Crystal Reports 6

Using Parameter Fields in Crystal Reports 6

Overview

This document provides an overview of using Parameter fields in Crystal Reports (CR) 6.

Contents

Introduction

In Crystal Reports (CR) 6.0, parameter fields are fields that prompt you to specify a value each time you refresh the data in your report. When you supply a value, the program runs the report using that value. By using parameter fields in formulas, selection formulas, and in the report itself, you can create one report that you can modify quickly as your needs change.

NOTE	Create a Text Object in the Report Header, and insert parameter fields into it to show user's entry.

How to Create a Parameter Field

1. Click the Insert | Parameter Fields button on the standard toolbar and click the New button
2. The Create Parameter Field dialog box appears, enter the following information into the boxes:

- **Parameter Name:** Enter the name you want to use to identify the parameter field.
- **Prompting Text:** Enter the text you want to appear when the program prompts you. (Enter format or selection choices here to be more User friendly).
- **Value Type:** Enter the data type of the parameter field.
- **Default Prompting Value:** Enter the value you want the program to use as a default or select Browse Table and Browse Field and select default database value.
- **Browse Table:** Use this drop-down box to specify a default table *to be used during the CREATION of the parameter field only.*
- **Browse Field:** Use this drop-down box to specify a default field *during the CREATION of the parameter field only.*

3. Click OK to return to the Insert Fields dialog box and the new parameter field name is displayed.

How to Change Order on Parameter Values Screen

Multiple values are to be entered into a parameter prompt and record selection performed is based on these values. This is possible as long as the values are separated by a comma when entered. CR recognizes the commas and automatically changes the prompting variable to an array. To take advantage of this array, our record selection must be changed.

String Database Fields

From:

{String.Field} = {?StringParameter}

To:

{String.Field} in {?StringParameter}

From:

{String.Field} = {?StringParameter}

To:

{String.Field} in {?StringParameter}

Numeric Database Fields

Multiple numeric values, separated by commas, are to be entered in a parameter field but numeric fields do not work because CR sees the commas as thousands separators. This parameter field is to be used to select records which match one of the numbers.

The following was entered into the selection formula:

{Number.Field} in {?NumericParameter}

This did not work. If the value 13 were entered into the parameter field, the database values of 1, 3, and 13 would be selected. Similarly, the formula:

{?NumericParameter} in {Number.Field}

is problematic since a parameter value of 1 also brings up 1, 11, 13, 214, etc.

To resolve this, a string parameter field was created and the selection formula was altered to read:

Totext({Number.Field}, "0000") in {?StringParameter}

NOTE	Value of the parameter field must now be entered with the leading zeros, i.e. 0013, 0001.

How to set Date Range Parameters in Selection Formula

To create a report which prompts the user to enter a date range and return data for the specified period, you need to create two date parameters; the first date parameter would be named *?startdate* and the second named *?enddate* (ensure the parameter type is Date). This example assumes that CR recognizes the database date field as a true date type (browse database field).

From the Report | Edit Selection Formula | Record menu, your selection criteria should look something like the following:

{Date.Field} in {?startdate} to {?enddate}

This record selection criteria will prompt the user to enter a start date and end date selection for CR to generate a report for the specified period when Previewed or Refreshed.

NOTE	The user will have to enter the date in the CR format as: Date(1998,01,01).

How to use String Parameters for Date Range Selections

A date parameter field is to be entered in the format "DD/MM/YY" to make entry more user-friendly, rather than the CR Date Format: Date(1998,01,01), which would be required by CR if the parameter was of Date Type.

To create a report which prompts the user to enter a date range and return data for the specified period, you need to create two date parameters; the first date parameter would be named *?startdate* and the second named *?enddate* (ensure the parameter type is String for both). This example assumes that CR recognizes the database date field as a true Date Type (browse the database field to find out).

The following are the two formulas to convert string parameters to a Date Type, which will then be used in a record selection range and compared to dates.

@startdate:

```
NumberVar startmonth := 0;
NumberVar startday := 0;
NumberVar startyear := 0;

If NumericText({?startdate}[1 to 2]) Then
  startmonth := ToNumber({?startdate}[1 to 2]);
If NumericText({?startdate}[4 to 5]) Then
  startday := ToNumber({?startdate}[4 to 5]);
If NumericText({?startdate}[7 to 8]) Then
  startyear := ToNumber({?startdate}[7 to 8])+1900;

If (startmonth<>0)and(startday<>0)and(startyear<>0)
  Then Date(startyear,startmonth,startday)
Else Date(0,0,0)
```

@enddate:

```
NumberVar endmonth := 0;
NumberVar endday := 0;
NumberVar endyear := 0;

If NumericText({?enddate}[1 to 2]) Then
  endmonth := ToNumber({?enddate}[1 to 2]);
If NumericText({?enddate}[4 to 5]) Then
  endday := ToNumber({?enddate}[4 to 5]);
If NumericText({?enddate}[7 to 8]) Then
  endyear := ToNumber({?enddate}[7 to 8])+1900;

If (endmonth<>0)and(endday<>0)and(endyear<>0)
  Then Date(endyear,endmonth,endday)
Else Date(0,0,0)
```

NOTE	[1 to 2] is pulling out the digits of the month, the numbers represent the positions of the string holding the appropriate date characters. i.e. if the format was entered in as 01/23/97 for January 23, 1997 then the month would be represented by positions 1 to 2, the day by positions 4 to 5, and the last half of the year by positions 7 to 8.

NOTE	ToNumber({?parameterdate}[7 to 8]) + 1900 accounts for 19XX years only. For the year 20XX it has to be adjusted to read: ToNumber({?parameterdate}[7 to 8]) + 2000 or have the year entered in as "YYYY" and adjust the positions taken out as: NumberVar yr := ToNumber({?parameterdate}[7 to 10])

Record Selection

From the Report | Edit Selection Formula | Record menu, your selection criteria should look something like the following:

```
{Date.Field} in {@startdate} to {@enddate}
```

This Record Selection criteria will prompt the user to enter a start date and end date selection for CR to generate a report for the specified period when previewed or refreshed.

NOTE	The user will have to enter the date in the format which you indicate (i.e. for the case above, “DD/MM/YY”)

NOTE	Anytime you use formulas, CR functions or UFL functions in your Record Selection formula, you will be forcing all record processing to the CLIENT machine, as these functions are NOT recognized SQL syntax statements.

How to set Sort Order using Parameter Fields

To set the sort order using parameter fields, you need to create a formula that includes a parameter field and then sort on that formula. For example, assume that you have a customer list report based on the Customer table. For each customer, you show the Customer Name, City, Region, Country, and Phone Number. You want to be able to sort the report by Country, by Region, or by City, depending on your needs at the time.

1. Create a parameter field and name it SortField. See How to create a parameter field.
2. In the Prompting Text edit box, type a prompt similar to this:

   “Type R to sort by Region or C to sort by City, otherwise data will be sorted by Country.”
3. Create a formula similar to this and call it Sort:

```
If {?SortField} = “C” Then {customer.CITY}

Else If {?SortField} = “R” Then {customer.REGION}

Else {customer.COUNTRY}
```

This formula prompts for a value for the parameter field {?SortField}. If you enter “C”, the formula will sort by the City field. If you enter “R” it will sort by the Region field. If you enter anything else, or do not enter anything at all, the formula will sort by the Country field. See How to create multi-condition If-Then-Else formulas.

4. Place the formula in the Report Header section of your report and toggle its Suppress option on in the Section Expert so it does not print.

5. Click the Sort Records button on the standard toolbar, choose your formula, @Sort, as your sort field.

Now when you run the report, the program will prompt you for a sort field, the formula will return a value based on your selection, and the sort facility will use that value as your sort field.

Parameter to Return All Records if Blank

When the Report is refreshed, the user is prompted to enter the State value. Only the records matching that State value will be returned; so in the case of "CA", only the records with a State value of "CA" will be in the report but the user may want to return all records in some cases.

The desired result can be achieved through modifying the Selection Formula to return all the records if the Parameter Value is empty. The modified formula would look something like the following:

```
If {?State} = ""  Then
  TRUE
Else
   {company.STATE} = {?State}
```

NOTE	For numeric values, use a default such as 999 (If {?NumericPar}=999 Then TRUE)

In the first condition of this formula, an empty Parameter Value is trapped, and the result of the Record Selection is made to be "TRUE" for each record read. This will cause all records to be returned.

If the Parameter value is not blank, the formula falls through to the original selection of all values equal to the prompt value.

Contacting Crystal Decisions for Technical Support

We recommend that you refer to the product documentation and that you visit our Technical Support web site for more resources.

Self-serve Support:

http://support.crystaldecisions.com/

Email Support:

http://support.crystaldecisions.com/support/answers.asp

Telephone Support:

http://www.crystaldecisions.com/contact/support.asp