BBFind

Version 3.2

Users Reference

"The Ultimate Query Experience for 4th Dimension"

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Also known as
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BBFind User Documentation
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BBFIND FEATURES:

BB Quick Find
- User or Designer configurable
- Configure multiple fields even across related tables
- Very simple user interface: once configured you just type a value and hit Enter
- Optimized for speed
- Configurable by individual user, user group, or all users

BB Advanced Find
- Much easier to use than the 4D Query Editor
- Query on both the current Table and related tables
- For querying on related tables, the ability to query upward (related one) table relationships, downward (related many) table relationships, and indirect table relationships.
- Queries are optimized for speed, and, relational queries don't need an actual 4D relationship.
- Easy to enter various types of comparisons (Begins With, Greater than, Less than, etc.)
- Easy to do "Multi-Value" queries (query for multiple values on the same field at once)
- Easy to do "Range" searches
- Various "Keywords" for date fields allow the user to save meaningful date-relative queries for repeated use.
- Able to Save and Reload queries
- Able to select recent queries from a drop down list or by keyboard shortcut
- Supplies hints to assist the user in building their query
- Almost every feature can be done from either keyboard or mouse.
-

BB QuickFind
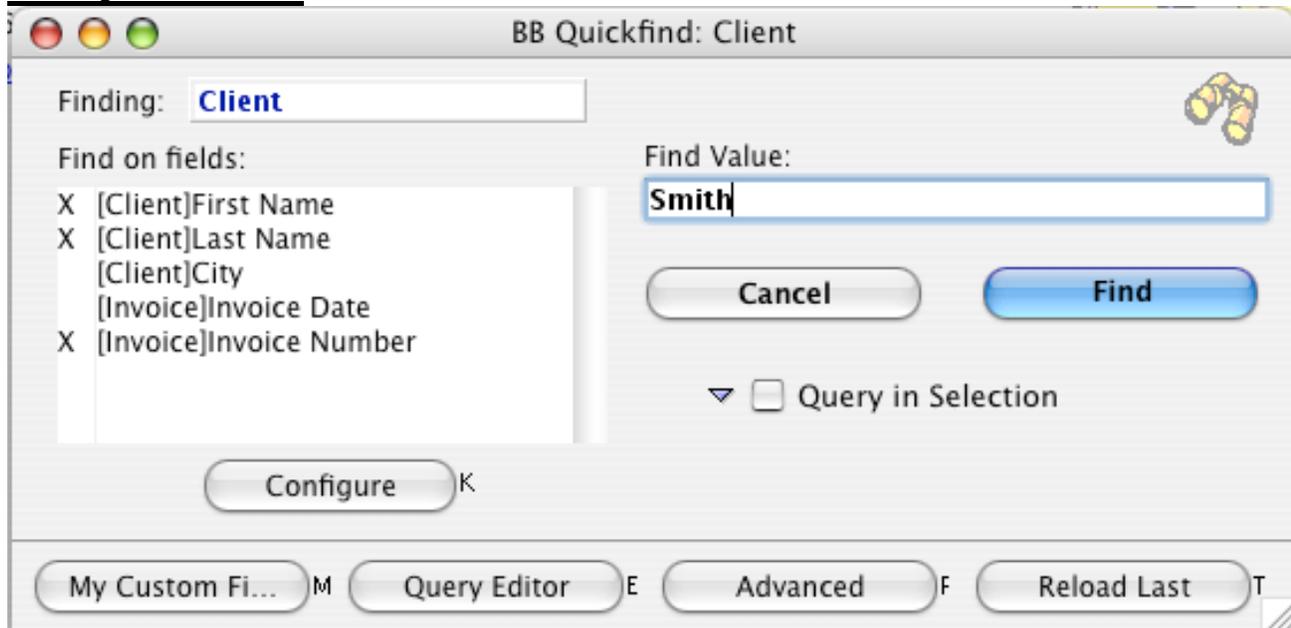
The BB Quickfind screen is for fast, simple queries. For each table in your database, you can configure which fields you want to query. Then, to use the BB Quickfind screen, you just type a value and click Find or press Enter.

Just to the left of the field names is the **selection indicator column**. The selection indicator column allows you to select which field or fields you are going to query. The BB Quickfind screen queries ALL of the fields that you indicate in the selection indicator column, by the value that you enter in **Find Value**. An "X" in the selection indicator column signifies that you have selected the field.

You can easily select and deselect fields in the selection indicator column by:
- clicking on field
- Using the up and down arrows on your keyboard to navigate, and Left or Right arrows to select.
- Double-Click on a field to select ONLY that field and de-select all others.

In the example above, we are querying the Client table. We have selected the fields [Client]First Name, [Client]Last Name and [Invoice]Invoice Number. We have entered the value Smith. When we click Find, BBFind will find all Clients that have a First OR Last name of "Smith". We have also selected to query Clients where the client has [Invoice]Invoice Number = "Smith", but since "Smith" is not a number, BBFind will ignore this from the query.

You can also include the following special items in your Find Value.
- Operators include: >, >=, <, <=, and #
- Range Searching: {Value1} to {Value2}
- Date Keywords: See also the section on Date Keywords under *Advanced Find Screen*

The Query in Selection check-box, and associated pop-up menu have the following options:
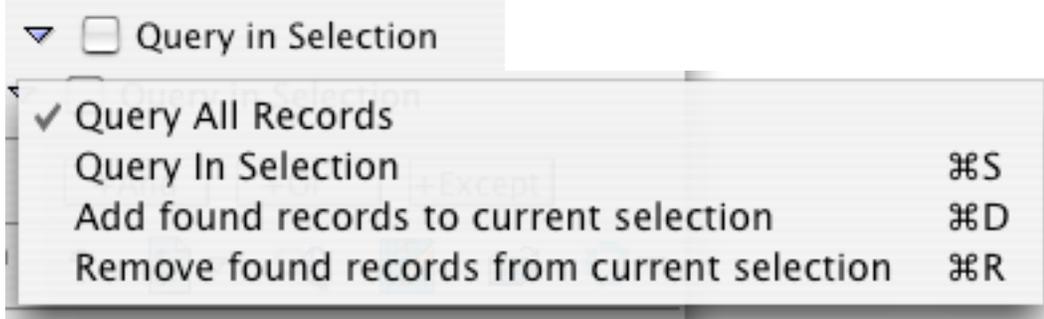
Select the Configure button to go to the BB Quickfind Configuration screen.

Select the Query Editor button to go to the 4D Query Editor.

Select the Advanced button to go to the BB Advanced Find Screen.

Select the Reload Last button to reload the query value that you entered the last time that you were in the BB Quickfind.

BB QUICKFIND CONFIGURATION SCREEN
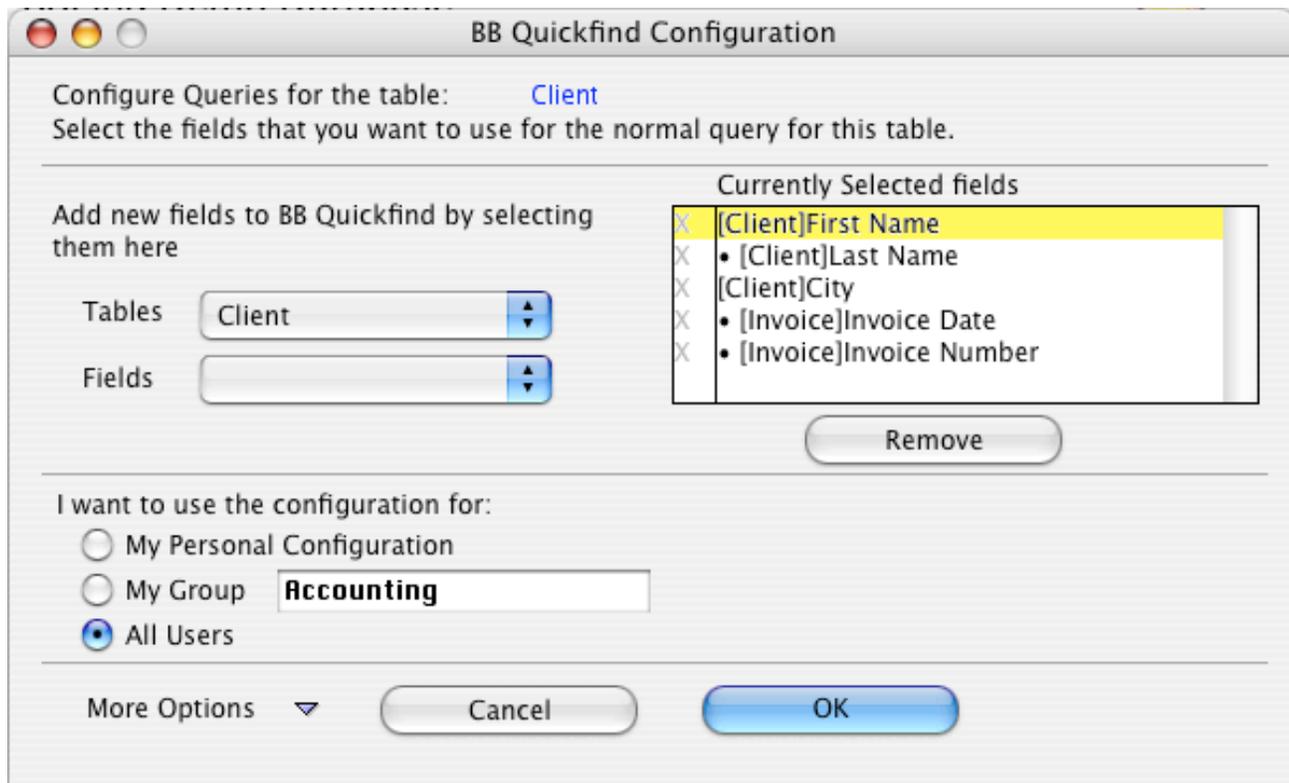
The BB Quickfind Configuration screen is where you configure the fields that will appear in the BB Quickfind Screen, and which fields will have their Selection Indicator Column selected.

To add fields to the query field list,
1. Select the table from the Tables pop up menu, then
2. Select the field from the Fields pop up menu.

To remove a selected field:
1. Highlight the field in the list of currently selected fields
2. Click the "Remove" button.

On the left side of the *Currently Selected Fields* is the *Selection Indicator Column.* The Selection Indicator Column here sets the default for the QuickFind screen. Mark or unmark each field in your list as desired by clicking in the Selection Indicator Column.

Fields that appear with a bullet are indexed fields. Indexed fields are generally faster to search.

The center area of the form that says, "I want to user the configuration for:" determines who you will share your configuration with.

- If you select, "My Personal Configuration", then you will configure the BB Quickfind for yourself alone.
- If you select, "My Group" and enter a group name in the associated entry, then all users who enter the same group name will share the same configuration
- If you select "All Users", then you will share the configuration with all users who select the "All Users" option.

The "More Options " pop-up-menu allows you access to some additional options:

- About BBFind: Tells you who wrote it
- Save Quickfind Configuration into Database Template: This will save the BB Quickfind configuration for all tables directly into the database template. This is intended for distributed applications where you will distribute a database template without data, but you want to pre-configure the BB Quickfind screen for the users.

THE BB ADVANCED FIND SCREEN
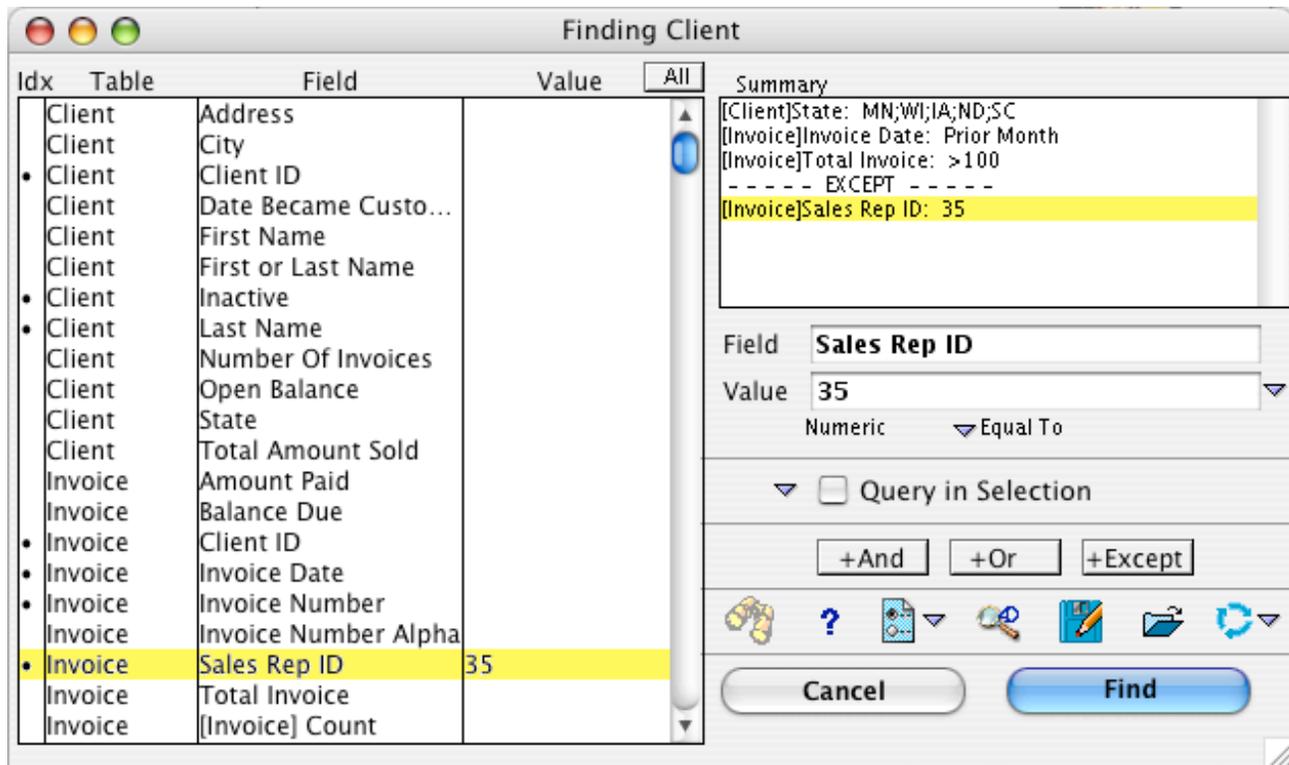
The BB Advanced Find screen a very powerful, while easy to use query builder. You can enter query values on multiple fields and tables. To use the Advanced Find Screen you must do two things:

1: Select the field to query
2: Enter the value to find

Querying on multiple fields

You can repeat steps 1 and 2 to enter query arguments on multiple fields, as illustrated above. If you query on multiple fields, BBFind will find the records that match ALL of the conditions; in other words, by entering more conditions you will find a more concise selection of records.

When you have selected your field{s} and entered your value{s}, click the Find button, or press Enter, to execute the query.

Selecting a field or fields to query:

There are 3 ways that you can select the field you want to query:
- Point and click on a field in the list.
- Use the Up/Down arrows from the keyboard.
- Type any part or parts of the field name in the "Field to Query" entry.
- Type part of a table name, plus a period to see only fields in that table.

You can do any combination of the three. For your convenience, if you type part of the field name in the "Field to Query" entry, BBFind uses clairvoyance to condense the field list down to just the items that match what you type. As soon as you click or tab into the "Value to Find" entry, the field list will again display the full list of searchable fields.

For example: As illustrated above, if you type "Inv Tot" in the Field to Query area, BB Advanced Find would highlight the field "Total Invoice".

Entering the Value to Find

Once you have selected a Field to Query, you then enter the value(s) you want to find in the Value to Find area.

Depending on the data type of the field you have selected, there are different ways that you can use the Value to Find area. The data types are: Alpha, Numeric, Date, Time and Boolean.

Comparison Types:
As you enter a value to find, BBFind allows you to select different comparison types, such as "Is Equal To", "Is Greater Than", etc. The comparison type can be selected from the dropdown list immediately below the "Value to Find" area. When you select different comparison types, BBFind inserts special symbols into the value to find text which indicates the comparison type. When you become familiar with the comparison types, you can type them directly into the "Value to Find" area, rather than selecting them from the drop down list.

Range Queries
BBFind can find a range of values within a field. For example, if you wanted to find Clients with an open balance from $100.00 to $500.00, this is a "Range" of values. To find a range of values, enter <FirstValue> to <LastValue> in the Value to find area. Be sure to enter one space before and after the word "to". Range queries work on all data types except Boolean.

Field	Open Balance
Value	100 to 500

Numeric ▽ Range

Range queries can be used in conjunction with querying on multiple other fields.

Multi-Value Queries
BBFind has a way to find multiple values for the same field. Let's say that you want to find clients within a given list of states: Minnesota, North Dakota, South Dakota, Iowa and Wisconsin. There are two simple ways to enter this:
1. In the Value to Find, enter each state, separated by semi-colons (;). Don't put any other spaces or punctuation between them.
        OR
2. Click the drop down arrow to the right of the Value to Find area. This will open a special dialog to more easily enter and view a list of values.

Multi-value queries can be used in conjunction with querying on multiple other fields.

Alpha Fields:

(Alpha fields are fields that hold Alphabetical and possible numeric characters.)

By default BBFind does a "Begins With" query for Alpha fields.

Field	Last Name
Value	Smith

Alpha ▽ Begins With

This example will find the persons with Last Name equal (or starting with) "Smith."

You can however select different comparison operators from a drop down list. The drop down list is immediately under the "Value to Find" area. The drop down list displays which comparison operator is currently being used.

As stated above, Alpha fields automatically do a "Starts With" Query. If you enter "A" in "Value to Find", BBFind will find everything starting with "A".

To do an exact query (not begins with), then add an exclamation point "!" to the end of the value: "A!" would find only the value(s) EXACTLY, "A".

To do a "Contains" query, begin your "Value to Find" with "@".

To do an "Ends with" query, begin your Value to Find with "@", and end it with "!".

To query an alpha field for records where the value is **blank** , enter just "!".

Examples:

Field	Last Name
Value	Smith

Alpha ▽ Begins With

Finds all clients that have a Last Name that begins with "Smith".

Field	Last Name
Value	A to L

Alpha ▽ Range

Find all persons with a Last Name between A and L. This is a "Range" Query.

Field	Address
Value	@Box
	Alpha ▽ Begins With

Finds addresses that contain the word "Box".

Field	State
Value	MD;ND;SD;WI;IA
	Alpha ▽ Multiple Values

Find persons in the following list of states: MN, ND, SD, WI, IA.

Numeric Fields

Numeric fields have all the same features as Alpha fields in regards to:
Operator symbols, Range Querying and Querying for multiple values.
There is no "Contains" query, "Starts with" query, or "Ends with" query for numeric fields.

Examples

Field	Total Invoice
Value	1000 to 9999.99
	Numeric ▽Greater Than

Find all invoices where the total invoice is anywhere from $1,000 to $9,999.99.

Field	Total Invoice
Value	>=10000
	Numeric ▽Greater Than

Find all invoices where the Total Invoice is greater than or equal to $10,000.

Date Fields

Date fields have all the same features as Alpha field in regards to:

Operator symbols, Range Querying and Querying for multiple values.

There is no "Contains" query, "Starts with" query, or "Ends with" query for Date fields.

If you enter just the month and day, BBFind will assume the current year: 7/1 will be interpreted as 7/1/(current year).

If you enter just the month and 4 digit year, BBFind will find all dates within that month: 9/2002 will find all dates from 9/1/2002 to 9/30/2002.

If you enter just the 4 digit year, BBFind will find all dates within that year: 2002 will find all dates within the year of 2002.

Date Keywords

BBFind employes a number of keywords for date entry. To enter a keyword, you can type the entire keyword, or an abbreviation of the keyword. Following is a list of keyword dates and their abbreviations:

Keyword	Abbreviation	Note	Add/Subtract
Today	* or T		Days
Prior Business Day	PBD	The previous day, other than a weekend day. If today is Monday, then the previous Friday will be returned	Days
Next Business Day	NBD	The next day, other than a weekend day. If today is Friday, then the following Monday will be returned	Days
Current Month	CM		Months
Prior Month	PM		Months
Current Week	CW	Weeks begin on Sunday and end on Saturday	Weeks
Current Monday	CN		Days
Current Quarter	CQ	Quarters begin January, April, July, October	3 Months
Current Year	CY		Years

When entering Keywords, you can add or subtract time from the keyword. For instance, you can enter the query:

Field: [Invoice]Date,   Value: Current Month-1

This will return you all Invoices that have a date within the previous month. You could also enter:

Field: [Invoice]Date,   Value: Current Month+1

This will return you all Invoices that have a date within the next month.

When you add or subtract from a date keyword, what you add or subtract depends on the keyword. See the table of keywords under the "Add/Subtract" column to know that is added or subtracted from

each keyword
For instance
Today+1 = tomorrow
Current Week+1 = next week (Sunday is the first day of each week)
Current Month+1 = next month
Current Year+1 = next year

For queries using keywords that span more than one day, when you query using that keyword, you will get all dates within that keyword.
The query "Field: [Invoice]Date,   Value: Current Month " will yield all invoice records with a date in the current month
The query "Field: [Invoice]Date,   Value: Current Year-1 " will yield all invoice records with a date in the prior Year

If you query on a range of dates (Date1 to Date2) and date1 or date2 are Keyword dates, then the query will find all dates from the first date within Date1 to the last date within Date2. For instance: if todays date is 3/15/2002, then the query "Field: [Invoice]Date,   Value: Current Month-1 to Current Month+1 " will yield all invoice records from 2/1/2002 to 4/30/2002

You can combine different keywords within a query. Some examples would be
"Field: [Invoice]Date,   Value: Current Month to today" This would return records from the first of the month, upto and including today.
"Field: [Invoice]Date,   Value:Today+1 to Current Month" This would return records from tomorrow through the end of the month.

The power that these keywords give you is in Saving and re-using your queries. When you save a Keyword in your query, then the next time that you load and use the query, you don't have to enter the dates again. (See also the section on "Saving & Loading Queries").

Time Fields

Time fields have all the same features as Alpha field in regards to:
Operator symbols, Range Querying and Querying for multiple values.
There is no "Contains" query, "Starts with" query, or "Ends with" query for Time fields.

Boolean Fields

BBFind will interpret values beginning with "Y" (for Yes), "T" (for True), and "1" as True. Any other values will be interpreted as "False", or "NO".

Query on Related Record Counts:

BBFind allows you to query for records in a table by the count of related records in another table. BBFind creates field called '(*TableName*) Count' that you can use to accomplish this.

When querying on a related records count, if you are querying on additional fields in the related table, and you want your relational count to only consider the count for records that match the other conditions for the related table, then type an asterisk (*) at the end of your number.

Example:
Querying a Client table where:

[Invoice] date Paid = Current Month
[Invoice] (Invoice Count) >1*

In this example, the result will be clients that have more than one invoice that was paid in the current month. If the asterisk was omitted, then the result would be clients that have more than one invoice on file, and at least one of them being paid in the current month.

Summary Area
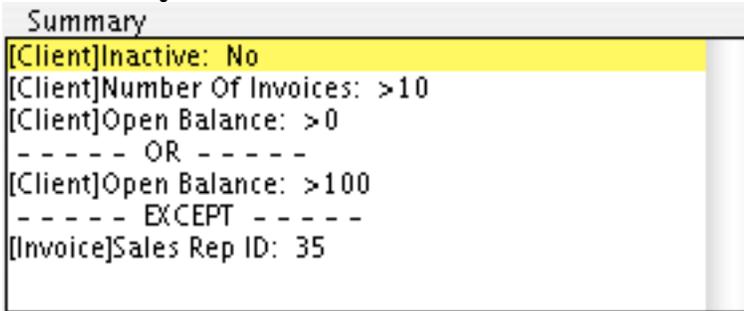
The Summary area shows a summary the all entered query criteria. If you add Conjunction operators (And/Or/Except) then conditions are grouped together within their respective conjunctions.

If you click on the row of any condition, that condition will be loaded into the Query Value area so that you can modify it.

If you click on a conjunction operator row (And/Or/Except), a pop-up menu will allow you to change or delete that conjunction.

Query in Selection

The Query in Selection check-box, and associated pop-up menu have the following options:
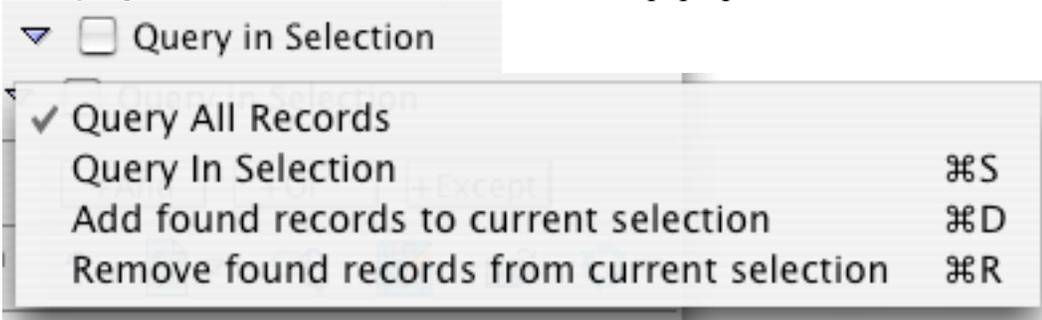
Conjunction Operators

And / Or / Except

You can group sets of conditions together with And/Or/Except conjunction operators.
And: records must match both the prior and the following conditions to be included in the result.
(hot key command-shift-A on Macintosh, Ctrl-shift-A on PC)

Or: records much match EITHER the prior OR the following conditions to be included in the result.
(hot key command-shift-O on Macintosh, Ctrl-shift-O on PC)

Except: records that match the following condition will be excluded from the result.
(hot key command-shift-X on Macintosh, Ctrl-shift-X on PC)

Recent Queries drop-down list

Each time that you execute a query, that query is remembered, and can be retrieved under the "Recent Queries" drop down list. The most recent queries will appear at the top. These queries will be accumulated until you quit from the database.

When you click on the Recent Queries icon, you will see a drop-down list of your recent queries, containing (from left to right):
- The time that you performed the query
- The text of the query
- The hot key that you can use to active that query
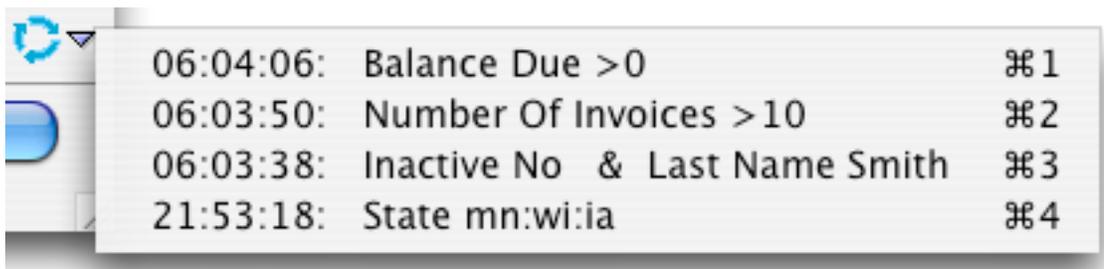
SAVING & LOADING QUERIES

BBFind can save the criteria that you enter, to be reloaded by you or other users on a repeating basis.

Lets say for example that at the beginning of each day, you do a report on the following:

Invoices from the Prior day where the Invoice total is Greater than Zero and Doug is the Sales Rep.
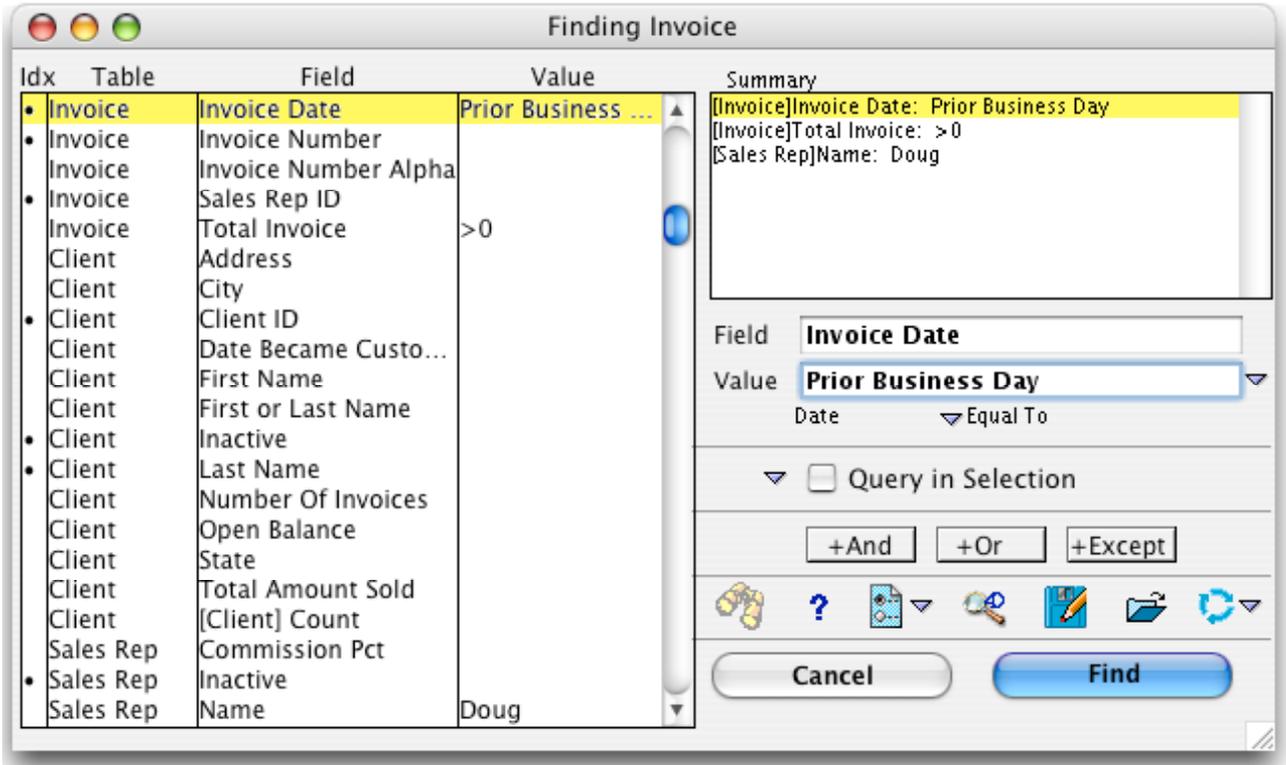
After you have entered the criteria, you could choose to Save this Query: Click the Save icon (   )

Enter the name you want to give the Query
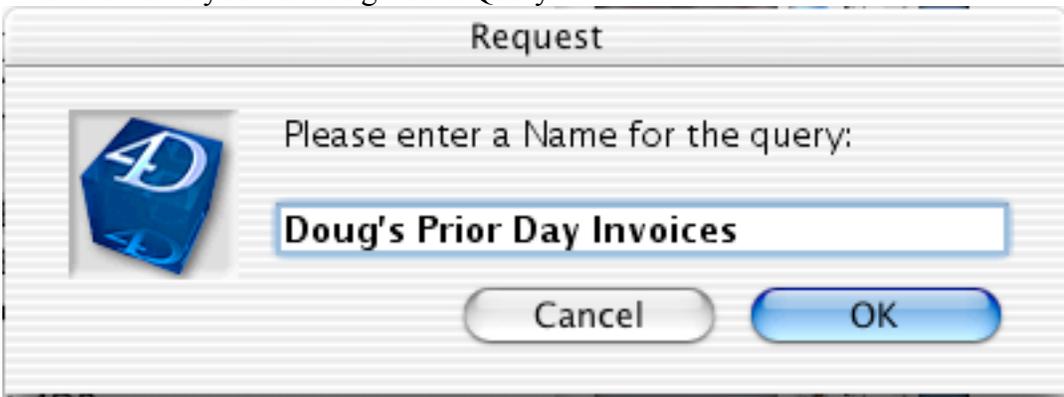
You can choose to save a Query for your use only, or for all users.
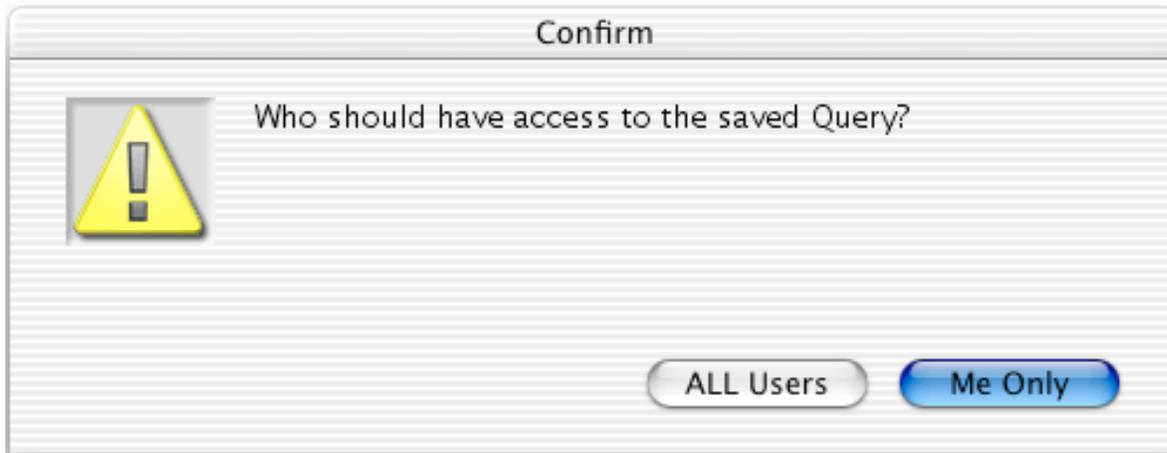
Once it is saved, you can reload the query at any time by clicking "Load" icon ( ).
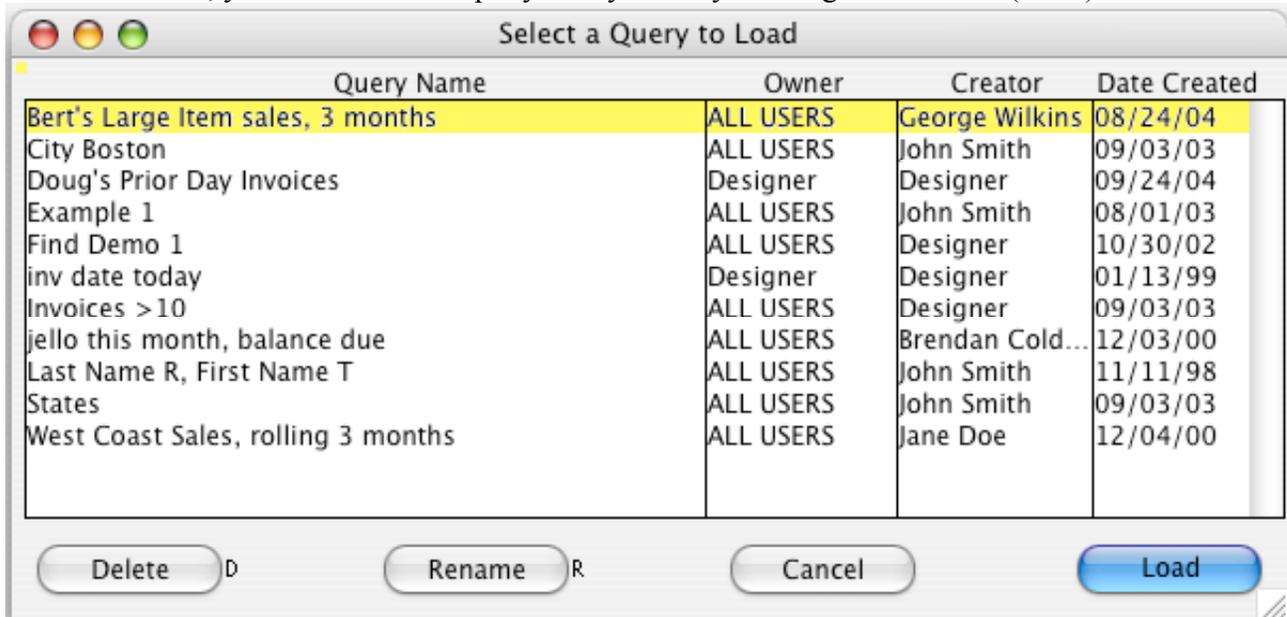
Once you Load the Query, you will see the BBFind screen with all the parameters of the Query: you can then modify the query, or just click "Find" to execute the query.

Note: The Load a Query has "Type in List" enabled. You can type part or all of the name of the query that you want to load and BBFind will quickly highlight your query.

Help

The Help screen has information about what kind of values you can enter for each kind of field. This is an on-line quick reference for the user.

4D Query Editor

In the sad event that BBFind is not sufficient for the query that you need to do click Query Editor to go to the 4D Query Editor. (We almost can't imagine that this would happen)

More Options

This is a drop down list. The options are:
- Configure…: This allows you to configure the BB Advanced Find Screen. See also the section on *Configuring BB Advanced Find*.
- About BBFind: Shows you the credits and Registration information for BBFind.
- Copy Field List to Clipboard: This is a utility that copies the entire visible table of Tables, Fields and Values to your system clipboard. From the clipboard, you can Paste the information elsewhere, such as into a spreadsheet.

ALL

Through the Configuration screen, you can configure BBFind to hide fields from the BB Advanced Find Screen. *(See also the section on Configuring BB Advanced Find Screen.)* If you are hiding fields, than the ***All*** button appears on the Advanced Find screen. Clicking the All button temporarily displays all user-accessible fields, including the fields that you have configured to Hide.

Technical Note: Your database programmer also has options to programmatically hide fields from the user. Clicking the All button does NOT display programmatically hidden fields, but only the fields that users have configured to be hidden using the BB Advanced Find Configuration screen.

Cancel

If at any time you click Cancel, you will exit BBFind, leaving your selection of records unchanged.

Configuring BB Advanced Find
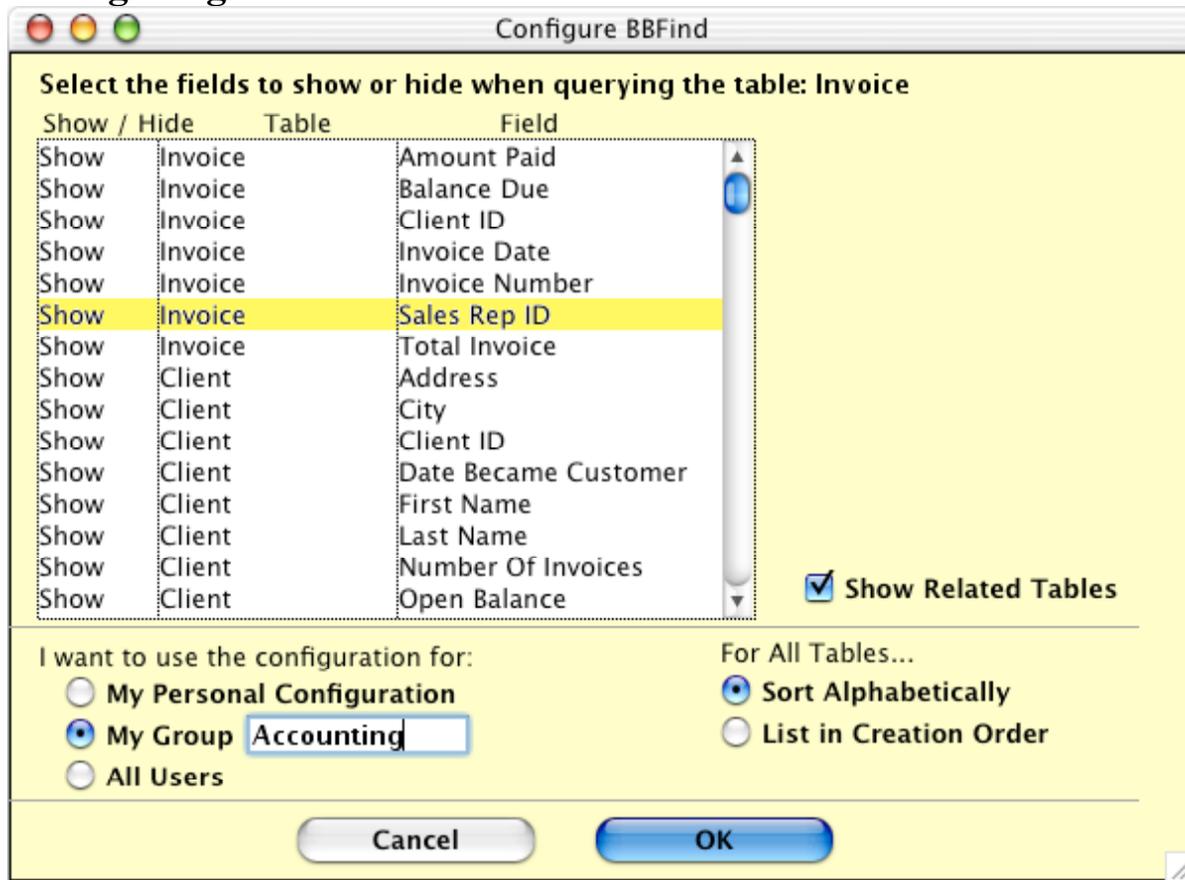
BB Advanced Find allows you to configure a number of options for each table that you query. You get to the Configuration for BB Advanced Find from the Advanced Find screen under the "More" pop-up menu.

The items that you can configure are:
- **Which fields are displayed or hidden**; *Configured on a table by table basis*
    - o To configure which fields are displayed or hidden, click on the field in the list of fields. When you click, the left-most column will toggle between *Show* and *Hide*.
-
- **The displayed sort order for the fields**; *Configured across all tables*
- **Whether or not fields from related tables are displayed**, "Show Related Tables"; *Configured on a table by table basis*

The configuration for these items can be made specific to…
- The individual user
- A specific Group of users, which you can name
- All users. (Any user who selects the All Users option will use the "All Users" configuration. Users who select to use their own personal configuration, or to use a Group configuration will not be effected by the *All Users* configuration.

DATABASE STRUCTURE FOR EXAMPLE DATABASE INCLUDED WITH BBFIND

Client	
Client_ID	**L**
Company_Name	**A**
Address_1	A
Address_2	A
City	A
State	A
Zip	A
Country	A
Date_Became_Customer	D
Number_Of_Invoices	L
Total_Amount_Sold	R

Invoice	
Invoice_Number	**L**
Inv_Date	D
Client_ID	**L**
Sales_Rep_ID	**L**
Total_Invoice	R
Amount_Paid	R
Balance_Due	R

Invoice_Item	
Invoice_Number	**L**
Product_ID	**L**
Product_Name	A
Quantity	R
Cost_Per	R
Cost_Extended	R
Invoice_Item_ID	**L**

Product	
Product_ID	**L**
Product_Name	A
Type	A
Sell_Price	R
Cost	R
Qty_On_Hand	R

Sales_Rep	
Sales_Rep_ID	**L**
Name	A
Commission_Pct	R

The example database for the purpose of this manual is a simplistic invoicing system. The example demonstrates basic "Many to One" and "One to Many" relationships. The arrows shown here point from the "Many" files to the "One" files. This means that there are normally many invoice_Items to one Invoice, and many Invoices to one Client, and so on.