

Software Engineering Lab

Crystal Reports - Part2

Lab 6

Agenda

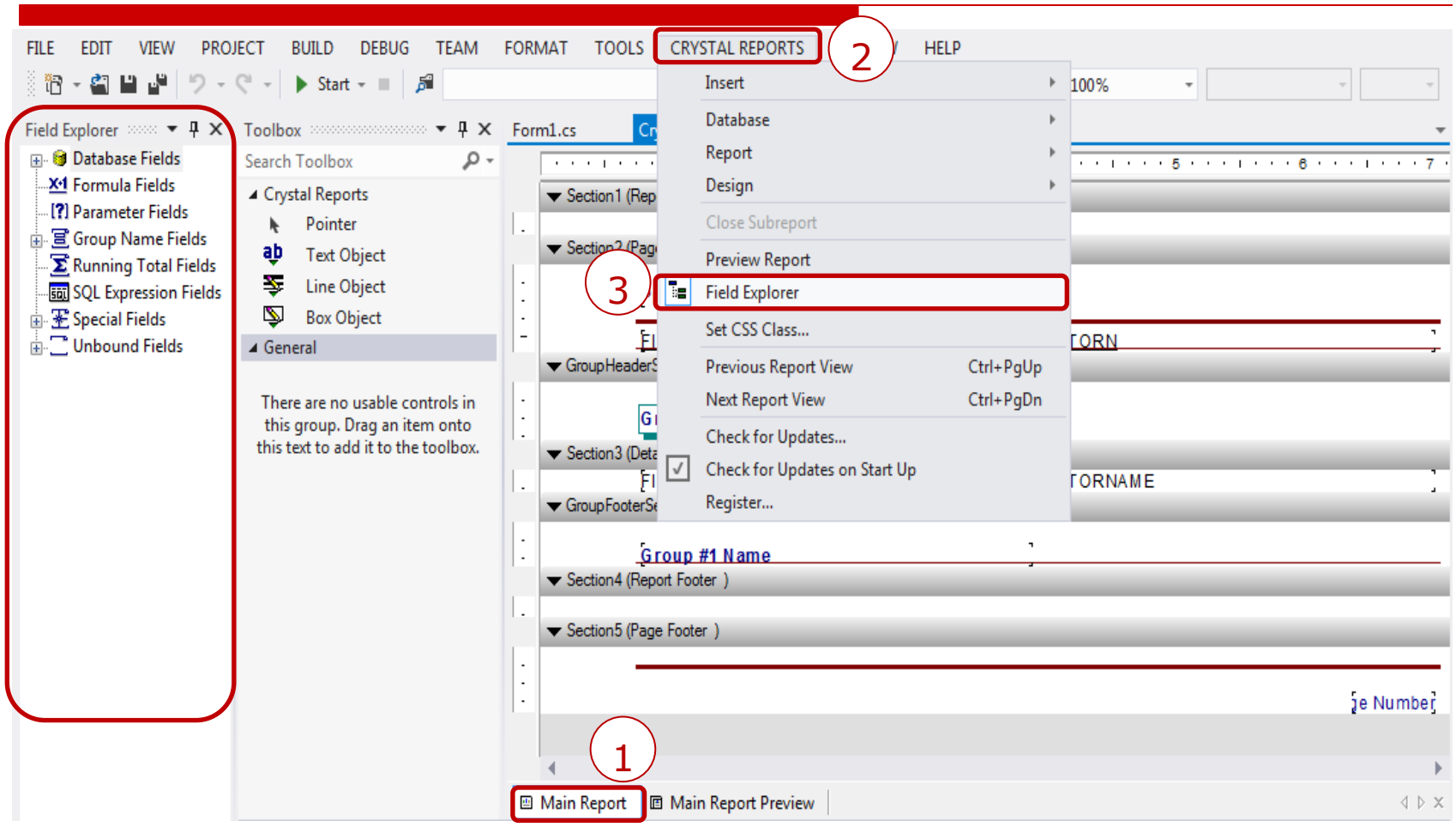
- ☐ Crystal Reports with Parameters
 - ☐ Date to Date Crystal Reports
 - ☐ Passing Parameter Values From C# Form To The Crystal Report
 - ☐ Adding Formula to Crystal Reports
 - ☐ Adding Summary Field to the Report Footer
-

Crystal Reports with Parameters

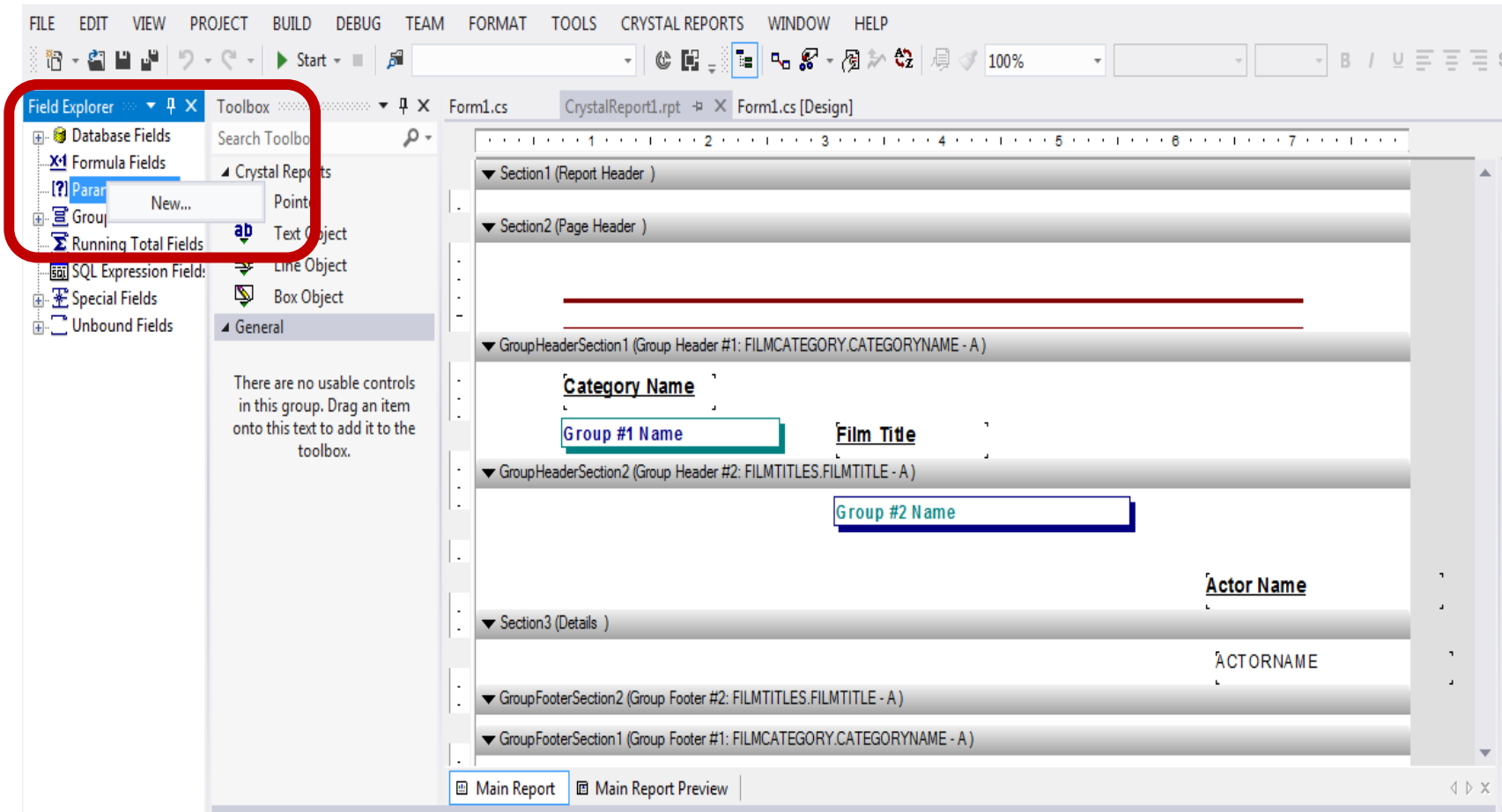
Crystal Reports with parameters

- Pass a Category Name as a string parameter to get a report that displays the names of all the movies for this Category Name and the names of the actors for these movies.
- To create a new parameter in Crystal report designer window.
 - Open the **Main Report** tab then Select the Field Explorer from Crystal Report Menu.

Crystal Reports with parameters(cont'd)



Crystal Reports with parameters(cont'd)



Crystal Reports with parameters(cont'd)

Create New Parameter

Create a new parameter and list of values.

Name:

Type:

List of Values:

Value Field:

Description Field:

Field List:

- ACTORID
- ACTORNAME
- GENDER
- FILMACTORS
- FILMID
- ACTORID
- FILMCATEGORY
- CATEGORYID
- CATEGORYNAME**
- FILMTITLES
- FILMID
- FILMTITLE
- RELEASEDATE

Setting:

Setting	Value
Editable	True
Prompt Text	Enter CategoryName_Parameter:
Prompt With Description Only	False
Optional Prompt	False
Default Value	

OK Cancel Help

Crystal Reports with parameters(cont'd)

Create New Parameter

Create a new parameter and list of values.

Name: Type: List of Values:

Value Field: Description Field:

Actions

- Append all database values
- Clear
- Import...
- Export...

Value Options:

Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Enter CategoryName_Parameter:
Prompt With Description Only	False
Optional Prompt	False
Default Value	

OK Cancel Help

Crystal Reports with parameters(cont'd)

Create New Parameter

Create a new parameter and list of values.

Name: Type: List of Values:

Value Field: Description Field:

Value

Value	Description
Action	
Adventure	
Animation	
Comedy	
Fantasy	

Value Options:

Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Enter CategoryName_Parameter:
Prompt With Description Only	False
Optional Prompt	False
Default Value	

OK Cancel Help

Crystal Reports with parameters(cont'd)

□ **Name**

- The parameter name which will be linked to a table column to filter the report data.

□ **Type**

- Parameter data type
- It must match the data type of the column that will be linked to the parameter to filter the data

□ **List of values**

- Add a pre-defined list of values to the parameter so that user can choose among these values
- Static means the values in the list will never change.

□ **Value field**

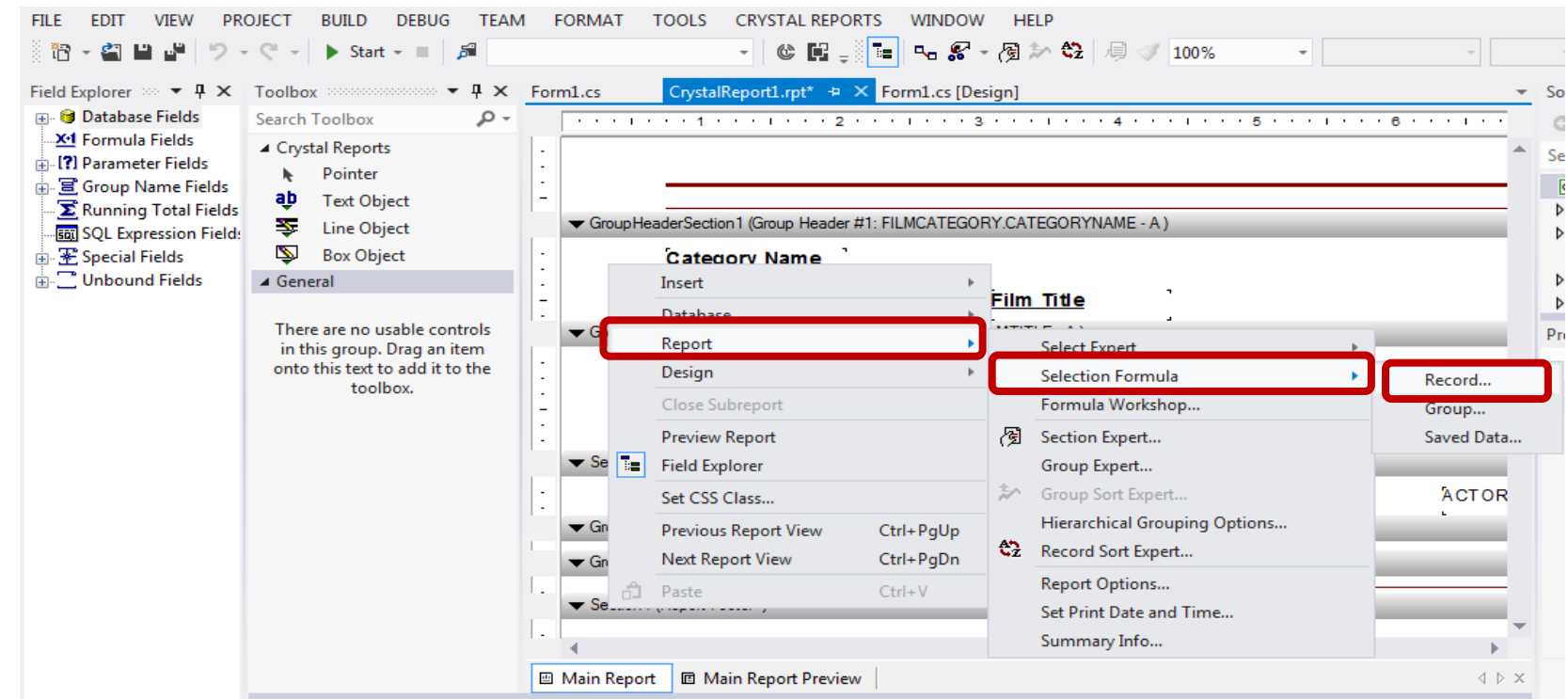
- Fill the list with a set of values found in a certain column in the database

□ **Append all database values**

- Add all values which exist currently in the selected column to the list of values of the parameter

Crystal Reports with parameters(cont'd)

- ❑ After creating the parameter, it should be linked to a database column in a **condition** to **filter** the report data



Crystal Reports with parameters(cont'd)

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM FORMAT TOOLS CRYSTAL REPORTS WINDOW HELP

Field Explorer

- Database Fields
- Formula Fields
- Parameter Fields
- Group Name Fields
- Running Total Fields
- SQL Expression Fields
- Special Fields
- Unbound Fields

Formula Workshop - Record Selection Formula Editor

Save and close Save

Report Fields

- ACTORS.ACTORNAME
- FILMCATEGORY.CATEGORYNAME
- CategoryName_Parameter
- orcl (Oracle Server)

Comparisons

- Equal (x = y)
- Not equal (x <> y)
- Less than (x < y)
- Greater than (x > y)
- Less or equal (x <= y)
- Greater or equal (x >= y)

Strings

Ranges

Boolean

Arrays

Pattern

Control Structures

Double click

{FILMCATEGORY.CATEGORYNAME} = {?CategoryName_Parameter}

SAP Crystal Reports ActiveX Designer

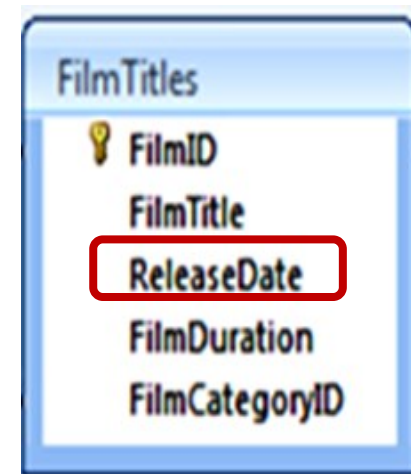
No errors found.

OK

Date to Date Crystal Reports

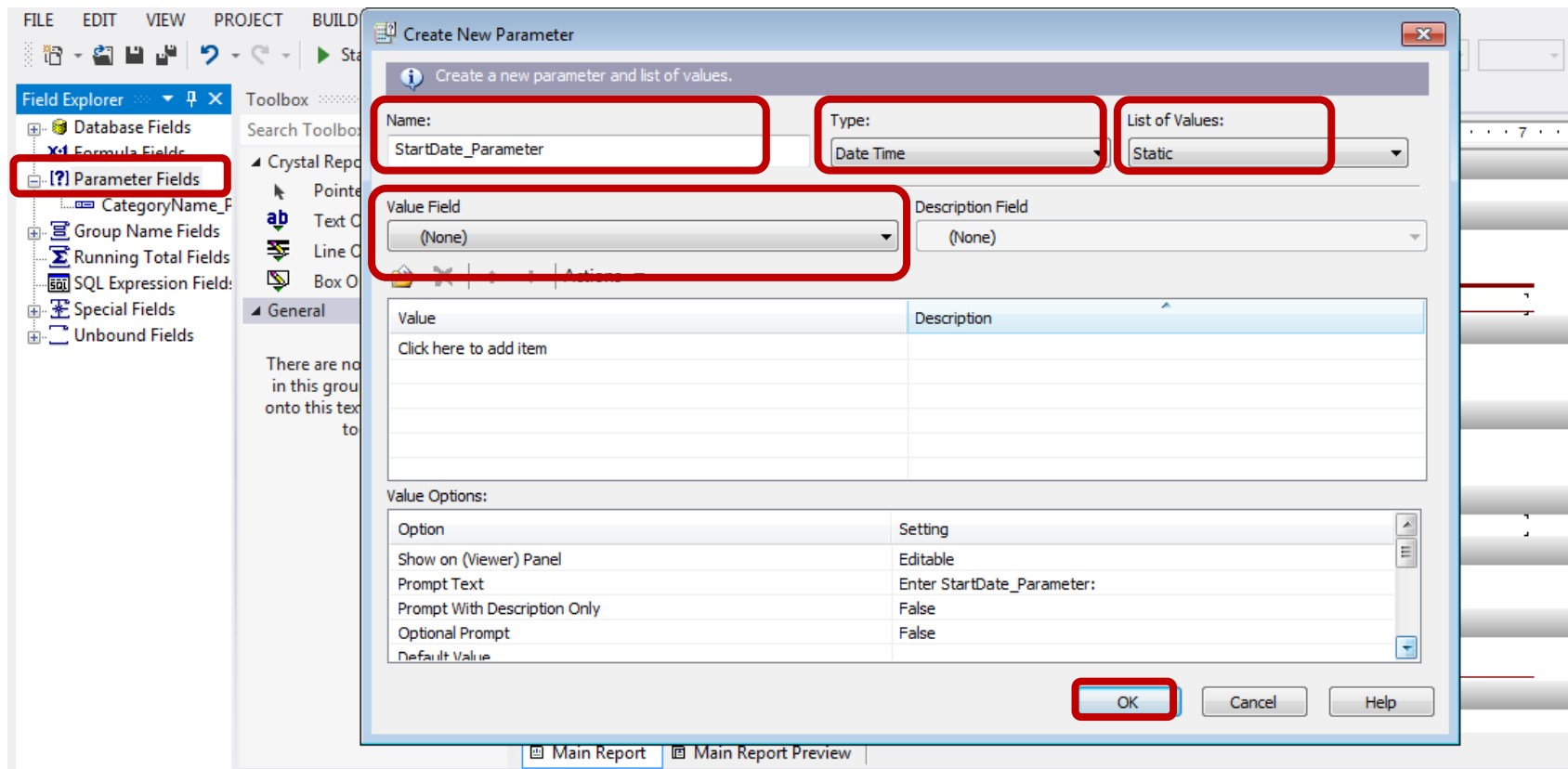
Date to Date Crystal Reports

- Pass Start Date, End Date and Category Name parameters to get a report that displays the names of all the movies for the selected category name whose Release Date is between the Start Date parameter and the End Date parameter and the names of the actors for these movies.

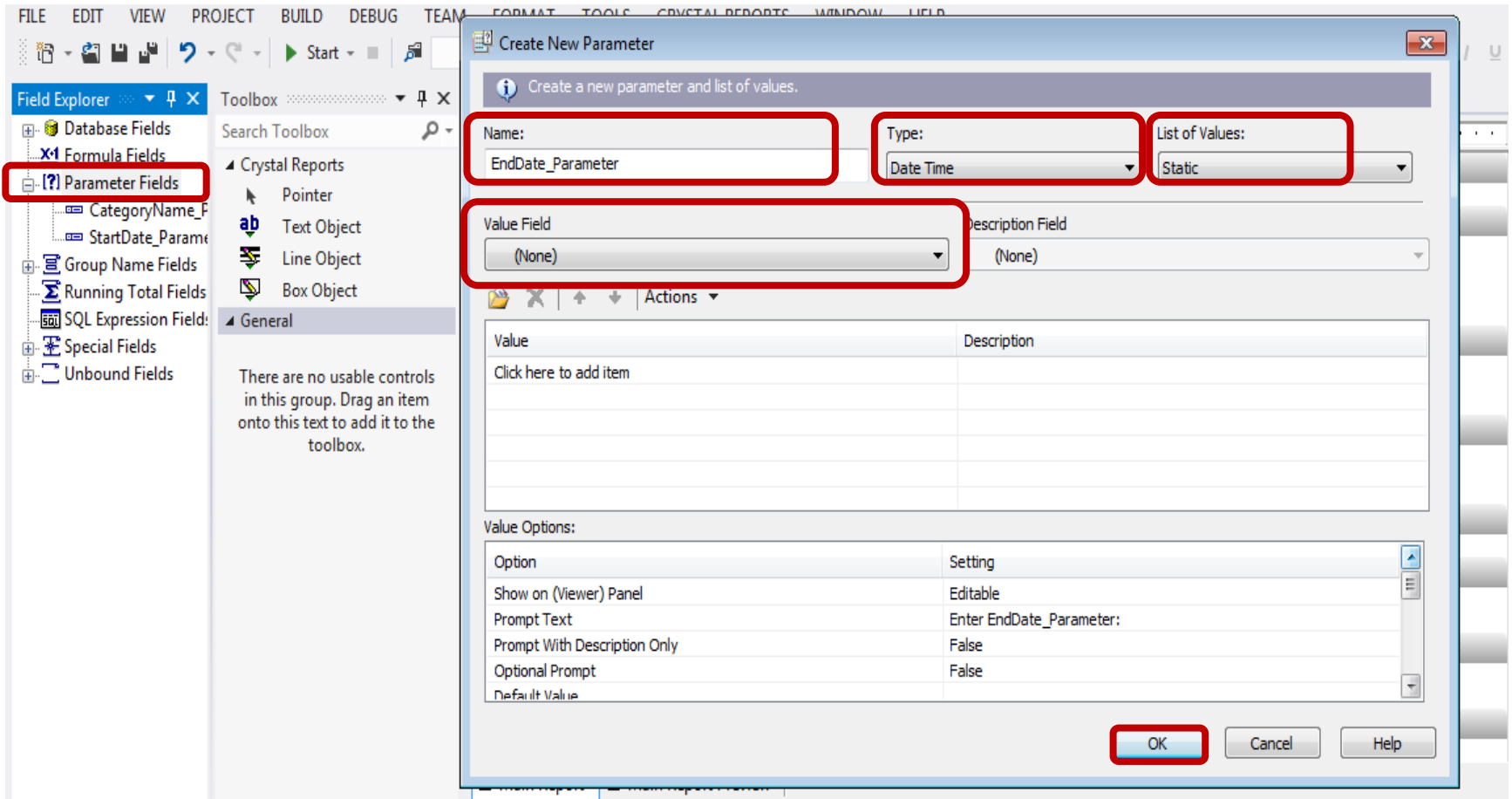


Date to Date Crystal Reports(cont'd)

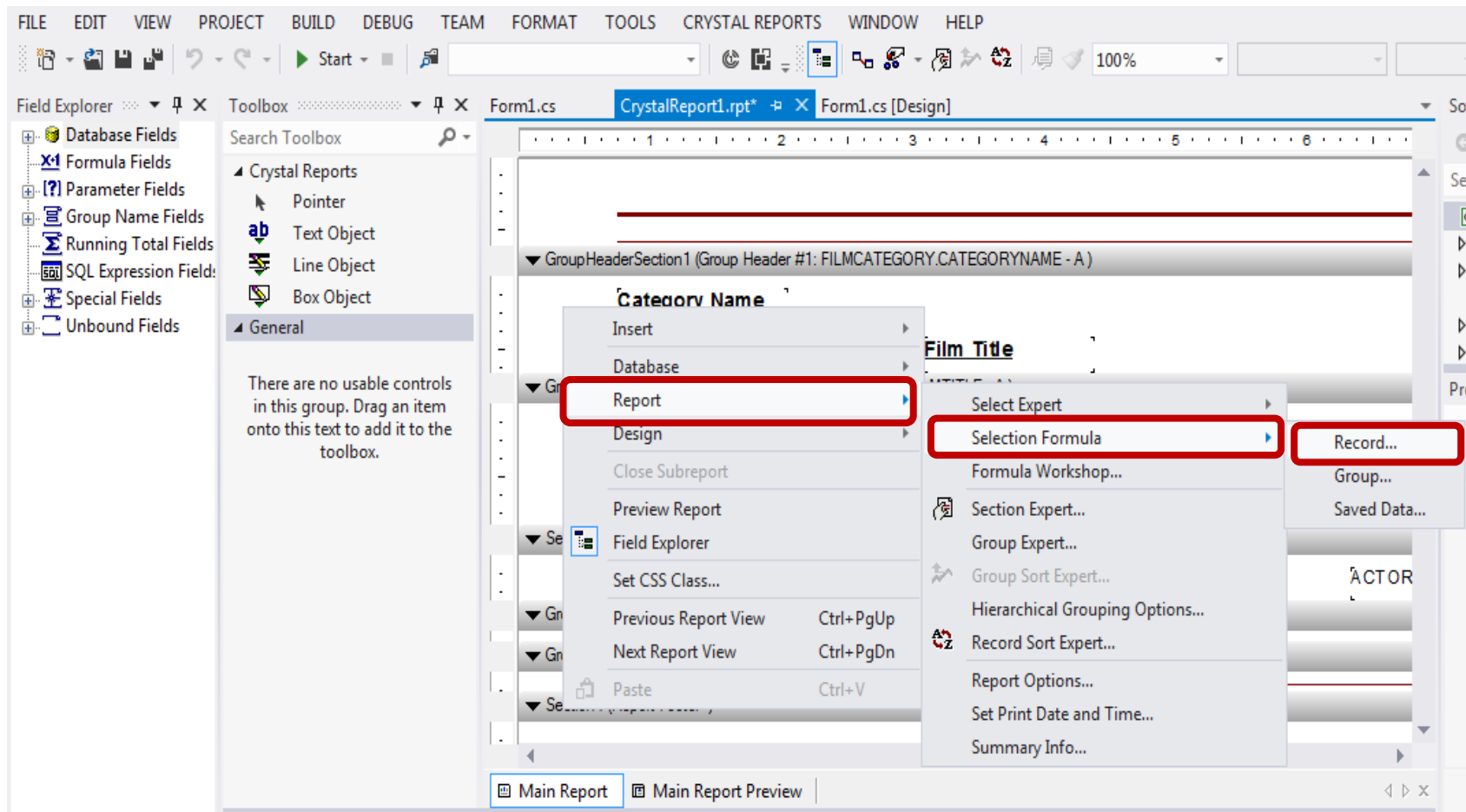
- ❑ Creating two date parameters (date from and date to).



Date to Date Crystal Reports(cont'd)



Date to Date Crystal Reports(cont'd)



Date to Date Crystal Reports(cont'd)

The screenshot displays the SAP Crystal Reports Formula Workshop - Record Selection Formula Editor. The interface includes a menu bar (FILE, EDIT, VIEW, PROJECT, BUILD, DEBUG, TEAM, FORMAT, TOOLS, CRYSTAL REPORTS, WINDOW, HELP), a toolbar, and a Field Explorer on the left. The Field Explorer lists various field types: Database Fields, Formula Fields, Parameter Fields, Group Name Fields, Running Total Fields, SQL Expression Fields, Special Fields, and Unbound Fields.

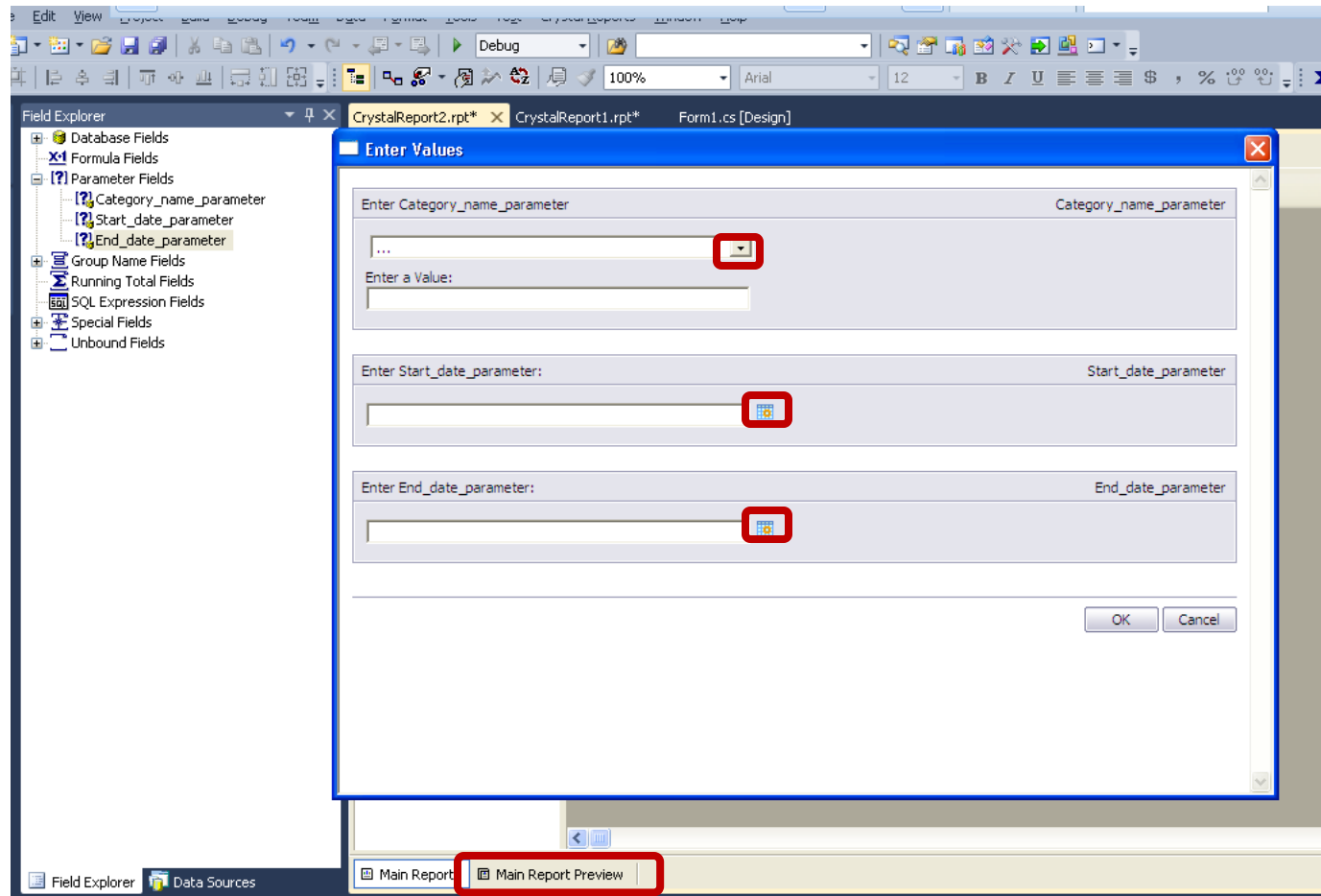
The main workspace is divided into three panes:

- Report Fields:** Lists fields from the 'orcl (Oracle Server)' database, including ACTORS, FILMACTORS, FILMCATEGORY, FILMTITLES, FILMID, FILMTITLE, RELEASEDATE, FILMDURATION, and FILMCATEGORYID. Several fields are highlighted with red boxes: FILMCATEGORY.CATEGORYNAME, FILMTITLES.FILMTITLE, (?).CategoryName_Parameter, (?).StartDate_Parameter, (?).EndDate_Parameter, and RELEASEDATE.
- Comparisons:** A list of comparison operators, with several highlighted by red boxes: Equal (x = y), Not equal (x <> y), Less than (x < y), Greater than (x > y), Less or equal (x <= y), Greater or equal (x >= y), And (x and y), Or (x or y), Xor (x xor y), Eqv (x eqv y), and Imp (x imp y).
- Formula Editor:** Contains the record selection formula:

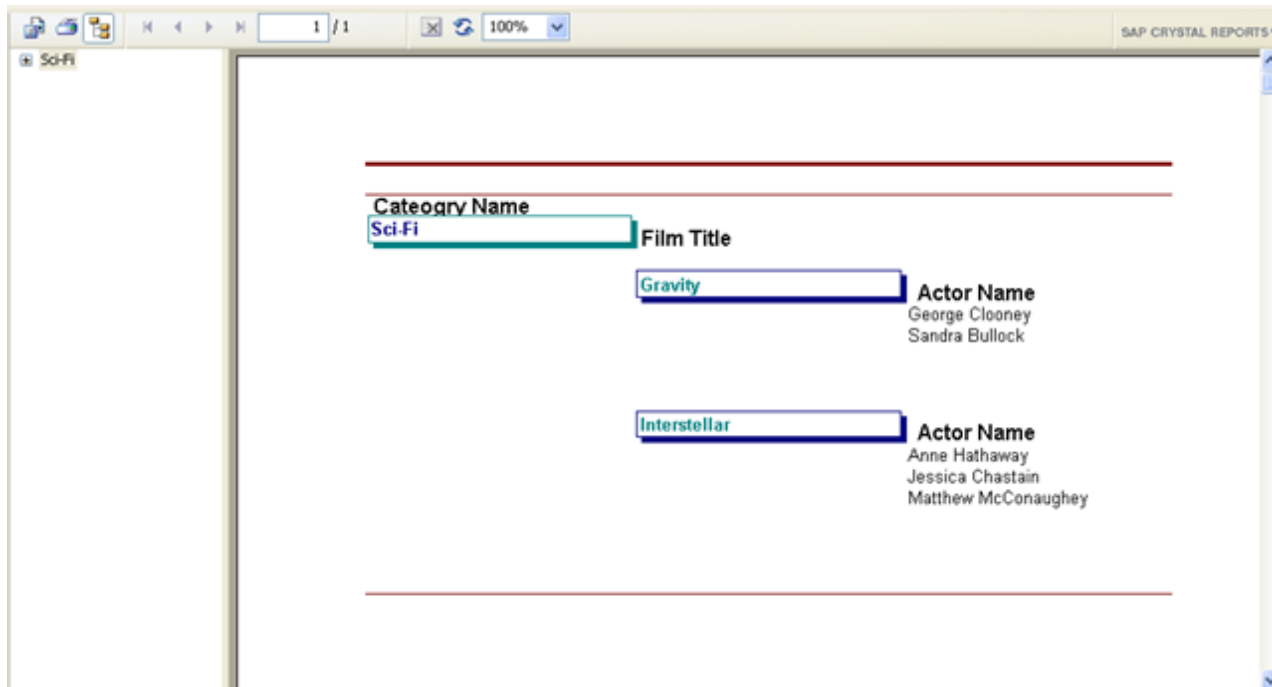
```
{?CategoryName_Parameter} = {FILMCATEGORY.CATEGORYNAME} and  
{FILMTITLES.RELEASEDATE} >= {?StartDate_Parameter} and  
{FILMTITLES.RELEASEDATE} <= {?EndDate_Parameter}
```

A small dialog box titled 'SAP Crystal Reports ActiveX Designer' is overlaid on the bottom left, displaying a warning icon and the message 'No errors found.' with an 'OK' button.

Crystal reports with parameters



Crystal Reports with parameters(cont'd)

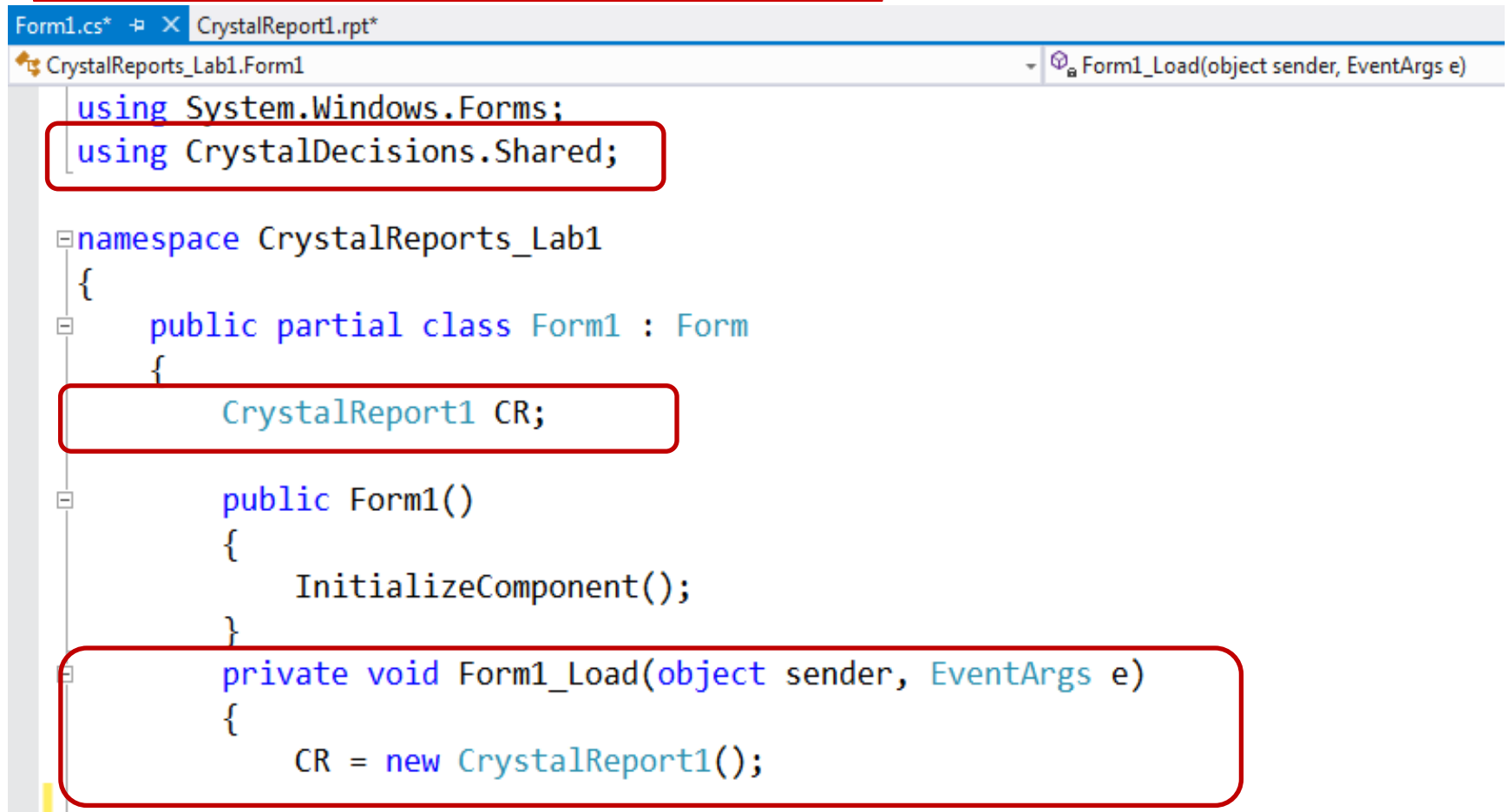


Passing Parameter Values From C# Form to the Crystal Report

Crystal Reports with parameters(cont'd)

The screenshot displays the SAP Crystal Reports design tool interface. The main design area shows a form titled 'Form1' with three input fields: 'Category Name' (a dropdown menu), 'Start Date' (a text box), and 'End Date' (a text box). These three fields are grouped together and highlighted with a red rectangular border. Below these fields is a 'Generate Report' button. The interface also includes a menu bar at the top with options like FILE, EDIT, VIEW, PROJECT, BUILD, DEBUG, TEAM, FORMAT, TOOLS, WINDOW, and HELP. A toolbar with various icons is located below the menu bar. On the left side, there is a sidebar with a search bar and a list of objects. The bottom of the window shows a status bar with the text 'SAP CRYSTAL REPORTS®'.

Crystal Reports with parameters(cont'd)



```
Form1.cs*  CrystalReport1.rpt*
CrystalReports_Lab1.Form1
Form1_Load(object sender, EventArgs e)

using System.Windows.Forms;
using CrystalDecisions.Shared;

namespace CrystalReports_Lab1
{
    public partial class Form1 : Form
    {
        CrystalReport1 CR;

        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            CR = new CrystalReport1();
        }
    }
}
```

Crystal Reports with parameters(cont'd)

```
Form1.cs*  CrystalReport1.rpt  Form1.cs [Design]*
CrystalReports_Lab1.Form1  GenerateReport_btn_Click(object sender, EventArgs e)

{
    InitializeComponent();
}
private void Form1_Load(object sender, EventArgs e)
{
    CR = new CrystalReport1();
    foreach (ParameterDiscreteValue v in CR.ParameterFields[0].DefaultValues)
        Category_cmb.Items.Add(v.Value);
}

private void GenerateReport_btn_Click(object sender, EventArgs e)
{
    CR.SetParameterValue(0, Category_cmb.Text);
    CR.SetParameterValue(1, StartDate_txt.Text);
    CR.SetParameterValue(2, EndDate_txt.Text);

    crystalReportViewer1.ReportSource = CR;
}
```

Or Convert.ToDateTime(textBox1.Text)

Crystal Reports with parameters(cont'd)

The screenshot shows a SAP Crystal Reports window titled 'Form1'. At the top, there are two red-bordered boxes. The first box contains a 'Category Name' dropdown menu with 'Sci-Fi' selected. The second box contains 'Start Date' (01-JAN-13) and 'End Date' (30-DEC-14) text boxes. Below these is a 'Generate Report' button. The main report area displays a table with three columns: 'Category Name', 'Film Title', and 'Actor Name'. The 'Category Name' column shows 'Sci-Fi'. The 'Film Title' column shows 'Gravity' and 'Interstellar'. The 'Actor Name' column shows 'George Clooney', 'Sandra Bullock', 'Anne Hathaway', 'Jessica Chastain', and 'Matthew McConaughey'. The report is titled 'Main Report' and is part of a 'Sci-Fi' report set.

Category Name	Film Title	Actor Name
Sci-Fi	Gravity	George Clooney
	Interstellar	Sandra Bullock
		Anne Hathaway
		Jessica Chastain
		Matthew McConaughey

Crystal Reports with parameters(cont'd)

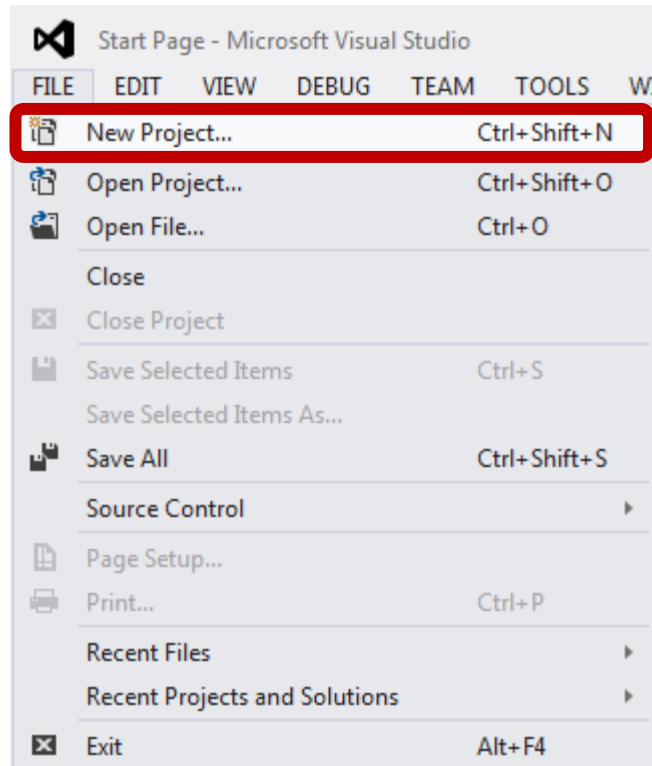
The screenshot displays the SAP Crystal Reports interface. At the top, there are three input fields: 'Category Name' with a dropdown menu showing 'Sci-Fi', 'Start Date' with the value '01-JAN-14', and 'End Date' with the value '30-DEC-14'. These fields are highlighted with red rectangles. Below them is a 'Generate Report' button. The main report area shows a table with the following data:

<u>Category Name</u>	<u>Film Title</u>	<u>Actor Name</u>
Sci-Fi	Interstellar	Anne Hathaway Jessica Chastain Matthew McConaughey

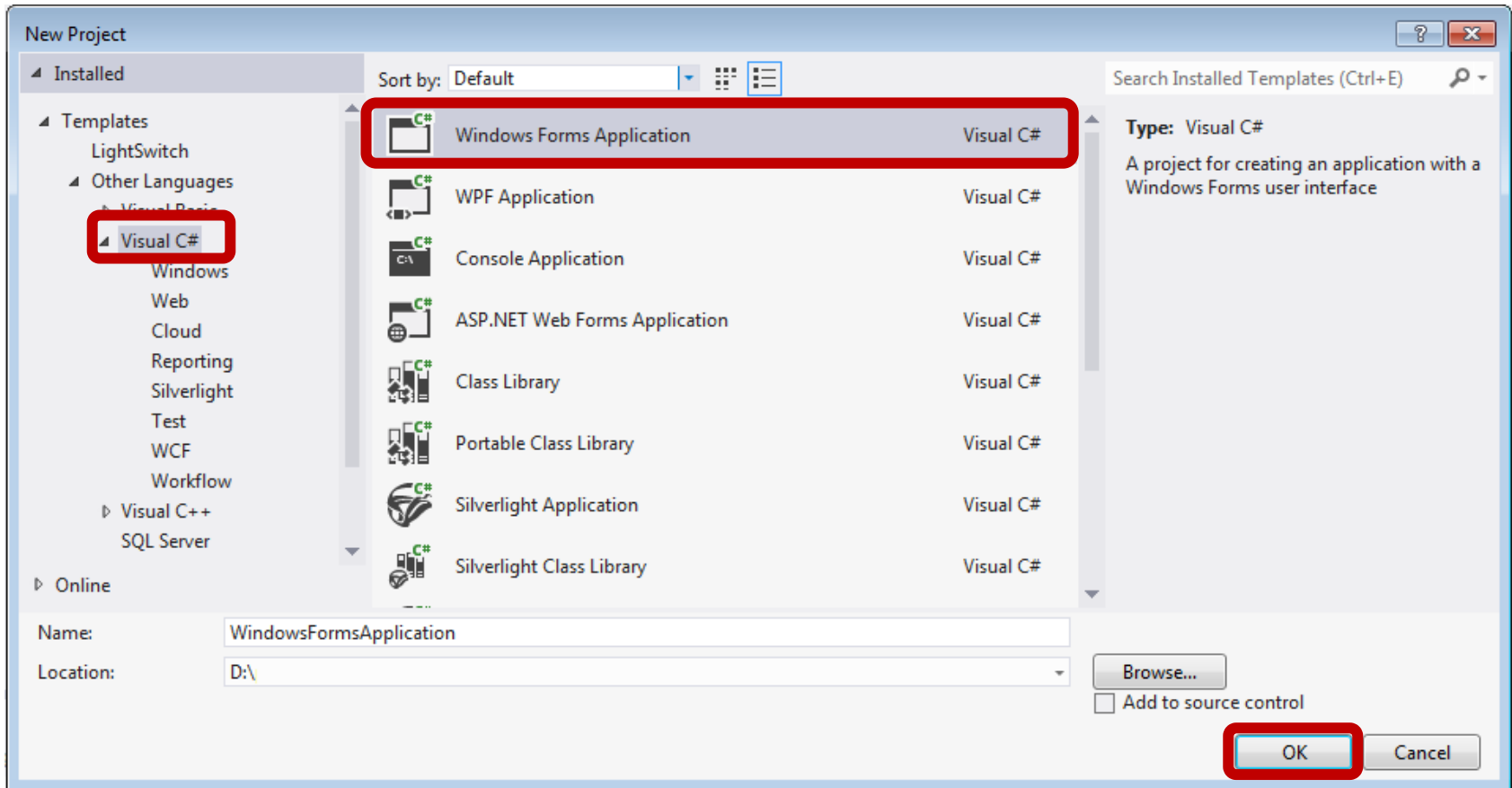
A red horizontal line is drawn below the table. The left sidebar shows a tree view with 'Sci-Fi' selected. The top status bar indicates 'SAP CRYSTAL REPORTS*'. The window title is 'Form1'.

Adding Formula to Crystal Reports

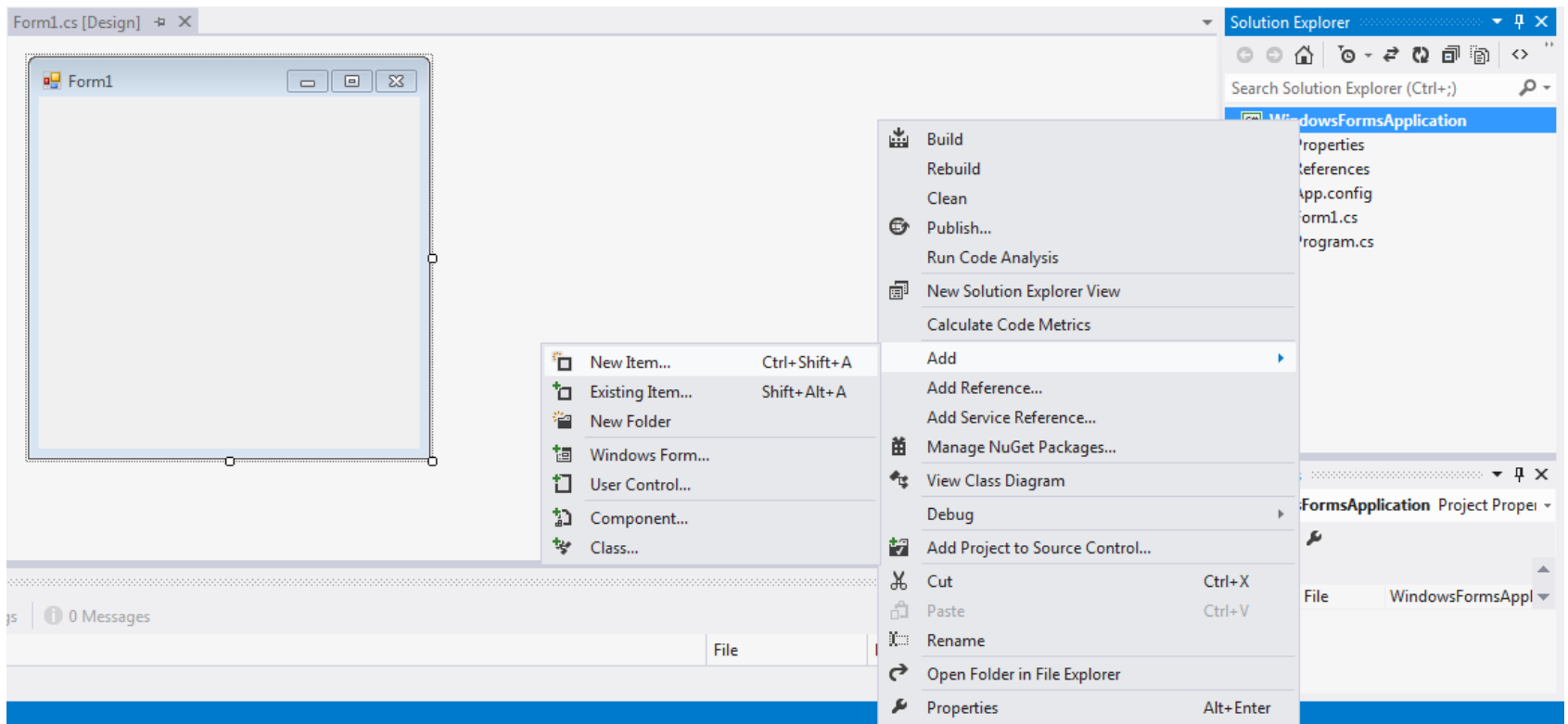
Create C# project(cont'd)



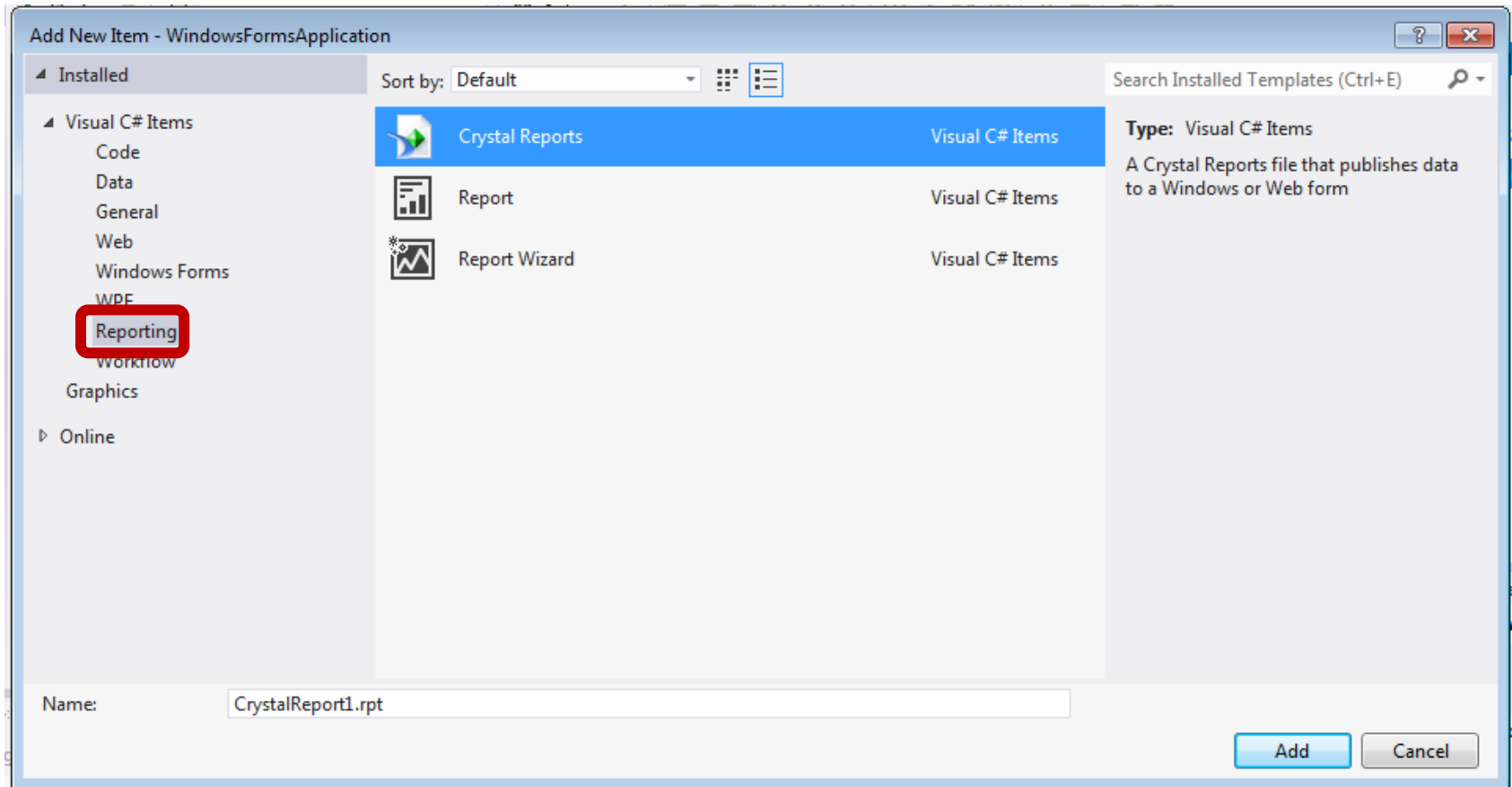
Create C# project(cont'd)



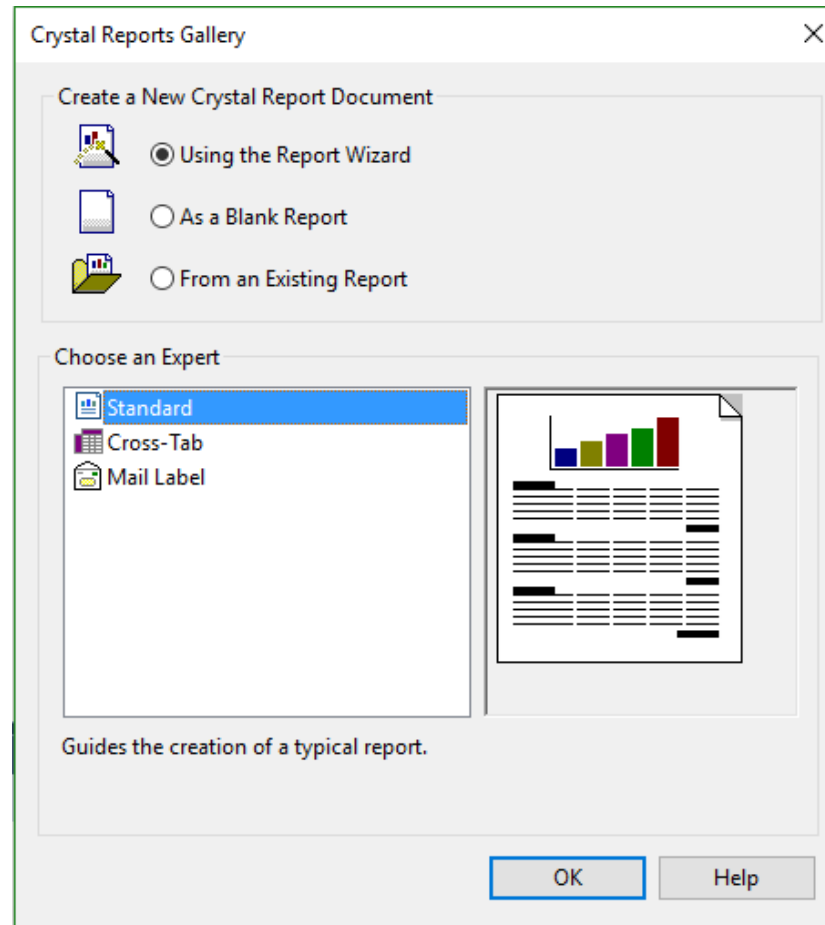
Create C# project(cont'd)



Create C# project(cont'd)

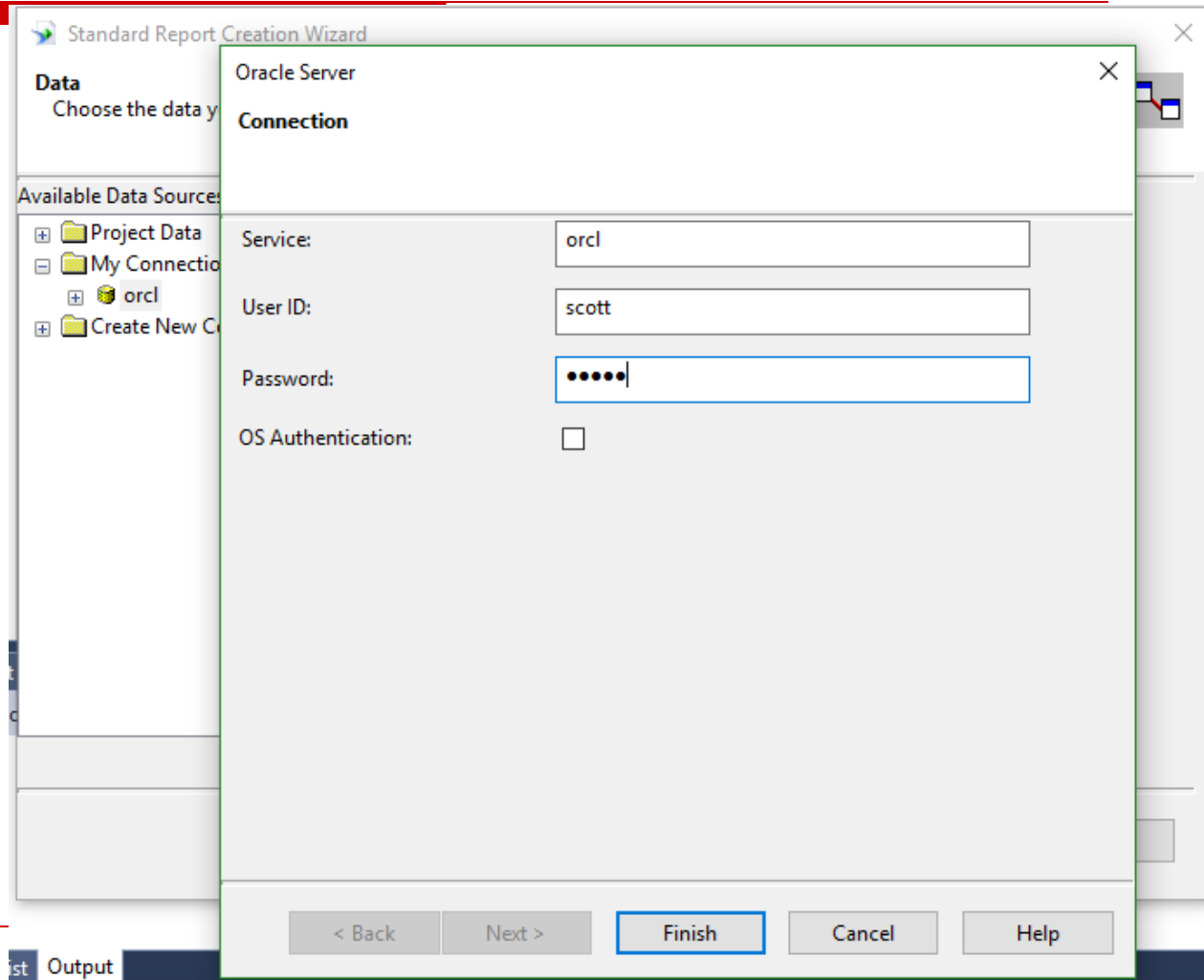


Add new Crystal Report(cont'd)



Add new Crystal Report(cont'd)

1. Select orcl Database
2. Enter username **scott** and Password **tiger**



Add new Crystal Report(cont'd)

CrystalReport1.rpt* X Form1.cs [Design]

☒ Save data in the report

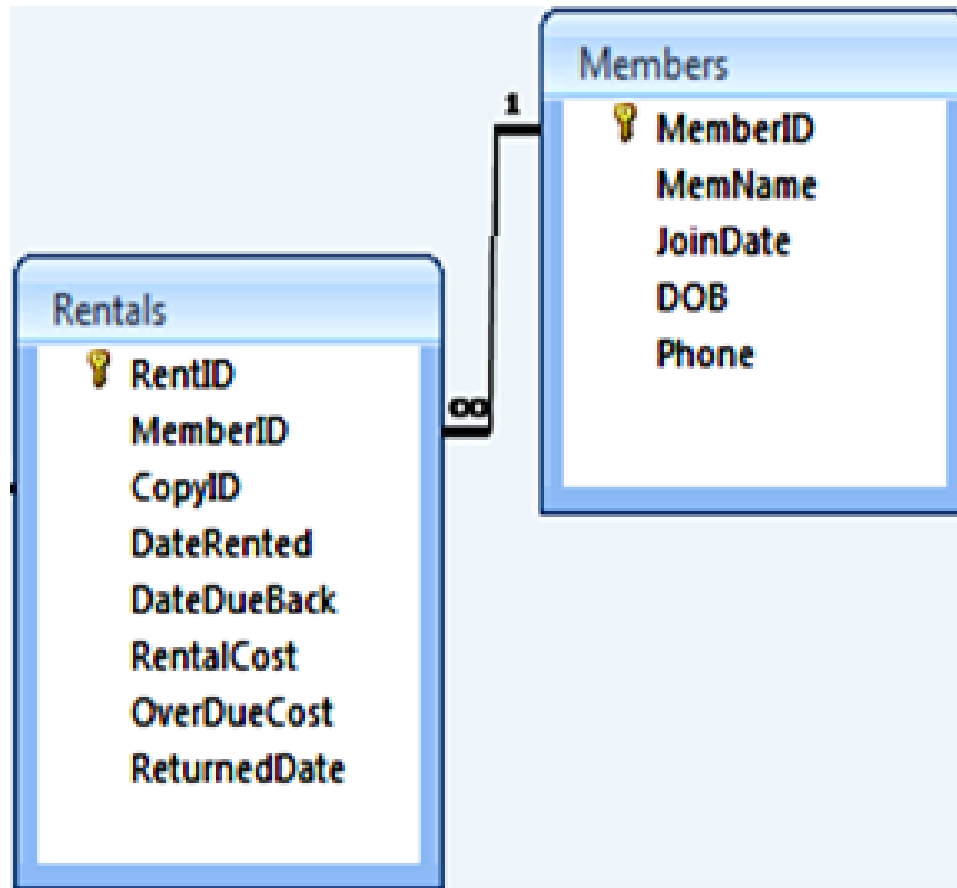
1 / 1 100%

4/16/2017

<u>MEMNA</u>	<u>COPY</u>	<u>DATEREN</u>	<u>DATEDUEB</u>	<u>RENTALCO</u>	<u>RETURNEDD</u>	<u>OVERDUEC</u>
fady	6.00	3/2/2017 12:00:00AM	3/5/2017 12:00:00AM	10.00		10.00
Smith	6.00	3/5/2017 12:00:00AM	3/8/2017 12:00:00AM	10.00		20.00
Smith	6.00	3/6/2017 12:00:00AM	3/9/2017 12:00:00AM	10.00		10.00
fady	6.00	3/2/2017 12:00:00AM	3/5/2017 12:00:00AM	10.00		5.00
Robert	32.00	2/28/2017 12:00:00A	3/3/2017 12:00:00AM	55.00		10.00
fady	1.00	3/1/2017 12:00:00AM	3/4/2017 12:00:00AM	100.00		15.00
fady	11.00	3/3/2017 12:00:00AM	3/6/2017 12:00:00AM	50.00		15.00

Main Report Main Report Preview

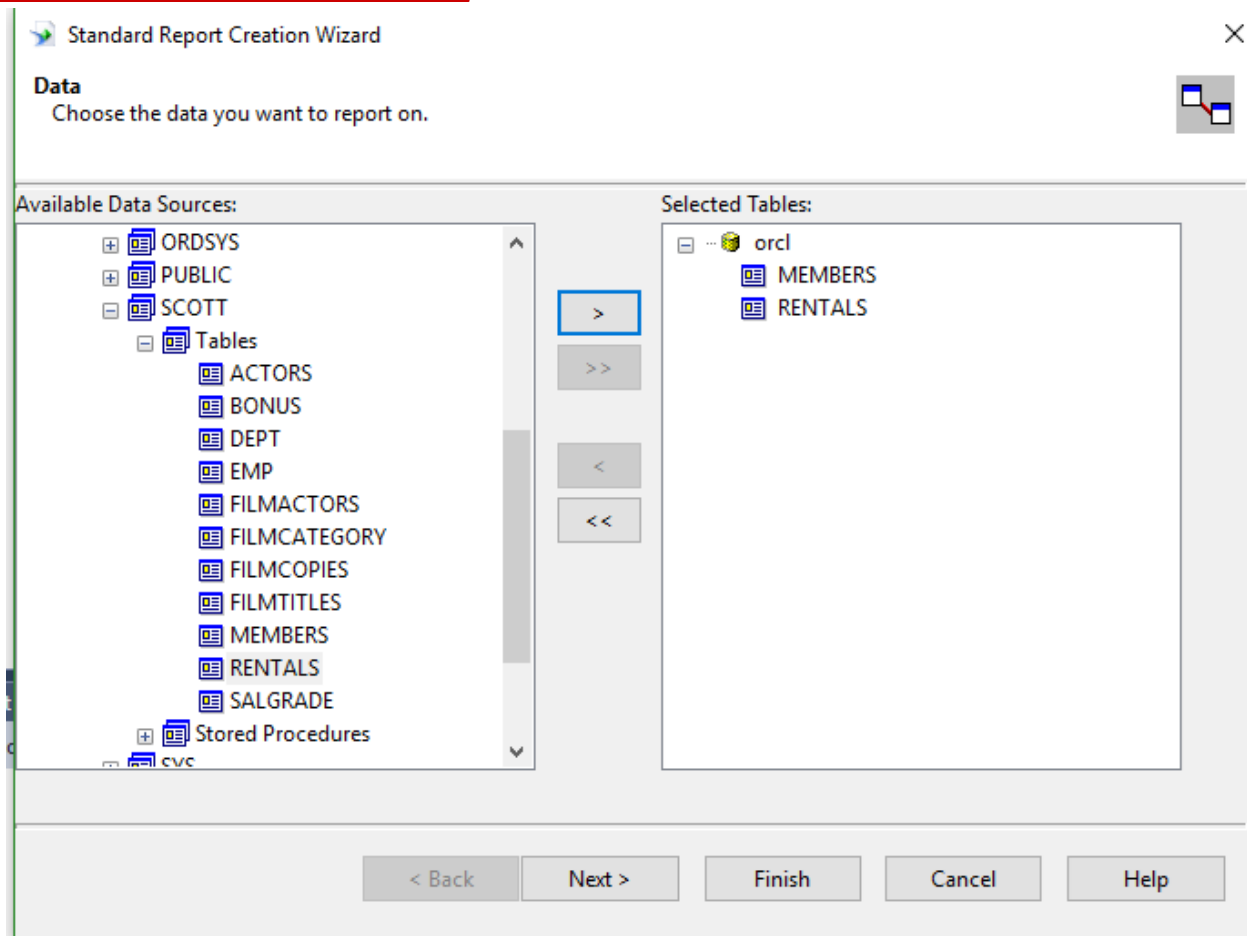
Add new Crystal Report(cont'd)



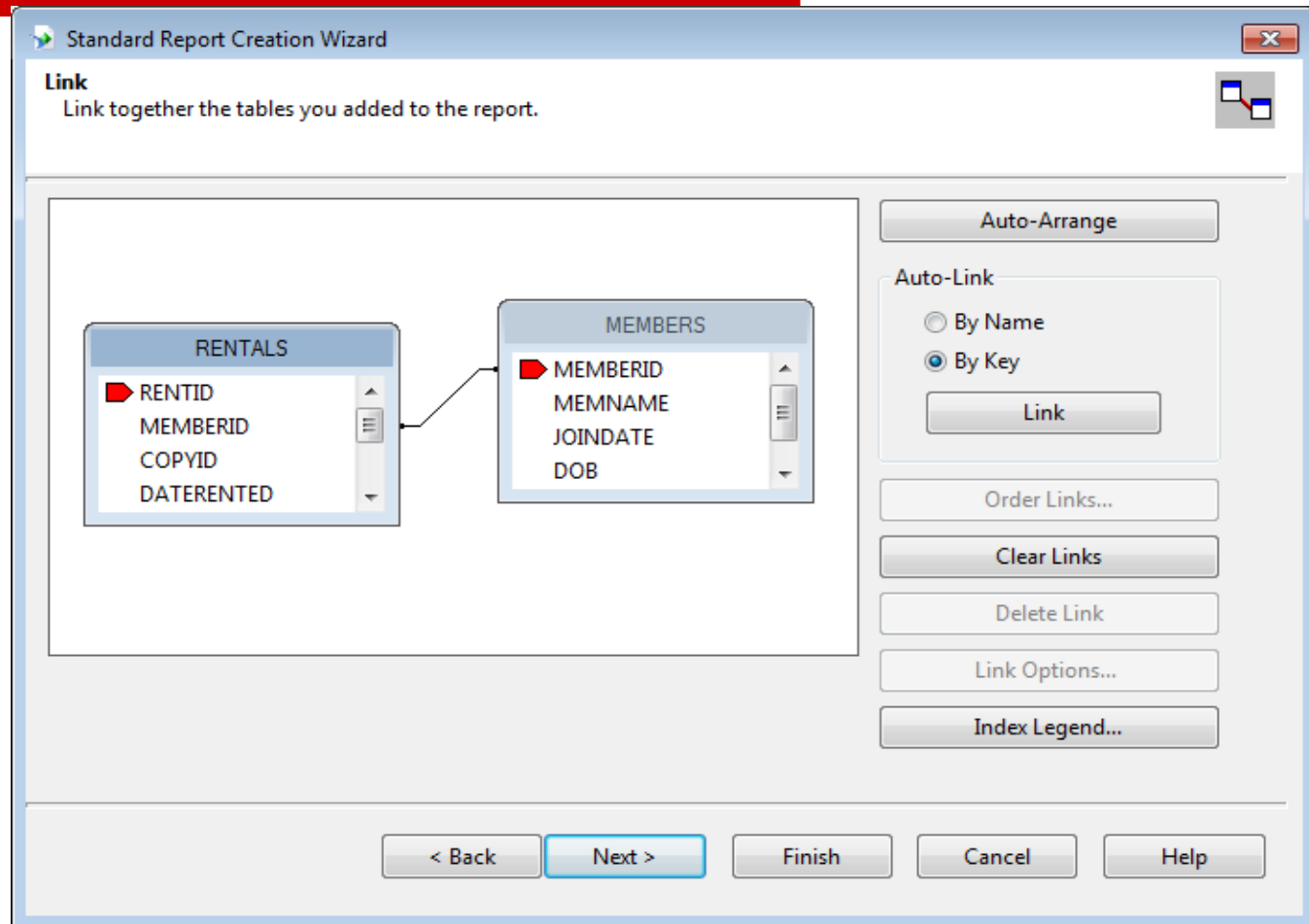
Add new Crystal Report(cont'd)

Select from
scott schema
tables

1. Members
2. Rentals

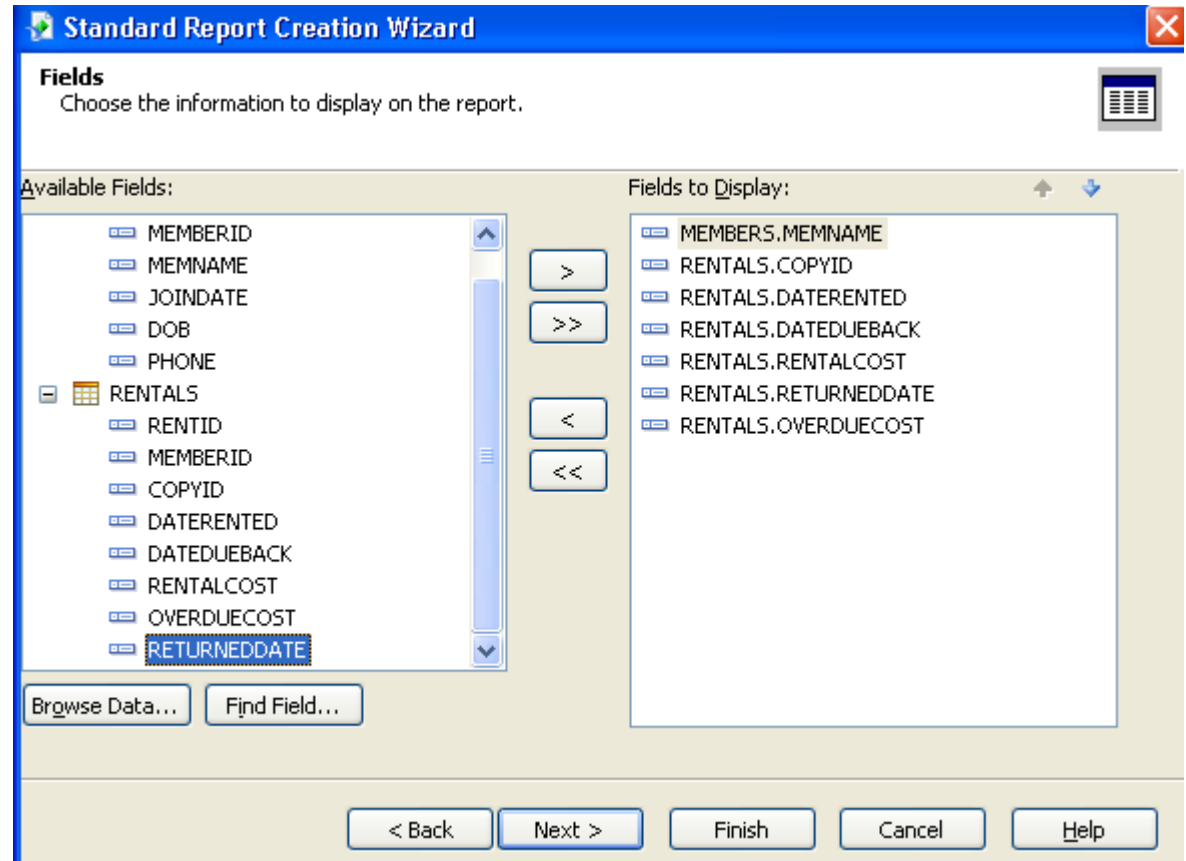


Add new Crystal Report(cont'd)

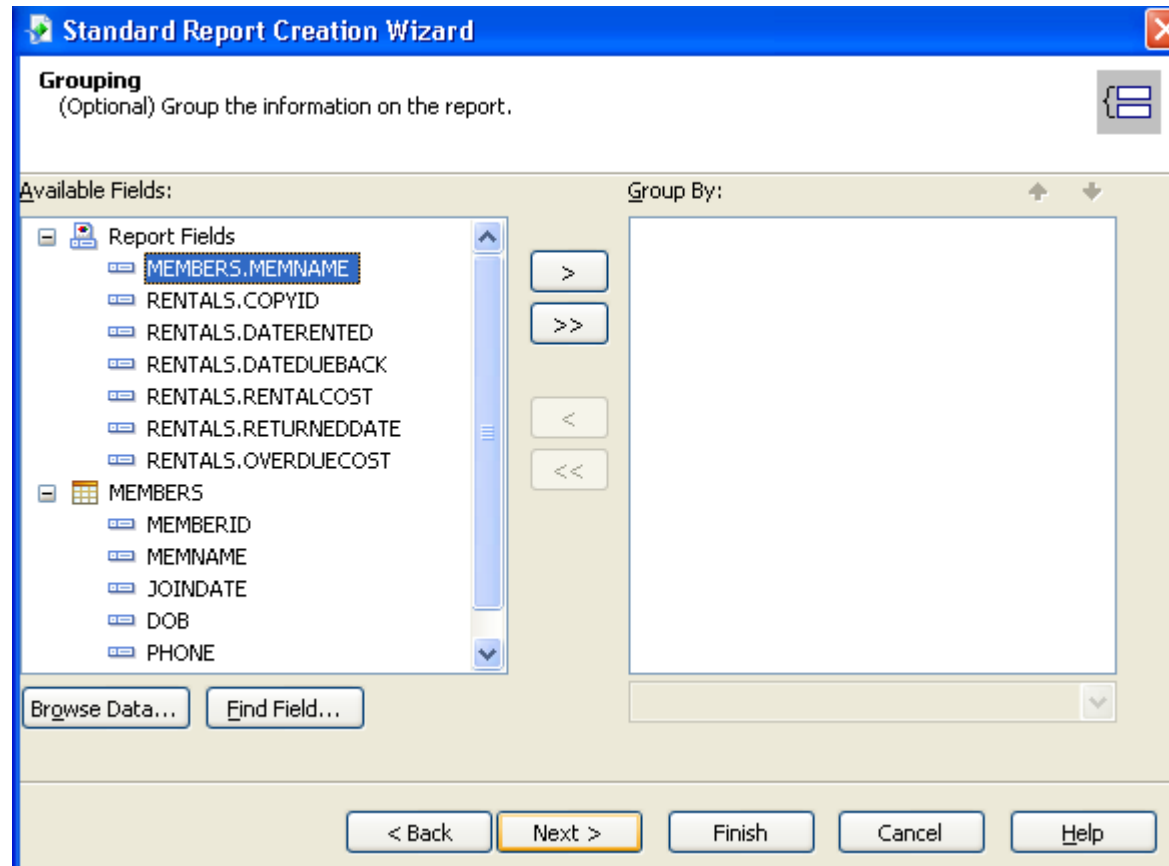


Add new Crystal Report(cont'd)

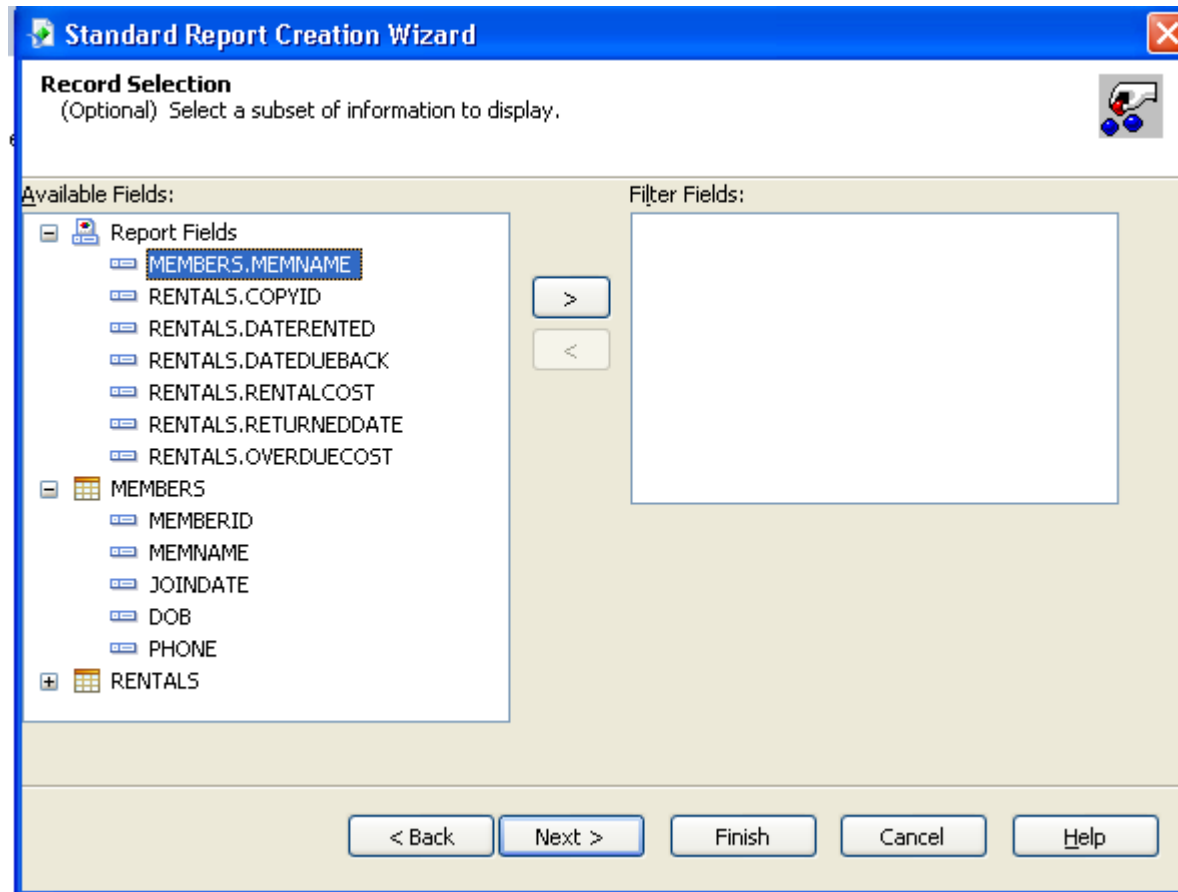
- Choose fields to be shown in the crystal report



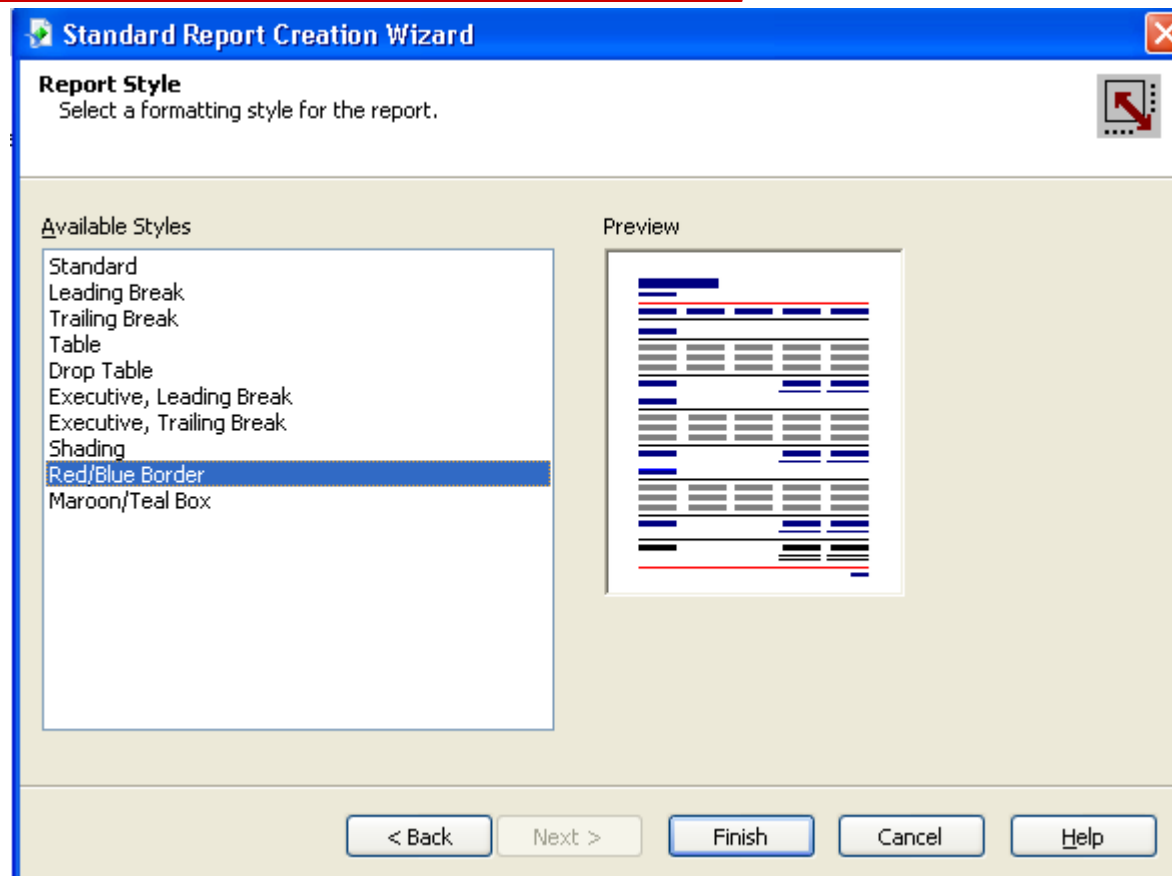
Add new Crystal Report(cont'd)



Add new Crystal Report(cont'd)



Add new Crystal Report(cont'd)



☒ Save data in the report

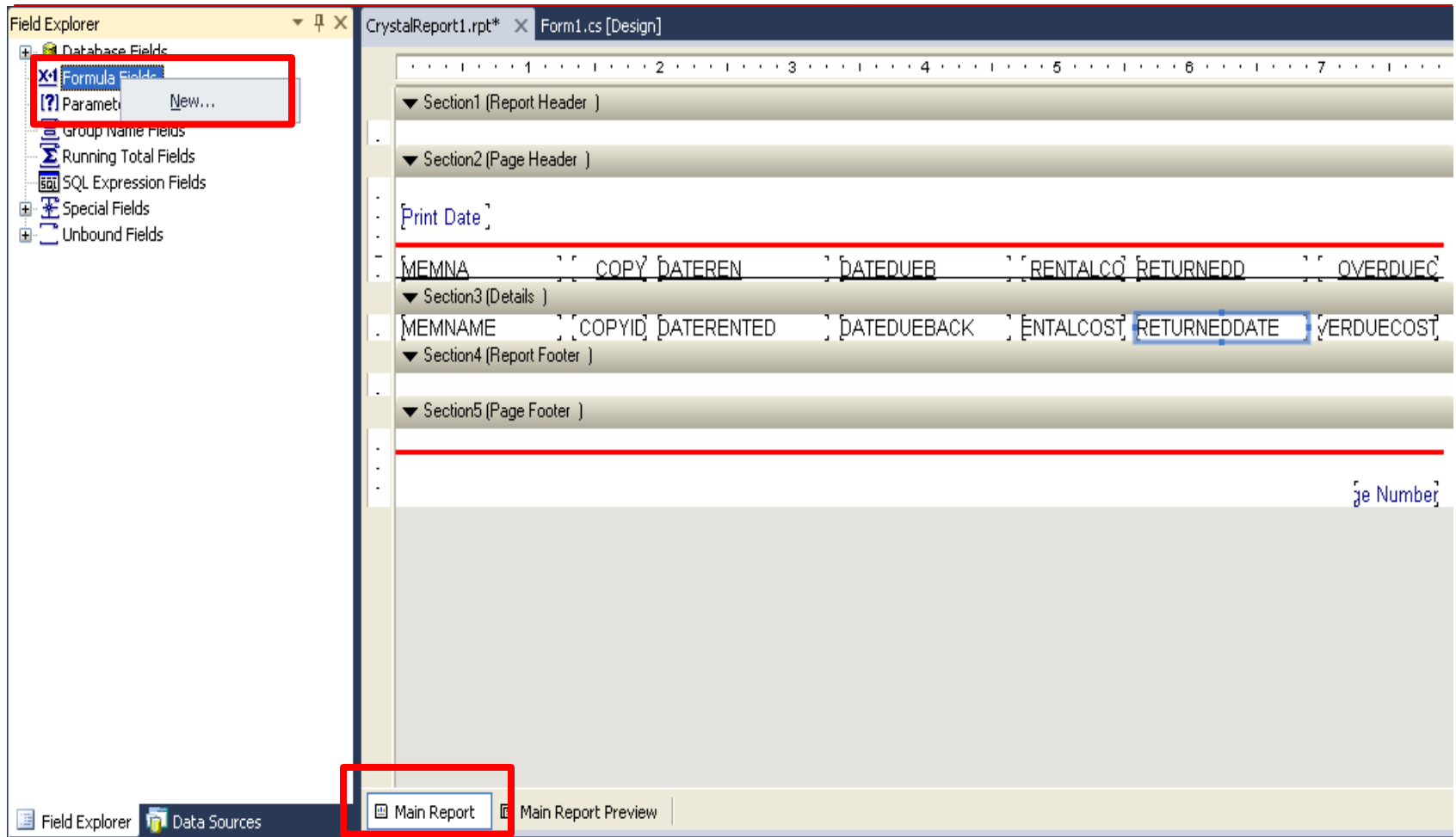
4/16/2017

<u>MEMNA</u>	<u>COPY</u>	<u>DATEREN</u>	<u>DATEDUEB</u>	<u>RENTALCO</u>	<u>RETURNEDD</u>	<u>OVERDUEC</u>
fady	6.00	3/2/2017 12:00:00AM	3/5/2017 12:00:00AM	10.00		10.00
Smith	6.00	3/5/2017 12:00:00AM	3/8/2017 12:00:00AM	10.00		20.00
Smith	6.00	3/6/2017 12:00:00AM	3/9/2017 12:00:00AM	10.00		10.00
fady	6.00	3/2/2017 12:00:00AM	3/5/2017 12:00:00AM	10.00		5.00
Robert	32.00	2/28/2017 12:00:00A	3/3/2017 12:00:00AM	55.00		10.00
fady	1.00	3/1/2017 12:00:00AM	3/4/2017 12:00:00AM	100.00		15.00
fady	11.00	3/3/2017 12:00:00AM	3/6/2017 12:00:00AM	50.00		15.00

Add new formula in the report

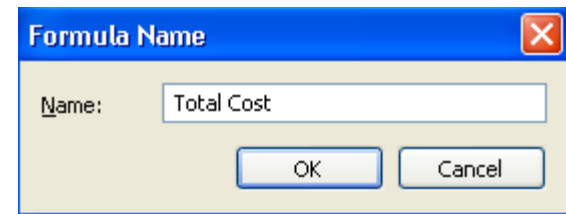
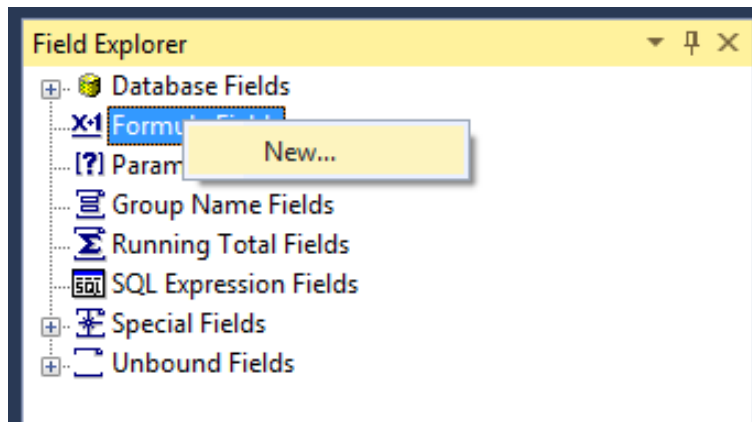
- The formula field in a Crystal report is a functionality provided to enhance computation of values dynamically during the display/printing of records in a report of an application.
- In the next example we will create a formula to calculate the Total Rental Cost for each Rental in the System.

Add new formula in the report(cont'd)



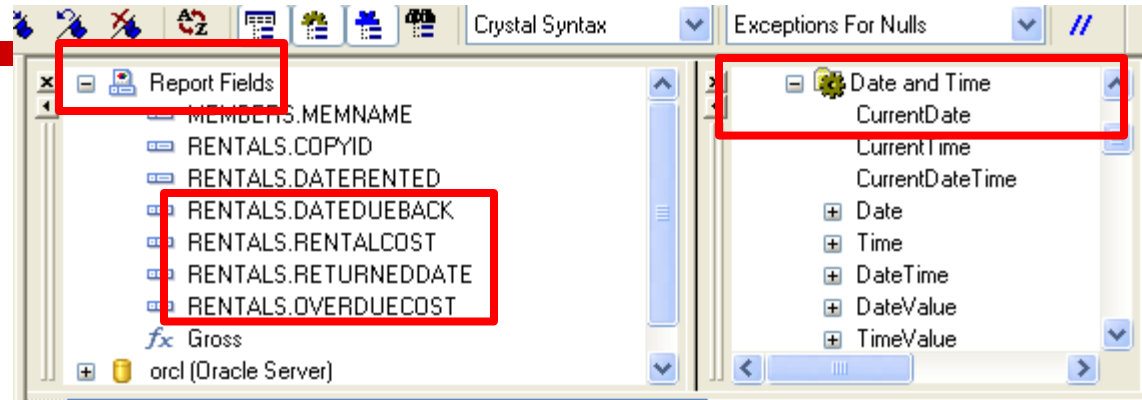
Add new formula in the report(cont'd)

- Add a new formula by right clicking the Formula Fields and choose new.



- Write the name of your Formula:
Total cost

Add new formula in the report(cont'd)



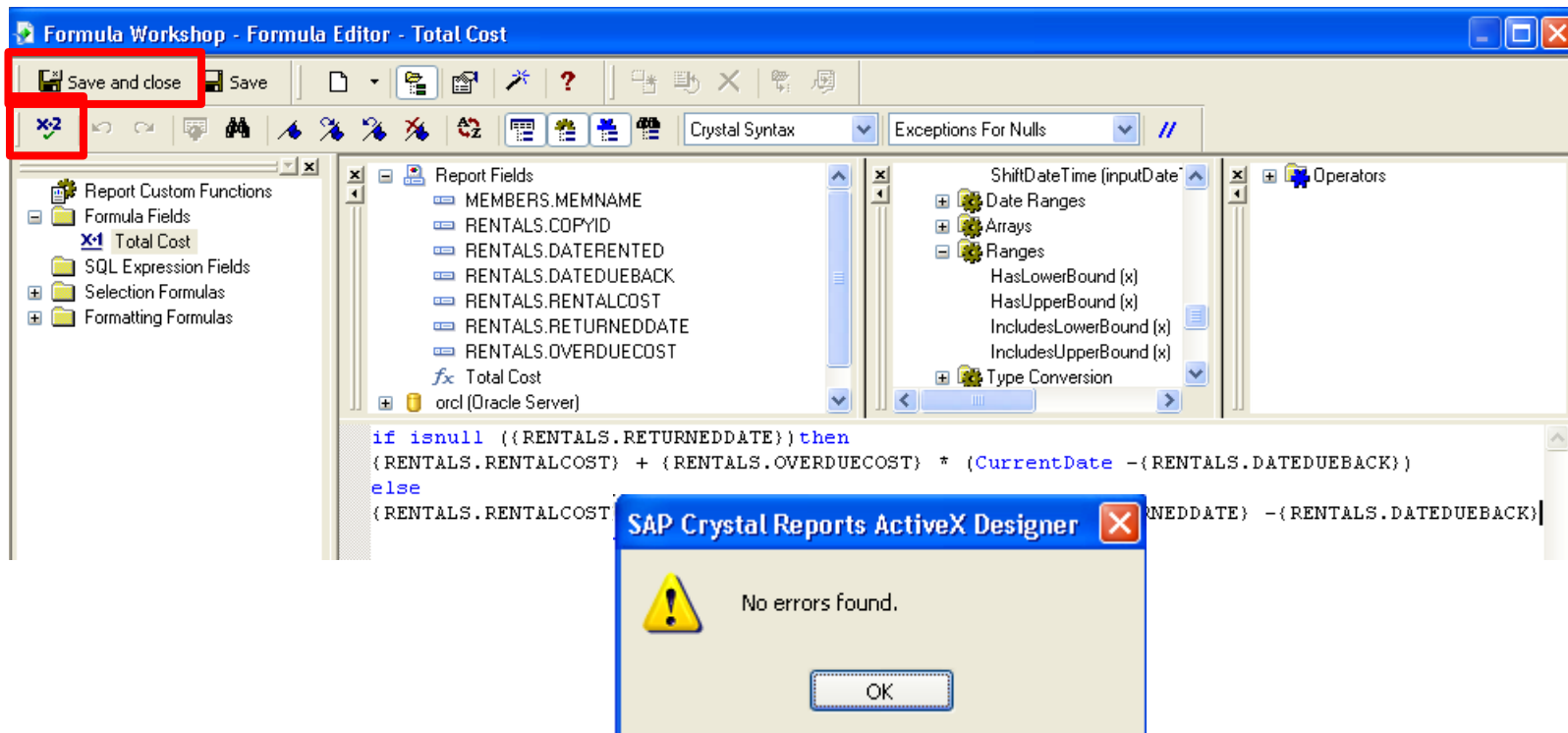
if **isnull** ({RENTALS.RETURNEDDATE}) **then**

{RENTALS.RENTALCOST} + {RENTALS.OVERDUECOST} *
(**CurrentDate** - {RENTALS.DATEDUEBACK})

else

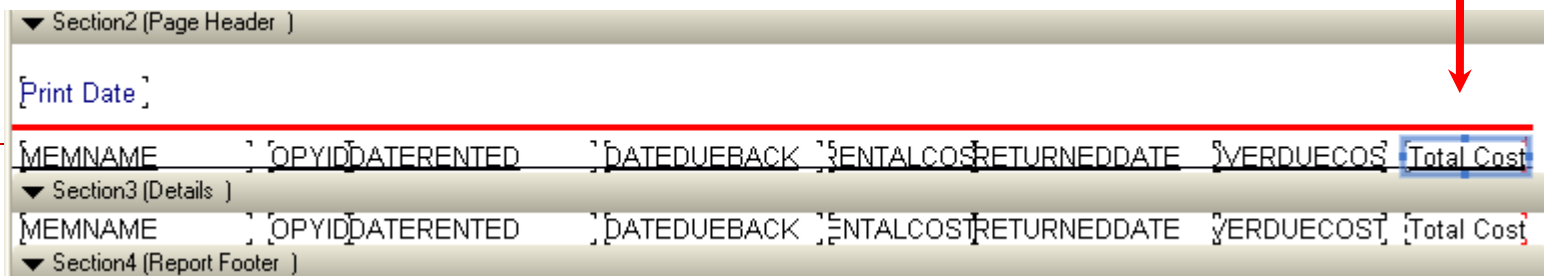
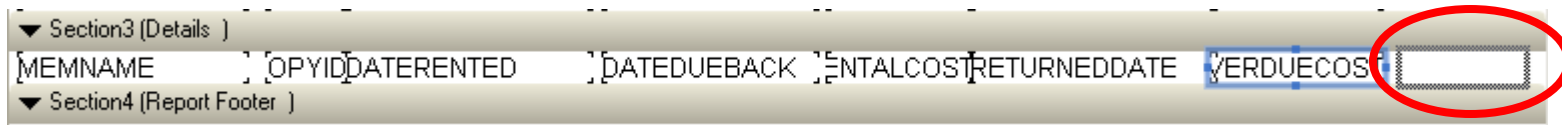
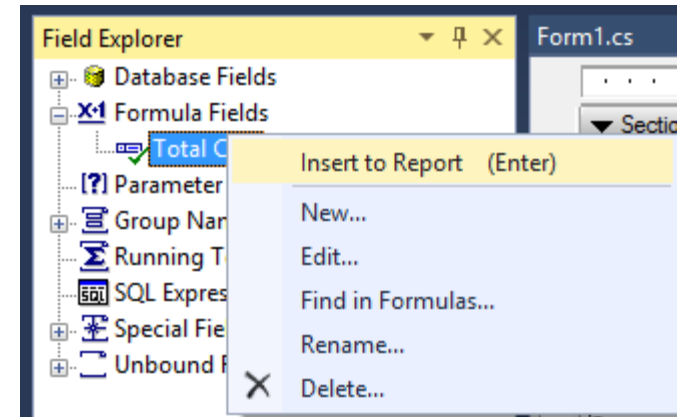
{RENTALS.RENTALCOST} + {RENTALS.OVERDUECOST} *
({RENTALS.RETURNEDDATE} - {RENTALS.DATEDUEBACK})

Add new formula in the report(cont'd)



Add new formula in the report(cont'd)

- To insert the formula in your report, right click on the Formula Field and choose insert, then drag the mouse to Section3 Details.



Add new formula in the report(cont'd)

CrystalReport1.rpt* X Form1.cs [Design]

☒ Save data in the report

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SAP CRYSTAL REP

4/16/2017

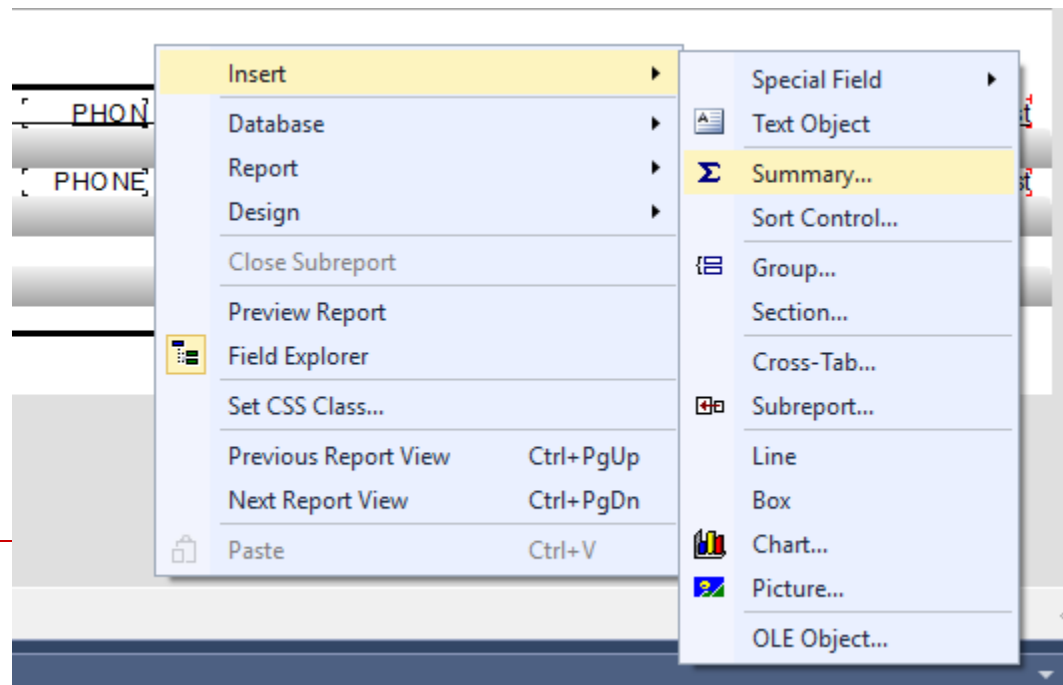
MEMNAME	OPYID	DATE RENTED	DATE DUE BACK	RENTAL COS	RETURNED DATE	OVER DUE COS	Total Cost
fady	6.00	3/2/2017 12:00:00AM	3/5/2017 12:00:00AM	10.00		10.00	430.00
Smith	6.00	3/5/2017 12:00:00AM	3/8/2017 12:00:00AM	10.00		20.00	790.00
Smith	6.00	3/6/2017 12:00:00AM	3/9/2017 12:00:00AM	10.00		10.00	390.00
fady	6.00	3/2/2017 12:00:00AM	3/5/2017 12:00:00AM	10.00		5.00	220.00
Robert	32.00	2/28/2017 12:00:00AM	3/3/2017 12:00:00AM	55.00		10.00	495.00
fady	1.00	3/1/2017 12:00:00AM	3/4/2017 12:00:00AM	100.00		15.00	745.00
fady	11.00	3/3/2017 12:00:00AM	3/6/2017 12:00:00AM	50.00		15.00	665.00

Main Report Main Report Preview

Adding Summary Field to the Report Footer

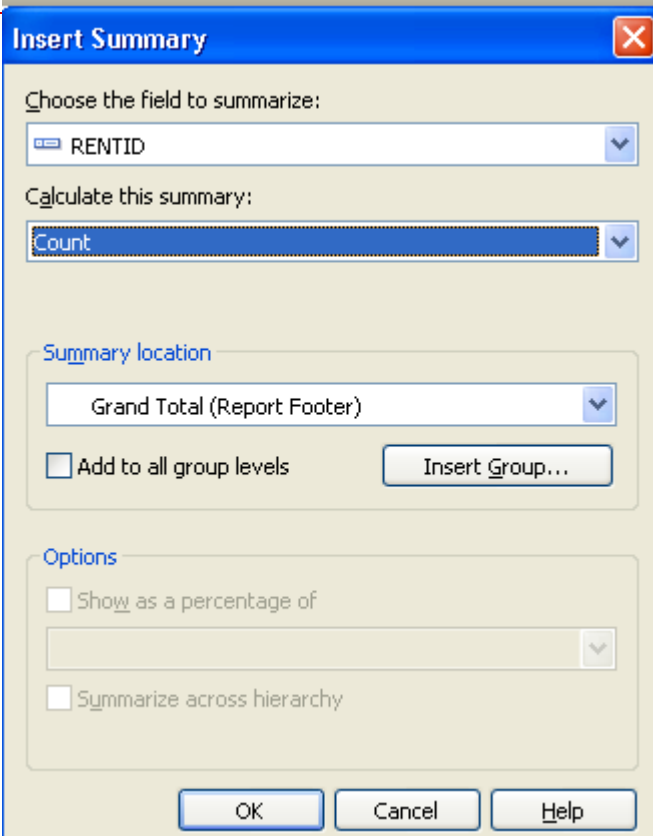
Add Summary Field for the Whole Report

- In the Crystal Reports designer view window, right click on the Report Footer, just below the Total field and select Insert -> Summary



Add Summary Field for the Whole Report(cont'd)

- Then you will get a screen , select the **RentID** from the combobox and select **Count** from next Combobox , and summary location **Grand Total (Report Footer)**
- Click Ok button

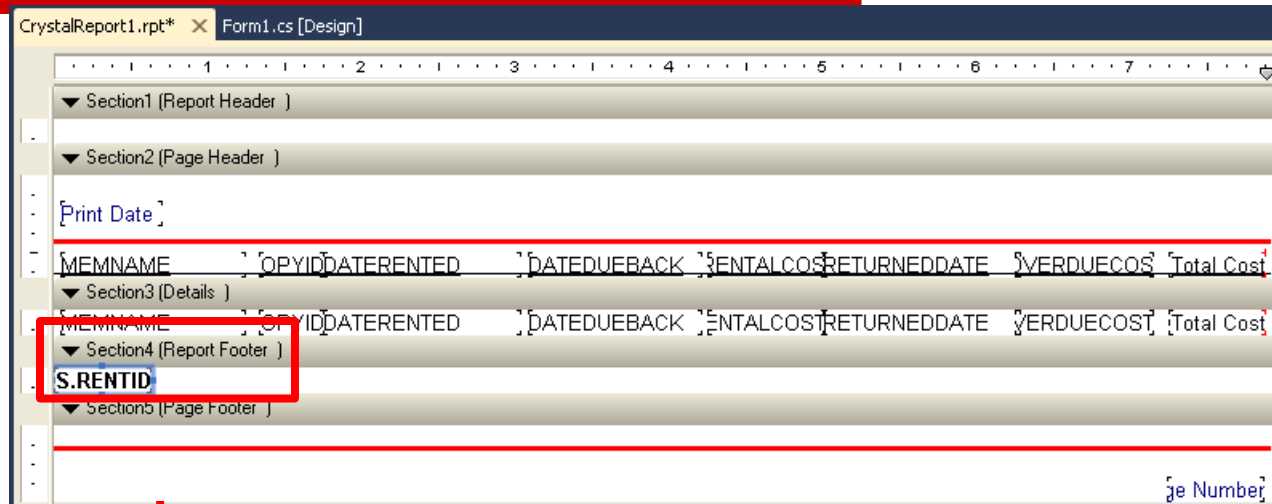


The screenshot shows the 'Insert Summary' dialog box with the following settings:

- Choose the field to summarize:** RENTID
- Calculate this summary:** Count
- Summary location:** Grand Total (Report Footer)
- ☐ Add to all group levels
- ☐ Show as a percentage of
- ☐ Summarize across hierarchy

Buttons at the bottom: OK, Cancel, Help.

Add Summary Field for the Whole Report(cont'd)



Add Summary Field for the Whole Report(cont'd)

CrystalReport1.rpt* x Form1.cs [Design]

☒ Save data in the report

1 / 1 100%

SAP CRYSTAL REP

4/16/2017

MEMNAME	OPYID	DATE RENTED	DATE DUE BACK	RENTAL COS	RETURNED DATE	OVERDUE COS	Total Cost
fady	6.003	2/2017 12:00:00AM	3/5/2017 12:00:00	10.00		10.00	430.00
Smith	6.003	5/2017 12:00:00AM	3/8/2017 12:00:00	10.00		20.00	790.00
Smith	6.003	6/2017 12:00:00AM	3/9/2017 12:00:00	10.00		10.00	390.00
fady	6.003	2/2017 12:00:00AM	3/5/2017 12:00:00	10.00		5.00	220.00
Robert	32.002	28/2017 12:00:00A	3/3/2017 12:00:00	55.00		10.00	495.00
fady	1.003	1/2017 12:00:00AM	3/4/2017 12:00:00	100.00		15.00	745.00
fady	11.003	3/2017 12:00:00AM	3/6/2017 12:00:00	50.00		15.00	665.00

7

Main Report Main Report Preview

Thank You