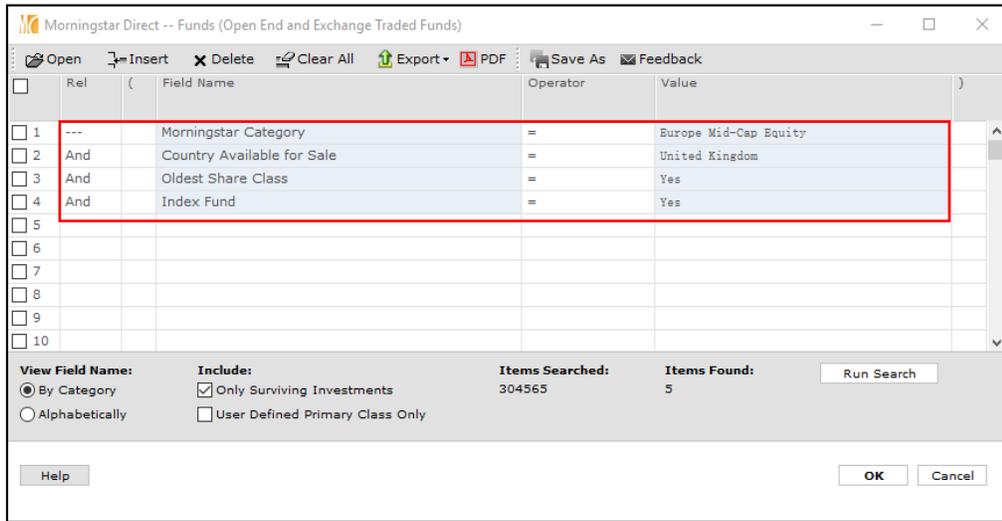
The following hints will help you with this exercise:

1. The search can be created using the Open-End funds universe from Workspace > Search Criteria.
2. When looking for global emerging markets equity funds, be sure to select Morningstar Category as the Field Name and to use the Europe/Africa/Asia classification.
3. You can find all ESG-related data points under the Sustainability drop-down list.

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

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

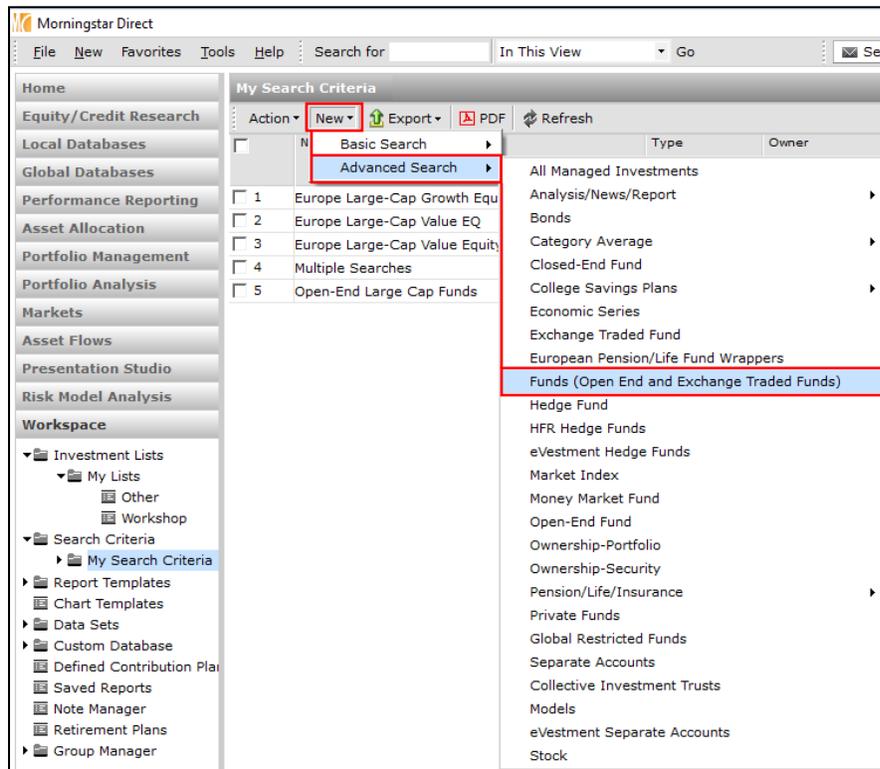
Solution to Exercise 12



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.



Select this universe to search within

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

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

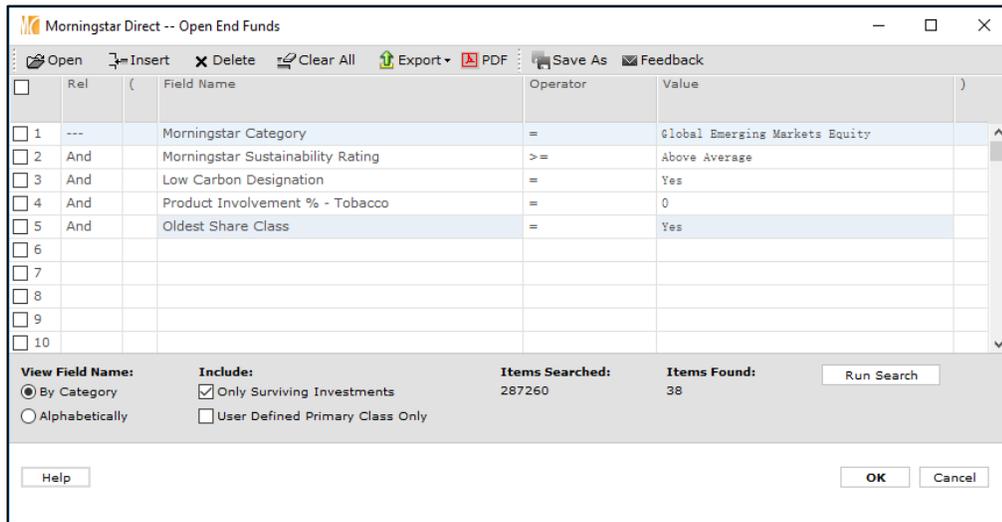
Rel	Field Name	Operator	Value
--	Morningstar Category	=	EAA > Europe Mid-Cap Equity
And	Index Fund	=	Yes
And	Oldest Share Class	=	Yes
And	Country Available for Sale	=	United Kingdom

☞ **Note:** the order of the data criteria selected does not matter in this exercise.

5. Click **OK**.

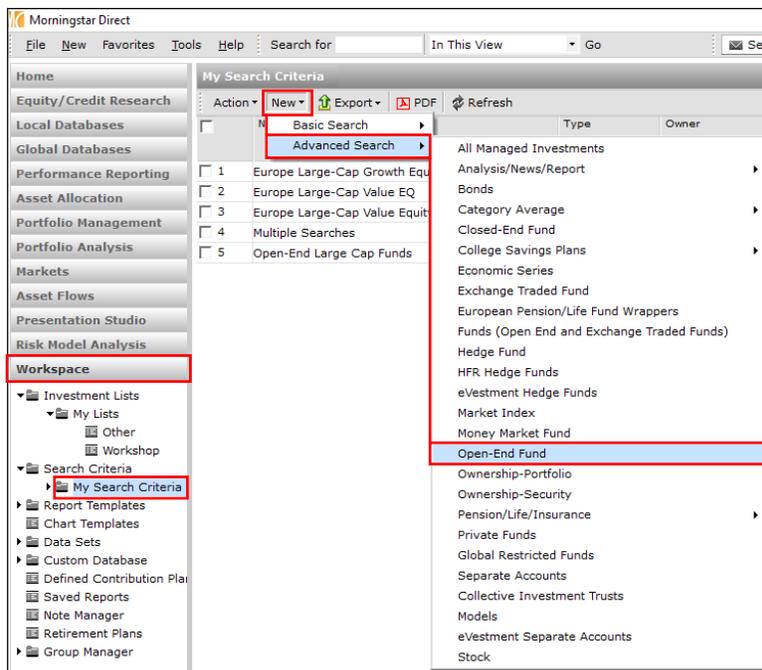
The search you created for exercise 13 should look like the following:

Solution to Exercise 13



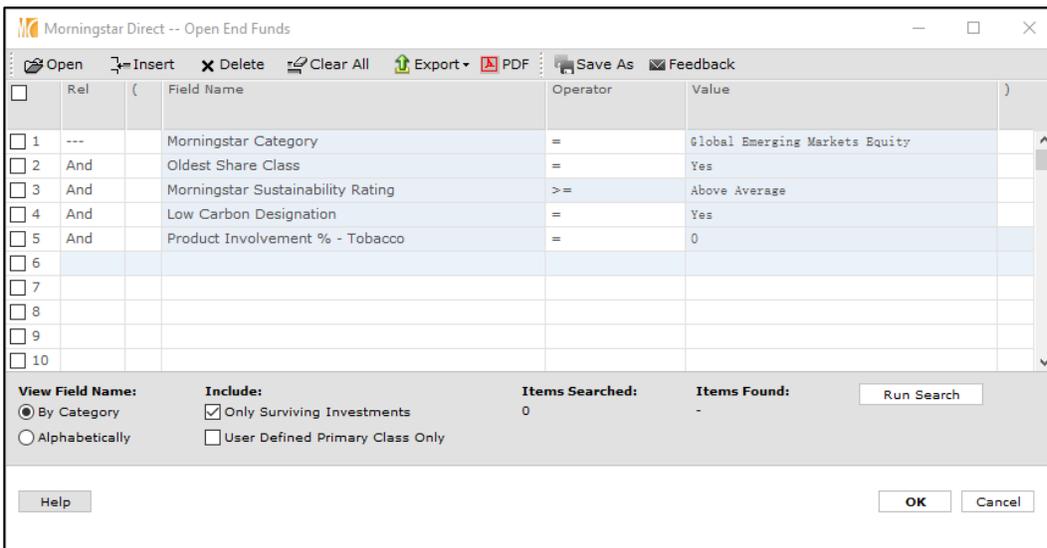
To see these same results, do the following:

1. In the left-hand navigation pane, select the **Workspace** module.
2. Click **New > Advanced Search > Open-End Funds**.
3. Under the Morningstar-defined Universes list, click the **United States Separate Accounts/CITs** universe.



4. From the toolbar above the grid view, click the **Search** icon. The Search byCriteria window opens.
5. Create a search with the following criteria:

Rel	(	Field Name	Operator	Value)
--		Morningstar Category	=	EAA > Global Emerging Markets Equity	
And		Oldest Share Class	=	Yes	
And		Morningstar Sustainability Rating	>=	Above Average	
And		Low Carbon Designation	=	Yes	
And		Product Involvement % – Tobacco	=	0	



6. Click **Run Search** to preview the number of investments that met the search criteria.
7. Click **OK** to view the investments that meet the search criteria.