Query and Export Guide

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Getting Started with Query

Query is a powerful tool you can use to help filter and group records. But it can be a bit intimidating at first. Don't be afraid though! We put together this tutorial to help you get started. We also put together some lists of common query fields and filters. Ready? Set? Go!

Query: A Guided Tour

Before We Begin

With *Query*, you can group records according to whatever criteria you want. Before you even begin to build your query, you need to think about what records you want to see. Form a statement, such as "I want to see the names of all constituents who are members and have given a gift this month, listed alphabetically by last name" or "I want to see all the revenue that came in last month, grouped by date." Be as specific as possible. You can even write down your statement to help you when begin to build your query.

Note: To access the *Query* section, from *Analysis*, click **Information library**.

I want to see . . .

_____

_____

_____

For this guided tour, let's use "I want to see the names of all constituents who are members and have given a gift this month, listed alphabetically by last name."

Now that we have a clear idea of what records we want to group, let's take a quick look at smart queries and see if one fits our needs. Smart queries are predefined queries which you can use in place of many common, but complicated, queries. For example, say we were looking for all constituents who gave last year but unfortunately not this year (LYBUNT). This query would take some time to build and it would be fairly complex. Instead, this is offered as a smart query—the LYBUNT smart query. Browse through the list of smart query definitions and see if there's one that suits your needs. For more information, refer to Smart Query Definitions on page 59. If there isn't one, we can build an ad-hoc query ourselves!

Now that we have our statement, let's start with the basics of query.

Query Basics

Queries are all about fields. Remember when you entered a birth date on the Personal tab of a constituent record? That's the Constituents: Birth date field in a query. There are definitely a LOT of fields available in *Query*. But *Query* really is just a list of all the fields on all the different types of records in the program. Ultimately, you just need to know where to look in the list. Noodles? Aisle 5 in the grocery store. Date of revenue for constituents? Constituents > Revenue: Date. We'll talk more about how to find this field in a bit and each part of the path to find it. For now, rest assured that you will be able to find the fields you need because we put together a cheat sheet with some of the most common fields used in queries. Take a look at Common Query Fields on page 20. Even better, we put together a cheat sheet of common query filters. Check out Common Query Filters on page 22.

Remember, *Query* is a tool to group records; it's not a reporting tool. You should browse the results of your query to ensure you set up your query correctly!

You might even see (or think you see) duplicates in the query results. What if you wanted to see all the constituents who gave money last month? If I gave twice last month, I'd appear twice unless you summarized the query output or did another neat trick to help suppress duplicates. Refer to Suppress Duplicates in Ad-hoc Query Results on page 36 for ideas.

But let's get back to the basics. At the simplest level, a query answers four basic questions. These correspond to the four main components of a query: source view, filters, output, and sort/group options. When you answer these four questions in a query, you should have results that match your statement about the records you want to see.
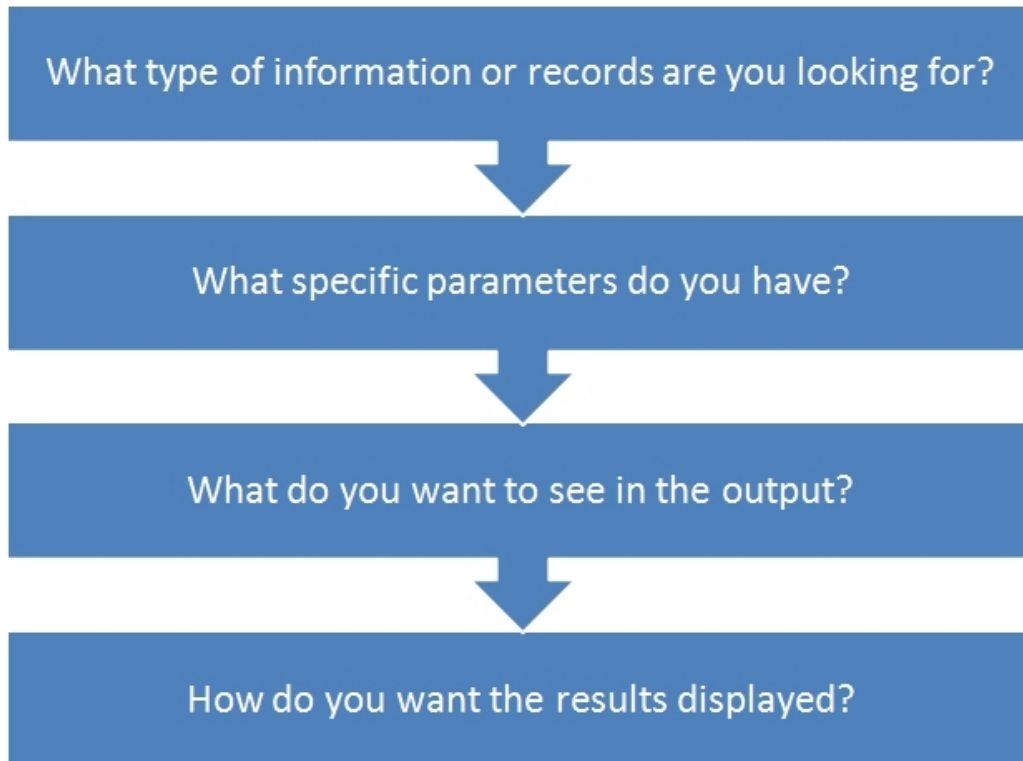
To begin, we can break down our statement to see which parts match each of the four questions. I want to see . . . the names of all constituents who are members and have given a gift this month, listed alphabetically by last name.

The names

This tells us we want to see names in the results. This is the query's **Output**.

Of all constituents

This tells us that we need a constituent query, which means we'll use the Constituents **Source View** to create the query.

Who are members and have given a gift this month

We want to see members, so we can use the constituency as a **Filter**. If the constituency is equal to member, we match on the first part. So let's look at the rest of it. "...and have given a gift this month" makes things a little more complicated. So we'll need another filter to find the gifts in that time frame.

Listed alphabetically by last name

This tells us how we want to **Sort** the results.

Now let's look at each question individually so we can learn about the parts of the query and how we can build it.

The answer to this question lets us know which source view to pick for the query. Based on our statement "I want to see the names of all constituents who are members and have given a gift this month, listed alphabetically by last name," we can tell we need to use the Constituents source view.
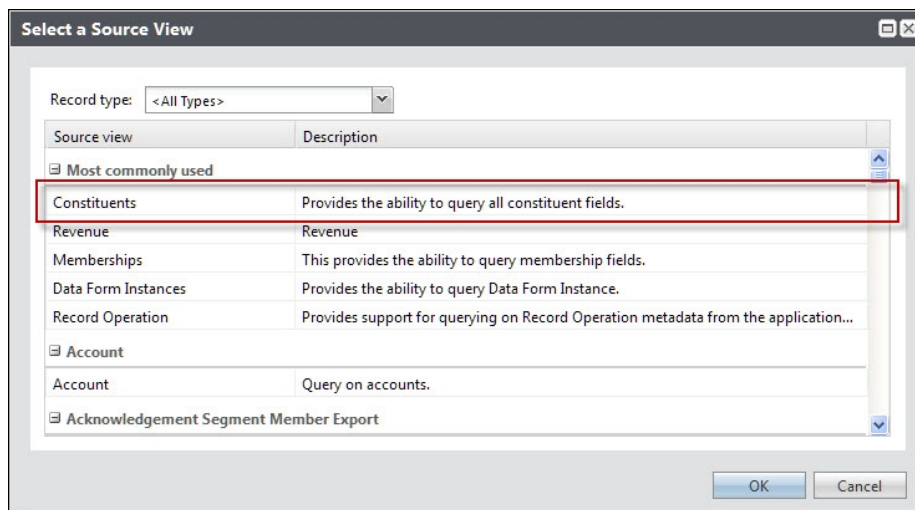
With the Constituents source view, we will create a constituent query. But before we begin to build the query, let's review the terminology and basic layout of the query screen. In our case, we'll use the constituent query.
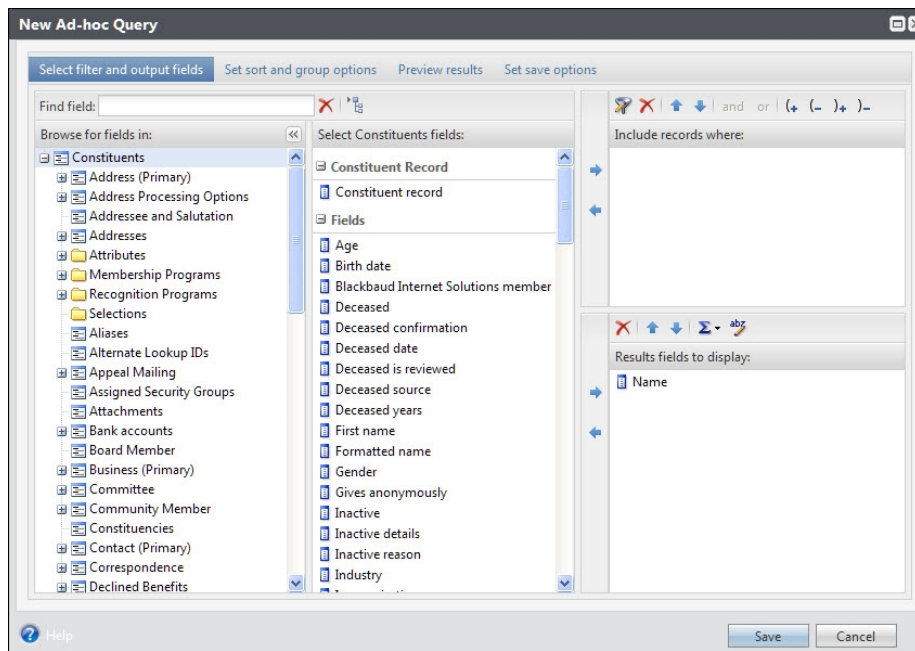
The query screen has four tabs. On the Select filter and output fields tab, you select your parameters. Parameters, criteria, filters all mean the same thing here: these are the pieces of our statement that help us narrow down the results to see only the specific things we want. In our case, that is the names of all constituents who are members and have given a gift this month, listed alphabetically by last name.

All of the fields available in query can be part of your parameters. Field names appear in the center column of the query screen. Under **Browse for fields in**, you see the field hierarchy that groups similar fields together into expandable nodes. For example, all of the fields associated with constituencies are grouped together under the Constituencies node. When you select **Constituencies** under **Browse for fields in**, these fields appear in the center column. Remember, it's all about fields.

On the query screen, we can also see some filter options and some output options. We'll talk about the filter options next. And we'll get to the other tabs a little later!

What specific parameters do you have? (Filters)

The purpose of this question is to help determine the filters we'll need for our query. Which records do we want to include? Do we want to see only constituents who are major giving prospects? Or board members? Or volunteers? Do we want to see only revenue given in the last month or year? In our case, we know we want to see members who have given a gift this month.

To set the filters, we need to know a little more about the filter options. After we select fields for the filters, we sometimes need to make additional decisions. For example, if we use a date field as a filter, we must decide whether we want to use today's date, a date range, or some other specific date.

Often, we need more than one filter. The filter options allow us to use different filters together. For our example, we need to use a couple of filters to show us members who have given us a gift this month. But to start us off, we need a filter to show constituency equal to member. To find the Constituency field, we need to select **Constituencies** under **Browse for fields in**. Then the Constituency field appears in the center column. After we drag the field into the **Include records where** section, we can select the criteria operator and the values we want to use. So we would say: Constituency is Equal To Member, where "Constituency" is the field, "Equal To" is the criteria operator, and "Member" is the value to use.
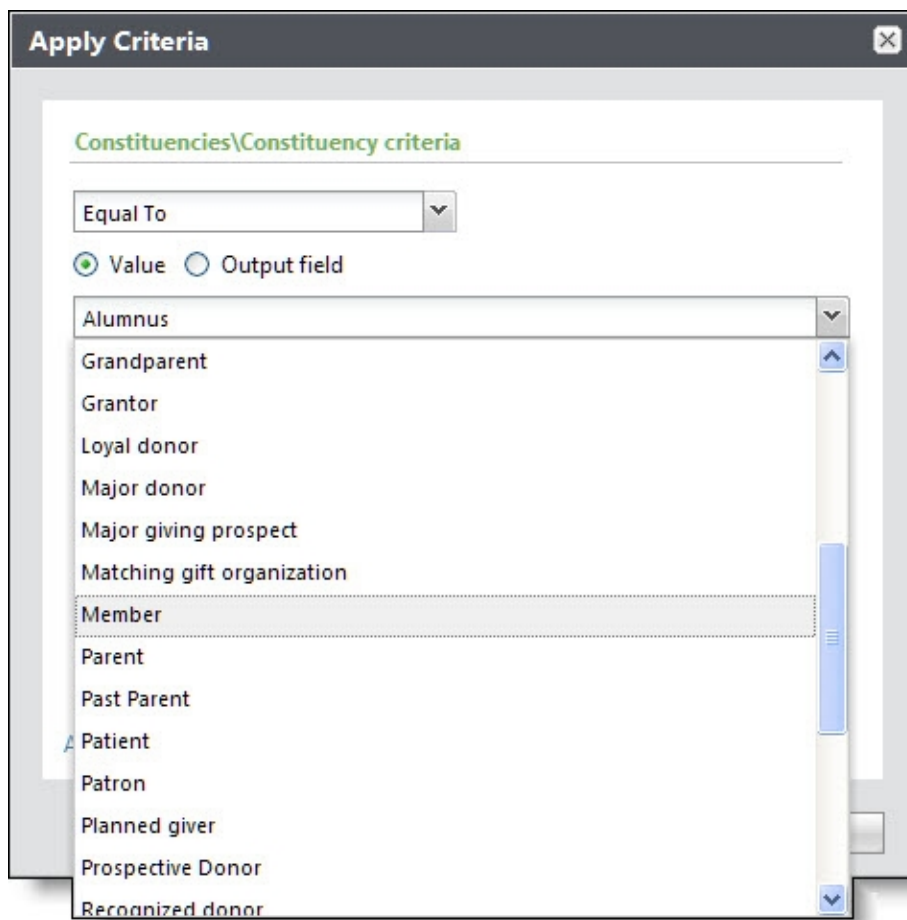
What if we wanted to see all members AND all board members? (Although we hope our board members are engaged enough to be members too!) We could select the criteria operator "One Of" instead of "Equal To," and then pick both "Member" and "Board member."
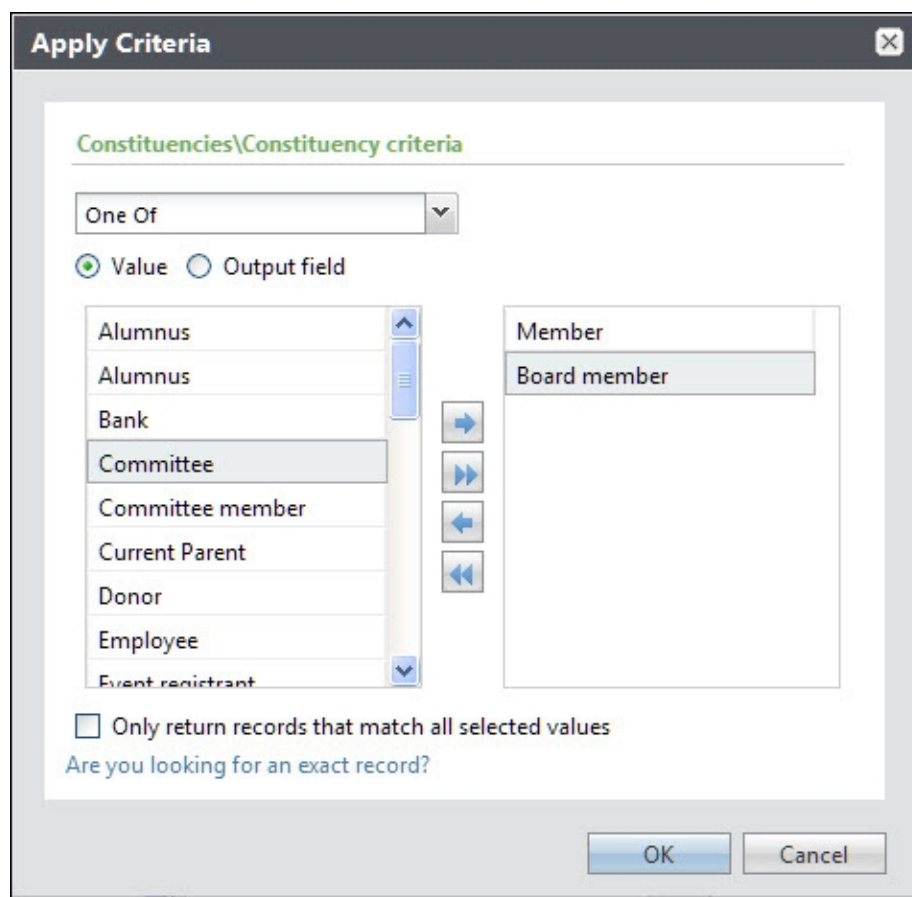
We also could have picked other criteria operators, such as "Not Equal To" or "Blank." You can experiment with them to get a feel for how each one works. For more information, refer to Query Criteria Operators on page 37.

But that's just the first part! We need to get creative with filters and combine them in order to see members who have given a gift this month. Let's take the "given a gift" part of our statement. We're going to have to dig a little deeper in the query screen to find this one. For gifts, we'll need to select Constituents > Revenue > Application Details: Type and set that filter equal to gift.
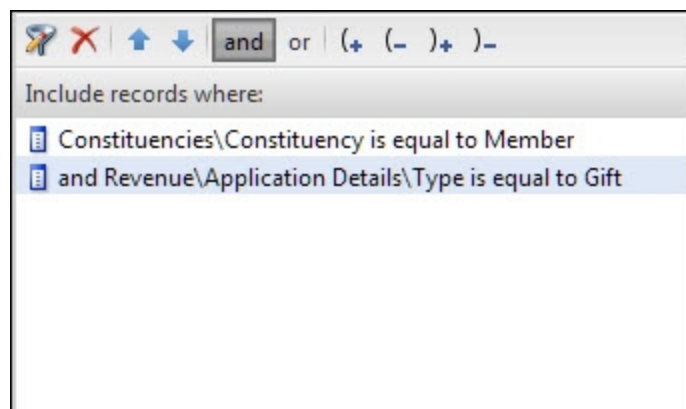
But we still have one more piece: this month. Now that one isn't too difficult. That's just the Constituents > Revenue: Date field. And we'll need to set that equal to this month!
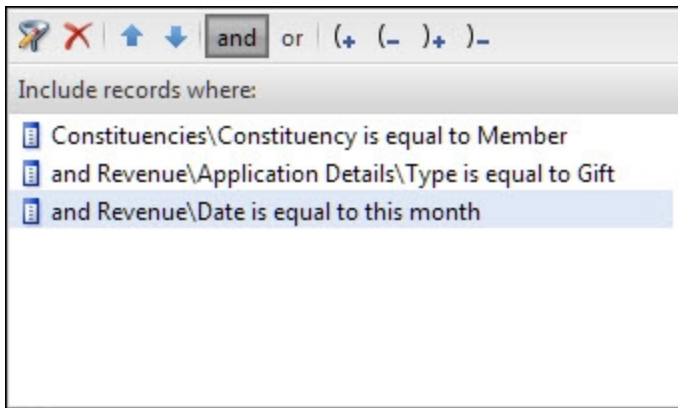
Here are a few other examples of filters. Can you figure out what these filters mean?
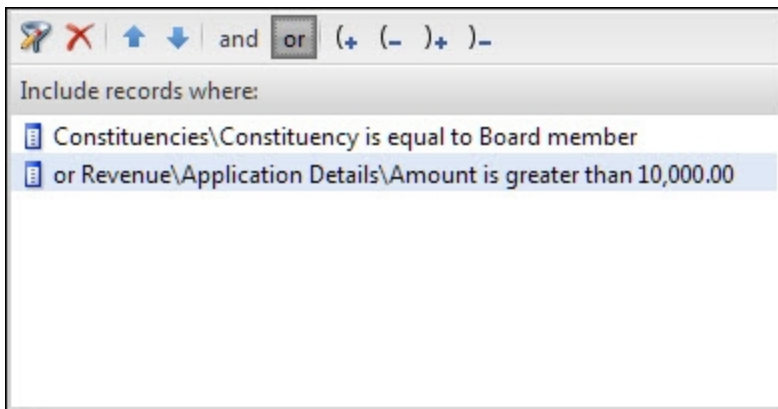
Constituencies\Constituency is equal to Board member

This first part tells us the constituency must equal "Board member."

Revenue\Application Details\Amount is greater than $10,000.00

The second part tells us the revenue amount must be greater than $10,000.

Did you notice the OR before the second one? That tells us the constituent can meet either criteria and still be included. You might have a board member who has given only $5,000 and you might have a major donor who has given $100,000—both would show up in the results. If we used AND instead of OR to connect the two, only board members who had given more than $10,000 would be included.

Ready for another challenge? What do you think these filters mean?
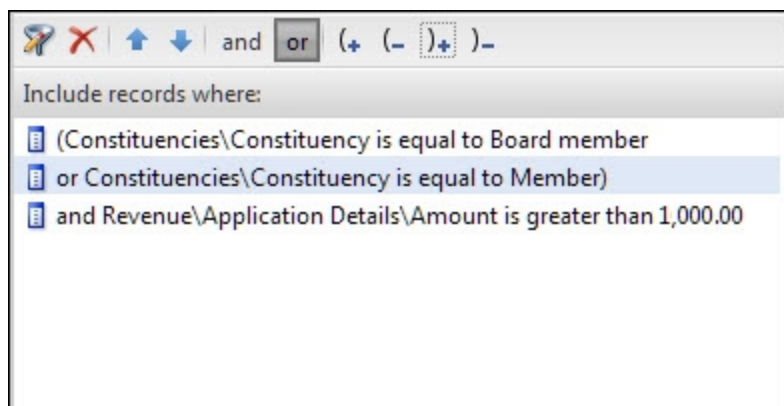
This one is definitely even more complex. It uses an OR, an AND, and parentheses. See if you pick the right answer!

- ☐ The constituents must be board members, regular members, and have given more than $1,000.
- ☐ The constituents must be board members, regular members, or have given more than $1,000.
- ☐ The constituents must be board members or regular members. And either way, they have to have given more than $1,000.

If you picked the last one, you're right! The OR between the first two filters tells us the constituent can meet either criteria and still be included—you can be a board member or a regular member. The third one tells us constituents with either constituency must also have given more than $1,000.

Who wants extra credit? Try this one!
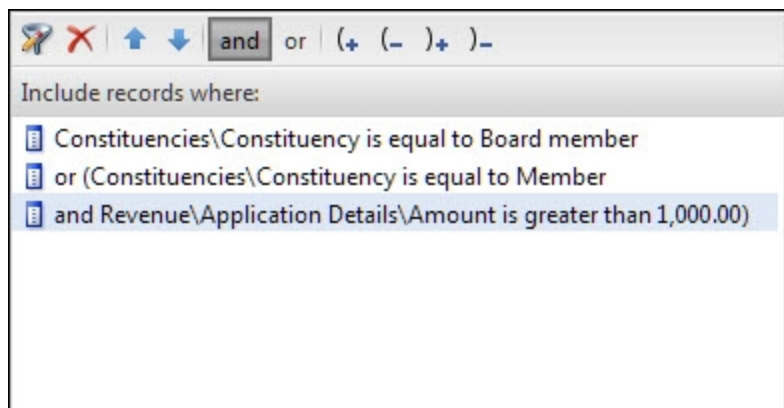
Did you notice the difference? This time we changed the position of the parentheses. So this means the constituent would have to be a board member OR the constituent could be a regular member who has given more than $1,000. The results would show all board members, regardless of how much they have given, and any regular members who have given more than $1,000. That's the power of the parentheses!

I think we've played enough with the filters for now, so let's keep going.

What do you want to see in the output? (Output)

This question provides us with the output fields for our query. Which fields do we want the results to display? For example, if we include phone numbers in the output, do we also want to see if the numbers are marked "Do not call?" The fields we include in the **Results fields to display** section will help us verify that our results match what we're trying to accomplish. That means we want to include enough fields for us to tell if we're really seeing "the names of all constituents who are members and have given a gift this month, listed alphabetically by last name." So at a minimum, we know we want name as an output field.

Results fields to display:

Name
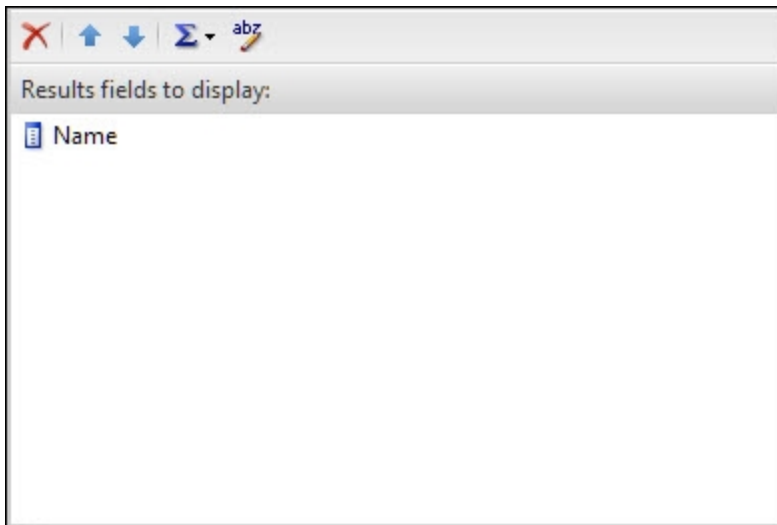
This one is pretty straightforward and, in fact, is the default output field for a constituent query! But what if we wanted to see the amount of the gift too? That means we'll need to also add Constituents > Revenue > Application Details: Amount. Remember, when we see the gift amounts in the output, we're only seeing the gifts that were given this month because of the filter we added.
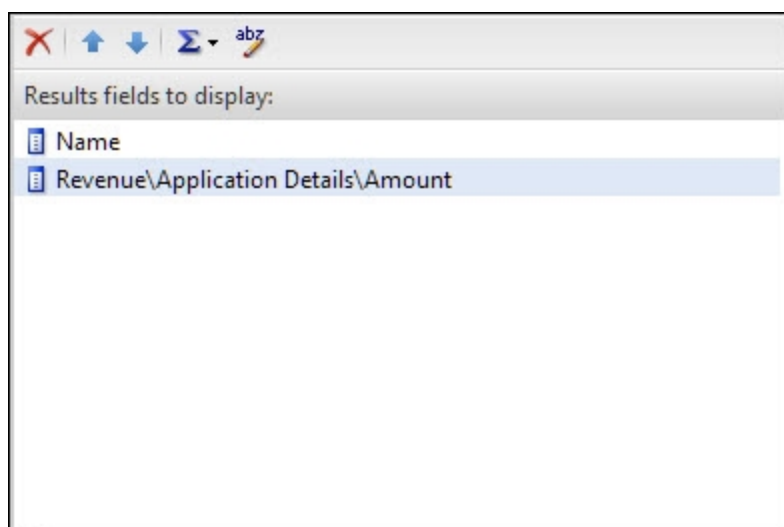
But what happens if we're lucky enough for a member to have given us a couple of gifts this month? That constituent would show up twice in our results—once for each gift. So maybe what we really want to see is the total amount of all the gifts each member has given us this month. For that, we need our good friend, the **Summarize** button. We briefly mentioned the ability to summarize output in the Query Basics section, but let's take a closer look at how this works.

The **Summarize** button can do different things depending on the summarize function we select and the field we use it with. The results of the **Summarize** button are also impacted by the fields in our output.

For our amount field, we can click the **Summarize** button and use the SUM function to show us a calculation of the field results rather than the actual contents of the field. So what does this really mean? If a member gave us two gifts this month—$50 and $100 (hey, it could happen!)—then we could summarize the amount so the results would include the member only one time, with gift amount combined as $150. Sound interesting? I thought so. So what we need to do is select the amount field in the **Result fields to display** section, click the **Summarize** button, and select SUM (Amount).
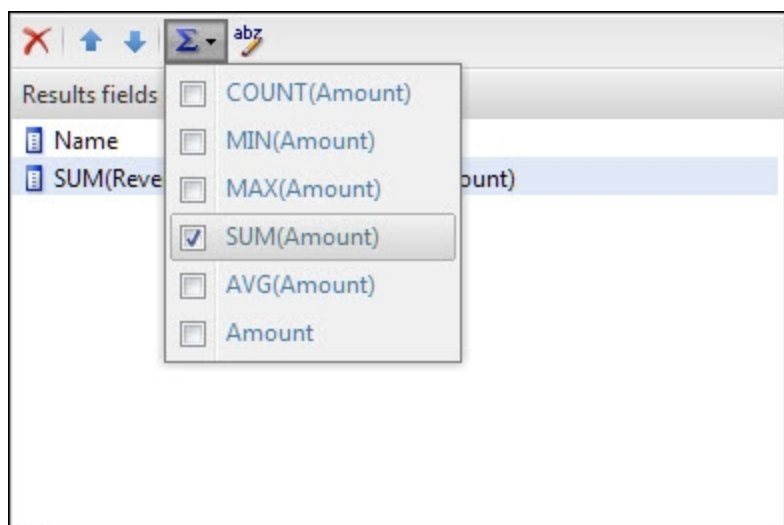
It's almost like magic, having the revenue total like that! So let's keep that as part of our statement now.

A word of caution: if we summarize the revenue amount for constituents but include a date field in the output, all of a sudden the game changes. Since the gift dates are probably different, the output of the two gifts (including date) is now unique and the revenue won't be summarized. But luckily, we don't need to include date as an output field since we're using the date "this month" in our filters.

The **Summarize** button definitely has a lot of power, so don't be afraid to use it! For more information about all the functions that are available, refer to .

Had enough on output? Let's move on.

How do you want the results displayed? (Sort/Group)

This question provides us with the sort options for our query. Do we want to list constituents in alphabetical order? Do we want to list revenue by amount or by date? Let's look back at our statement: We wanted to see constituents in alphabetical order. So let's jump on over to the Set sort and group options tab and see what we can do!
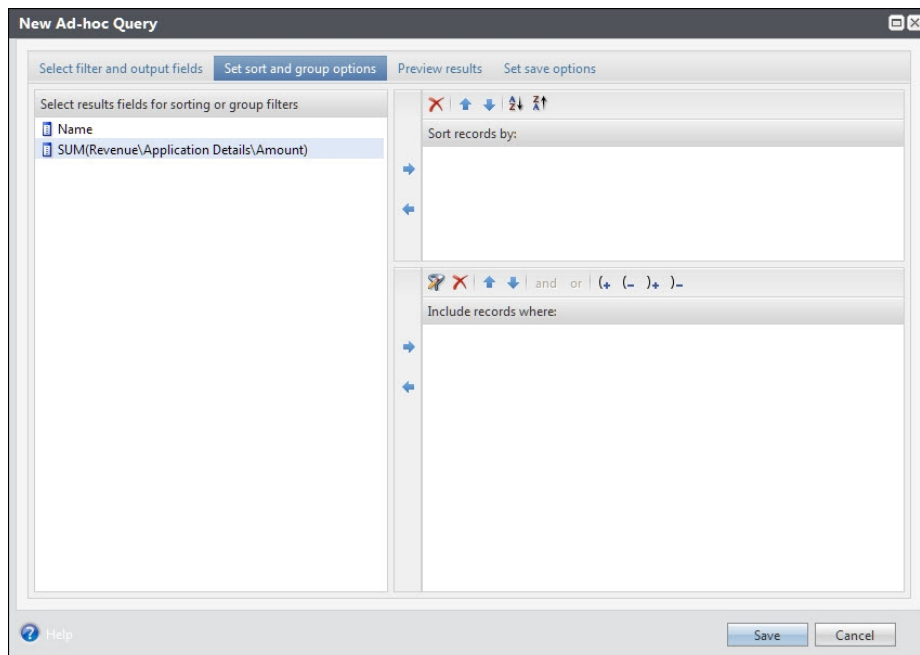
We can sort our query results only by fields included in our output. If you don't see it under **Results fields to display** on the first tab, you won't see it on the Set sort and group options tab. So, under **Select results fields for sorting or group filters**, we have two choices: Name and SUM (Revenue\Amount). In our statement, we said we wanted to see members, listed alphabetically by last name. Can you figure that out?
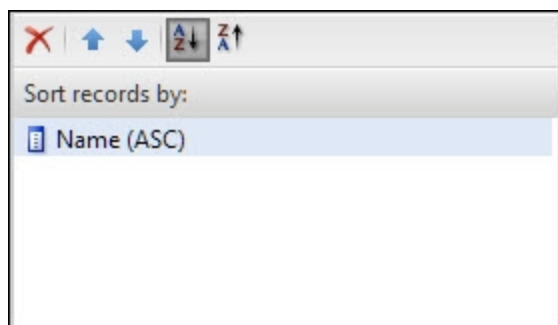
That wasn't too bad. We wanted to sort by name in ascending order, which means A to Z. Coincidentally, that's the picture on the little button for the options in the **Sort records by**section!

Note: Sometimes, we'll get to the Set sort and group options tab or even the Preview results tab and realize there's something missing, or we have a new idea about how we want to sort our results. So we might have to go back and add more fields to the output. Don't worry—it's not a big deal.

What if, instead of sorting alphabetically by member name, we wanted to sort by the date of the revenue? Guess we'll have to add the Constituents > Revenue: Date field to the output first. After we do that, we can drag the date field under **Sort records by** instead of the name field. Now our results would be sorted by date, with the oldest gift (still in this month!) first. But remember, if we include the date field in our output, the SUM(Revenue\Amount) function won't work to give us the totals.

So we need to think carefully about what's more important. But keep in mind that queries are a way to group records. We can save the results of the query to use elsewhere in the program or even export the results to a spreadsheet.

But what about that **Include records where** section? That's not really like the **Sort records by** section, is it?

Nope, the **Include records where** section is a little different. This section is a way to extend the use of a summarized output field. Remember how we used the SUM function a few minutes ago for the output fields on the Select filter and oupt fields tab of our query? This gave us the total amount each member gave this month, instead of having each gift on a separate line.
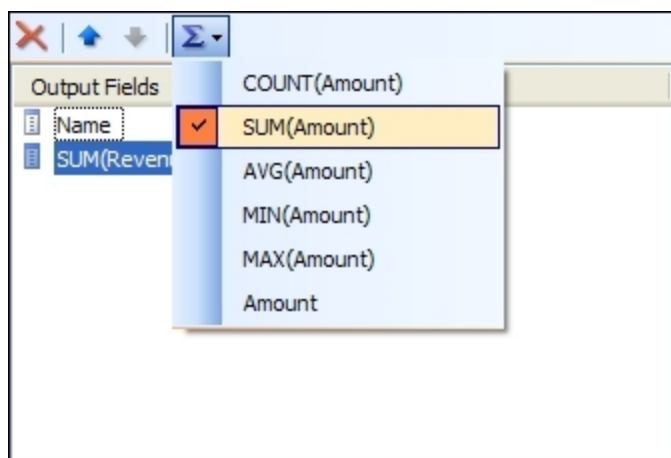
But what happens if we wanted to summarize the giving, but then also extend that summarized information as yet another filter in our query? What if we wanted to see only the members who gave $100 or more this month? Stick with me here!

For that, we need to use the summarized amount field under **Include records where** on the Set sort and group options tab too.
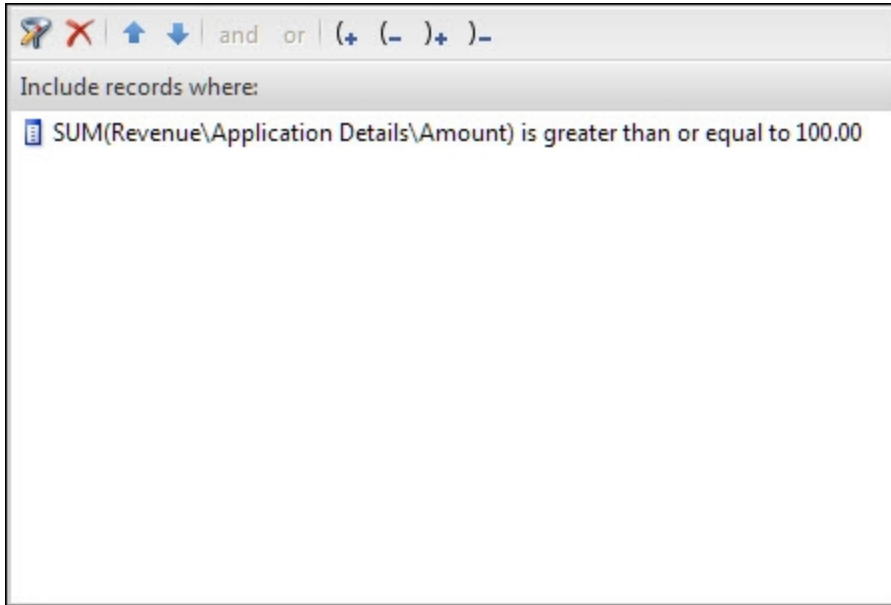
Just like with regular filters, when we drag this field to the **Include records where** section, we get some additional options.
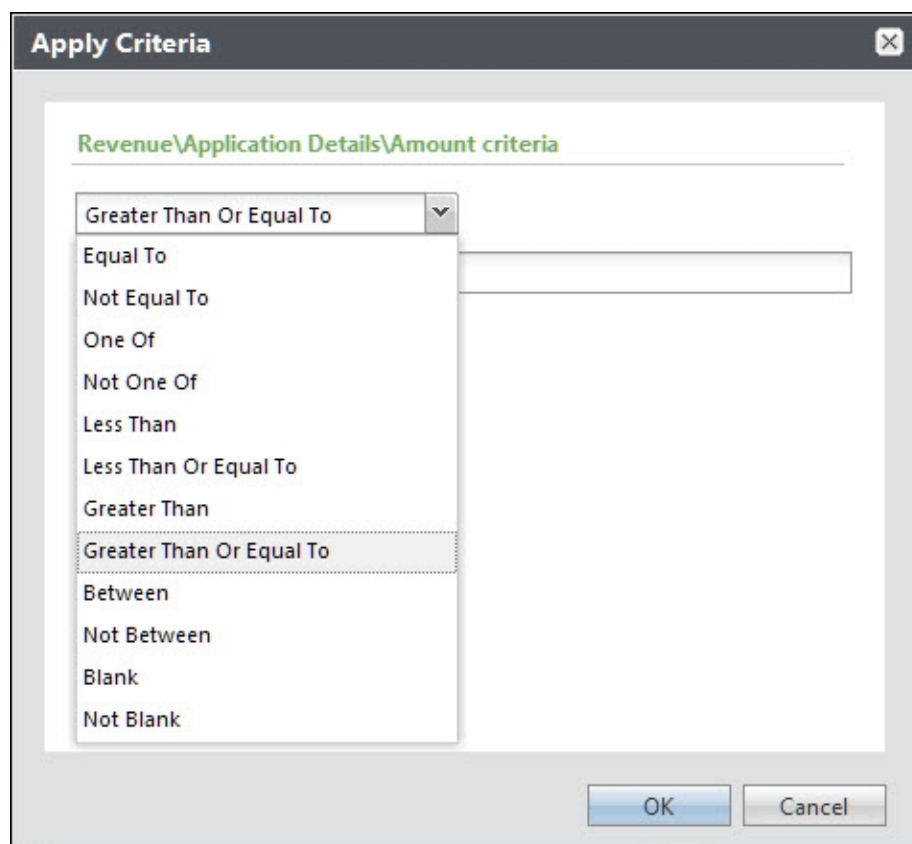
So we can then say that we want the total, summarized amount to be Greater Than Or Equal To $100.

Whew—that got a little crazy there at the end, didn't it? Let's pretend that didn't happen and go back to our nice, easier example. But let's keep that amount field summarized, like we talked about. That was pretty cool.

The Results!

Before we check our results, let's review our original statement (plus the one summarize modification we added, because that was just too cool). We want to see the names of all constituents who are members and have given a gift this month, listed alphabetically by last name. Plus we want to see the amount of their gifts this month summarized instead of seeing each gift separately. Sound good?

Now we can go to the Preview results tab to check to see if things look okay, but . . . wait! The names are sorted alphabetically, but by the whole name, not the last name! So we have Christopher Young before Elizabeth Ashton—not exactly what we were expecting.

Remember how we talked about getting to the end and realizing we need to take a step or two back to add other fields to the output or change the sort order to see exactly what we want? Well, that's where we are. No big deal.

Let's jump back to the Select filter and output fields tab and add the last name to the **Results fields to display** section. We're looking for the Constituent: Last/Organization/Group/Household name field.

That's a mouthful, but trust me; that'll get us the last name. Now we also need to go to the Set sort and group options tab to change our sort from the whole name to just the last name. Let's make those changes and take another look at the Preview results tab.

New Ad-hoc Query		
Select filter and output fields Set sort and group options **Preview results** Set save options		
Results (9 records found)		
Last/Organization/Group/Househ...	Name	SUM(Revenue\Application Details\Amount)
Ashton	Elizabeth A. Ashton	$12,825.00
Davenport	Sean A. Davenport	$37,050.00
Frantz	Paul R. Frantz	$32,945.00
Hart	Samantha K. Hart	$5,620.00
Hernandez	Robert C. Hernandez	$225,325.00
Jefferson	Richard J. Jefferson	$155,150.00
Tidwell	Andrea L. Tidwell	$112,150.00
Vincent	Nicholas Vincent	$375.00
Young	Christopher T. Young	$19,575.00

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Help   Save   Cancel

This looks great! It's just what we were expecting, which means we built our query correctly! Now we can let our membership director know about each of these loyal and generous members! If she wants to use query results elsewhere in the program, we can create a selection of the results for her. Because the selection is based on the record ID—of the constituents who are members in our case—a mailing process will have access to all the other information about the constituents, such as addresses. So we wouldn't need to include that information as output in the query. See Create Selections from Queries on page 34 for more information, including special rules for summarized fields!

Note: If we want to use our query results outside of the program, like in a spreadsheet, we can export the results. However, if we do this, we get exactly what shows up on the Preview results tab. If we summarized revenue, we'll have only the total and not each individual gift. If we didn't include a date field, then no date. Check out Export Queries on page 74 for information on how to export our results.

Now that we have the query squared away, let's give it a name and save it so we can find it again in the future. On the Set save options tab, we can name the query and describe its criteria and output. We can also assign it a category or folder to organize it with similar membership queries. Before we save the query, we can also select to create that selection for the membership director and select whether to allow other users to update the query.

Well, we made it through the tour. Bravo—job well done! We learned a lot about queries and filters along the way, so hopefully you're ready to dive in and start putting together your own queries!

"I want to see . . . "

Common Query Fields

With so many fields available in queries, it can be a challenge to find the ones you want. This section provides a quick reference for some of the most commonly used fields in *Query*.

The field name is at the end of each item. This is the actual name of the field on the Select filter and output fields of the query screen. This tab is where you see the field hierarchy that groups similar fields together into expandable nodes. For example, all of the fields associated with constituencies are grouped together under the Constituencies node. When you select Constituencies under **Browse for fields in**, these fields appear under **Select fields**.

Tip: To quickly locate a field, enter its name in the **Find field** field and click **Search up**. Under **Find Results**, all fields that meet the search criteria appear.

Constituent Query Fields

Constituency

Constituents > Constituencies: Constituency

Constituent record type

Constituents: Type

Note: Constituent types include Individual, Organization, Household, and Group.

Email address

Constituents > Email Addresses: Email address

Membership level

Constituents > Membership > Membership Level: Name

Recognition level

Constituents > Recognition Programs > [specific recognition program name]: Recognition level

Revenue amount

Constituents > Revenue: Amount

Revenue amount by application/split

Constituents > Revenue > Application Details: Amount

Revenue appeal

Constituents > Revenue > Appeal: Appeal record

Revenue appeal mailing

Constituents > Revenue > Appeal > Appeal Mailing: Name

Revenue application

Constituents > Revenue > Application Details: Application

Revenue application type

Constituents > Revenue > Application Details: Type

Revenue date range

Constituents > Revenue: Date

Revenue designation

Constituents > Revenue > Application Details > Designation: Designation record

Revenue Query Fields

Appeal

Revenue > Appeal: Appeal Record

Appeal mailing

Revenue > Appeal > Appeal Mailing: Name

Batch number

Revenue: Batch number

Designation

Revenue > Application Details > Designation: Designation Record

Revenue amount

Revenue: Amount

Revenue amount by application/split

Revenue > Application Details: Amount

Revenue date

Revenue: Date

Registrant Query Fields

Attended

Registrants: Attended

Registration paid

Registrants: Balance

Specific event

Registrants > Event: Event record

Common Query Filters

The field name after the colon is the field name found in the Field Viewer of the query screen. The others are the nodes or folder structure where the field is located in Field Explorer. Filters are shown in quotation marks, with filter values in brackets.

Constituent Query Filters

Constituents added to the database within a date range

Constituents > Date added "Between" [specific date range]

Constituents by constituency

Constituents > Constituencies: Constituency "Equal To" [specific constituency]

Constituents by date of revenue (range)

Constituents > Revenue: Date "Between" [specific date range]

Constituents by date of revenue (last month)

Constituents > Revenue: Date "Equal To" [Last month]

Constituents by membership level

Constituents > Membership > Membership Level: Name "Equal To" [specific membership level]

Constituents by revenue amount range

Constituents > Revenue: Amount "Between" [specific range]

Constituents by recognition level

Constituents > Recognition Programs > [specific recognition program name]: Recognition level "Equal To" [specific recognition level]

Constituents of record type

Constituents: Type "Equal To" [Individual/Organization/Group/Household]

Constituents who made a payment/pledge/recurring gift within a specific date range

Constituents > Revenue: Transaction type "Equal To" [Payment/Pledge/Recurring gift] AND Constituents > Revenue: Date "Between" [specific date range]

Constituents without email addresses

Email Addresses: Email address "Blank"

Revenue Query Filters

Revenue by appeal

Revenue > Appeal: Appeal record "Equal To" [specific appeal]

Revenue by appeal mailing

Revenue > Appeal > Appeal mailing: Name "Equal To" [specific appeal mailing]

Revenue by date range

Revenue: Date "Between" [specific date range]

Revenue by designation

Revenue > Application Details > Designation: Designation record "Equal To" [specific designation]

Revenue by specific batch number

Revenue: Batch number "Equal To" [specific batch number]

Revenue over a specific amount

Revenue: Amount "Greater Than" [specific amount]

Revenue that has not been receipted

Revenue > Receipts > All Receipts: Process date is "Blank"

Registrant Query Filters

Registrants for an event

Registrants > Event: Event record "Equal To" [specific event]

Registrants who did/did not attend an event

Registrants > Event: Event record "Equal To" [specific event] AND Registrants: Attended "Equal To" [Yes/No]

Registrants who did not pay for an event

Registrants > Event: Event record "Equal To" [specific event] AND Registrants: Balance "Greater Than" [0]

Registrants who paid for an event

Registrants > Event: Event record "Equal To" [specific event] AND Registrants: Balance "Equal To" [0]

Query

Queries are used to group records that meet a set of criteria you define. There are two types of query: ad-hoc and smart. Ad-hoc queries can include numerous output fields and enable you to browse through a specific set of records. Smart queries perform complex calculations that would be difficult to achieve using ad-hoc queries, and are based on templates included in the program. Additionally, the program features a third mechanism to group records — selections.

Selections are created from either type of query and include only record IDs. In many cases, you create an ad-hoc query solely to create a selection. Although selections do not include information about the records other than their IDs, you can select output fields in the query. This enables you to view a sampling of records so you can verify that the criteria you selected are accurate and the process will work on the records you intend. Selections are designed for use by the program in various features and are optimized for processing speed.

Note: To access the *Query* section, from *Analysis*, click **Information library**.

Information Library

Queries and KPIs appear in the information library. To access the information library, from *Analysis* click **Information library**. The library opens directly to the Queries tab. To access KPIs, click the KPIs tab.

The information library offers features to organize and navigate your queries and KPIs.

- **View Options:** The left-side pane allows you to view queries by folder, category, owner, or record type, and to view KPIs by folder, type, or record type. Select an option from the **View by** field, and the results display below.

- **List Updates:** The list of queries or KPIs is easy to navigate. Use the **Search** field to quickly search for a query or KPI, use filters on each column, and select the columns to see. To view different columns, click **Columns** and select the ones you want to display.

    Note: The **Last run on** column shows the date that the query was last run. When you edit a query definition and view the Preview results tab, that is not the same as running the query, and does not affect the "Last run on" date.

- **Folders:** To organize your queries or KPIs by folders, click **Manage folders**.

- **Favorites:** To mark queries and KPIs as favorites, click the star next to the query or KPI name.

- **Categories:** To add queries to a category, select the checkbox next to the query and click **Move**. Select a category and click **Save**. You can move multiple queries at one time.

Ad-Hoc Queries

An ad-hoc query is a tool that enables you to select, group, and list records that meet a set of conditions you define. It provides access to all of your data and helps you answer specific organizational questions. Ad-hoc queries are available in *Query*. To access the *Query* section, from *Analysis*, click **Information library**.

After you select an initial source view to indicate the type of records to include in the query such as constituent or revenue, you filter and view data according to your needs. For information about source views, refer to Source Views on page 28. For information about how to create ad-hoc queries, refer to Create Ad-Hoc Queries on page 29.

Show Me: Watch this video to learn more about ad-hoc queries.

You can also generate a named set of IDs of the same record type, called a selection, for use for in other processes throughout the program. When you use query to produce a selection, you produce only a set of IDs. In many cases, you create an ad-hoc query solely to create a selection. Although selections include no information about the records other than their IDs, you can select a set of output fields in the query. This enables you to view a sampling of records so you can verify the accuracy of the criteria you selected and that the process will work with the records. For more information, refer to Selections on page 71.

Source Views

Before you create a query, you must select a source view. A source view indicates the type of records to include in the query such as constituent or revenue, and also the field categories to filter data. The record type you select determines where the results are available and how the program uses them.

Base your source view selection on the type of information you want to find. For example, to send an appeal to all alumni, use a constituent source view. To determine how many donations are associated with that appeal, use a revenue source view. Most source views are self explanatory — use a constituent source view to query constituent records or an application user source view for application users. However, some are more complex and require additional information.

Constituents (with Household Information Rolled Up)

The **Constituents (with household information rolled up)** source view option is a constituent query of individuals, organizations, groups, and households that rolls up household members and information into a household view. Most information rolls up into a household summary view when a household exists—that is, household member giving shows for the household, not its individual members. Some information, such as household modeling and propensity, cannot be aggregated, so the household view presents the maximum values instead.

Revenue information may count multiple times when gifts are given by individuals who join and leave households. For example, Jill Jones (an individual with no household record) gives a gift. She marries and gives another gift (as an individual with a household). At this point, both gifts would roll up under the Jill and Dave Thompson Household in the query. If Jill leaves the household, a new query of constituent giving would show Jill Jones with her individual giving, along with the Jill and Dave Thompson Household with Jill's same gifts. Any of Jill's future giving will not roll up to her former household in this query.

To see individual constituents, such as for event invitations or to compare individual donors, use the Constituents source view. To compare households to individual constituents without households and see the revenue or recognition credit information consolidated at the household level, use the Constituents (with household information rolled up) source view.

Active Users

The **Active Users** source view allows you to see user activity in the system. For example, you can create an active user query to see logins to the system to see which users were actively using the system on a given date, or see if there have been any logins after a specific date.

The **Active Users** source view tracks requests sent through the *Blackbaud CRM* API. These requests usually originate from the program itself, but results for queries of this type also reflect requests from associated utilities or other sources.

In order to avoid performance degradation when tracking this information, the program does not track user activity for the purposes of this type of query when the performance burden on the system

reaches the thresholds established by the *Microsoft Health* web dashboard. These settings are controlled by the web.config file for your database.

You can query on user login activity with this source view. Because the query tracks requests only, logouts are defined as fifteen continuous minutes without a request.

Create Ad-Hoc Queries

When you create an ad-hoc query, you first select the source view to indicate the type of records to include in the query. Next, you select the output fields and filter criteria and specify how to sort and group the data. You can then preview the results and indicate how to save the query. To group a query with other similar queries, you can assign it to a query category. When you view ad-hoc queries, you can use criteria such as type or category to limit how many queries appear.

Ad-hoc queries are available in *Query*. To access the *Query* section, from *Analysis*, click **Information library**.

Tip: To learn how to create an export definition, you can review the information in this section, as the steps are the same. However, the query filters and results do not apply to export definitions.

> **Create an ad-hoc query**

1. From *Analysis*, click **Information library**. The information library appears.
2. On the Queries tab, click **Add an ad-hoc query**. The Select a Source View screen appears.
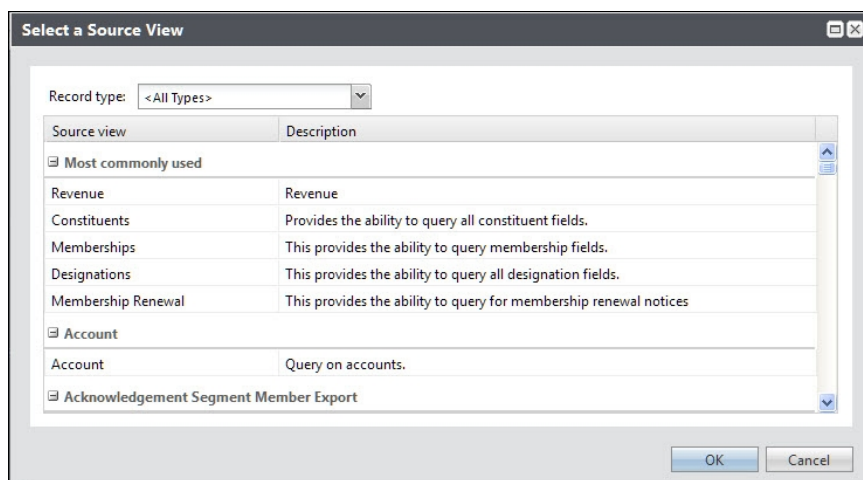
3. Select the source view that contains the type of records to include in the query. For information about source views, refer to Source Views on page 28.
4. Click **OK**. The New Ad-hoc Query screen appears.
5. On the Select filter and output fields tab, select the fields to include in the query output and the filter criteria to determine which records appear in that output. For information about this tab, refer to Select the filters and output fields on page 30.
6. On the Set sort and group options tab, specify the sort fields and their order, and filter on

aggregate values. For information about this tab, refer to Set the sort and group options on page 31.

7. On the Preview results tab, browse through the query results. For information about this tab, refer to Preview the results on page 32.

8. On the Set save options tab, specify the properties of the query and then click **Save**. For information about this tab, refer to Set query properties on page 33.

> Select the filters and output fields

1. When you create a new ad-hoc query, after you select a source view, the New Ad-hoc Query screen appears open to the Select filter and output fields tab.
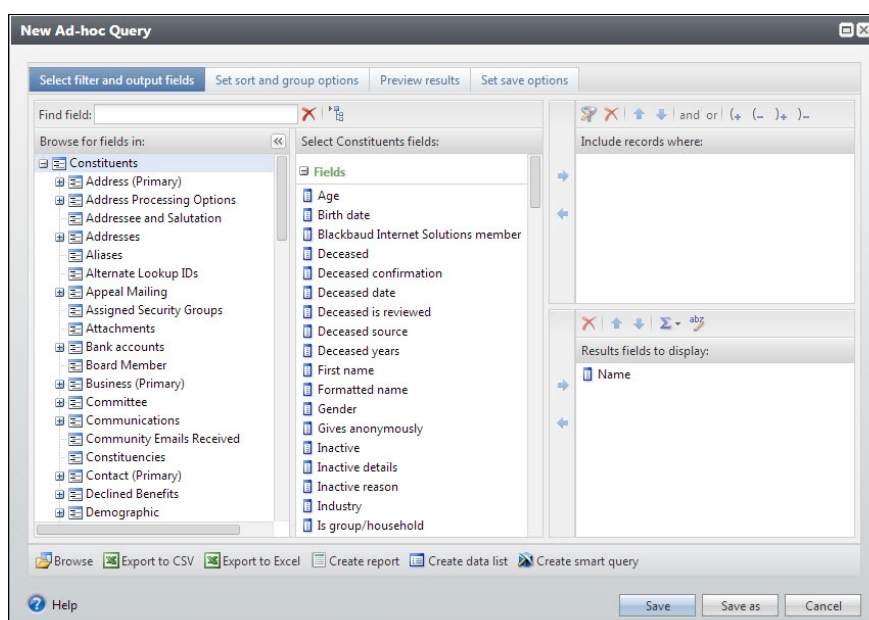
Under **Browse for fields in**, you can view the types of fields that are available for the query source view you selected. You can expand a node to drill-down to a specific group of fields.

> *Tip:* To quickly search for a field, enter the field name in **Find field** and press **ENTER** on your keyboard. The program displays applicable fields in the middle pane. Use the arrows on your keyboard to browse through the list. If you select a group and click **Search up**, the search applies only to fields in the selected node.

The middle pane lists the **Fields** and **System fields** for the selected group.

2. Under **Include records where**, select the criteria fields and select operators to determine which records to include in the query.

For example, to create an individual query to find the names of everyone with a home telephone number, you can use the criteria field and operator of Phone Type "equals" Home to group all records with a value in this field. For information about the available combining operators, refer to Query Criteria Operators on page 37. For information about how to compare values of output fields, refer to Compare Output Field Values on page 48.

3. To specify output fields for the query, select them in the middle pane and drag them into **Result**

fields to display. You must specify at least one output field. Selected fields correspond to the information you want to view in the query results and they appear as column headings in the query output.

> *Note:* Depending on the source view of the query, some fields may automatically appear under **Result fields to display**. You can remove these default fields from the output as necessary.

- To view a calculation of the field results instead of the actual contents of the field, select an output field and click **Summarize**. For example, if you select a date field as an output and assign a minimum date, all records included in the query must satisfy the minimum date requirement.

  The calculation options available depend on the field you select. For information, refer to Summarize Query Output on page 49.

  > *Note:* If you create a selection from the query, it cannot contain summary output fields unless it also contains the system record ID of the query view. The system record ID is the unique identifier for a record in the program. For example, for a constituent query, the system record ID field is the **Constituent record** field. You must include it because summary fields can cause the output to not contain unique values, such as when you select the average revenue for each constituent. For information about how to save queries as selections, refer to Create Selections from Queries on page 34.

- To edit the label of an output field for the header row of an export, select the field name, click **Change column header**, and enter the name to appear in the export header.

Set the sort and group options

1. To specify a sort order for the query results or filter on aggregate values, select the Set sort and group options tab.
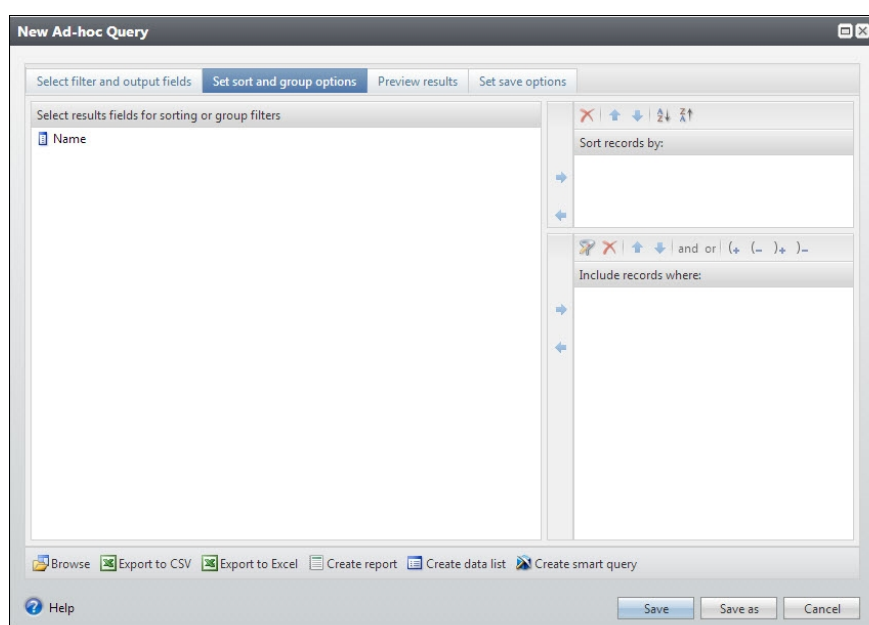
2. Under **Select results fields for sorting or group filters**, the output fields selected on the Select

filter and output fields tab appear. Select the fields to sort by and drag them under **Sort records by**.

3. Under **Sort records by**, include the fields to sort by and select whether to sort in ascending or descending order. Sort fields are optional. For example, to create a query to list the name and home telephone number of individuals, you can select an ascending sorting order by last name of the individual.

4. Under **Include records where**, filter on aggregate values of filter fields. For example, to return the names and date added information for all system administrators added to the system as of a specific date:

   a. On the Select filter and output fields tab, select the Date added field and select MIN from the **Summarize** option.

   b. On the Set sort and group options tab, drag MIN (Date added) under **Include records where** and enter the date to use as criteria.

> **Preview the results**

1. To browse the query results, select the Preview results tab.
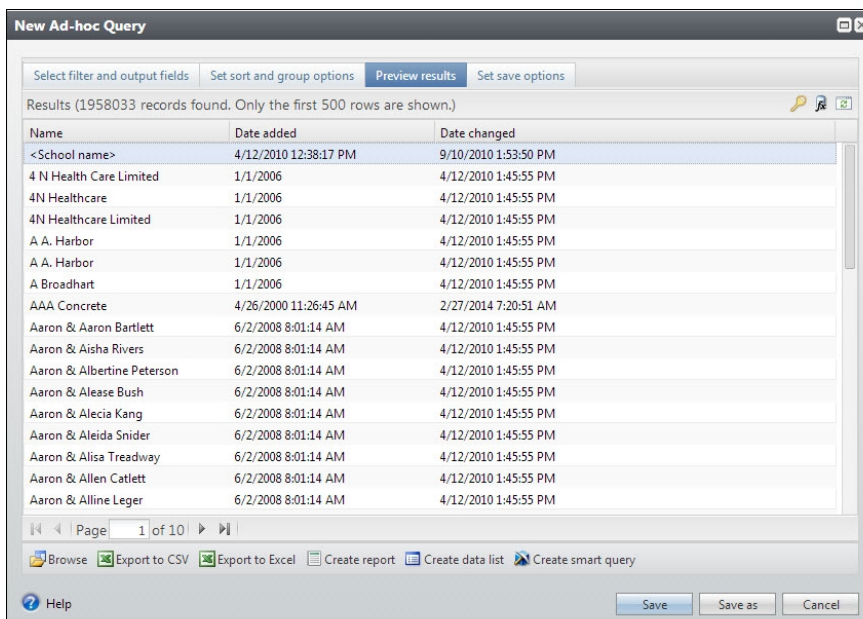
This tab displays the first 500 rows of the query results so you can quickly browse the records and ensure they are correct.

- To view the query ID for each record, click **Show ID column**. The **QUERYRECID** column appears.

- To view the Structured Query Language (SQL) command used to generate the query, click **View SQL**. The SQL command appears so you can review or copy and paste into another application as necessary.

2. Adjust your settings on the other tabs as necessary.

❯ Set query properties

1. To specify the properties of the query, select the Set save options tab.

2. Enter a unique name and description to help identify the query. For example, in the **Description** field, explain the criteria used to create the query.

3. To group the query with similar queries, select its category. Query categories are code table entries that your organization defines in *Administration*. For information about code tables, refer to the *Administration Guide*.

4. To restrict use of the query to a specific site at your organization, in the **Site** field, select the site to use the query. For information about sites, refer to the *Security Guide*.

5. If you use folders to organize your queries, select the folder in which to save the query. When you select a folder, the default query permissions from the folder apply to the query. If you select a folder but then edit the selection to "none" before you save the query, the default permissions from the original folder no longer apply to the query. With a selection of "none," all system roles can modify the query.

6. Select whether to add the query to your **Favorites** folder. We recommend you add queries you access often to your Favorites folder.

7. To enable users to access the query through a mobile device, select **Make this query available in Mobile Query**.

8. To exclude duplicate rows from the results of an ad-hoc query, select **Suppress duplicate rows**. When you select this checkbox, rows that contain identical data do not appear in the query results. However, duplicate rows may still appear for one-to-many fields. For example, if you include **Phone number** in the output, and a constituent has multiple phone numbers, each number appears on a separate row in the query results. For more information about the suppression of duplicate rows, refer to Suppress Duplicates in Ad-hoc Query Results on page 36.

9. To make ad-hoc query results available from the ***Blackbaud Internet Solutions*** REST API, select

Enable query for CMS REST API.

> *Warning:* This checkbox provides access to the query's results when you use ***Blackbaud Internet Solutions*** REST API. When you edit a query with the checkbox selected, any change to it affects your website. For example, the website reflects the security rights of the last user to save the query. If that user has rights to view A and C in query results but not B, website users can only view A and C. If that user has rights to view A, B, and C in query results, website users can also view all three. For more information about ***Blackbaud Internet Solutions*** REST API, see the SDK / API Guide.

10. Select whether to create a selection from the query results. A selection is a named set of IDs of the same record type. It has a name and description and is often used as input into a process or report as a means to specify which set of records should be acted on by that process. For information about how to create a selection from the query, refer to Create Selections from Queries on page 34.

11. Select whether other users can generate and edit the query. To assign permissions by system role, click **Advanced permissions**. For information about how to assign advanced permissions, refer to Assign System Role Permissions to a Query on page 35.

12. Click **Save**. The results page appears.

Create Selections from Queries

When you specify the properties of a query, you can select whether to create a selection from its results for use in other areas of the program. When you select to create a selection, you can select whether users can access the selection in the query screen to create output fields and filters for other queries.

To create a selection from a query, you must select whether to create a dynamic or static selection.

- **Dynamic** - A dynamic selection automatically refreshes each time you use it. When you use a dynamic selection in a function, the program searches the database for any new records that meet the criteria of the selection and adds them to the results. For example, you can use a dynamic selection to track system administrators assigned in the application. Every time you use the selection, it includes administrators you recently added, even if they did not meet the criteria when you previously used it.

- **Static** - A static selection is like a snapshot of your database at the time you first create it. The program only includes the records that meet the criteria when you first create the selection. The selection includes these same records until you refresh it.

> *Note:* Deleted records are not included in static selections, even when those recrords were deleted after the selection was created.

- For example, you can use a static selection to track system administrators assigned in the application. However, each time you use the selection, it does not include administrators you recently added, even if they meet the selection criteria. To manually refresh a selection, regenerate the results for the query you used to create it. To automatically refresh a selection, include it when you create a business process.

> *Note:* You cannot save a selection based on an ad-hoc query that contains summary output fields unless it also contains the primary key field of the query view. For example, for a constituent query,

the primary key field is the **Constituent record** field. The use of summary fields can cause the output to not contain unique values (a primary key), such as when you select the average age among all constituents. Therefore, to create a selection from a query, you must explicitly include the primary key field in the query. If the primary key is not included, the **Create a selection** checkbox is disabled.

❯ **Create a selection from a query**

1. When you add or edit the query, select the Set save options tab.

2. Select **Create a selection**.

3. Select whether to create a dynamic or static selection.

   - To create a selection that automatically refreshes each time you use it, select **Create a dynamic selection**. When you use a dynamic selection in a function, the program searches the database for any new records that meet the criteria of the selection and adds them to the results. For example, if a record does not meet the selection criteria when you first create it because of a data entry error, the selection includes the record the next time you use it if the error is corrected.

   - To create a fixed set of IDs that does not change, select **Create a static selection**. For example, if a record that originally met the criteria of the query on which the selection is based changes so that it does not currently meet the criteria, the record ID is still included in the selection each time you use it. The selection contains the same records until you refresh it manually or with an automated process.

4. Select **Show this selection in the Query Designer** to have this selection appear in the Selections folder of the Field Explorer on the query screen.

5. Click **Save**. The results page appears.

Assign System Role Permissions to a Query

When you specify the properties of a query or the default query permissions for a folder, you can select whether users can generate or edit the query. For more specific security rights, you can assign advanced permissions by system role. For a smart query, you assign permissions to access and manage the query together. For an ad-hoc query, you can assign permissions to generate or edit the query separately.

After you grant rights to generate or edit a query for selected roles, the **Allow all users to run this query** and **Allow all users to edit this query** checkboxes or the **Allow other users to modify this query** checkbox are disabled on the Set save options tab.

For users without rights to edit an ad-hoc query, the **Edit** task on the Queries tab of the information library is disabled when they select the query.

For users without rights to modify a smart query, the query does not appear on the Queries tab of the information library.

❯ **Assign query permissions by system role**

1. When you add or edit the query, select the Set save options tab.

2. Click **Advanced permissions**. The Assign permissions screen appears.

3. Select whether to assign query permissions for all application users or only those in specific system roles. If you select **Selected roles**, under **System roles**, manage the rights for each role. To grant rights to a system role, select the role and click **Grant**. To deny rights, click **Deny**. To undo a selection, click **Clear**.

    Note: For an ad-hoc query, you can only grant edit rights for system roles with rights to generate the query. On the Edit query tab, you cannot select **All roles** unless all roles are granted rights to generate the query.

4. After you assign advanced permissions, text appears to describe the defined permissions. To edit the permissions, click **Advanced permissions**.

5. Click **OK**. You return to the Set save options tab.

Suppress Duplicates in Ad-hoc Query Results

There are several ways to prevent duplicate information in query results. For example, when you first create the query, use the correct source view. For information about source views, refer to Source Views on page 28.

To eliminate as many duplicates in query results as possible, follow these recommendations.

- Limit the number of output fields in the query. Specifically, limit the number of one-to-many fields such as **Transaction type** or **Phone number**. For example, if you include **Phone number** in the output, and a constituent has multiple phone numbers, each number appears on a separate row in the query results. However, when you save the query and use it to generate labels, the constituent's name appears only once.

- Create a selection for each filter. For example, to create an ad-hoc query that returns all constituents with a cell phone and a home address in South Carolina, create a query to identify all the constituents with **Phone type** equal to "Cell" and create a selection from the results. Next, create a query to identify all the constituents with an **Address type** equal to "Home" and **State** equal to "SC" and create a selection from those results. To create the final query, add the two selections to the filter criteria and specify the records must exist in both selections.

- Increase the number of filters in the query. For example, when you filter **Number**, also filter **Phone type** to limit the phone number to a specific type.

- For a query that does not contain one-to-many fields, configure the query's properties to suppress duplicate rows.

    Note: Use the suppress duplicate rows option when you use fields from more than one query node to filter data, but do not use the fields from the additional nodes in the output. For example, if you include fields from the Addresses node to create a selection of constituents in a certain state, but do not include the address fields in the output, then constituents with more than one address in the state could appear in the results multiple times.

- Include the system record ID field under **Result fields to display** and use the COUNT function from the Summarize button. For more information about how to use the Summarize button to suppress duplicates, refer to Summarize Query Output on page 49

❯ Suppress duplicate rows in an ad-hoc query

To remove rows of matching data from the results of an ad-hoc query, you can configure the query's properties to suppress duplicate rows. However, duplicate rows may still appear for one-to-many fields. For example, if you include **Phone number** in the output, and a constituent has multiple phone numbers, each number appears on a separate row in the query results. To delete or hide duplicates, you can use the query in a report or export the query to Microsoft *Excel*.

1. When you add or edit the query, select the Set save options tab.

2. Select **Suppress duplicate rows**.

3. Click **Save**. The results page appears.

Query Criteria Operators

When you define a query, you establish a set of conditions each record must meet to be included in it. To establish these requirements, apply the criteria operators to the fields you select to use as filter fields for the query output.

Note: You can use wildcard characters with certain criteria operators to further refine your search. For information, refer to Wildcard Characters in Query on page 48. Also, some of the criteria operator labels that appear for date fields use different terminology so you can more easily associate them with dates. For information, refer to **Query Criteria Operators for Date Fields on page 41**.

Operator	Description
Equal to	When you select this condition, the program returns records that include the exact value you define. For example, if you select **City** is "Equal to" Portsmouth, the results only include records with the exact entry of Portsmouth as the city.

Operator	Description
Not equal to	When you select this condition, the program returns records that do not include the exact value you define.
	For some fields, the **Only return records that do not have a value equal to the selected value** checkbox appears. To not return records associated with the value selected for the field, regardless of whether the record is associated with additional values for the field, select this checkbox. For example, if Robert Hernandez has multiple constituencies of Board Member, Volunteer, and Alumnus, and you select **Constituency** is "Not equal to" Alumnus, the results will not include Robert's Alumnus constituency record or any other constituency records for Robert.
	If you do not select the checkbox, the results do not include records associated with Alumnus, but do include records for Robert's additional constituencies.
	Note: The **Include blanks** checkbox appears for the criteria operators of "Not equal to," "Not one of," "Less than," "Less than or equal to," "Not between," "Not like," and "Does not contain." To include records with no entry for the selected field, select this checkbox. If the checkbox is not selected, records with no entry for the field do not appear in the results. From *Administration*, you can use the **Enable/Disable default blank query criteria** configuration task select whether to select **Include blanks** by default.
One of	When you select this condition, the program returns records that include one of the values you define.
	For some fields, the **Only return records that match all selected values** checkbox appears. To return only records that match all the values defined, select this checkbox. For example, Robert Hernandez has multiple constituencies of Board Member, Volunteer, and Alumnus. You select **Constituency** is "One of" Alumnus or Volunteer and select the **Only return records that match all selected values** checkbox. Returned results will include all constituencies for Robert as well as any other constituents associated with both the Alumnus and Volunteer constituencies.
	If you do not select the checkbox, the program returns constituent records associated with either Alumnus or Volunteer or both. The constituent does not have to be associated with both constituencies, but must be associated with at least one of the constituencies. Returned results will include all constituencies for Robert as well as any other constituents who meet the criteria.

Operator	Description
Not one of	When you select this condition, the program returns records that do not include any of the values you define.
Less than	When you select this condition, the program returns records that include a value less than the one you define.
	For example, if you select **Amount** is "Less than" $100, the results include records with a revenue amount less than $100. The results do not include records with a revenue amount of $100 or more.
	When you only use the "Less than" operator for a field, records that do not include an entry are considered the same as records with valid blank entries. For example, a query with the criteria **Amount** is "Less than"$100, returns records with a revenue amount less than $100, records without an amount value (a blank **Amount** field), and records with a zero amount value. To exclude blanks, add a second filter to specify "AND **Amount** is not blank."
	Note: The query returns records without revenue information. To exclude people without revenue, you must explicitly filter those records from the query.
Less than or equal to	When you select this condition, the program returns records that include a value less than or equal to the one you define. For example, if you select **Age** is "Less than or equal to" 25, the results include records with an age value of 25 or younger. The results also include records with the value you select, in this case 25.
Greater than	When you select this condition, the program returns records that include a value greater than the one you define. For example, if you select **Age** is "Greater than" 25, the results include records with an age value older than 25. The results do not include records with an age value of 25 or younger.
Greater than or equal to	When you select this condition, the program returns records that include a value greater than or equal to the one you define. For example, if you select **Age** is "Greater than or equal to" 25, the results include records with an age value of 25 or older. The results also include records with the value you select, in this case 25.
Between	When you select this condition, the program returns records that include a value within the range you define. The operator is inclusive. For example, if you select **Age** is "Between" 25 and 30, the results include records with an age value between 25 and 30, as well as records with an age value of 25 or 30.
Not between	When you select this condition, the program returns records that do not include a value within the range you define. This operator is exclusive. For example, if you select **Age** is "Not between" 25 and 30, the results include records with an age value before 25 and after 30. The results do not include records with an age value equal to 25 or 30.
Like	When you select this condition, the program returns records with a value that is spelled like the one you define. With this condition, you can use the "_" and "%" wildcard characters to replace characters in a field.

Operator	Description
Not like	When you select this condition, the program returns records with a value that is not spelled like the one you define. With this condition, you can use wildcard characters to replace characters in a field.
Begins with	When you select this condition, the program returns records with a value that begins with the one you define. For example, if you select **Last name** "Begins with" Bell, the results include records with a last name value that begins with "Bell," such as Bell, Bellmont, or Bellingham. With this condition, you can use wildcard characters to replace characters in a field.
Does not begin with	When you select this condition, the program returns records with a value that does not begin with the one you define. For example, if you select **Phone number** "Does not begin with" 800, the results include records without numbers that begin with 800. With this condition, you can use wildcard characters to replace characters in a field.
Blank	When you select this condition, the program returns records that do not include an entry in the field. For example, if you select **City** is "Blank," the results include records without a city value specified for the address.
Not Blank	When you select this condition, the program returns records that include an entry in the field. For example, if you select **Country** is "Not blank," the results include all records with a country value.
Contains	When you select this condition, the program returns records with a value that includes the one you define. For example, if you select **City** "Contains" York, the results include any records with "York" anywhere in the **City** field, such as York, York City, and New York. With this condition, you can use wildcard characters to replace characters in a field.
Does not contain	When you select this condition, the program returns records that do not include the value you define anywhere in the field. For example, if you select **City** "Does not contain" London, the results exclude records with London anywhere in the **City** field, such as London, New London, and Londonderry. With this condition, you can use wildcard characters to replace characters in a field.
Under	The "under" operator is used to filter data stored hierarchically. When you select this condition, the results include all records that are children of the selected parent field. For example, in an appeal query, when you filter by Site record and select "under" as the operator, the results include all child sites of the parent site. When you select **Include current hierarchy**, the parent site also appears in your results. In the **Value** field, you can search for the parent site.

Operator	Description
Not under	The "Not under" operator is used to filter data stored hierarchically. When you select this condition, the results include all records that are not children of the selected parent field. For example, in an appeal query, when you filter by **Site record** and select "Not under" as the operator, the results include all sites in the hierarchy except the selected parent's child sites. When you select **Include current hierarchy node**, the parent site also appears in your results, but its child sites are still excluded. In the **Value** field, you can search for the parent site.
Sounds like	When you select this condition, the program uses an algorithm included with Microsoft SQL Server to return records that sound like the value you define. For example, if you select **Last name** "Sounds like" Smith, the results include all records with Smith and names that sound similar, such as Smyth. With this condition, you can use the "_" and "%" wildcard characters to replace characters in a field.

Query Criteria Operators for Date Fields

When you define a query and select date fields as filters, the criteria operator labels use terminology that is more easily associated with date information than the labels that appear for other types of fields.

The table below explains the date filter operators. To learn about the criteria operators for other types of fields, refer to **Query Criteria Operators on page 37**.

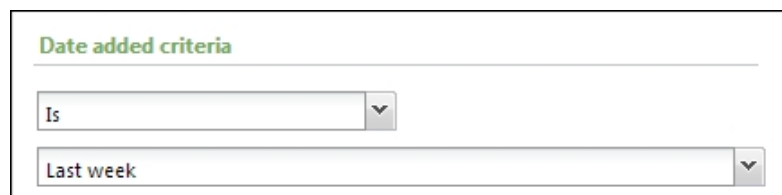| Operator	Description
Is	When you select this condition, the program returns records that include the exact value you define. For example, if you select **Date added** "Is" 01/01/2014, the results only include records with the exact date added value of 01/01/2014.

Operator	Description
Is not	When you select this condition, the program returns records that do not include the exact value you define.
	For some fields, the **Only return records that do not have a value equal to the selected value** checkbox appears. To not return records associated with the value selected for the field, regardless of whether the record is associated with additional values for the field, select this checkbox. If you do not select the checkbox, the results do not include records associated with the value you select, but do include records for additional values for the field.
	Note: The **Include blanks** checkbox appears for the date criteria operators of "Is not," "Not one of," "Before," "On or before," "Not between," "Not like," and "Does not contain." To include records with no entry for the selected field, select this checkbox. If the checkbox is not selected, records with no entry for the field do not appear in the results. From *Administration*, you can use the **Enable/Disable default blank query criteria** configuration task select whether to select **Include blanks** by default.
One of	When you select this condition, the program returns records that include one of the values you define. For example, if you select **Date added** is "One of" 01/01/2014 or 02/02/2014, the results include records with a date added value of either 01/01/2014 or 02/02/2014.
	For some fields, the **Only return records that match all selected values** checkbox appears. To return only records that match all the values defined, select this checkbox. If you do not select the checkbox, the program returns records associated with any combination of values you define. The record does not have to be associated with all the values, but must be associated with at least one.
Not one of	When you select this condition, the program returns records that do not include any of the values you define. For example, if you select **Date added** is "Not one of" 01/01/2014 or 02/02/2014, the results include records with a date added value other than 01/01/2014 or 02/02/2014.
Before	When you select this condition, the program returns records that include a date value before the one you define. For example, if you select **Date added** is "Before" 01/01/2014, the results include records with a date added before 01/01/2014. The results do not include records with a date added value of 01/01/2014 or later.
On or before	When you select this condition, the program returns records that include a date value on or before the one you define. For example, if you select **Date added** is "On or before" 01/01/2014, the results include records with a date added value of 01/01/2014 or earlier. The results also include records with the value you select, in this case 01/01/2014.
After	When you select this condition, the program returns records that include a date value after the one you define. For example, if you select **Date added** is "After" 01/01/2014, the results include records with a date added value after 01/01/2014. The results do not include records with a date added value of 01/01/2014 or earlier.

Operator	Description
On or after	When you select this condition, the program returns records that include a date value on or after the one you define. For example, if you select **Date added** is "On or after" 01/01/2014, the results include records with a date added value of 01/01/2014 or later. The results also include records with the value you select, in this case 01/01/2014.
Between	When you select this condition, the program returns records that include a date value within the range you define. This operator is inclusive. For example, if you select **Date added** is "Between" 01/01/2014 and 01/01/2015, the results include records with a date added value between 01/01/2014 and 01/01/2015, as well as records with a date added value of 01/01/2014 and 01/01/2015.
Not between	When you select this condition, the program returns records that do not include a date value within the range you define. This operator is exclusive. For example, if you select **Date added** is "Not between" 01/01/2014 and 01/01/2015, the results include records with a date added value before 01/01/2014 and after 01/01/2015. The results do not include records with date added value equal to 01/01/2014 and 01/01/2015.
Blank	When you select this condition, the program returns records that do not include an entry in the field. For example, if you select **Birth date** is "Blank," the results include records without a birth date value.
Not blank	When you select this condition, the program returns records that include an entry in the field. For example, if you select **Birth date** is "Not blank," the results include all records with a birth date value.

Filter Options for Date Fields

When you define a query and include date fields as filters, you select criteria operators such as "Is," "Before," or "After," and then the date filter options to use. For example, to create a query of records added the previous week, you select **Date added** "Is" "Last week."

The "Rolling date" option is a date range relative to the current date, that either occurred in the past or will occur in the future. For example, you can create a query to search for constituent records that were added three days ago or memberships that will expire three months from today. When you select "Rolling date," specify the number and type of range to use and then select "Ago" or "From today."

Note: The "Rolling date" option is only available when you use a source view from the data warehouse, so the results include dates relative to the last time the data was refreshed. Also, rolling dates are not available for "fuzzy" or incomplete dates such as 08/2014.

The tables below provide detail about each date filter option that is available. For "Rolling date," the tables list each combination of options you can select.

Note: The tables represent the number for each rolling date combination as *N* (such as N Day(s) Ago).

Days

A day starts at 12:00:00 a.m. and continues until 11:59:59 p.m. Start and end times use the database server's time zone.

Option	Description
Specific date	Starts at 12:00:00 a.m. on the day you specify and continues for 24 hours.
Today	Starts at 12:00:00 a.m. on the current day and continues for 24 hours.
Yesterday	Starts at 12:00:00 a.m. on the day before the current day and continues for 24 hours.
Rolling date: N Day(s) Ago	Starts at 12:00:00 a.m. *n* days before the current day and continues 24 hours. For example, if the current day is August 8th, three days ago is August 5th.
Tomorrow	Starts at 12:00:00 a.m. on the day after the current day and continues for 24 hours.
Rolling date: N Day(s) From today	Starts at 12:00:00 a.m. *n* days from the current day and continues for 24 hours. For example, if the current day is August 8th, three days from today is August 11th.

Weeks

A week starts at 12:00:00 a.m. on Sunday and continues for seven consecutive days until 11:59:59 p.m. on the seventh day. Start and end times use the database server's time zone.

Option	Description
This week	Starts at 12:00:00 a.m. on the Sunday of the current week and continues for seven days.

Option	Description
Last week	Starts at 12:00:00 a.m. on the Sunday of the week before the current week and continues for seven days.
Rolling date: N Week(s) Ago	Starts at 12:00:00 a.m. on the Sunday of the week *n* weeks before the current day and continues for seven days. For example, if today is Saturday, August 14th, one week ago is Sunday, August 1st to Saturday, August 7th.
Next week	Starts at 12:00:00 a.m. on the Sunday of the week after the current week and continues for seven days.
Rolling date: N Week(s) From today	Starts at 12:00:00 a.m. on the Sunday of the week *n* weeks from the current day and continues for seven days. For example, if today is Monday, August 2nd, one week from today is Sunday, August 8th to Saturday, August 14th.

Months

A month starts at 12:00:00 a.m. on the first day of a month and continues until 11:59:59 p.m. on the last day of the month. Start and end times use the database server's time zone.

Option	Description
This month	Starts at 12:00:00 a.m. on the first day of the current month and continues for all the days in the month.
Last month	Starts at 12:00:00 a.m. on the first day of the month before the current month and continues for all the days in that month.
Rolling date: N Month(s) Ago	Starts at 12:00:00 a.m. on the first day of the month that started *n* months before the current day and continues for all the days in that month. For example, if today is August 8th, three months ago is May 1st to May 31st.
Next month	Starts at 12:00:00 a.m. on the first day of the month after the current month and continues for all the days in that month.
Month to date	Starts at 12:00:00 a.m. on the first day of the current month and continues to the current date.
Rolling date: N Month(s) From today	Starts at 12:00:00 a.m. on the first day of the month *n* months from the current day and continues for all the days in that month. For example, if today is August 8th, three months from today is November 1st to November 30th.

Quarters

Each year is divided into four, three month long calendar quarters. The program uses the following quarter definitions:

- First quarter - January through March
- Second quarter - April through June

- Third quarter - July through September
- Fourth quarter - October through December

Option	Description
This quarter	Starts at 12:00:00 a.m. on the first day of the current calendar quarter and continues to the end of the quarter.
Last quarter	Starts at 12:00:00 a.m. on the first day of the calendar quarter before the current calendar quarter and continues to the end of that quarter.
Rolling date: N Quarter(s) Ago	Starts at 12:00:00 a.m. on the first day of the calendar quarter that started n quarters before the current day and continues to the end of that quarter. For example, if today is August 8th, one quarter ago is April 1st through June 30th.
Next quarter	Starts at 12:00:00 a.m. on the first day of the calendar quarter after the current calendar quarter and continues to the end of that quarter.
Quarter to date	Starts at 12:00:00 a.m. on the first day of the current quarter and continues to the current date.
Rolling date: N Quarter(s) From today	Starts at 12:00:00 a.m. on the first day of the calendar quarter n quarters from the current day and continues to the end of that quarter. For example, if today is August 8th, one quarter from today is October 1st through December 31st.

Years

A year is the 12 month time period that begins at 12:00:00 a.m. on January 1st and ends at 11:59:59 p.m. on December 31st.

Option	Description
This calendar year	Starts at 12:00:00 a.m. on January 1st of the current year and continues for 365 days.
Last calendar year	Starts at 12:00:00 a.m. on January 1st of the year before the current year and continues for 365 days.
Rolling date: N Calendar year (s) Ago	Starts at 12:00:00 a.m. on January 1st of the year that started n years before the current day and continues for 365 days. For example, if today is August 8, 2014, one year ago is January 1, 2013, through December 31, 2013.
Next calendar year	Starts at 12:00:00 a.m. on January 1st of the year after the current year and continues for 365 days.
Calendar YTD	Starts at 12:00:00 a.m. on January 1st of the current year and continues to the current date.
Rolling date: N Calendar year (s) From today	Starts at 12:00:00 a.m. on January 1st of the calendar year n years from the current day and continues to the end of that year. For example, if today is August 8, 2014, one year from today is January 1, 2015, through December 31, 2015.

Fiscal Years

Fiscal year definitions vary for each organization. To use them in ad-hoc queries, you must first configure them in *Administration*. For information, refer to the General Ledger Setup section of the *Administration Guide.*

Option	Description
This fiscal year	Starts at 12:00:00 a.m. on the first day of the current fiscal year and continues to the end of the last day of the fiscal year.
Last fiscal year	Starts at 12:00:00 a.m. on the first day of the fiscal year before the current fiscal year and continues to the end of the last day of that fiscal year.
Rolling date: N Fiscal year (s) Ago	Starts at 12:00:00 a.m. on the first day of the fiscal year *n* fiscal years from the current day and continues to the end of the last day of that fiscal year. For example, if the fiscal year is July through June and today is July 8, 2014, one fiscal year ago is July 1, 2013, through June 30, 2014.
Next Fiscal year	Starts at 12:00:00 a.m. on the first day of the fiscal year after the current fiscal year and continues to the end of the last day of that fiscal year.
Fiscal year to date	Starts at 12:00:00 a.m. on the first day of the fiscal year of the current fiscal year and continues to the current date.
Rolling date: N Fiscal year (s) From today	Starts at 12:00:00 a.m. on the first day of the fiscal year *n* fiscal years from the current day and continues to the end of that fiscal year. For example, if the fiscal year is July through June and today is July 8, 2014, one fiscal year from today is July 1, 2015, through June 30, 2016.

Query Combining Operators

With combining operators, you can combine two separate sets of filtering criteria to narrow your query even further. Combining operators are characters that provide a link between selected criteria and define the records included in the query.

Operator	Description
and	To indicate that records must meet both criteria to be selected, select the second of the criteria and click **and**. For example, if you use the field criteria City "equals" Cambridge AND Country "equals" United Kingdom, the query excludes records with addresses in Cambridge, Massachusetts, in the United States. The records selected must meet both criteria to appear in the results. The default combining operator used in a query is **and**.

Operator	Description
or	To indicate records can meet either criteria to be selected, select the second of the criteria and click **or**. For example, if you use the field criteria County "equals" Norfolk OR Suffolk, the query includes all records with addresses in either Norfolk and Suffolk.
Parenthesis ()	Use parentheses to make two pieces of a criteria a whole. For example, if you use State "equals" Texas AND (City "equals" Dallas OR City "equals" Fort Worth), the records selected must first have Texas as a value in the **State** field, and must also have either Dallas or Fort Worth in the **City** field. In this case, records must meet the first criteria and at least one of the criteria within the parentheses.

Wildcard Characters in Query

Some criteria operators enable you to use special characters or a series of characters to define conditions that a record must meet to be selected. These special characters are called "wildcards." Wildcards are extremely helpful when you are unsure how to spell a name or suspect something may be misspelled. Below is a list of wildcard characters and examples of how they are used.

Operator	Description
Question Mark (?) or Underscore (_)	Use the question mark or the underscore symbol to replace a character. When you include a question mark within a word, you search for every possible spelling of the word with the question mark in that specific spot. You can use multiple question marks within a word. For example, to locate any records with a last name like Smith or Smyth, you can use the criteria Last name "is like" Sm?th. The program selects all records whose last name fits the pattern specified.
Asterisk (*) or Percent (%)	Use the asterisk or percent sign to replace a series of characters. For example, to locate all constituents with a last name like Johnson, you can enter the criteria Last name "like" John*. The program selects all records with a last name that starts with "John", such as Johnson, Johnssen, and Johnston.
Brackets ([])	Use brackets to query for a range of characters or to locate several characters. For example, use the criteria Last name "begins with" [A-C] to locate all records with a last name that begins with A through C. When you use the brackets with a comma between characters, you search for records with the specific values listed. For example, if you select the criteria Last name "begins with" [A,C,F], the program selects all records with last names beginning with A, C, and F and skips those with last names that begin with B, D, and E.

Compare Output Field Values

You can compare output fields of the same data type. For example, you can create a query that selects constituents whose Last Gift Amount equals their Largest Gift Amount.

To do this, add the Last Gift Amount and Largest Gift Amount smart fields under **Result fields to display**, and add the Last Gift Amount field under **Include records where**. On the criteria screen, select

the criteria operator, such as "Equal to". Select **Output Field** and then select the Largest Gift Amount field. When you return to the query, "Last Gift Amount is equal to Largest Gift Amount" appears under **Include records where**.

Note: For information about how to add smart fields, see the *Administration Guide*.

On the Sort/Group Filters tab, you can compare COUNT, SUM, AVG, MIN, or MAX values of filter fields. For example, you can compare the SUM of planned gifts payments to the SUM of pledge payments.

Summarize Query Output

When you add or edit an ad-hoc query and select a field under **Result fields to display** on the Select filter and output fields tab, the **Summarize** button enables you to view a calculation of the field results rather than the actual contents of the field.

Query is a way to group records; it is not a reporting tool. As such, the output fields identify records included in the query. If a field with a one-to-many relationship is selected under **Include records where** or **Result fields to display**, the record may appear multiple times in the query: once for each time the record satisfies the selected criteria. This allows you to check your query to ensure you get the expected results.

For example, you may query to find everyone who has donated gifts to your organization this year.

- Filter criteria: Revenue\Application Details\Type equals "Gift" AND Revenue\Application Details\Revenue Details\Date equals "This calendar year"
- Output Fields: Name AND Revenue\Application Details\Amount

If you include these fields, the output displays a unique row in the query for each gift. For your purposes, these may be considered duplicates. For instance, if a donor made five gifts, his name appears five times with the amount of each gift listed separately.

The **Summarize** button's functions - Count, Sum, Average, Min, Max - can help prevent these duplicates.

If you use the SUM function for the amount, the donor appears once in the query with his gift revenue summarized. If you add a second amount field for the output and use the COUNT function for it, the donor appears once in the query and the second amount COUNT field would be "5," the total number of gifts from the donor this year.

Some summary function scenarios include:

- COUNT: For number or amount fields, the COUNT function is the total number of records included.
- SUM: For number or amount fields, the SUM function is the combined total of the numbers.
- AVG: For number or amount fields, the AVG function is the average of the numbers included.
- MAX: For date fields, the MAX function displays the maximum or latest date. For number or amount fields, MAX displays the largest number.
- MIN: For date fields, the MIN function displays the minimum or oldest date. For number or amount fields, MIN displays the lowest number.

Merge Two Queries

You can merge two queries together to create a new query. For example, if you want to send your organization's Annual Report to your constituents and you already mailed this information to your Board of Directors, you can create a query for your mailing using merging operators to exclude your Board of Directors from your mailing list. The records included in the resulting query are determined by the merging operator you select. To help you visualize the queries and how their records relate to one another, the program provides a Venn diagram to represent each merge option. When you build a merged query, you select the merge option to use based on the records to include in the new query.

Note: A Venn diagram depicts two circles — one for each selection used to build the merged query— that overlap in the middle. The middle section of the diagram, where the circles overlap, represents the records that appear in both queries. The outer sections represent the records that appear in each respective query but not the other.

> **Create a merged query from two queries**

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click the double arrows beside one of the queries you want to use to expand the options and click **Merge**. The New Ad-hoc Query screen appears.
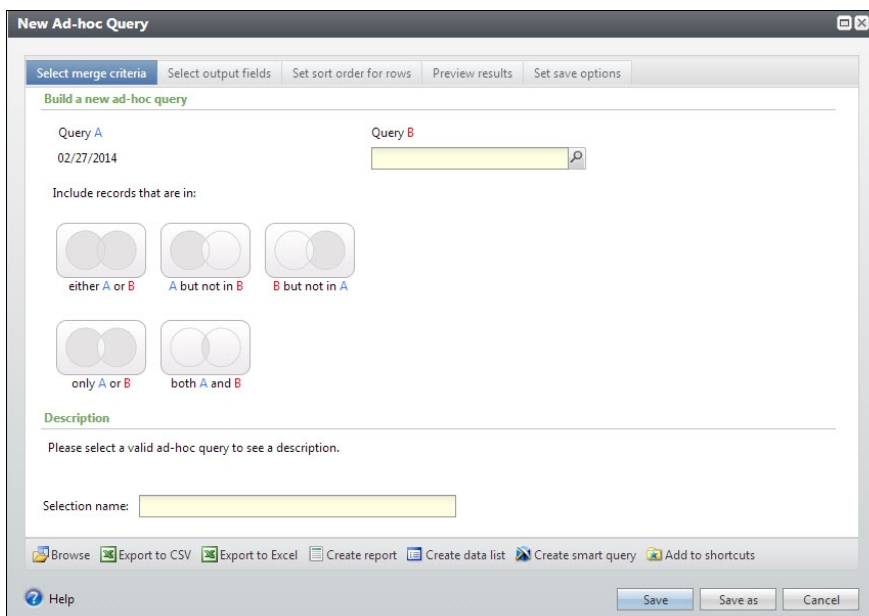
3. The first query appears in the **Query A** field. In the **Query B** field, search for and select the query you want to merge with query A.

   Note: You can only merge queries from the same source view. For information about source views, refer to Source Views on page 28.

4. For **Include records that are in**, click the merge option to use. Under **Description**, an

explanation of the records included in the selected option appears.

5. In the **Selection name** field, enter the name to appear for the selection of records the program automatically creates for the merged results. By default, the selection is active and available in the **Selections** folder of the source view query screen. To edit the selection properties, open it from the Selections page of the information library.

6. To select output fields, click the Select output fields tab.

7. Under **Browse for fields in**, you can view the types of fields that are available for the query source view the queries use. You can expand a node to drill-down to a specific group of fields.

> *Tip:* To quickly search for a field, enter the field name in **Find field** and press **ENTER** on your keyboard. The program displays applicable fields in the middle pane. Use your arrows to browse through the list. If you select a group and click **Search up**, the search applies only to fields in the selected node.

The middle pane lists the **Fields** and **System fields** for the selected group.

8. To specify output fields for the query, select them in the middle pane and drag them into **Result fields to display**. Selected fields correspond to the information you want to view in the query results and they appear as column headings in the query output.

> *Note:* The output fields from each of the queries you selected automatically appear under **Result fields to display**. You can remove these fields from the output as necessary.

- To view a calculation of the field results instead of the actual contents of the field, select an output field and click **Summarize**. For example, if you select a date field as an output and assign a minimum date, all records included in the query must satisfy the minimum date requirement.

  The calculation options available depend on the field you select. For information, refer to Summarize Query Output on page 49.

- To edit the label of an output field for the header row of an export, select the field name, click **Change column header**, and enter the name to appear in the export header.

9. To specify a sort order for the query results or filter on aggregate values, select the Set sort order for rows tab.

10. Under **Select results fields for sorting or group filters**, the output fields selected on the Select output fields tab appear. Select the fields to sort by and drag them under **Sort records by**.

11. Under **Sort records by**, include the fields to sort by and select whether to sort in ascending or descending order. Sort fields are optional. For example, to create a query to list the name and home telephone number of individuals, you can select an ascending sorting order by last name of the individual.

12. To browse the query results, select the Preview results tab.

This tab displays the first 500 rows of the query results so you can quickly browse the records and ensure they are correct.

- To view the query ID for each record, click **Show ID column**. The **QUERYRECID** column appears.

- To view the Structured Query Language (SQL) command used to generate the query, click

View SQL. The SQL command appears so you can review or copy and paste into another application as necessary.

13. Adjust your settings on the other tabs as necessary. Otherwise, select the Set save options tab to specify the properties of the query.

14. Enter a unique name and description to help identify the query.

15. Specify the properties of the query as necessary. For information about the items on this tab, refer to Query Properties on page 1.

16. Click **Save** to save your query and view the results.

Create Smart Query Definitions from Ad-hoc Queries

After you create an ad-hoc query, you can create a smart query definition from the results. You can then create new smart query instances and base them on the definition. For information about smart queries, refer to Smart Queries on page 58.

When you create the definition, all the output fields from the ad-hoc query are available so you can specify whether to include them in the output of smart query instances created from this definition. You can also specify the fields to include as filter options, their filter operators, and the record type to use as the source view.

The filter fields you select appear on the Parameters tab when you create smart query instances from this definition. For example, if you include Account Number with a filter operator of Not Equal To, the Parameters tab displays an **Account Number not equal to** field. You can specify which parameter this number should not equal in the query results.

We recommend you include a system record ID as an output field in the ad-hoc query you use to create the definition so query instances created from it can uniquely identify records that appear in the results. For example, for a revenue view smart query, include the **Revenue record** field.

Note: If the ad-hoc query on which you based your smart query definition changes, the change does not appear in the smart query. You must update the smart query separately.

❯ Create a smart query definition from an ad-hoc query

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click the double arrows next to the ad-hoc query to use to create a smart query definition.

3. On the action bar, click **Create** and select **Smart query**. The Create smart query from ad-hoc query screen appears.

   Note: You can also create a smart query from the Ad-hoc query screen when you add or edit a query.

Under **Field**, each output field selected for the ad-hoc query appears.

4. From the **Output type** column, select whether to include, exclude, or hide the output field in the smart query definition.

5. To apply criteria to limit the results in the smart query, select **Filter** and choose a filter in the **Filter operator** column.

   When you create a smart query instance based on this query definition, each field you select to filter appears on the Parameters tab of the Smart Query screen with the selected filter operator. For example, if you include Account Number with a filter operator of Not Equal To, the Parameters tab displays an **Account Number not equal to** field. You can specify which parameter this number should not equal in the query results.

6. In the **Primary key** field, select an output field from the ad-hoc query to specify the type of smart query to create. When you select a field, the record type associated with it automatically appears in the **Record type** field.

   We recommend you select a system record ID so query instances created from the definition can uniquely identify records that appear in the results, and so the queries appear in the results of smart query searches.

   Note: System record IDs appear as options when you include them as output fields from the ad-hoc query. For example, to create a constituent view smart query, include the **Constituent record** field.

7. In the **Record type** field, select the record type to use as the source view for the definition. If you selected an output field in the **Primary key** field, the record type associated with it automatically appears. You can search for the query definition based on the record type you select.

8. Enter a unique name and description to help identify the new smart query.

9. Click **Save**. You return to the information library.

To view the smart query definition you created, select **Add a smart query**. Your smart query definition appears under the selected record type category.

> ### Delete a smart query definition created from an ad-hoc query

1. From *Administration*, click **Application**. The Application page appears.

2. Click **Shell design**. The Shell Design page appears.

3. On the User-defined Smart Queries tab, click the double arrows to select the smart query definition and click **Delete**. A confirmation message appears.

4. Click **Yes**. You return to the Shell Design page.

Create Reports from Ad-hoc Queries

After you create an ad-hoc query, you can create a report to display or print the results. When you create the report, you select options to further define the context and layout. If you select a context, you specify a filter so report users can view the data in the context of a specific field. This feature allows users who are not familiar with the query functionality to easily access information within the report.

For example, if the query results include revenue from a group of constituents, you could include constituent name as the context record.

When report users access the report, they enter names and view the results for specific people.

Once you save a report, you can work with it through Report Explorer in *Analysis* or Shell Design in *Administration*. For information about Report Explorer, refer to the Manage Reports chapter of the *Reports Guide* or the Reports section of the help file. For information about working with ad-hoc query reports through Shell Design, refer to the Shell Design chapter of the *Page Designer Guide* or the Page Designer section of the help file.

> Create a report from an ad-hoc query

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click the double arrows next to the ad-hoc query to use to create a report.

3. On the action bar, click **Create** and select **Report**. The Create report from ad-hoc query screen appears.

    Note: You can also create a report from the Ad-hoc query screen when you add or edit a query.

4. In the **Name** and **Description** fields, enter a name and description to help identify the report.

5. In the **Destination** field, click the **Browse** button to access the Choose Report Folder screen. From this screen, select a folder destination for your ad-hoc query report.

    The Choose Report Folder screen displays the available folder options in Report Explorer. You can select an existing folder or create a new one.

6. To enable a filter so report users can view the data in the context of a specific field, select **Require a context record for report**. For example, if the query results include revenue from a group of constituents, you could include constituent name as the context record to allow report users to view the results for specific people. This feature allows users who are not familiar with the query functionality to easily access information within the report.

7. In the **Context record ID** field, select an output field from the ad-hoc query as the filter field for

the query. When you select a field, the record type associated with it automatically appears in the **Context record type** field. For example, to include constituent name as the filter field to appear on the report, you would select **Name** in the **Context record ID** field, and **Constituent** would appear in the **Context record type** field.

8. In the **Context record type** field, select a record type to associate with the report. If you selected an output field in the **Context record ID** field, the record type associated with it automatically appears. You can search for the record type based on the context record you select.

9. Select to view your report in **Portrait** or **Landscape** format.

10. Click **Create**. The screen refreshes after the program creates the report.

11. To edit and customize your report using Report Builder version 2.0 or higher, mark **Open report with report builder**.

    If you do not click this link, the program generates the report but you do not have the ability to customize as you would with Report Builder 2.0 (or higher).

    Note: To customize an ad-hoc query report, you can access your report in Report Builder 2.0 (or higher) through Report Explorer, the Shell Design page, or from the query report.

12. Click **Close**. You return to the information library.

    The ad-hoc query report displays results associated with the site or sites accessible by the user who generates the query.

    Note: You can edit existing reports and create new reports from Report Explorer in *Analysis*. You can also add, edit, and delete ad-hoc query reports from the Ad-hoc Query Reports tab of the Shell Design page in *Administration*

Create Data List

From an ad-hoc query, you can create a data list of the query results. If the query contains a date field in the output, you can also base an RSS feed or email alerts on the data list. To create a data list from an ad-hoc query, click the double arrows next to the query to use on the information library page. Next, click **Create**, **Data list** on the toolbar that appears when you expand the query. Once created, you can add the data list and RSS feed to other pages if you have the proper administrative rights. For more information, refer to the Shell Design information in the *Page Designer* documentation.

Edit Ad-hoc Queries

You can edit the properties and criteria of a saved ad-hoc query. If you created a selection based on the query, any changes to the query also impact that selection.

> **Edit an ad-hoc query**

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click the double arrows to select an ad-hoc query and click **Edit**. The query

screen appears. The options on this screen are the same as when you create the query. For information about the items on this screen, refer to Create Ad-Hoc Queries on page 29.

3. To edit the query properties, select the Set save options tab. For information about the items on this tab, refer to Query Properties Screen on page 1.

4. Click **Save** to save your changes and view the results.

Delete Ad-hoc Queries

When you delete an ad-hoc query, any selections you created based on it are also deleted. If a query (or selection based on it) is in use anywhere in the program as part of a process or other functionality, the query cannot be deleted. If you attempt to delete a query that is in use, a message appears to inform you that the operation is not allowed.

> **Delete an ad-hoc query**

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click the double arrows to select the ad-hoc query and click **Delete**. A confirmation message appears.

3. Click **Yes**. You return to the information library.

Use Selections in Queries

When you create an ad-hoc query, you can use an existing selection of records that match the query's source view record type to create output fields and filters. A selection is a named set of IDs of the same record type. For information about selections, refer to Selections on page 71.

If you use a selection as a filter in a query, you specify whether the records to include in the results exist in the selection. This saves you time because you do not need to recreate the selection's filter criteria.

Smart Queries

A smart query is a tool that enables you to use a previously defined query, known as a definition, to generate an instance of the results for parameters you specify. Definitions typically perform complex calculations that use business logic, so you save time when you create smart query instances because you only need to enter the parameters for the results you need. Smart queries are available in *Query*. To access the *Query* section, from *Analysis*, click **Information library**.

To create a smart query instance, you select a definition and then specify values for parameter fields. Parameter field values provide the definition with the information necessary to generate results. For example, a definition based on SYBUNT (constituents who gave Some Year But Unfortunately Not This year), might include parameter fields for year and donor.

After you generate the results, you can review, export, or create a selection from them. For detailed information about how to create smart queries, refer to Create Smart Query Instances on page 69.

Smart Query Definitions

To create a smart query instance, you must first select a definition. A definition is a previously defined query you use in a smart query instance to generate results for parameters you specify. They are typically created to perform complex calculations that use business logic.

The program includes a number of default definitions, but users who are familiar with the organization's data model can use ad-hoc query within the program to create them. Also, Infinity SDK software developers can create them and add them to your database.

Note: Default definitions and definitions created from ad-hoc queries restrict results to the site security levels of users who generate smart queries. Custom definitions only include site security when developers add it to them.

For information about how to use definitions to create instances of smart queries, refer to Create Smart Query Instances on page 69. For information about how to create smart query definitions from ad-hoc queries, refer toCreate Smart Query Definitions from Ad-hoc Queries on page 52.

Smart Query Default Definitions

The tables below provide detail about each default smart query definition by source view. For information about how to use definitions to create instances of smart queries, refer to Create Smart Query Instances on page 69. For information about how to create smart query definitions from ad-hoc queries, refer toCreate Smart Query Definitions from Ad-hoc Queries on page 52.

Constituent

Option	Description
Constituents Associated with Tributes Smart Query	Enables you to browse a list of constituent records that are associated with tributes. A tribute is a revenue recognition that is in relation, or tribute, to someone else. For example, tributes can include "In memory of," "In honor of," 'In recognition of," or "On behalf of."
	On the Parameters tab, specify the tribute association type. You can include acknowledees, tributees, or both. You can also select a tribute type or default designation.To base the query on a certain group of constituents, you can specify a constituent selection to use. You can also specify a tribute letter.
	After the query processes, the Results tab displays the constituent records that meet the criteria, along with primary address information and tribute details.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate correspondence.

Option	Description
Constituents by Address Smart Query	Enables you to browse a list of constituents whose primary addresses meet specified criteria. You can use County, City, State, and ZIP/Postal code as address criteria to create a smart query.
	On the Parameters tab, you specify the address criteria to use and then the countries, cities, states, or ZIP/postal codes to match with your constituents.
	After the query processes, the Results tab displays the constituent records that meet the criteria, and their primary address information and lookup IDs.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you determine discount eligibility. For example, you could create a discount that is only available to patrons who live in a certain city or are residents of a certain state.
Constituents by Last Interaction Smart Query	Enables you to browse a list of constituents with a last recorded interaction during a specified time period.
	On the Parameters tab, you can specify a constituent selection to use. You can also specify the time range for the last interaction, such as greater than or less than a certain number of days, weeks, months, or years ago. If you use interaction categories, you can limit the results to a certain one.
	After the query processes, the Results tab displays the constituents who fit the criteria and their primary address information; the date, owner of, and category of the interaction; and a calculation of how much time has elapsed since the interaction.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate appeal mailings or other types of correspondence. You might, for example, try to reengage donors who have no interactions recorded in the last 3 years.

Option	Description
Constituent by Last Revenue Smart Query	Enables you to browse a list of constituents with a last recorded revenue during a specified time period. On the Parameters tab, you can specify a constituent or revenue selection to use. You can also specify the time range for the last revenue, such as greater than or less than a certain number of days, weeks, months, or years ago. After the query processes, the Results tab displays the constituents who fit the criteria and their primary address information; the revenue date and amount; and a calculation of how much time has elapsed since the revenue was recorded. On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate appeal mailings or other types of correspondence. You might, for example, try to reengage donors who have not given a gift in the last 3 years.
Constituent Selection Browse Smart Query	Enables you to browse the records included in any constituent selection, whether it was created by an ad-hoc query, another smart query, or a business process. On the Parameters tab, select the constituent selection to use. After the query processes, the Results tab displays the constituents in the selection and their primary address information. On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate correspondence.

Option	Description
Donor Anniversary List Smart Query	Enables you to browse a list of constituents who gave a gift on a specific date or within a specified date range. On the Parameters tab, you can specify a constituent or revenue selection to use. You can also specify a date or date range for the anniversary, as well as a total amount given. If you want to limit the results of the query to a smaller number of records, you can select to include only a top number or percentage of donors. *Note:* The **Top percent of donors** parameter does not take the **Total amount given** parameter into account. The **Top percent of donors** parameter is always based on the time period specified, along with the specified designation, appeal, and constituent selection parameters. Therefore, if you enter both a **Total amount given** and a **Top percent of donors**, the results will first calculate the top percentage and then, of those constituents, show the one who meet the total amount given parameters. After the query processes, the Results tab displays the constituents in the selection and their primary address information, and the amount and date of the revenue transaction. On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate appeal mailings or membership renewals.
Donor List Smart Query	Enables you to browse a list of constituents who gave a gift. On the Parameters tab, you can specify a designation, campaign, appeal, or selection to use. You can also specify a time period or a total amount given. If you want to limit the results to a smaller number, you can select to include only a top number or percentage of donors. *Note:* The **Top percent of donors** parameter does not take the **Total amount given** parameter into account. The **Top percent of donors** parameter is always based on the time period specified, along with the specified designation, campaign, appeal, and constituent selection parameters. Therefore, if you enter both a **Total amount given** and a **Top percent of donors**, the results will first calculate the top percentage and then, of those constituents, show the one who meet the total amount given parameters. After the query processes, the Results tab displays the constituent records that meet the criteria. On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate correspondence.

Option	Description
Event Registrant Attendance Smart Query	Enables you to browse a list of constituents who registered for past events. On the Parameters tab, select whether to view the registrants for a specific event, any event on a specific date, or within a specific time period such as last year. You can also select whether to include only registrants who attended the event. After the query processes, the Results tab displays the constituent records that meet the criteria. On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate event invitations.
LYBUNT Constituents Smart Query	There are two LYBUNT constituents smart queries. One uses actual revenue and the other uses recognition credit. They enable you to browse a list of constituents who gave a gift — or received recognition credit for a gift — Last Year But Unfortunately Not This year. On the Parameters tab, you can define which dates to use for this year and last year in the LYBUNT comparison. You can also specify a constituent selection to use. After the query processes, the Results tab displays the constituent records that meet the criteria. On the Set save query options tab, you can save the results as a selection for use in other processes, such as when you generate correspondence.

Option	Description
Member Smart Query	Enables to you browse a list of members based on parameters you specify such as membership program or level, membership type, membership status, or months before or after expiration. On the Parameters tab, select the parameters to use in the query. After the query processes, the Results tab displays the members that meet the criteria. On the Set save options tab, you can save the results as a selection for use in other processes, such as when you send membership renewal notices or membership upgrade appeals.
Potential Gift Aid Smart Query	Provides a list of donors who gave gifts that qualify for Gift Aid but do not have a valid declaration on file. On the Parameters tab, you can select constituents to include as well as a date range. After the query processes, the Results tab displays the donor's name and donations received. The **Donations received** column displays the total of all potential payment application amounts that are qualified for Gift Aid. Payments to pledges for covenants are not included. The potential total tax claim amount is the sum of the potential base tax claim amount and the potential transitional tax claim amount. *Note:* The Potential Gift Aid smart query displays potential tax claim associated with the site or sites accessible by the user running the query.

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Option	Description
Potential Matching Gifts Smart Query	Enables you to identify gifts from constituents who have a relationship to a matching gift organization. You can use the smart query to send correspondence to constituents who meet the criteria.
	On the Parameters tab, you can specify a constituent selection to use. You can also specify an organization and date range.
	After the query processes, the Results tab displays the constituent records that meet the criteria.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate correspondence.
SYBUNT Constituents Smart Query	There are two SYBUNT constituents smart queries. One uses actual revenue and the other uses recognition credit. They enable you to browse a list of constituents who gave a gift — or received recognition credit for a gift — Some Year But Unfortunately Not This year.
	On the Parameters tab, you can define which dates to use for this year in the SYBUNT comparison. You can also specify constituent selection to use.
	After the query processes, the Results tab displays the constituent records that meet the criteria.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate correspondence.

Membership

Option	Description
Membership Mailing Preference Smart Query	Enables you to browse a list of members based on membership program and mailing preference.
	On the Parameters tab, select the parameters to use in the query.
	After the query processes, the Results tab displays the members that meet the criteria.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you send membership renewal notices or membership upgrade appeals.

Option	Description
Membership Smart Query	Enables to you browse a list of memberships based on parameters you specify such as membership program or level, membership type, membership status, or months before or after expiration.
	On the Parameters tab, select the parameters to use in the query.
	After the query processes, the Results tab displays the memberships that meet the criteria.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you send membership renewal notices or membership upgrade appeals.

Organization Position

Option	Description
Organization Positions Smart Query	Enables you to browse a list of constituents who are associated with a particular organization team, as defined in **Manage organization hierarchy** in *Administration*. You can use this smart query to help evaluate the fundraising performance of teams.
	On the Parameters tab, select which team or branch of the organization to include.
	After the query processes, the Results tab displays the selected positions, assigned fundraisers and business units, as well as the dates of the fundraiser assignments.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you view the opportunity pyramid in *Prospects*.

Registrant

Option	Description
Multi-level Event Registrant Smart Query	Provides registrant information for any event within a multi-level event. For example, you could use it to view registrants for an Alumni Reunion Weekend that includes supporting events such as a tailgate, family picnic, and formal gala.
	On the Parameters tab, specify the event to use. You can also specify a registrant selection to narrow the results. For example, you can include a selection of host registrants or registrants with an outstanding balance.
	After the query processes, the Results tab displays the registrant records that meet the criteria.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as when you generate event invitations.

Revenue

Option	Description
Global Pledge Write-Off Smart Query	Enables to you browse a list of pledges you want to write off based on parameters you set such as all unpaid pledges, those due by a certain date, or of a certain maximum amount.
	On the Parameters tab, you can select whether to include all unpaid pledges, unpaid pledges by a certain date, or unpaid pledges with a certain balance.
	After the query processes, the Results tab displays the unpaid pledges that meet the criteria.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as **Global pledge write-off** in *Revenue*.

Option	Description
Revenue Dynamics Smart Query	The Revenue Dynamics smart query provides a list of constituents based on their revenue activity during two separate time periods. On the Parameters tab, enter the start and end dates of the two time periods to include in the comparison. Under **Status**, you can select the status of the constituents to include in the list based on the comparison of their activity during the two time periods. Below is the list of status options and their descriptions. **New**: Constituents with a revenue transaction during the later period, but not prior to the later period. **Recaptured:** Constituents with a revenue transaction during the later period and prior to, but not during, the earlier period. **Upgraded:** Constituents with revenue transactions during both periods, but with a larger revenue amount during the later period than the earlier period. **Same:** Constituents with revenue transactions during both periods, with an equal revenue amount during each period. **Downgrade:** Constituents with revenue transactions during both periods, but with a larger revenue amount during the earlier period than the later period. **Lapsed new:** Constituents with a revenue transaction during the earlier period, but not prior to the earlier period nor during the later period. **Lapsed repeat:** Constituents with a revenue transaction during and prior to the earlier period, but not during the later period. Under **Revenue filters**, you can select the types of revenue transactions to include in the activity comparison. You can also select to include only transactions toward specific designations or campaigns. After the query processes, the Results tab displays the constituent records that meet the criteria and their revenue amounts during each time period. On the Set save options tab, you can save the results as a constituent selection for use in other processes, such as a mailing.

Sponsorship

Option	Description
Sponsorship Delinquency Smart Query	Enables to you browse a list of delinquent sponsorships based on parameters you set such as program, payment frequency, past due amount, or number of missed installments.
	On the Parameters tab, you can select which sponsorships to include.
	After the query processes, the Results tab displays the sponsorships that meet the criteria.
	On the Set save options tab, you can save the results as a selection for use in other processes, such as sponsorship pledge reminders or write offs.
	Note: The **Past due amount** field includes options for all active currencies. To see the amount past due in a specific currency, select the currency from the drop-down menu. The currency drop-down menu appears only when the multi-currency option is turned on.

Create Smart Query Instances

To create a smart query instance, you select a smart query definition and then specify values for parameter fields. Parameter field values provide the definition with the information necessary to generate results. For example, a definition based on SYBUNT (constituents who gave Some Year But Unfortunately Not This year), might include parameter fields for year and donor.

After the query processes, the Results tab displays the records that meet the criteria and details specific to the parameters you specified. On the Set save options tab, you can save the results as a selection for use in other processes.

> **Create a smart query instance**

1. From *Analysis*, click **Information library**. The information library appears.
2. On the Queries tab, click **Add a smart query**. The Select a Smart Query Definition screen appears.
3. Select the definition for the type of smart query instance to create. For information about the definitions, refer to Smart Query Definitions on page 59.
4. Click **OK**. The New Smart Query screen appears.
5. On the Parameters tab, specify field values to provide the definition with the information necessary to generate results.
6. To view the query results and ensure the criteria and output appear as intended, select the Results tab.
7. Adjust your parameters as necessary.

8. On the Set save options tab, enter a unique name and description to help identify the query and specify the query's properties. For information about the items on this tab, refer to Query Properties on page 1.

9. Click **Save** to save your query and see the results.

Edit a Smart Query

You can edit the parameters or view the results of a saved smart query.

❯ Edit a smart query

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click the double arrows to select a smart query and click **Edit**. The query appears. The items on this screen are the same as the New Smart Query screen. For information about the items on this screen, refer to Create Smart Query Instances on page 69

3. Edit the query parameters as necessary.

4. Click **Save**. You return to the results page.

Delete a Smart Query

If a query, or selection based on the query, is used anywhere in the program, such as part of a process, you cannot delete the query.

Note: If your system administrator created a custom, user-defined smart query through Shell Design page in *Administration*, you cannot delete it from the information library. You can only delete it from the User-defined Smart Queries tab on the Shell Design page in *Administration*.

❯ Delete a smart query

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click the double arrows to select a smart query and click **Delete**. A confirmation message appears.

3. Click **Yes**. You return to the information library.

Search for Smart Queries

You can use the Smart Query Instance Search to locate a smart query. You can search by name or by the type of records included in the smart query results.

With Smart Query Browse, you can view a list of smart query definitions, rather than a list of all smart queries. For more information, refer to Smart Query Definitions on page 59.

Selections

A selection is a named set of IDs of the same record type. It has a name and description and is often used as input into a process or report as a means to specify which set of records should be acted on by that process. For example, the "Acknowledge Revenue" process accepts a selection as a parameter and acknowledges previously unacknowledged gifts only for records included in that selection. Because selections consist only of IDs (rather than output fields), they are optimized for peak processing speed.

A selection can be either static or dynamic. A static selection is a fixed set of IDs that does not change. For example, if a record that originally met the criteria of the query on which the selection is based changes so that it does not currently meet the criteria, the record ID is still included in the selection each time you use it. The selection contains the same records until you refresh it manually or with an automated process. A dynamic selection analyzes membership each time it is used in a function, so records may be added or removed from it each time you use it.

Many processes not only use selections as parameters, they also produce static selections as output because selections capture the records that were processed. For example, you can use a static selection of exceptions from a process as input when you use the process again.

To view a list of all the selections in your database, navigate to *Analysis* and click **View selections**.

There are several ways to create selections.

- You can use ad-hoc queries to create selections. The selections are either static or dynamic and contain the IDs of the rows that meet the query criteria. In many cases you create ad-hoc queries just to create selections from the results. For more information, refer to Create Selections from Queries on page 34.

- You can use smart query instances to create selections. The selections are either static or dynamic and contain the IDs of the rows that meet the query criteria. For more information, refer to Smart Queries on page 58.

- Business processes throughout the program prompt you to create selections, or the program may create selections as part of processes. Selections you create from business processes have a query type of Other. For information about how to edit or set the active status of these selections, refer to Manage Selections with a Query Type of Other on page 71.

- You can merge two selections of the same type together. For example, you can merge two constituent selections to create a selection of recipients for a communication. For information about how to merge selections, refer to Merge Two Selections on page 72.

Manage Selections with a Query Type of Other

Throughout the program, a business process may prompt you to create a selection, such as a static output selection from a batch or communication. The program may also automatically create a selection as part of a process. These system-defined selections have a query type of Other.

Note: User defined selections are either Ad-hoc or Smart because you use those types of queries to create them.

From the Selections page, you can edit the detail information of these selections, such as name or description. You can also manage the active status of these selections, such as to prevent its use with a communication or business process.

Edit a Selection with a Query Type of Other

From the Selections page, you can edit the detail information of a system-defined selection as necessary. For example, you can edit its name or description to help users easily identify the selection.

> **Edit the detail information of a selection**

1. From *Analysis*, click **View selections**. The Selections page appears.
2. Select the criteria of the selection to edit and click **Apply**. At a minimum, you must select **Include other** to display editable selections in the grid.
3. Under **Selections**, select the selection to edit. The selection must have a query type of Other.
4. Click **Edit**. The Edit selection screen appears.
5. To help identify the selection, edit its name or description as necessary.
6. To use the selection in the Microsoft *SQL Server Reporting Services Query Designer*, select **Show this selection in the query designer**. If you select this checkbox, the selection appears in the Selections folder of the Field Explorer in *Query Designer*.
7. Select whether the selection is active. If you select **Active**, users can use the selection, such as with a process.
8. Click **Save**. You return to the Selections tab.

Set the Active Status of a Selection with a Query Type of Other

To prevent the use of a selection with a query type of Other, such as with future communications or business processes, you can mark the selection as inactive. Inactive selections remain in the database but do not appear in selection search results, such as when users choose a selection for a process. To mark a selection as inactive from the Selections page, click the double arrows to select it and click **Mark inactive** on the action bar. When a message appears to ask whether to mark the selection as inactive, click **Yes**.

After you mark a selection with a query type of Other as inactive, you can mark it as active from the Selections page to resume its use. To mark an inactive selection as active, click the double arrows to select it and click **Mark active** on the action bar. When a message appears to ask whether to mark the selection as active, click **Yes**.
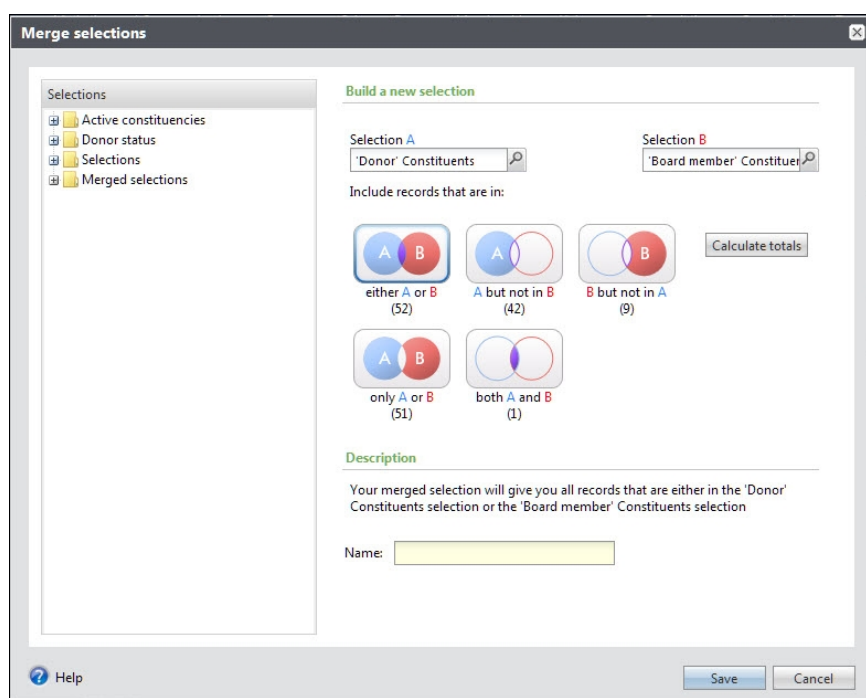
Merge Two Selections

You can merge two selections together to create a new selection. For example, you can merge two constituent selections to create a selection of recipients for a communication. To help you visualize the selections and how their records relate to one another, the program provides a Venn diagram to

represent each merge option. When you build a merged selection, you select the merge option to use based on the records to include in the new selection.

Note: A Venn diagram depicts two circles — one for each selection used to build the merged selection — that overlap in the middle. The middle section of the diagram, where the circles overlap, represents the records that appear in both selections. The outer sections represent the records that appear in each respective selection but not the other.

❯ Create a merged selection from two selections

1. From *Analysis*, click **View selections**. The Selections page appears.

2. Under **Tasks**, click **Merge selections**. The Selection Record Type Search screen appears.

3. Search for and select the type of selections to merge for the new selection. The Merge selections screen appears.

4. Under **Selections**, select and drag the two selections to merge to the **Selection A** and **Selection B** fields, or search for and select the selections to merge.

5. To view the total records that appear in the possible merge options, click **Calculate totals**. Under each option, the sum of its records appears.

6. For **Include records that are in**, click the merge option to use. Under **Description**, an explanation of the records included in the selected option appears.

7. In the **Name** field, enter a unique name to help identify the merged selection.

8. Click **Save**. You return to the Selections page.

Copy an Existing Query

To copy an existing query so you can use it as a template for a new query, use the **Copy** option.

When you copy a query, the current user is the owner of any new query created from the copy. In addition, if you generate the copy from a locked query, the new query is unlocked. The Copy functionality mirrors the system security of the **Add** functionality, so users with rights to add queries also have rights to copy them.

> **Copy a query**

1. From *Analysis*, click **Information library**. The information library appears.
2. On the Queries tab, click the double arrows to expand the row of the query to copy.
3. Click **Copy**. The Copy of Ad-hoc Query screen appears. The items on this screen are the same as when you add or edit a query.
4. Edit the criteria, output, and properties as necessary for the new query.
5. Click **Save**. The results page appears.

Export Queries

From the Queries tab of the information library, you can create an export process based on a query to export its results for use in another software application. You can also download a query's results as a comma-separated values (*.csv) file or spreadsheet, such as for use in Microsoft *Excel*.

> **Export query results**

1. From *Analysis*, click **Information library**. The information library appears.
2. On the Queries tab, click the double arrows to expand the row of the query with the results to export and click **Create**, **Export**. The Create export process screen appears.
3. Enter a unique name and description to help identify the export process.
4. To restrict the export process to a specific site at your organization, in the **Site** field, select the site to use the process.
5. Click **Save**. The Export page appears, where you manage the export process. For information, refer to .

> **Download query results to a comma-separated values file or spreadsheet**

1. From *Analysis*, click **Information library**. The information library appears.
2. On the Queries tab, click the name of the query with the results to download. The query results page appears.
3. Under **Results**, click **Export** and select the format of the file to download.

- To manage the results in a comma-separated values file, select **Download to CSV**.
- To manage the results in a spreadsheet file, such as for Microsoft *Excel*, select **Download to XLSX**.

4. Open or save the file as necessary.

Browse Query Results

From the results page of a query, or from the Queries tab of the information library, you can select a page in the program to view the query result records.

Note: When a record does not meet the criteria for a page, a message appears to indicate the program cannot open the page. If you receive this message, use another page type to browse the query results.

> **Browse query records**

1. From *Analysis*, click **Information library**. The information library appears.
2. On the Queries tab, click the double arrows to expand the row of the query that includes the results to browse and click **Browse**. The Choose page definition screen appears and lists the pages you can use to view the records. Each page displays different information about a record.
3. Select the page to use to view the records and click **OK**. The selected page appears, with a grid of all the records in the query.
4. Click **Previous record** or **Next record** to browse through records. To use a different page to view the records, in the **View record with** field, select the page to use.

View Query Results

To view the results of a query, click its name on the Queries tab of the information library. On the results page, you can click to process the query and view its results. From this page, you can also edit the query and browse or export its results.

Organize Queries

To easily search for and maintain your queries, you can use query categories or folders to organize and group them.

Query Categories

Query categories are code table entries your organization defines in *Administration*. They enable you to group queries so you can sort and view them by group. For information about code tables, refer to the *Administration Guide*.

You can add an ad-hoc query to a category from the Set save options tab when you add or edit the query. You can also select the query's **Properties** option to specify the category from the information library.

> **Create a query category**

1. From *Administration*, click **Code tables**. The Code Tables page appears.
2. Under **Query**, click **Query Category**. The Query Category Table Entries Screen appears.
3. Add or manage entries for the Query Category code table as necessary.

   To add a category, click **Add**. On the New Table Entry screen, enter a description of the new category and click **Save**. When users select a category for a query, the new category appears as an option.

Assign Categories to Queries

After you save a query, you can add it to a category from the information library. On the Queries tab, click the double arrows to expand the row of the query to assign and then click **Properties**. From the Query Properties screen that appears, select the options tab. In the **Category** field, select the category to assign to the query and click **OK**.

Manage Query Folders

You can use the **Manage folders** option on the Queries tab of the information library to organize your queries with a folder hierarchy. For example, you can create multiple folders and sub-folders and drag and drop existing queries into the folders. You can add, edit, and delete query folders at any time based on your organizational needs.

Use the up and down arrows to move folders and queries up or down in your treeview. Use the right and left arrows to move queries into a folder or out of a folder. Depending on your folder structure organization, you can use the arrows to move queries into sub-folders or to the top level of the hierarchy. Top level queries do not use folders.

Note: With the **Manage folders** option, you can only add, edit, or delete query folders. You cannot add, edit, or delete queries. To work with queries, select a query in the information library and use the actions from the action bar.

When you create or edit a query, you can use the **Folder** field on the Set save options tab to add your query to a folder. All existing folders appear as choices in the **Folder** field. You cannot, however, create a new folder directly from this field.

After you save a query, you can add it to a folder from the information library. On the Queries tab, click the double arrows to expand the row of the query to assign and then click **Properties**. From the Query Properties screen that appears, select the options tab. In the **Folder** field, select the folder and click **OK**.

❯ Create and manage a query folder

1. From *Analysis*, click **Information library**. The information library appears.

2. Click **Manage folders**. The Manage folders screen appears and displays existing query folders at the top level.

3. Manage the query folders as necessary.

   - To add a query folder and begin a hierarchical folder structure, click Add on the toolbar. On the Add a folder screen, enter a unique name to help identify the folder and click **Save**. On the Manage folders screen, the new folder appears under **All queries**.

   - To arrange the order of multiple folders or move a query or folder into another folder, select the item to move and click the arrows on the toolbar or drag and drop the item as necessary. You can move queries into a folder or onto the top level. Top level queries do not use folders.

     After you add a query or folder to a folder, a plus sign (+) appears next to the folder to indicate that it contains nested items. As you add queries and sub-folders to folders, your list takes on more of a tree-view appearance.

     Note: To move an entire folder, use the arrows in the toolbar. When you move an entire folder, all its nested folders and queries also move. The nested structure of the items you move is maintained.

   - To edit or delete a folder, select it under **Query folders** and click **Edit** or **Delete** on the toolbar. You cannot delete a folder that contains queries and sub-folders.

     Note: You cannot add, edit, or delete queries from the tree-view.

   - To assign query folder permissions, click **Permissions** on the toolbar. The Assign folder permissions screen appears.

     Note: After you assign permissions, you must click **OK** on the Assign folder permissions screen and click **Save** on the Add and configure folder screen to save your permissions.

     For information about folder permissions, see Assign Folder Permissions Screen on page 1.

4. Click **Save**. You return to the information library. On the Queries tab, your folder and query structure appears.

Assign Query Folder Permissions

To manage access to query folders, you can assign query folder permissions and set default permissions for sub-folders within a folder. You can allow users to run and edit queries within a folder as well as new queries you add to the folder. You can also set query permissions for existing queries in a folder and set default permissions for any query added to the folder.

> **Assign query folder permissions**

1. From *Analysis*, click **Information library**. The information library appears.

2. On the Queries tab, click **Manage folders**. The Manage Folders screen appears.

3. Select a folder and click **Permissions**. The Assign folder permissions screen appears.

4. Select whether to apply the folder permissions and default query permissions set as defaults to all sub-folders within the folder.

5. On the Folder permissions tab, select whether to grant folder rights to users in all system roles or only those in specific system roles. If you select **Selected roles**, under **System roles**, manage the rights for each role. To grant rights to a system role, select the role and click **Grant**. To deny rights, click **Deny**. To undo a selection, click **Clear**.

6. Select the Default query permissions tab.

7. The program automatically applies the selected query permissions to any new queries added to the folder. To also apply the permissions to queries that already exist in the folder, select **Apply default query permissions to existing queries**.

   When you select **Apply default query permissions to existing queries**, the query permissions apply as defaults and override the permissions configured for the queries currently within the selected folder, but not for queries you subsequently add to this folder. Therefore, the **Apply default query permissions to existing queries** checkbox does not remain checked after you save. To apply permission defaults again as you add more queries to the folder, follow the same steps. From an individual query, you can edit the permissions as necessary. For information about how to edit query permissions, refer to Query Properties on page 1.

8. Select the default permissions for queries saved in the folder.

   a. Under **Ad-hoc queries**, select whether all users can generate or edit ad-hoc queries saved in the folder.

   b. Under **Smart queries**, select whether all users can access and modify smart queries saved in the folder.

   c. To assign permissions for ad-hoc or smart queries by system role, click **Advanced permissions**. For information about how to assign advanced permissions, refer to Assign System Role Permissions to a Query on page 35.

9. Click **OK**. You return to the Manage Folders screen.

Mark Queries as Favorites

You can identify the queries you use most often as your favorites so you can find them easily in the information library. When you indicate a query is a favorite, it appears in the Favorites folder in the information library and the star icon next to its name is highlighted in the query list.

To mark a query as a favorite, click the star next its name in the information library. You can also select **Add to my favorite queries folder** from the Set save options tab when you create or edit a query.

QUERY 79

Open Data Protocol (OData)

OData allows you to import data from **Blackbaud CRM** into other programs such as *Microsoft Excel* and *Tableau* in order to consume, share, and manipulate the data in pivot tables, power views, and dashboards. OData is available from any query in the system.

You can share dashboards and charts created with OData with any user, regardless of their Blackbaud permissions. However, because users must enter their Blackbaud credentials when they consume the data, any data refreshes respect the user's security permissions.

Note: Blackbaud CRM does not support *Microsoft Power Query for Excel* with OData feeds.

Set Application Root URL

Before you can use OData, you must make sure that the application root URL is set for your database. From *Administration*, click **Set application root URL** under **Configuration**. On the Set Application Root URL screen, enter the URL where your application is hosted and click **Save**.

The root URL must be in this format: https://[Server name]/[Virtual directory name]. You can see your root URL on your browser address bar when you are logged into your database. The portion of your URL before /webui portion of the address is your root URL.
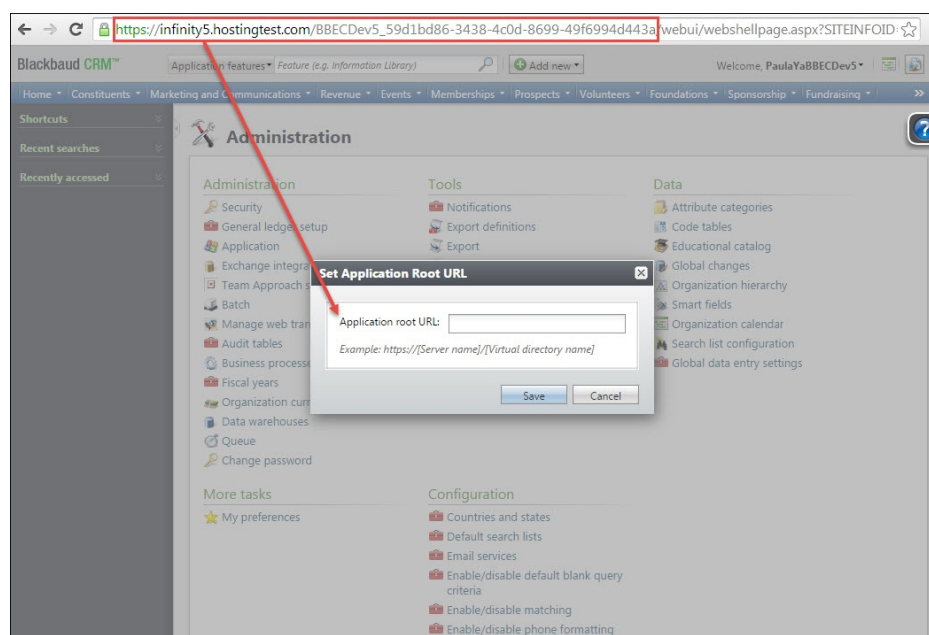
Get OData Link

From the Query tab in the information library, select the query you want to use and click **Get OData link**.
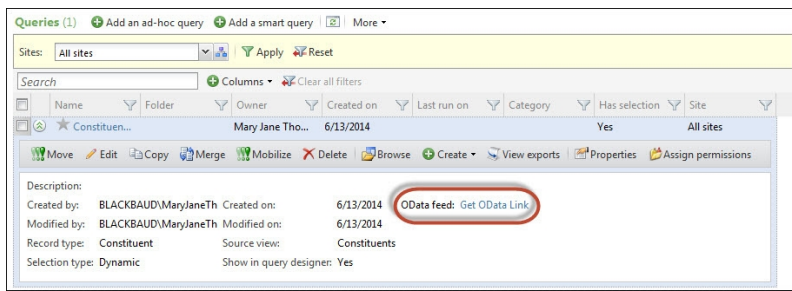
OData in Microsoft Excel 2010

In *Microsoft Excel 2010*, you can generate pivot tables using the OData information.

Note: If you do not already have it, you must first instal the power pivot add-in to *Excel*. From the Microsoft Office Downloads page, download the add-in and install it. Most users have the 32-bit version of *Excel*, so we recommend that you download the x86 version of the add-in, unless you know that you are using a different version. If you are not sure, to see your version in *Excel*, click **File**, **Help**.

1. From the PowerPivot ribbon, click **PowerPivot Window**.
2. On the PowerPivot screen, click **From Data Feeds** under Get External Data.
3. In the **Friendly connection name** field, enter a descriptive name for your data feed, such as "Blackbaud CRM."
4. In the **Data feed URL** field, paste the URL you got from your query in *Blackbaud CRM*.
5. Click **Advanced**. On this screen, enter your Blackbaud CRM user name and password and click **OK**.
6. Click **Next**, and select ODataQuery.ashx as the source table.
7. Click **Finish.**
8. Once the import is complete, click **Close**. You can now manipulate and explore your data in the power pivot.

OData in Microsoft Excel 2013

In *Microsoft Excel 2013*, you can create power views using the OData information.

Note: If this is your first time using OData in *Excel*, click **Options** and make sure you have the Power View add-in. Select "COM Add-ins." Then, select **Power View** and **Microsoft Office PowerPivot for Excel 2013** and click **OK**.

1. From the Data tab, select **From Other Sources/From OData Data Feed**.
2. Paste the URL you got from your query in *Blackbaud CRM* and enter your credentials.
3. Click **Next**.
4. Check the "ODataQuery.ashx" checkbox.
5. Click **Next**.

6. You can enter a description and change the name if you prefer.

7. Click **Finish**, and then click **OK** to import the data.

8. On the Import Data screen, select "Power View" and click **OK**. You can now use *Excel* to create charts and dashboards of your data.

OData in Tableau

In *Tableau*, you can create dashboard using the OData information.

1. From *Data*, click **Connect to Data**.

2. Select "OData."

3. In the **Select or enter a URL** field, paste the URL from your query.

4. On Step 2, select **Use a Username or Password** and enter your ***Blackbaud CRM*** credentials.

5. On Step 3, click **Connect**.

6. On Step 4, enter a name for the feed.

7. Click **OK**.

Export

When you export data from the program, you extract information from the database so you can download it for use in another software application. For example, you can use information from the program in a spreadsheet program to perform further analysis. In *Export*, you create export processes, which are tools that enable you to extract data and generate output files. When you create a process, you specify the records to export. You can use the output of ad-hoc queries or smart query instances, or specify a selection of records to use in combination with export definitions. After you create a process, you specify the format for the output file. You can also schedule the process so that it runs at the time most convenient for your organization, such as overnight.

Exports

On the Exports page, you can view a list of all the export processes in the **Exports** grid. For each export process listed, you can view its name, description, and export type. You can also view the query or selection and export definition associated with it, the user who last ran the process, the date the user

ran it, the status of the most recent operation of the process, and the associated sites. To access the Exports page from *Administration*, click **Export**.

From the grid, you can add, edit, delete, and start export processes. You can also click a process name to go to the individual process status page and view its details.

Tip: Export processes, status records, and output files use space in the database. We recommend you regularly remove old export files that you no longer use.

Add Export Processes

The export process helps you extract data from the program to use in other applications. For example, you may want to export data to send to a mailing house to update addresses. Once you create an export process, you can edit and reuse it as you update your data. When you add an export process, you assign it a name and description and specify the records to export. You can export the output from ad-hoc or smart queries, or a selection of records. When you export a selection, you also identify an export definition so the program knows the output fields to include in the file.

❯ Add an export process

1. From *Administration*, select **Export**. The Exports page appears.
2. On the action bar of the **Exports** grid, click **Add**. The Add export process screen appears.

3. Enter a unique name and description to help identify the export process.
4. To restrict use of the process to a specific site at your organization, in the **Site** field, select the site to use the process. For information about sites, refer to the *Security Guide*.
5. In the **Export type** field, select whether to export the output of an ad-hoc query or a smart

query instance. You can also specify a selection of records to use in combination with an export definition.

- An ad-hoc query is a tool that enables you to select, group, and list records that meet a set of conditions you define. It provides access to all of your data and helps you answer specific organizational questions. If you select this option, the **Ad-hoc query** field appears.

- A smart query is a tool that enables you to use a previously defined query, known as a definition, to generate an instance of the results for parameters you specify. They are typically created to perform complex calculations that use business logic. The program includes a number of default definitions, but users who are familiar with the organization's data model can use ad-hoc query within the program to create them. Also, Infinity SDK software developers can create them and add them to your database. If you select this option, the **Smart query instance** field appears.

  Note: For information about ad-hoc queries and smart query instances, refer to Query on page 25.

- An export definition is a tool you use to specify the fields, but not the records, to include in an export. When you use this export type, you first specify a selection of records to export and then the export definition to determine the fields to include in the output. For information about export definitions, refer to Export Definitions on page 86. If you select this option, the **Selection** and **Export definition** fields appear.

6. In the field or fields that appear, select the query or selection and export definition to use.

7. Click **Save**. You return to the Exports page.

Start an Export Process

After you add an export process to the database, you can run the process to extract its data from the database and create the export file. You can run an export process directly from the Exports page. In the **Exports** grid, select the export process to run and click **Start export**. The program uses the data in the selected query and stores the information in an export file. The export process status page appears and displays the status of the process. When the export process finishes, the **Status** field on the Recent status tab displays Completed. From the export process status page, you can download the information stored in the export file to a comma-separated value (*.csv) or *Excel* workbook (*.xlsx) output file. For more information about the items on the status page, refer to Export Process Status Page on page 100.

Note: You can also click **Start process** under **Tasks** to start the export process from its status page.

Set the Format Options of an Export Process

The query or export definition you select for an export process determines the output fields and information the program generates when you download the output file. The format options determine how the exported data appears in the output file. On the Edit export format screen, you determine how the program formats the data in the output file.

❯ Set the format options of an export process

1. On the Exports page, click the double arrows beside the export process with the format to set and then click **Set format options**. The Edit export format screen appears.

2. On the Currency tab, specify the general options, such as the currency symbol and the number of digits after the decimal.

   Under **Additional options for CSV output**, select the digit grouping symbol and the decimal symbol. These format options apply only to CSV output. Output in XLSX format uses the settings on the user's workstation for the digit grouping symbol and the decimal symbol. The **Example** field displays how currency data appears with the selected options.

3. Select the Date and Time tab.

4. Under **Date format**, **Fuzzy date format**, and **Month/day format**, select or enter how the various types of dates should appear in the exported data. The **Example** field displays how a date appears in the specified format.

   The information in the CSV is formatted as specified. For example, if you open the CSV file in a text editor, you can see dates in the date format you specified. However, if you open the CSV file in *Excel*, *Excel* tries to recognize what the different fields and values represent and format them according to your system date settings, which may not match the date format you specified.

   Note: A "fuzzy date" is an incomplete date. For example, a fuzzy birth date of a constituent may include the month and year, but not the day.

Date Specifier	Description	Example
d	Numerical day of the month, single digit	4
dd	Numerical day of the month, double digit	04
ddd	Abbreviated day name	Tue
dddd	Full day name	Tuesday
M	Numerical month, single digit	7
MM	Numerical month, double digit	07
MMM	Abbreviated month name	Jul
MMMM	Full month name	July
yy	Year, two digits	80
yyyy	Year, four digits	1980

5. In the **Hour/minute format** frame, select how times should appear in the exported data. Select or enter the format from the drop-down list, or enter time specifiers to specify the format. The **Example** field displays how a time appears in the specified format.

   Note: You cannot include seconds or timezone offsets in the format of the exported time data.

Date Specifier	Description	Example
hh	Hour, two digits, in a 12-hour cycle	11
HH	Hour, two digits, in a 24-hour cycle	23
mm	Minute, two digits, 00 to 59	17
tt	*Ante meridiem* (AM) or *post meridiem* (PM)	PM

6. Select the Export tab.

7. The **Line break character** field allows you to select the line break option for your output. This determines how the output separates lines and can be helpful if the default format does not work for your needs. If you have problems when you use the output with a third-party program such as *Microsoft Word*, change the line break character options and run the process again. Different software programs may expect line break options to follow line feed breaks (LF), carriage return breaks (CR), or both (CR+LF). If you do not know what format your software program requires, you might need to test by trying each option. This field defaults to the line feed (LF) option.

8. Click **Save**. You return to the Exports page.

Assign Permissions for an Export Process

After you add an export process, you can assign permissions to the roles for the people who can use the process. When you assign permissions, you can select to allow all roles to use the process or only select roles.

> **Assign permission for an export process**

1. From the Exports page, click the double arrows beside the export process to establish permissions and then click **Assign permissions**. The Assign permissions screen appears.

2. Select whether all roles or only selected roles may access the process.

   If you select **Selected roles**, select the permissions for the roles in the **System roles** box.

   To grant a role access, select it in the box and click **Grant**.

   To deny a role access, select it in the box and click **Deny**.

   To remove an existing permission assignment from a role, select it in the box and click **Clear**.

3. Click **Save**. You return to the Exports page.

Export Definitions

An export definition is a tool you use to specify the fields, but not the records, to include in an export. Since a definition does not specify records, you cannot export data directly from it. Instead, you must create an export process to output data from a selection based on the export definition. Typically, you use an export definition for marketing efforts you send to mailing houses.

Note: When you create an export process, you select an export type. If you select "Export definition," the **Selection** and **Export definition** fields appear. You can specify the selection of records to export and the export definition to determine the fields to include in the output.

When you create an export definition, the export fields you can choose from are determined by the source view you select. For example, when you create an export definition for constituent letters, the available fields are based on the constituent query view. After you select an initial source view, you identify the fields to include in the output, the column order, the row sort order, and the sites to associate with it. For information about source views, refer to Source Views on page 28.

You can create and manage export definitions from the Export definitions page in *Administration*. Under **Export definitions**, you can view information about each export definition in the database. The information includes the name and description of the definition, and the type of records to use with it. Other details include the user who created the definition, the date it was created, the most recent user to update it, the date it was changed, the sites associated with it, and the number of exports that use it.

You can also complete tasks for an export definition from the Export definitions page. To access task buttons, click the double arrows next to a definition to expand the row. Use the task buttons to edit, delete, copy, or create an export.

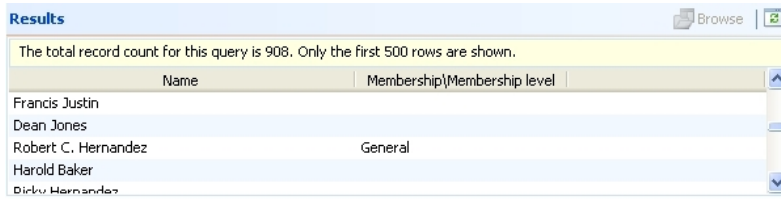# Export Definitions and Query Comparison

When you create an export process, you can select to use queries or export definitions as the export type. There are benefits to each. This comparison shows an example, an export process for name badge stickers, where a query is appropriate and a variation on the example where an export definition is a better choice.

A simple Constituents query may have **Name** and **Membership level** as output fields.
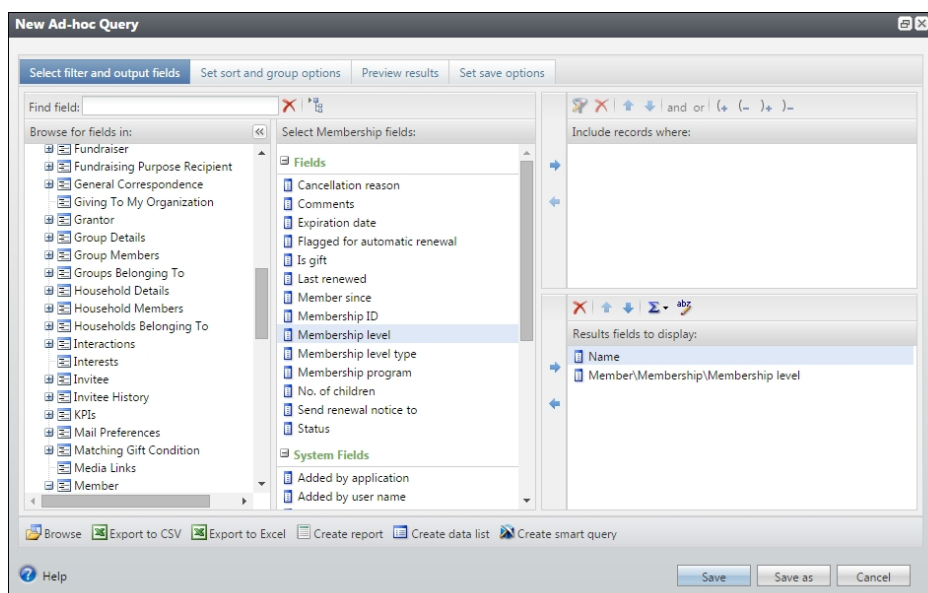
If a constituent has one membership with one level, there is one line of output for the constituent:

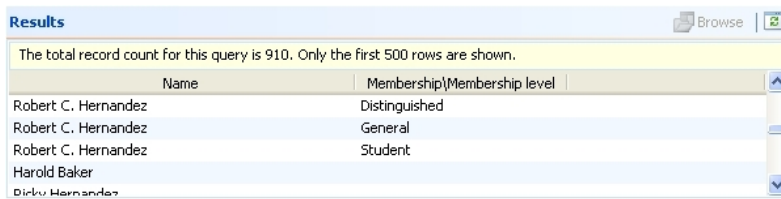**Name**: Robert Hernandez, **Membership level**: General

If you add two membership levels to the constituent's membership, the results become three lines.

1. **Name**: Robert Hernandez, **Membership level**: General
2. **Name**: Robert Hernandez, **Membership level**: Distinguished
3. **Name**: Robert Hernandez, **Membership level**: Student

This query outputs three lines for one constituent because the relationship between the constituent and the membership levels is one-to-many. For one constituent, there can be many membership levels. In some cases, you might want to produce an output like this, where each line represents the constituent for a separate membership level.

With a query, you can filter, sort, and group these fields. For example, you can sort by **Name** to output each line for a specific constituent next to each other. One use for this output is, using Mail Merge in *Microsoft Word* or a similar program, to print badge labels for every constituent, with a separate label for each membership level stacked by order of constituents. In this case, Robert Hernandez would get three labels.

- Robert Hernandez: General
- Robert Hernandez: Distinguished
- Robert Hernandez: Student

At other times, it may be more useful for you to output all that information to a single line. For example, with export definitions, you can set criteria for the output for one-to-many fields. This enables you to place all the membership levels for the constituent on one line. You can create the export definition with the same fields as the query:

- **Name**
- Membership level
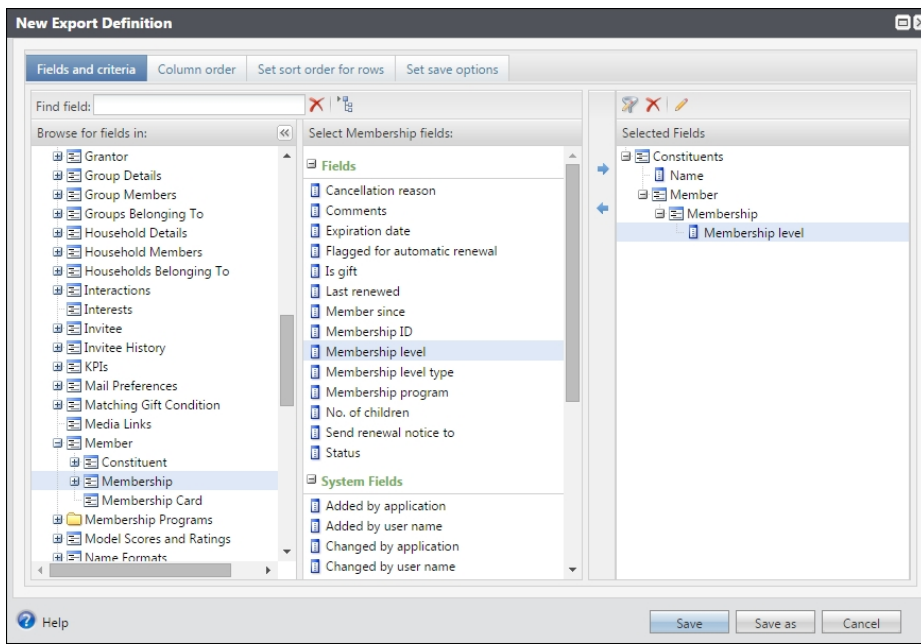
However, with export definitions, when you select a one-to-many field, a screen appears that lets you set criteria for the fields contained in that node. For this example, when you select "Membership level," the Criteria for Membership screen appears. You can select how many membership records to export per constituent. In this example, "3" is selected.

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Export criteria

For each record in the constituents node enter the number of related records from the member node to export.

Number to export: 3

Sort

Order by: <no specific order> ▼

     ◉ Ascending   ○ Descending

Filter

◉ All member

○ Selected member

Member	Include records where:
⊟ Fields	
▯ Is dropped	
▯ Primary member	
⊟ System Fields	
▯ Added by application	
▯ Added by user name	
▯ Changed by application	
▯ Changed by user name	
▯ Date added	
▯ Date changed	
▯ System record ID	

? Help   OK   Cancel

With queries, you can view results from the Results tab or export the results. With export definitions, you can only export the results. Also, with export definitions, you must choose a selection from which to export. For this example, the selection is one for individual constituents.

The export of this export definition contains one line with the same information for Robert Hernandez. Here are the values for each field:

- **BUSINESSPROCESSOUTPUT_PKID**: 176
- **CONSTITUENTS_NAME**: Robert Hernandez
- **CONSTITUENTS_MEMBERSHIP_MEMBERSHIPLEVELNAME**: General
- **CONSTITUENTS_MEMBERSHIP_2_MEMBERSHIPLEVELNAME**: Distinguished
- **CONSTITUENTS_MEMBERSHIP_3_MEMBERSHIPLEVELNAME**: Student

You can use an output like this, along with Mail Merge in *Microsoft Word* or a similar program, to create one badge label per constituent that lists all of the membership levels. In this case, Robert Hernandez would get one badge label.

Robert Hernandez: General, Distinguished, Student

❯ Create an export definition

1. From *Administration*, click **Export definitions**. The Export Definitions page appears.
2. Click **Add**. The Select a Source View screen appears.

   Note: The text on the Select a Source View screen refers to queries because the screen is shared with that feature.
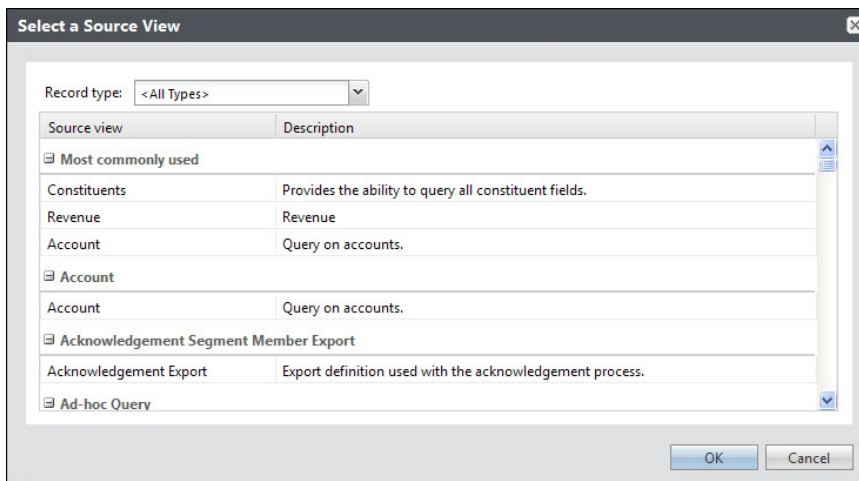
3. Select the source view that contains the type of records to include in the export definition. For information about source views, refer to Source Views on page 28.

4. Click **OK**. The New Export Definition screen appears.

5. On the Fields and criteria tab, select the fields for each record in the export output.

   Under **Browse for fields in**, you can view the types of fields that are available for the source view you selected. You can expand a node to drill-down to a specific group of fields.

   The middle pane lists the **Fields** and **System fields** for the selected group.

   Tip: To quickly search for a field. enter the field name in **Find field** and press **ENTER** on your keyboard. The program displays applicable fields in the middle pane. Use the arrows on your keyboard to browse through the list. If you select a group and click **Search up**, the search applies to only fields in the selected node.

6. To specify output fields for the export, select them in the middle pane and drag them into the **Selected Fields** pane. You must specify at least one output field. Selected fields correspond to the information you want to view in the export and they appear as column headings in the export output.

   When you select a one-to-many field, the Criteria screen appears. For information about how to set criteria for a one-to-many field, refer to Export Definitions Criteria on page 94. When you select a field from **Address Processing**, the Criteria for Address Processing screen appears. For information about address processing, refer to Export Definitions Address Processing on page 98.

   Note: Depending on the source view of the export definition, some fields may default into the **Selected Fields** pane. These are only defaults and you can remove them if necessary.

7. Select the Column order tab. From this tab you can reorder and rename column headings for the export file. Column headings identify the type of system field included in the column.

   - To reorder the column names, use the up and down arrows.
   - To change the column header name, select the field name and click **Change column**

header. Enter a new name in the field. If you do not change the column name, the column header uses the system field name. For example, CONSTITUENTS_NAME.
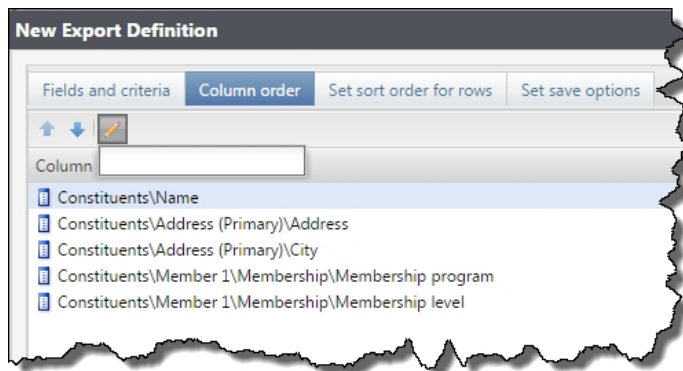
8. Select the Sort order for rows tab. From this tab you can specify a sort order for the export. The sort order helps ensure that mail merge documents, such as envelopes or labels, are in the necessary order.

   - To add a sort field, double-click or drag and drop a field to the **Sort records by** pane.
   - To change the sort order, select a field and click the up or down arrow.
   - To reverse the sort order within a column, click the **Sort Ascending** or **Sort Descending** button.
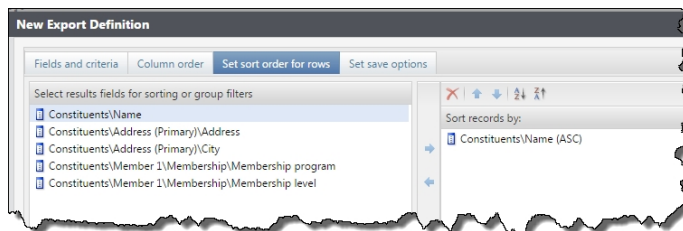
9. Select the Set save options tab.

10. Enter a name and description for the export definition.

11. If your organization uses sites, in the **Sites** field, select the site to associate with the export definition.

12. To make this definition available for constituent letter templates, select **Allow definition to be used by other areas of the application**.

13. To use the field name as the column header for one-to-one fields, select **Use field names for one to one column headers**. For example, with this option selected, the column header for **Name** is NAME. If you do not select this option, the program uses the longer, less "friendly" system field name CONSTITUENTS_NAME.

14. To use a shortened version of the system field name as the column header, select **Use short column headers**. For example, Cns_NAME.

    Note: If you select both options, the column header for one-to-one fields is the friendly field name and the column header for one-to-many fields is the shortened system field name. If you entered a custom name for a field on the Column order tab, the column header uses the

custom name in some manner no matter which options you select. For example, if you select **Use short column headers**, the column header for a custom field name is Cns_Custom Field Name.

15. Click **Save**. You return to the Export Definitions page.

Export Definitions Criteria

In export definitions, you can select one-to-one and one-to-many export fields. A one-to-one export field contains one value in your database. For example, **Birth date** is a one-to-one export field because constituents have one birth date. A one-to-many export field contains several values in your database. For example, **Email address** is one-to-many because constituents can have multiple email addresses.

When you select a one-to-many field on the New Export Definition screen, the Export criteria screen appears. On this screen, you can select the number to export and define how the export sorts and filters the fields.

Note: When you select fields from **Address Processing**, the behavior is different. For information about address processing, see Export Definitions Address Processing on page 98.

## > Define criteria for one-to-many records

1. When you select a one-to-many field, the Export criteria screen appears.

2. In the **Number to export** field, enter the number of records to export for the node or group that contains the field. For example, if you select **Email address** from the **Email Addresses** node, you can enter the number of email addresses to export for each contact.

    The number to export applies to all fields in the node. For example, if you also select **Information source** from the **Email Addresses** node, the program will export the same number of information sources as email addresses.

    When you add another field to the same node in the **Selected fields and criteria** pane of the New Export Definition screen, the Export criteria screen does not appear again. To access the screen for that node, from the New Export Definition screen, right click the node and select **Edit Filter**.

    For an example about how to use export definitions criteria to filter results, see Filter Export Definition Criteria Example on page 96.
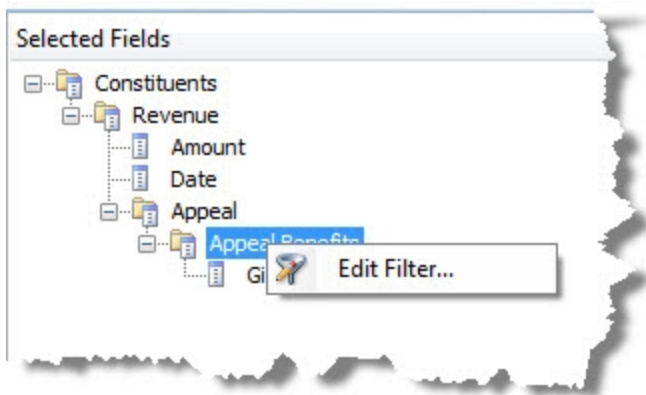
3. Under **Sort**, in the **Order by** field, select which field to sort records by in their column of the export. Then select whether to sort in ascending or descending order. For example, if you sort by "Email type," the addresses appear in A-to-Z or Z-to-A order by email type.

   Note: This option sorts the one-to-many records for a line in the export output and not the all the lines in the output.

4. To add filters to the fields, under **Filter**, select **Selected <node name>**.

5. Drag a filter field to the **Include records where** pane. The Apply Criteria screen appears.

6. From the Apply Criteria screen, select how to apply the criteria. For example, you can select "Less Than."

7. From **Value**, enter the values for the criteria. For example, to apply criteria to **Gift amount**, where you selected "Less Than," you can enter "1000." The export definition will filter to include gift amounts less than $1,000.00.

8. Click **OK**. You return to the Export criteria screen.

9. If you add multiple filter fields, you can use the combining operator buttons to combine filtering criteria to narrow your results. For example, you can combine **Amount** is less than $1000 AND **Date** is this month.

10. Click **OK**. You return to the New Export Definition screen.

11. Click **Save**. You return to the Export Definitions page.

Filter Export Definition Criteria Example

In this example, the goal is to create an export definition to export all members in a previously created membership program called "Animal Friends." The export includes member names, membership level, expiration date, and amount paid for the membership.

> **Filter export definition criteria example**

1. From *Administration*, click **Export definitions**. The Export Definitions page appears.

2. Click **Add**. The Select a Source View screen appears.

3. Select the Membership Program source view and click **OK.** The New Export Definition screen

appears open to the Fields and criteria tab.

4. Under **Browse for fields in**, select **Membership**, **Membership Level**, **Name**. You can double-click the field or drag it to **Selected fields** box.
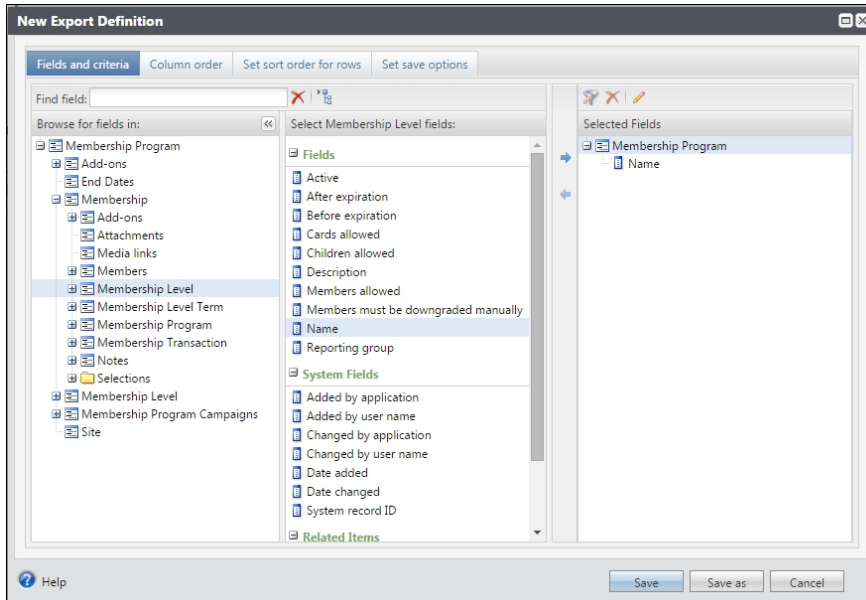
The Export Criteria screen appears. From this screen you can select the filters for the membership information to include in the output.

5. Under **Filter**, select **Selected membership** .

6. From **Fields**, drag **Membership program** to **Filters**.

   The Apply Criteria screen appears. From this screen you can specify how to filter Membership program.

7. From Membership program criteria, select "Equal to," and then select "Animal Friends."

   An export based on this export definition will only output the Membership Level Name for the Animal Friends Membership Program.

8. Click **OK** for the each screen and save the export definition.

Export Definitions Address Processing

When you select a field from the Address Processing node in the New Export Definition screen, the Parameters screen appears so you can select the address processing, name format, and mail type options to use.
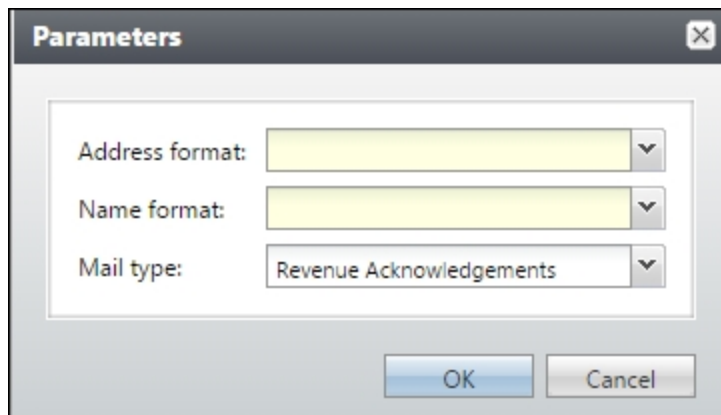
Address processing options allow you to use constituent mail preferences for marketing efforts. They also allow you to specify alternate addresses to use when constituent mail preferences are not configured, or when you want to use seasonal addresses. For example, you can create an address processing option for your holiday appeal that specifies to use the mail preferences from constituent records, and to use seasonal addresses when available. The program uses the mail type you select with the address processing option to determine which of a constituent's mail preferences to consider when it chooses the address.

Name formats determine how names are formatted in a marketing effort. For example, for marketing efforts such as event invitations and appeals, you may use a more formal format that includes titles and suffixes (Mr. William H. Smith, Jr.). For marketing efforts like alumni letters, you may use a less formal format such as the nick name and last name (Willie Smith).

You configure address processing and name format options in *Marketing and Communications*, and you specify mail types when you configure mail preferences on the Communications tab of constituent records. For information about how to configure communications options, refer to the *Communications Guide*. For information about the constituent communication preferences, refer to the *Constituents Guide*.

❯ Define criteria for address processing

1. From the Parameters screen, in the **Address format** field, select the address processing option to apply to addresses in the export definition. You define options for the field on the Address Processing Options page in *Marketing and Communications*.

2. In the **Name format** field, select the name format to use with the address in the export definition. You define options for the field on the Name Format Options page in *Marketing and Communications*.

3. In the **Mail type** field, select the mail type to use with the address processing option. The program uses the mail type you select with the address processing option to determine which of a constituent's mail preferences to consider when it chooses the address.

4. Click **OK**. You return to the New Export Definition screen.

Export Process Status Page

Each export process in the database has a status page where you can view details about the process. You enter this information when you add the process to the database. To view the status page of a process, select its name on the Exports page.

The status page also includes the current status and historical information about the process. To help you navigate through this information, each process status page contains multiple tabs:

- Recent Status Tab on page 100
- History Tab on page 103
- Job Schedules Tab on page 104

Depending on your security rights and system role, you can perform various tasks to manage the export process from its status page.

- Start an Export Process on page 84
- Edit an Export Process on page 1
- Generate a Windows Scripting File for an Export Process on page 1
- Schedule an Export Process Job on page 100
- Delete an Export Process on page 1

Schedule an Export Process Job

From the export process status page, you can create a job schedule for an export process. When you create a job schedule, you specify the frequency and scheduled time for the program to run the process. To create a job schedule, click **Create job schedule** under **Tasks**. The Create job screen appears.

For detailed information about how to create a job schedule for an export process, refer to Create a job schedule for an export process on page 104.

Recent Status Tab

On the Recent status tab, you view the details of the most recent instance of the process and download output. The details include the status of the process; the start time, end time, and duration of the process; the person who last started the process; the name of the server most recently used to run the process; the total number of records processed; and the number of those records that processed successfully and resulted in exceptions.

Download Export Output Files

After you run an export process, you can download output files into a file for use in another application. For example, you may want to take data from the program and send it to a spreadsheet

program for further analysis.

You have four options for downloading output files:

- CSV: downloads a single output file containing all data in comma-separated value format. In a comma-separated value (*.csv) file, each piece of data is separated by a comma. A *.csv file is also referred to as a "comma-delimited" file.

- XLSX: downloads a single output file containing all data in Microsoft *Excel* format. In an *Excel* workbook (*.xlsx) file, data is stored in a variant of the Office Open XML format. You can open XLSX files with Microsoft *Excel 2007* or more recent versions. Other spreadsheet programs may support this format. For some older versions of *Excel*, to open XLSX files, there is a compatibility pack available at Microsoft's Office website: http://office.microsoft.com.

- Multiple files: splits downloaded output into multiple files based on the unique values of a selected field. For example, you can download an export of constituent information into multiple files based on the states in which the constituents reside. When you download the output, the program generates comma-separated value (*.csv) or Microsoft *Excel* (*.xlsx) files.

- Grouped files: creates output files with data grouped by field values as specified. The option is only available when you download files for marketing efforts and appeal mailings. For example, you can create a set of files broken out by region. To do this, include the **State** field in your export definition and then select to group by **State** for the output download. Create a group for each region and add the appropriate states to each group — for example, include FL, GA, SC, and NC in the Southeast region group and CT, MA, NH, and VT in the Northeast region group. This setup produces a file for each region and each file includes data for only the states included in its region.

❯ Download the output into a *.csv file

1. On the export process status page, select the instance of the process to download.

    - To download the output of the most recent instance, select the Recent status tab. When the status of the process is Completed, **Download output** is enabled on the action bar.

    - To download the output of a previous instance, select the History tab. Under **History**, select the instance to download.

2. On the action bar, click **Download output** and select **Download to CSV**. The program downloads the file to your work station and provides an option for you to open and save it.

    Note: In a comma-separated value (*.csv) file, each piece of data is separated by a comma. A *.csv file is also referred to as a "comma-delimited" or "ASCII" file.

> Download the output into a *.xlsx file

1. On the export process status page, select the instance of the process to download.

   - To download the output of the most recent instance, select the Recent status tab. When the status of the process is Completed, **Download output** is enabled on the action bar.

   - To download the output of a previous instance, select the History tab. Under **History**, select the instance to download.

2. On the action bar, click **Download output** and select **Download to XLSX**. The program downloads the file to your work station and provides an option for you to open and save it.

   Note: In an *Excel* workbook (*.xlsx) file, data is stored in a variant of the Office Open XML format. You can open XLSX files with Microsoft *Excel 2007* or more recent versions. Other spreadsheet programs may support this format. For some older versions of *Excel*, to open XLSX files, there is a compatibility pack available at Microsoft's Office website: http://office.microsoft.com.

> Download the output into multiple files

1. On the export process status page, select the instance of the process to download.

   - To download the output of the most recent instance, select the Recent status tab. When the status of the process is Completed, **Download output** is enabled on the action bar.

   - To download the output of a previous instance, select the History tab. Under **History**, select the instance to download.

2. On the action bar, click **Download output** and select **Multiple files**. The Download multiple files screen appears.
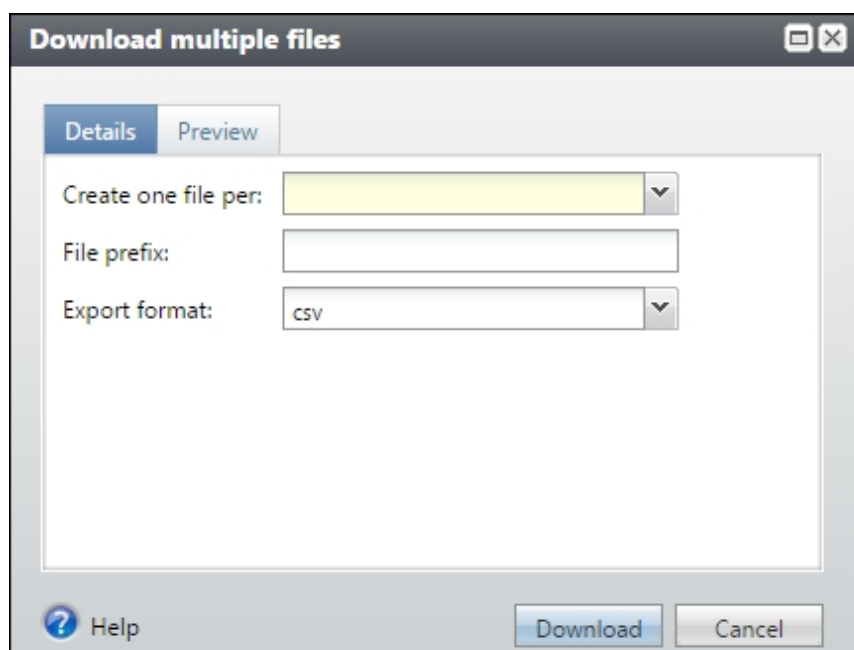
3. On the Details tab, in the **Create one file per** field, select the output field to use to generate the files. For example, to download multiple files of constituent data based on the states in which the constituents reside, select to create one file per state.

4. When the program downloads multiple files, it generates file names based the values of the field selected in the **Create one file per** field. For example, if you download an output file for each state in constituent data, the program generates files named Alabama.csv, Alaska.csv, and so on.

   To help further identify the information in each output file, in the **File prefix** field, enter text to appear at the beginning of the file names generated for the export output. For example, enter "Constituents in -" to download files named Constituents in - Alabama.csv and Constituents in - Alaska.csv.

5. In the **Export format** field, select whether to download as CSV (comma-separated value) or XSLX (*Excel* workbook).

   Tip: The program saves the output of each instance of the export process. To divide the export data in multiple ways, download the output multiple times with a different output field selected as the basis of the files generated.

6. To view the names and record counts of the multiple files the program will download, select the Preview tab.

7. Click **Download**. The program downloads the files as a single ZIP file to your work station. After you open the ZIP file, you can open and save each output file.

History Tab

Each time you run an export process, the program generates a status record of the instance. On the History tab, you view historical status record information about each instance of the process. The **History** grid displays the status of the instance; the start time, end time, and duration of the instance; the person who started the instance; and the total number of records that processed and resulted in exceptions during the instance.

You can also filter by process status to limit the records that appear in the grid. If you filter the records, it can reduce the amount of time it takes to find a process instance. For example, if you search for an instance that did not finish its operation, you can select to view only status records with a status of "Did not finish." To filter the records that appear in the grid, click **Filters** on the action bar. The **Status** field and **Apply** button appear so you can select the status of the instances to appear in the grid. To update the information that appears, click **Refresh List** on the action bar.

Depending on your security rights and system role, you can delete a status record from the grid on the History tab.

Tip: Each instance of a process uses space in the database, so we recommend you regularly remove status records after you download the output. You can manually remove status records from the History tab, or use the "Business process output delete" global change process to remove multiple records at one time. You can also remove a process that is no longer in use to delete all the status records associated with it. For information about how to create the global change process, refer to the *Administration Guide*.

Delete a Process Status Record

On the History tab of a process status page, you can delete a specific status record of the process. When you delete a status record, you delete only the record that contains information about the process.

You can delete a process at any time. When you delete a process, you also delete the history for that process. If you delete a process and need it again, you can only retrieve the process from a backup. We recommend you backup your data before you delete status records.

❯ Delete a process status record

1. On the process page, select the History tab.

   > *Note:* You can filter the status records that appear in the grid by the process status. If you filter the records in the grid, it can reduce the amount of time it takes to find an process instance. For example, if you search for a instance that completed its operation, you can select to view only status records with a **Status** of Completed. To filter the records that appear in the grid, click the funnel in the action bar. The **Status** field and **Apply** button appear so you can select the status of the instances to appear in the grid.

2. In the grid, select the status record to delete.

3. On the action bar, select **Delete**. A message appears to confirm the deletion of the status record.

4. Click **Yes**. You return to the History tab. The selected status record no longer appears.

Job Schedules Tab

On the Job schedules tab, you view the job schedules of the process in the database. The details in the **Job schedules** grid include the name of the job, whether a job schedule is enabled, the frequency of the job schedule, the start date and time and end date and time of the scheduled jobs, and the dates the job schedule was added and last changed in the database. You enter this information when you set the job schedule of the process.

Depending on your security rights and system role, you can add, edit, and delete job schedules that appear on the Job schedules tab. To update the information that appears, click **Refresh List** on the action bar.

❯ Create a job schedule for an export process

1. On the export process status page, select the Job schedules tab and click **Add**. The Create job screen appears.

2. In the **Job name** field, enter a name to help identify the scheduled job.

3. In the **Schedule type** field, select the frequency to run the job.

   - To run the job only once, select "One time." The **One-time occurrence** frame is enabled.

   - To run the job every day, select "Daily." The **Frequency**, **Daily frequency**, and **Duration**

frames are enabled.

- To run the job every week, select "Weekly." The **Frequency**, **Daily frequency**, and **Duration** frames are enabled.

- To run the job every month, select "Monthly." The **Frequency**, **Daily frequency**, and **Duration** frames are enabled.

- To run the job with the *SQL Server Agent* service, such as if you use the *SQL Server Agent* service with other tasks, select "Start when SQL Server Agent service starts."

- To run the job when enough resources are available on the server, as determined by the Idle condition defined in the *SQL Server Agent* properties on the server, select "Start when the computer becomes idle."

4. To mark the schedule active, select **Enabled**.

5. If you select "One time," under **One-time occurrence**, select the time and date to run the job.

6. If you select "Daily," under **Frequency**, in the **Occurs every [ ] day(s)** field, select how often to run the job. For example, select "2" to run the job every other day.

7. If you select "Weekly," under **Frequency**, in the **Occurs every [ ] week(s) on** field, select how often to run the job, and select the day of the week to run the job.

8. If you select "Monthly," under **Frequency**, in the **Occurs every [ ] month(s) on** field, select how often to run the job, and then select a calendar date or general date frequency to run the job.

   - To run the job the same date each month, select **Day** and, in the **[ ] of the month** field, enter the date. For example, to run the job on the 15th of the month, enter "15."

   - To run the job at a general frequency each month, select **The** and, in the **[ ] [ ] of the month** field, enter the frequency. For example, to run the job on the first Sunday of the month, select "First" and "Sunday."

9. If you select "Daily," "Weekly," or "Monthly," under **Daily frequency**, select whether to run the job one time or multiple times on the day selected under **Frequency**.

   - To run the job one time on the selected day, select **Occurs once at** and enter the time of the day to run the job.

   - To run the job multiple times on the selected day, select **Occurs every** and enter the frequency to run the job, such as "30 minutes." In the **Starting at** and **Ending at** fields, select a time range to run the job at the selected frequency. For example, to run the job overnight during off-hurs, enter select a start time of "12:01:00 AM" and an end time of "5:30:00 AM."

10. If you select "Daily," "Weekly," or "Monthly," under **Duration**, in the **Start date** field, enter the date to start the job schedule and select whether the schedule has and end date. If you select **End date**, enter the date to end the job schedule.

11. Click **Save**. You return to the Job schedules tab. In the grid, the new job schedule appears.

Import Selections

From *Analysis*, you can create a process to automatically generate an import selection. An import selection is a named set of IDs of the same record type, created from the record IDs in an import file. For example, you might export information about a large selection of constituents for research, such as to determine the constituents to include in a marketing effort. After you determine the constituents, you create a comma-separated value (*.csv) file of those constituents and include their record IDs. You then use the file to create a constituent selection for the marketing effort.

On the Import selections page, you can view and manage the processes your organization uses to create import selections. After you create an import selection process, you can manage the process and view detail information from its status page.

Import Selections

From the Import selections page in *Analysis*, you can create and manage import selection processes. Under **Imported selections**, information about each import selection process appears. The information includes the process name and description, the status of its most recent instance, and the type of record selection it creates. Other details include the owner of the process, the category it is assigned to, its availability in the query designer, and the sites associated with it. To view additional information about a process such as its recent status or history, select the process name in the grid. The process status page appears. For information about the items on this page, refer to Import Selection Process Status Page on page 110.

To complete tasks for a process, click the double arrows next to the process name to expand the row. Use the task buttons to edit, delete, or assign permissions to it. You can also import a different file to use with the process. For information, refer to Import a File for an Import Selection Process on page 109.

You can also customize the list of import selection processes. You can add and remove columns and choose how they filter and sort. For example, for the **Record type** column, you can set the filters to display only constituent import selection processes. You can also save list parameters to quickly display different views of the list. For example, you may want processes that imported with exceptions to display fewer columns or in a different order. To save list parameters, click Save list. You can also search the list by keyword.

Show Me: Watch this video to learn more about list features.

To reduce the amount of time it takes to find a process, you can filter the grid by criteria such as the process name, type, and category. You can also select to view only processes you own. To filter the processes that appear in the grid, click **Filter**, enter the criteria of the processes to view, and click **Apply**.

Add Import Selection Processes

You can create a process to automatically generate a selection of records based on the record IDs included in an import file. When you add an import selection process, you select the *.csv file of the records to include in the selection, the type of record ID to use, and the column in the file that contains the record ID.

> **Add an import selection process**

1. From *Analysis*, click **Import selections**. The Import selections page appears.
2. Click **Add**. The Add selection screen appears.

Add selection

Name:

Description:

Record type:

Category:

Site: All sites

☐ Show this selection in the Query Designer

Import file information

Import file: <File not specified>
📁 Choose file
🗎 Clear file

ID column:

ID type: System record ID

❓ Help   Save and Import   Cancel

3. In the **Name** field, enter a unique name to help identify the import selection process and the selection it creates. After you add a process, you can use it to create a selection of the same type of records from a different import file.

4. In the **Description** field, enter a description or explanation of the process to further identify it. For example, explain the type of selection the process generates or when to use it.

5. In the **Record type** field, select the type of records to include in a selection created by the process.

   When you edit the process, this field is disabled.

6. To group the selection with similar queries, select its category in the **Category** field. Query categories are code table entries that your organization defines in *Administration*. For information about code tables, refer to the *Administration Guide*.

7. In the **Site** field, select the site at your organization to use the process and its selection. To not restrict the process to a specific site, select All sites.

8. To use the selection in *Query*, select **Show this selection in the Query Designer**.

9. Under **Import file information**, browse to the *.csv file that contains the records to include in the selection.

10. In the **ID column** field, select the column in the import file that contains the record ID to use to identify records in the selection.

11. For some record types, such as Constituent or Event, in the **ID type** field, you can select whether to use the system record or lookup ID. For the Constituent record type, you can also select "Alternate lookup ID" and select the type of alternate lookup ID to use.

    For other record types, the import uses the system record ID.

12. Click **Save and Import**. The program runs the process to import the *.csv file and generate a selection based on the selected record IDs.

    The status page for the process appears so you can view the status of the process and whether it completes successfully. For information about the items on the status page, refer to Import Selection Process Status Page on page 110.

Import a File for an Import Selection Process

After you add an import selection process and generate an import selection, you can import a different file that includes the same type of records to create another selection. The new selection overwrites the original and uses the same name.

> **Import a file for an import selection process**

1. From *Analysis*, click **Import selections**. The Import selections page appears.

2. Under **Imported selections**, select the import selection process to use to import a file and click **Import**. The Import selection screen appears.

    Note: To import a file from the status page of an import selection process, click **Start process** under **Tasks**.

3. Under **Import file information**, browse to the *.csv file that contains the records to include in the selection.

4. In the **ID column** field, select the column of the import file that contains the record ID to use to identify records in the selection.

5. For some record types, such as Constituent or Event, in the **ID type** field, you can select whether to use the system record or lookup ID. For the Constituent record type, you can also select "Alternate lookup ID" and select the type of alternate lookup ID to use.

    For other record types, the import uses the system record ID.

6. Click **Start Import**. The program runs the process to import the *.csv file and generate a selection based on the selected record IDs.

    The status page for the process appears so you can view the status of the process and whether it completes successfully. For information about the items on the status page, refer to Import Selection Process Status Page on page 110.

Import Selection Process Status Page

Each import selection process in the database has a status page where you can view details about the process. You enter this information when you add the process to the database. To view the status page of a process, select its name on the Import selections page.

The status page also includes the current status and historical information about the process. To help you navigate through this information, each process status page contains multiple tabs:

Depending on your security rights and system role, you can perform various tasks to manage the import selection process from its status page.

Recent Status Tab

On the Recent status tab, you can view the details of the most recent instance of the process and download exceptions. The details include the status of the process; the start time, end time, and duration of the process; the person who last started the process; the name of the server most recently used to run the process; the total number of records processed; and the number of those records that processed successfully and resulted in exceptions.

Note: The **Download output** option is disabled when a process does not include exceptions, or the global change to remove business process output deletes them.

Download Import Selection Process Exceptions

If the most recent instance of the process completes with exceptions, such as when the import file includes duplicate entries or entries without record IDs, then the process does not include the exception in the selection. From the status page of an import selection process, you can download these exceptions into a *.csv or *.xlsx file so you can correct the data and successfully generate a selection.

Note: The **Download output** option is disabled when a process does not include exceptions, or the global change to remove business process output deletes them.

❯ Download the exceptions into a *.csv file

1. On the process status page, select the instance of the process with the exceptions to download.
    -   To download exceptions of the most recent instance, select the Recent status tab. When the status of the process is Completed with exceptions, **Download output** is enabled on the action bar.
    -   To download exceptions of a previous instance, select the History tab. Under **History**, select the instance to download.
2. On the action bar, click **Download output** and select **Download to CSV**. The program downloads the file to your work station and provides an option for you to open and save it.

Note: In a comma-separated value (*.csv) file, each piece of data is separated by a comma. A *.csv file is also referred to as a "comma-delimited" or "ASCII" file.

❯ Download the exceptions into a *.xlsx file

1. On the process status page, select the instance of the process with exceptions to download.
    -   To download the exceptions of the most recent instance, select the Recent status tab. When the status of the process is Completed with exceptions, **Download output** is enabled on the action bar.
    -   To download the exceptions of a previous instance, select the History tab. Under **History**, select the instance to download.
2. On the action bar, click **Download output** and select **Download to XLSX**. The program downloads the file to your work station and provides an option for you to open and save it.

Note: In an **Excel** workbook (*.xlsx) file, data is stored in a variant of the Office Open XML format. You can open XLSX files with Microsoft **Excel 2007** or more recent versions. Other spreadsheet programs may support this format. For some older versions of **Excel**, to open XLSX files, there is a compatibility pack available at Microsoft's Office website: http://office.microsoft.com.

History

Each time you run the process, the program generates a status record of the instance. On the History tab, you view historical status record information about each instance of the process. The **History** grid displays the status of the instance; the start time, end time, and duration of the instance; the person who started the instance; the total number of records that processed and resulted in exceptions during the instance; and the server used to run the process for the instance.

You can also filter by process status to limit the records that appear in the grid. If you filter the records, it can reduce the amount of time it takes to find a process instance. For example, if you search for an instance that did not finish its operation, you can select to view only status records with a status of "Did not finish." To filter the records that appear in the grid, click **Filters** on the action bar. The **Status** field and **Apply** button appear so you can select the status of the instances to appear in the grid. To update the information that appears, click **Refresh** on the action bar.

From the grid, you can download the exceptions from a historical status record into a *.csv or *.xlsx file. Depending on your security rights and system role, you can also delete a status record.

Tip: Each instance of a process uses space in the database, so we recommend you regularly remove status records after you download the exceptions. You can also remove a process that is no longer in use to delete all the status records associated with it.

Delete a Status Record of a Process Instance

On the History tab of a process status page, you can delete a specific status record of the process. When you delete a status record, you remove the record and its exceptions from the history.

> **Delete a status record from the History tab**

1. On the process status page, select the History tab.

2. In the grid, select the status record to delete and click **Delete**. A confirmation message appears.

3. Click **Yes**. You return to the History tab. The selected status record no longer appears.