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TRAINING GUIDE

Beginning Crystal 2

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Using Crystal Reports with Lucity

Beginner Examples - 2

The second of a seven-part series, this workbook is designed for new Crystal Reports® users. You'll learn how to add selection parameters to a report including date ranges, secured fields, and selection categories. We'll also show you how to sort and group the report data. Finally, we'll show you how to add summaries and running totals to a report.

The screen captures in this workbook are taken from Crystal XI. Depending on which version of Crystal you are using, your screens may vary slightly.

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Section Options

Each section of the report has a variety of options available to it. To view these options, right click in each section to the left of the report.

• Some useful options include Suppress, Hide, Insert Section Below, Delete Section, and Select All Section Objects. The availability of the options depends on the section.

Details
Hide (Drill-Down OK)
Don't Suppress
Section Expert
Show Long Section Names
I <u>n</u> sert Line
Delete Last Line
A <u>r</u> range Lines
<u>Fit Section</u>
Insert Section Below
Select <u>All Section Objects</u>

Section Expert

The Section Expert can be accessed from the above right click menu or at the top of the report in the Expert Toolbar or under Report in the Menu Bar.

1. Click on Section Expert 🔁. You'll see the following dialog:

Section Expert			×
Sections:	Insert Delete Merge + +	Common Color	
Report Header Page Header Details Page Footer Report Footer		 Free-Form Placement Hide (Drill-Down OK) Suppress (No Drill-Down) Print at Bottom of Page New Page Before New Page After Reset Page Number After Keep Together Suppress Blank Section Underlay Following Sections 	X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X1 X
		OK Cancel	Help

Some options that have been chosen elsewhere, such as Suppress, are reflected here. Other useful options include conditional suppression of a section (using the *Suppress* formula button), *New Page After, Keep Together, Suppress Blank Section* (used for sub-reports), and *Format with Multiple Columns* (*Details* section only).

Formatting Multiple Columns

You may want to format a report with multiple columns. This is set up with the information in the *Details* section of the report and may also include the Group section data. To set up Multiple Columns, complete the steps below:

- 1. Export the Summary of Request (ReqSum.rpt) report and rename it to LC_ReqSumCol.rpt.
 - Remember, we discussed how to Export a report in our related workbook, Beginning Crystal 1.
- 2. Reduce the number of columns to two or three. Keep the **Request #**, **Record Date**, and **Status** fields.
- 3. Click on Section Expert and choose Details. If you have multiple Detail sections then you must click on the top Details title (not Detail a) and all of the Detail sections will be duplicated. Individual Detail sections do not have the Format with Multiple Columns option.
- 4. Click on Format with Multiple Columns. Note the addition of the Layout tab below:



- 5. Click on the *Layout* tab.
 - You must enter a size for the column section in the *Detail Size*. Figure out how wide the first set of columns are from the ruler at the top and then allow at least that much for the duplicate section.
 - The Horizontal Gap is the space between the columns.
 - The Vertical Gap is the space between each line.
 - It is also important to choose a *Printing Direction*.
 - Click *OK* when you have finished altering the layout.

Common Color Layout		
Detail Size: Width	4.000	in
Height	0.000	in
Gap Between Details:		
Horizontal	0.020	in
Vertical	0.000	in
	1	in
Printing Direction:		
Across then Down		
C Down then Across		
Format Groups with mu	ultiple colun	nn

Note: The "Format Groups with multiple column" option at the bottom of the Layout tab allows this to be used in Grouping (discussed later).

- 6. The *Multiple Column* option is not available in the *Header* section.
 - In order to identify your columns in the header, you'll need to type in the column headings manually. Or, you can copy and paste them from the report.
 - The Landscape orientation is no longer necessary.
 - Shorten the Lines to 4".
 - Move the **Print Date** and **Print Time** right edges to 8".
 - In File > Page Setup... > Orientation select Portrait.
 - *OK*

Below, you can see examples of the report Design and Preview.

Design

Request #	Record Date, Status	י ג	Request #	Record Date, Status	-
RQ_NUMBER	@ReqDate RQ_STAT_TY]	RQ_NUMBER	@ReqDate RQ_STAT_TY]
	Total Requests: #TotReq				

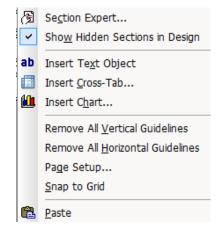
Preview

Summary	of Request	s				2/27/2014
						9:35 AM
Request #	Record Date	Status	Request#	Record Date	Status	
2006-00013	4/5/2006	Completed	2006-00022	4/5/2006	Completed	
2006-00025	4/5/2008	Completed	2006-00067	4/6/2008	Completed	

Additional Options

Right click in the main body of the report or Ruler to find additional options. These help with the report design.

2. These include Snap to Grid, Remove All Vertical Guidelines and Remove All Horizontal Guidelines. Ruler, Guidelines, Grid, and Tooltips can be accessed through View in the top Menu Bar.



Parameters

Parameters are useful in creating reports that are more dynamic. The report will query the user for information and then typically use this in the record selection criteria. A common use of this feature is date ranges, categories and personnel.

Selection criteria are usually filtered on from within the Lucity modules. The report is then run using these criteria, and the specific criteria used can be stated in the subtitle. Sometimes, it is helpful to have the report make the selection. In the steps below, we'll show you how to set up these selection parameters in the report.

Date

In general it is best to set up a date range with two parameter fields. The report query will ask the user to supply a Start Date and an End Date.

- 1. In this example, export the Summary of Request (ReqSum.rpt) report and call it LC_ReqSumDt.rpt.
- 2. In LC_ReqSumDt.rpt open Field Explorer > Parameter Fields.
- 3. Right click on Parameter Fields and select New.

OR

Click on *Parameter Fields* and then click the *new* icon ¹ in the *Field Explorer* toolbar.

	_
lame:	Type:
My Parameter	String -
ist of Values: 💿 Static 💿 Dyn	namic
alue Field	Description Field
(None)	(None)
쒈 Insert 🗙 🛧 🔸 Actions 👻	
Value	Description
Click here to add item	
Options:	
Option	Setting
Prompt Text	Enter My Parameter:
Prompt With Description Only	False
Default Value	
	True
Allow custom values	

- 4. In the *Create New Parameter* dialog, include the following (screen shown on next page):
 - Enter a *Name*. For our example, we've typed **Start Date**.
 - Select the type of data that the parameter field will be. In our example, we will choose Date.

Note: There is an option for DateTime which would correspond with our field type but in the report we have pulled the Date portion out of the field using the Date formula. If you had used the DateTime type then the user would have to enter the irrelevant Time portion of the field each time they ran the report.

Under Options the Prompt Text is automatically filled in with Enter (Parameter Name). This prompting text can be revised by clicking in the box and adding or subtracting text. (We have added "for Status Date Range".)

lame:	Type:	
Start Date	Date	
Start Date	Date	
st of Values: Static 	🔘 Dynamic	
alue Field	Description Field	
(None)	 (None) 	
🍅 Insert 🗙 🛧 🔸 Actions 🔻		
Value	Description	
Click here to add item		
Intions:		
)ptions:	Setting	
Option	Setting	
Option Prompt Text	Enter Start Date for Status Date Range:	
Option Prompt Text Prompt With Description Only		
Option Prompt Text Prompt With Description Only Default Value	Enter Start Date for Status Date Range: False	
Option Prompt Text Prompt With Description Only	Enter Start Date for Status Date Range:	

- 5. Repeat this procedure for End Date.
- 6. There are now two parameter fields (**Start Date** and **End Date**) that can be used in the selection criteria and in a date title.

Note: Even though the parameters have been created, the report will not use them unless they are put in the selection criteria.

Record Selection with Parameters

To use your newly defined Date parameters in a report to select records, complete the followings:

- 1. Click on Select Expert 😽
- 2. Click the Status Date Formula (StatDate).
- 3. Select OK.

Choose Field		23
Fields:		
WKREQ.RQ_REC_DT	*	ОК
WKREQ.RQ_STAT_DT		
WKREQ.RQ_STAT_TY		Cancel
		Help
StatDate		Browse
🗄 🖓 😝 🕞 GBAWork001 (ODBC (RDO))		biowac
. WKREQ		
RQ_ADR_APT		
RQ_ADR_B22		
	-	
• • • • • • • • • • • • • • • • • • •	F	

The dialog displayed below will appear:

Select Expert	x
@StatDate <new></new>	New Delete Browse
OK Cancel Help	Show Formula >>>

4. Select from the drop down boxes the appropriate criteria:

Select Expert	×
@StatDate <new></new>	
is between	New
and	Delete
{?End Date}	Browse
OK Cancel Help	Show Formula >>>

5. Then, if you would like to view the formula for the Selection Criteria that you have created, click on Show Formula>>>

@StatDate <new></new>		
formula:	{@StatDate} in {?Start Date} to {?End D {	Delete Browse
OK Cancel	Help	Hide Formula <<<
Record Selection	Group Selection	Formula Editor

Note: In Crystal XI there is an option to Set Parameter Order when you right click on Parameter Fields in Field Explorer. This is the order in which you will be queried. You can click and drag the parameters (or use the arrows) to the correct order.

	Parameter Order
	Change the parameter order:
	[?] Report Subtitle
l	[?] Start Date
	[?] End Date

Adding Parameters to the Report Title

Once you've added Date parameters to a report, you'll want to add that data to the title section. This helps you know which dates are reflected in the report.

You can manually enter the dates in the *Report Subtitle* parameter query.

OR

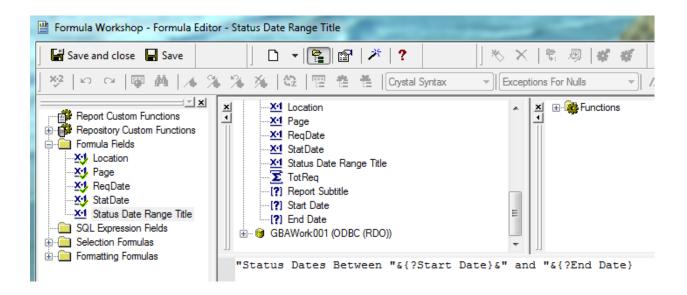
You can create a Formula to automatically state the dates selected and place in the Title section.

OR

You can create a Text Object and bring in the dates.

Formula Option

- 1. Right click on Formula Fields and select New.
- 2. Enter a descriptive name. For our example, we've typed "Status Date Range Title".
- 3. Select *OK*, then type in the following:



- "Status Dates Between "&{?Start Date}&" and "&{?End Date}
- The parameter fields can be selected from the Report Fields.
- 4. Now, either remove the Report Subtitle or create some room in the *Page Header* section to drag the **@Status Date Range Title** formula into the *Page Header*.

Summary of Requests ?Report Subtitle @Status Date Range Title

Summary of Requests

Status Dates Between 1/1/2013 and 12/31/2013

Text Object Option

- 1. Click on Insert Text Object and place below ?Report Subtitle.
- 2. Type "Status Dates Between and "
- 3. Increase the box size to accommodate the addition of the Date parameters.
- 4. From *Field Explorer > Parameter Fields*, drag the **Start Date** in front of "**and**" and the **End Date** behind "**and**". Add spaces as needed.

Summary of Requests ?Report Subtitle Status Dates Between {?Start Date} and {?End Date}

Summary of Requests

Status Dates Between 1/1/2013 and 12/31/2013

Secured Fields

Sometimes, fields should be hidden in reports if the person viewing the report does not have the proper level of security. This can be done by using parameters and formatting options. Any field can be set up for security, such as cost, addresses, or phone #'s.

Note: This will only work for fields in the main body of the report. Fields that need to be hidden in subreports will be addressed in our related workbook, Intermediate Crystal 1.

Many cost fields in Work Order reports are set to use the "Hidden" option. Sometimes you may wish to suppress the fields completely.

The following steps are provided so you can set up your own field security (step 7).

- From Work > Work Flow Setup > Employees module, export the Employee List Report (EmployeeList.rpt) and call the new version LC_EmployeeCost.rpt.
- 2. Modify the **Department** text object to **Unit Cost.**
- 3. Add a text object to the right called **Overtime Rate**.
- 4. Remove the EM_DEPT_TY field.
- 5. Add from the WKUEMP table the EM_UNIT_C field beneath the Unit Cost heading.
- 6. Add from the WKUEMP table the EM_OVERI_C field beneath the Overtime Rate heading.
- 7. Right click Parameter Fields and select New.
 - Type in the *Name* **ViewSecuredFields**.
 - This is a special parameter field that must have this name "ViewSecuredFields". When the report is run within Lucity the security is passed to the report and will not query the user. If the report is run outside of a Lucity module, in Crystal, then the security will be queried.
 - If the report is refreshed, it will ask for the parameters again, including the permission to view the secure fields. At this point you can change the security value the report will run with.
 - Select the Type > Number and under Options > Discreet Value True.
 - Click OK.

Field Viewing Options

Field to Show Blank

For a blank field to show up when the user does not have rights to view the secured fields, do the following:

- Right click the field that requires suppression (EM_UNIT_C) and select Format Field.
- Click the *Common* tab.
- \circ Click the formula box $\stackrel{\textbf{M}}{=}$ next to Suppress.

- Double click the ViewSecuredFields parameter from the Report Fields.
- Type "= 0".

{?ViewSecuredFields} = 0

- Click Save and close.
- Click OK

Field to show "Hidden"

For the word "Hidden" to show up when the user does not have rights to view the secured fields, do the following:

- Right click in the field that requires suppression (EM_OVERI_C) and select Format Field.
- Click the Common tab
- \circ Click the formula box $\stackrel{\text{sel}}{=}$ next to Display String.
- Type in:

if {?ViewSecuredFields}=0 then "Hidden" else "\$"& totext({WKUEMP.EM_OVERI_C})

Note: The inclusion of the dollar sign is because once the formula brings in the word "Hidden", the formula requires the outcome to be text. The field will not allow number formatting. That is also the reason for the conversion of the **EM_OVERI_C** field to text.

- Click Save and Close.
- o Click OK

If the user did not have permission to view Employee costs then because of the field set ups, the Unit cost is blank and the Overtime is showing "Hidden".

Unit Cost	Overtime Rate
	Hidden
	Hidden
	Hidden

It would be helpful to make a notation at the bottom of the report to explain why some of the fields are "Hidden", such as:

"A Hidden field indicates permission to view the secured field is turned off."

Logged in User ID and Logged in Employee Code - Web Only

Much like the "ViewSecuredFields" parameter, the Logged in User ID and Logged in Employee Code can be brought into the report straight from Lucity. This is a new enhancement for version 7.4. This information is being brought in from the Employee module in Work.

For the User ID, create a new parameter called LOGGEDINUSERID.

For the Employee Code, create a new parameter called LOGGEDINEMPCODE.

Both parameters are String type fields.

Drag the parameter fields into the report. When the report is run from Lucity, these fields will populate with the correct Logged in User information.

Static and Dynamic Selections

A pick list of values to use in a report is possible by using parameter fields. An example of this use will be shown in selecting Categories.

From Work > Work Flow Setup > Category, export Category with Problem and Task Report (CatProbTask.rpt) and save as LC_CatProbTaskCat.rpt.

- Right click Parameter Fields and choose New.
- Enter the *Name* (Category).
- Enter the *Type* (String).
- Choose where the List of Values will come from. Set up as either a Static Selection or Dynamic Selection.

Static Selections

This allows selection from a set list of values for a specific field.

- 1. Next to "List of Values:" select Static.
- 2. Under Value Field select CT_BR_TY (This is the Category text field).
- 3. If you want to choose specific Categories to be in your selection list, click Insert 🏠 Insert
- 4. Click on the down arrow under Value.
- 5. Click the Category that you want in your list.
- 6. For each additional Category, click on a blank line, and then click on *Click here to add item*, and then click the down arrow for the list.
 - If All the Categories should be in the list, click Actions and choose Append all database values.
 - This drop down box is also where you can clear all values in a list.
- 7. Under *Options* you may revise the *Prompt Text*. It has automatically placed the *Name* (Category) after Enter.
- 8. Under Options place True next to both Allow discreet values and Allow multiple values.
 - The True and False options may be changed by clicking on True (or False) which will cause a drop down of True or False to select from.
- 9. Click OK.

Create New Parameter	X
Name:	Type:
Category	String 💌
List of Values: Static Dynamic 	
Value Field	Description Field
CT_BR_TY -	(None) 🔹
🖄 Insert 🗙 🛧 🔸 Actions 👻	
Value	Description
4th Of July Activities	
Admin	
Adult Sports	
Automated Meter Readers	
Auxiliary Equipment	
Backflow Preventors	T
Options:	
Option	Setting ^
Prompt With Description Only	False
Default Value	=
Allow custom values	True
Allow multiple values	True
Allow discrete values	True
	OK Cancel Help

Dynamic Selections

This allows selection from whatever values are in a specific field at the time the user runs the report.

For This option to be used with Web reports, the report needs to be developed in Crystal 2008 or later and run with the HTML view.

- 1. Edit the **Category** parameter. Next to *List of Values*: select *Dynamic*.
- 2. In the *Prompt Group Text* box enter something helpful so the user knows what field is being addressed.
- 3. Under Choose a Data Source, select New.
- 4. Then Click either Insert or Click here to add item. Select the field in question.
- 5. Edit the Prompt text if desired.
- 6. Select Options
- 7. OK

Name:			Type:		
Category			String		
List of Values:	Static 💿 Dynamic				
Prompt Group Text:	Category				
Choose a Data Source:					
New	Existing				
Value	Description		Parameters		
CT_BR_TY	(None)		Click to create paramet	ter	
Click here to add item					
Options - Level 1 (CT_BR_TY):					
Option		Setting			
Prompt Text		Enter Category:		:	
Sort Order		Ascending by Value	1		
Prompt With Description Only		False			
		True			
Allow multiple values		True			

Note: For Web reports, make sure the Show on (Viewer) Panel option is set for Editable.

Option	Setting
Show on (Viewer) Panel	Editable

.

Using the Selection Parameter

1. You must now add this selection criterion to the Select Expert.

{WKCAT.CT_BR_TY} = {?Category}

- 2. When the report is run and the Category parameter is queried, it will appear similar to the following example.
 - Below, we have selected a group of Categories by clicking on Curbs.

Then shift/click on Engineering

Then the > button

- Individual Categories can be moved by clicking on the Category and then the > button.
- All of the Categories can be selected by using the >> button.
- Another helpful way to select Multiple values is selecting the value then holding the control key(Ctrl) down and selecting additional values, then moving these values over with one click on the > button.
- The **Remove** and **Remove All** buttons work with the Selected Values: window.
- **OK**

Category		Cate	gory
Enter Category:			
Available Values:		Selected Values:	
Conduit Cabling Containers Culture and Arts Curb Detention Basins Dry Creek Wastewater Treatment Plant Engineering	N	Curb Detention Basins Dry Creek Wastewater Treatment Plant Engineering	
Environmental	Ψ.		
		Remove Remove All	

Dynamic Cascading Prompts

A dynamic cascading prompt allows the user to choose first one selection criteria and for this chosen selection then choosing a second one ...

For a Storm Pump Inspection report a parameter was created to choose a Pump Station and then once the station was selected then the pumps were selected from a list of pumps associated with the station.

Edit Parameter: Station/P	ump - Pl	N_NUMBER					×
Name:						Type:	
Station/Pump						String	~
List of Values:) Static	Oynam	ic				
Prompt Group Text:	Enter St	ation and then	Pumps				
Choose a Data Source:							
New		Existing	PN N	JMBER > PI N	UMBER	- Prompt Group	•
🖆 Insert 🗙 🛉 🔶							
Value		Description			Parame	eters	
PN_NUMBER		(None)			[?] St	ation/Pump - PN_	NUMBER
PI_NUMBER		(None)			[?] St	ation/Pump - PI_1	NUMBER
Options - Level 1 (PN_NUMBER	ι):						
Option			Setting)			
Prompt Text			Enter S	Station:			
Sort Order			Ascene	ding by Value			Ξ
Prompt With Description Only	/		False				
Allow multiple values			False				
Allow discrete values			True				
				ОК		Cancel	Help

The selection criteria within the Select Expert would be set up like this:

{SMPINSP.PI_NUMBER} = {?Station/Pump - PI_NUMBER} and {SMSTATN.PN_NUMBER} = {?Station/Pump - PN_NUMBER} When running the report the following prompt would show up:

Enter Values	×
Enter subtitle text here (not required):	Report Subtitle
Enter Station and then Pump(s)	Station/Pump - PI_NUMBER/Station/Pump - PN_NUMBER
Enter Station: 2 Enter Pump: Available Values: 25a 4 L52	Selected Values:
	Remove Remove All
	OK Cancel

Sorting

Sorting is a simple method to view data in your report in a certain order; ascending or descending.

Crystal Reports allows sorts within sorts, each sort reflecting its own sort direction.

If there is grouping in a report (discussed next), the grouping comes first before any field sorting. Many of the work reports have groupings to deal with duplicate records created in filtering so simple sorting will not work. Additional sorting results can usually be accomplished with additional groups.

We are going to set up a simple sort within the LC_ReqSum.rpt report. The following steps will set up a sort on the Category then within Category a sort on the Problem.

- 1. Click Record Sort Expert
- 2. Choose the field to be sorted by. This is typically found in the *Report Fields*.
- 3. Click on **RQ_CAT_TY** and move to the Sort Fields box by pressing the > button.
- 4. Then select the Sort Direction: Ascending or Descending.
- 5. Repeat this for the **RQ_PROB_TY** field. Each field's Sort Direction is independent of the other fields to be sorted on.

Record Sort Expert		x
Available Fields:	Sort Fields:	* +
Report Fields WKREQ.RQ_CAT_TY WKREQ.RQ_FLLW_D WKREQ.RQ_ID WKREQ.RQ_NUMBEF WKREQ.RQ_PROB_T WKREQ.RQ_RC_DT WKREQ.RQ_STAT_D WKREQ.RQ_STAT_T WKREQ.RQ_X_COOR _	A - WKREQ.RQ_CAT_TY A - WKREQ.RQ_PROB_TY Soft Direction: (a) Ascending	
	© Descending	
	OK Cancel	Help

Interactive Sorting

To create a report with a choice of sorting, we will export the **Summary of Requests (ReqSum.rpt)** report and rename it **LC_ReqSumSort.rpt**.

1. First we will create a Static parameter formula to list what the sorting choices are.

Edit Parameter: Sort By	X
Name: Sort By	Type: String
List of Values:	Description Field
(None) 🗸	(None)
🕍 Insert 🗙 🛧 🔸 Actions 👻	
Value	Description
Problem	
Status	
Click here to add item	
Options:	
Option	Setting
Prompt Text	Enter Sort By:
Prompt With Description Only	False
Default Value	
Allow custom values	False
Allow multiple values	False

2. Using Formula Workshop, create a formula (Sort) to use the correct sorting parameter.

```
If {?Sort By}="Problem" then {WKREQ.RQ_PROB_TY}
Else if {?Sort By}="Status" then {WKREQ.RQ_STAT_TY}
```

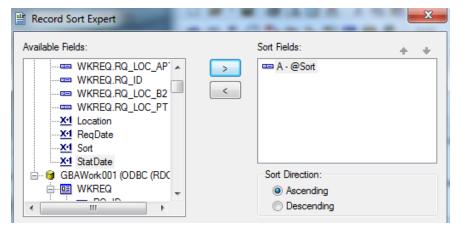
3. Place this formula in the Detail Section.

	-	Summary of Requests Report Subtitle				
	5	Request # Record Date Status	r L			
D	Ŀ	@Sort RQ_NUMBER @ReqDate RQ_STAT_TY	-			
RF	·	Total Requests: #TotReq				

4. Use the Format Field option to hide the @Sort formula field by Suppressing.

F	ormat Edit	or				×
ſ	Common	Border	Font	Paragraph	Hyperlink	
	Object N Tool Tip			Sort1		×2
	Read		uplicated		sition and Size	×2 ×2

5. Place the @Sort formula under Sort Fields: in the Record Sort Expert



Preview

The following prompt will appear. The drop down arrow will show the fields to be sorted by.

	Enter Values	×	
Г			
L	Enter Sort By:	Sort By	
	Problem		
	Enter a Value:		
L	Problem		
		OK Cancel	

Summary of Requests

Request#	Record Date	Status	Status Date	Priority	Problem
2006-09991	12/8/2006	New Request	12/8/2006		
2007-01256	1/8/2007	W O Completed	1/9/2007		
2009-00015	8/7/2009	New Request	8/7/2009		
2009-00021	8/7/2009	New Request	8/7/2009		
2009-00022	8/7/2009	New Request	8/7/2009		
2009-00027	8/7/2009	New Request	8/7/2009		
2012-00001	3/6/2012	New Request	3/6/2012		
2007-05272	2/6/2007	New Request	2/8/2007		Abandoned Waste
2006-03598	11/1/2006	Completed	11/2/2006	Immediate Priority	Accident Response
2006-07730	11/27/2006	Completed	11/30/2006		Accident Response
2006-07878	11/28/2006	Completed	11/30/2006		Accident Response
2006-09695	12/7/2006	Completed	12/21/2008		Accident Response
2007-04571	1/31/2007	New Request	1/31/2007		Accident Response
2006-04078	11/3/2006	W O Completed	11/11/2006	Immediate Priority	Bees In The Box
2006-04113	11/3/2006	W O Completed	1/2/2007	Immediate Priority	Bees In The Box

Grouping

Grouping is a powerful tool and relatively easy to use. It is particularly helpful when creating summaries or counts.

We are going to add a grouping on *Problem* to the Summary of Requests report.

1. From *Work Requests* export the **Summary of Requests** (**ReqSum.rpt**) report and rename it LC_ReqSumProbGr.rpt.

2. Change the Report title. For example, we've titled this report: Requests By Problem Report.

3. Select *Insert Group* ^(E). If the field you wish to "Group By" is currently in the report, click on it to highlight it and then press the *Insert Group* button. It will automatically be grouped on the field; however, you may also use the drop down box to select the field to group on (RQ_PROB_TY).

Insert Group	×
Common Options	
When the report is printed, the records will be sorted and grouped by:	
WKREQ.RQ_PROB_TY	
in ascending order.	
Use a Formula as Group Sort Order	
The section will be printed on any change of: WKREQ.RQ_PROB_TY	
OK Cancel He	elp

4. Choose any pertinent options.

Change Group Options
Common Options
Customize Group Name Field
Choose From Existing Field
WKREQ.RQ_NUMBER -
O Use a Formula as Group Name
Keep Group Together
Repeat Group Header On Each Page
OK Cancel Help

- Group Header (GH1) and Footer (GF1) sections have been added.
- \circ ~ The Group #1 Name is the field that this report was grouped by

	Requests by Problem Report
	Request # Record Date Status
GH1	Group #1 Name
D	RQ_NUMBER @ReqDate RQ_STAT_TY
GF1	
RF	• Total Requests: #TotReq

Preview

Request #	Record Date	Status	Status Date	Priority	Problem
2006-09991	12/8/2006	New Request	12/8/2006		
2007-01256	1/8/2007	W O Completed	1/9/2007		
2009-00021	8/7/2009	New Request	8/7/2009		
2012-00001	3/8/2012	New Request	3/6/2012		
2009-00022	8/7/2009	New Request	8/7/2009		
2009-00015	8/7/2009	New Request	8/7/2009		
2009-00027	8/7/2009	New Request	8/7/2009		
cident Response					
2006-09695	12/7/2006	Completed	12/21/2006		Accident Response
2007-04571	1/31/2007	New Request	1/31/2007		Accident Response
2006-03598	11/1/2006	Completed	11/2/2008	Immediate Priority	Accident Response
2006-07878	11/28/2006	Completed	11/30/2006		Accident Response
2006-07730	11/27/2006	Completed	11/30/2006		Accident Response
es In The Box					
2006-09375	12/5/2006	W O Completed	12/6/2006	Immediate Priority	Bees In The Box
2006-11925	12/22/2008	W O Completed	12/26/2006	Immediate Priority	Bees In The Box
2007-04080	1/29/2007	W O Completed	1/30/2007	Immediate Priority	Bees In The Box

The **Problem** is now being shown twice, once as a Group Header and again as a column, so we will eliminate the Problem column.

We will create a separate section with the column headings (Page Header b) because there is currently no room to fit **Problem** above **Request #**. (next page)

5. On the left-hand ruler, find the spot where you want the break to occur. It should appear just above the column titles.

Click and hold the mouse over that spot and move the cursor slightly, pull to the right and release. A new break line is formed. The section with the column titles is Page Header b (PHb).

- 6. Increase the size of *Page Header a* by dragging down the bottom line of this section.
- 7. Drag the **Problem** column title above **Request** # in the **Page Header a** section. Format **bold**.
- 8. Left align the Group #1 Name field to the Problem text box.
- 9. Delete the Problem field (RQ_PROB_TY).

Requests by Problem Report

- 10. The address formula could be moved over (left side at 6").
- 11. In File > Page Setup..., change from Landscape orientation to Portrait.

	-	Requests By Problem Report					
	-	Problem					
PHb	•	Request # , Record Date, Status , Status Date, Priority , Addres	5 5				
GH1		Group #1 Name					
D	•	RQ_NUMBER	ation				
GF1							
RF	•	Total Requests: #TotReq					

Preview

Requests	By Problem	n Report			2/27/
•	-	•			2:44
Problem					
Request #	Record Date	Status	Status Date	Priority	Address
2006-09991	12/8/2006	New Request	12/8/2006		75 E CIVIC CENTER DR
2007-01256	1/8/2007	W O Completed	1/9/2007		
2009-00022	8/7/2009	New Request	8/7/2009		
2009-00015	8/7/2009	New Request	8/7/2009		
2009-00021	8/7/2009	New Request	8/7/2009		
2009-00027	8/7/2009	New Request	8/7/2009		
2013-00001	1/9/2013	W O Completed	8/28/2013		
2014-00001	1/21/2014	Assigned to WO	1/21/2014		
Abandoned Wa	ste				
2007-05272	2/6/2007	New Request	2/6/2007		125 W CULLUMBER AVE
Accident Respo	onse				
2006-09695	12/7/2006	Completed	12/21/2006		
2007-04571	1/31/2007	New Request	1/31/2007		
2006-03598	11/1/2008	Completed	11/2/2006	Immediate Priority	N GREENFIELD RD
2006-07878	11/28/2006	Completed	11/30/2006		
2006-07730	11/27/2006	Completed	11/30/2006		

Note: Like when Sorting, Grouping can be nested; a Group within a Group. If multiple groups had been used then they could be switched around by clicking and dragging on the sections.

Summary

You may want to know the total count of each individual group. The summary option can be used for this purpose. Continue with the LC_ReqSumProbGr.rpt report.

- 1. Click on the field that you wish to count. (RQ_NUMBER)
- 2. Select Insert Summary **\Sigma**. The Insert Summary dialog will appear:
 - The field to summarize (RQ_NUMBER) should already be in the field to summarize.
- 3. Select the type of Summary (Count).
- 4. Choose the summary location (Group#1) and click OK.

Insert Summary
Choose the field to summarize:
WKREQ.RQ_NUMBER
Calculate this summary:
Count
Summary location
Insert Group
Options
Show as a percentage of
Grand Total: Count of RQ_NUMBER
Summarize across hierarchy
OK Cancel Help

There is now a subtotal for each Problem group.

 \circ $\;$ You may want to add some lines and make the group subtotal bold for easier reading.

Requests by Problem Report Report Subtitle			
Problem			
Request # Record Date Status	Status Date, Priority	Address	
Group #1 Name			
RQ_NUMBER @ReqDate RQ_STAT_TY	@StatDate_RQ_PRTY_TY	@ Location	,
Problem Total: Count of W			
Total Requests: #TotReq			

Preview

Problem					
Request#	Record Date	Status	Status Date	Priority	Address
2006-09991	10/0/2008	New Request	12/8/2006		75 E CIVIC CENTER DR
		· · · · · · · · · · · · · · · · · · ·			75 E CIVIC CENTER DR
2007-01256	1/8/2007	W O Completed	1/9/2007		
2009-00021	8/7/2009	New Request	8/7/2009		
2012-00001	3/6/2012	New Request	3/6/2012		
2009-00022	8/7/2009	New Request	8/7/2009		
2009-00015	8/7/2009	New Request	8/7/2009		
2009-00027	8/7/2009	New Request	8/7/2009		
Probl	em Total: 7				
Abandoned Wa	ste				
2007-05272	2/8/2007	New Request	2/6/2007		125 W CULLUMBER AVE
Proble	em Total: 1				
Accident Respo	onse				
2006-09695	12/7/2006	Completed	12/21/2006		
2007-04571	1/31/2007	New Request	1/31/2007		
2006-03598	11/1/2006	Completed	11/2/2006	Immediate Priority	N GREENFIELD RD
2006-07878	11/28/2006	Completed	11/30/2006		
2006-07730	11/27/2006	Completed	11/30/2006		
Probl	em Total: 5				

The report already has a Grand Total but if you needed to create one you could repeat the process and choose *Grand Total* (*Report Footer*) in the Summary location box. The summaries will automatically be dropped into the report wherever Crystal seems to think it should go. Click and drag the field and reformat it to fit your needs.

Running Totals

The Running Totals feature is used to add a list of numbers cumulatively. The various options offered within the Running Total dialog have rendered the use of variables (discussed in later documents) obsolete in some cases.

In this example we will create a count on the number of Work Orders per Category.

- 1. In the Work Order module export the Work Order summary Report (WOSum.rpt) and rename it LC_WOSumRunTot.rpt.
- 2. Create a new group on *Category* (WO_CAT_TY).
- 3. Shift the *Category* group to **Group 1** by clicking and dragging it into position.
- 4. Delete the Category Column.
- 5. Change page orientation to *Portrait* by adjusting field sizes and shifting positions to close up space.
- 6. Change the Report title to "Work Orders By Category Report".
- 7. Add an additional Group Footer 2 section.
 - Bring in the Total Cost Field (WO_TOTCOST) into the new section.
 - Suppress the section.
- 8. Within Field Explorer, right click Running Total Fields and select New. The Create Running Total Field dialog will appear.
- 9. Type in a name for the Running Total Name (i.e. WO Count).
- 10. Choose the Field to Summarize (WO_NUMBER).
- 11. Choose the Type of summary (count).

- 12. Choose how the report will *Evaluate* the *Work Order Number* field.
 - On change of group WO_NUMBER
- 13. Choose when to *Reset* (On Change of Group- WO_CAT_TY).
- 14. Then, click OK.

Create Running Total Field		Annual Annual	x
Available Tables and Fields:	>	Running Total Name: Summary Field to summarize Type of summary	WO Count WKORDER.WO_NUMBER Count
WKORDER.WO_STAT_DT WKORDER.WO_STAT_TY WKORDER.WO_TOTCOST StatusDate GBAWork002 (ODBC (RDO)) WKORDER WKORDER WKORDERLOC WKRESRCE WKTMPSBST	>	Evaluate For each record On change of field On change of group Use a formula Reset	Group #2: WKORDER.WO_NUME
Image: With the second seco	>	 Never On change of field On change of group Use a formula 	Group #1: WKORDER.WO_CAT_ <u>×2</u> Cancel Help

15. Add a text object for a column header (WO #) just to the right of Address.

Address # WO

- 16. Drag the Running Total formula (WO Count) under the WO # column header into the *Group footer 1 (GF1)* section.
 - The Running Total formulas have a pound sign "#" in front to distinguish it as a Running Total type field (#WOCount).

Addre	ess]	# WO
/////	////	//////
<u> /////</u>	////	//////
אר שנ	L	ocations.
/////	////	//////
	#W	OCount

We will now add a count of Work Orders greater than \$200 per Category. This will use a formula for evaluation.

- 17. Within Field Explorer, right click Running Total Fields and select New. The Create Running Total Field dialog will appear.
- 18. Type in a name for the *Running Total Name* (WOCount>200).
- 19. Choose the Field to Summarize (WO_NUMBER).
- 20. Choose the Type of summary (count).
- 21. Choose how the report will *Evaluate* the WO_NUMBER (Use a Formula).
 - Type in the following formula:

{WKORDER.WO_TOTCOST}>200

Choose when to *Reset* (On Change of Group- WO_CAT_TY).

22. Then, click OK.

Edit Running Total Field	Annual Annual Annual	x
Available Tables and Fields: Report Fields WKORDER.WO_ACTN_TY WKORDER.WO_CAT_TY WKORDER.WO_ID WKORDER.WO_STAT_DT WKORDER.WO_STAT_TY WKORDER.WO_TOTCOST StatusDate GBAWork002 (ODBC (RDO)) GBAWork002 (ODBC (RDO)) WKORDER WKORDER WKORDER WKWORDER WKWOASSET WKWOASSET WKWOTSK	Running Total Name: Summary Field to summarize Type of summary Evaluate For each record On change of field On change of group Use a formula Reset Never On change of field On change of field On change of group Use a formula OK	WOCount>200 WKORDER.WO_NUMBER Count Group #1: WKORDER.WO_CAT_ Cancel Help Help

- 23. Create a new column title (# WO > \$200) and place it to the left of Total Cost.
- 24. Drag the **Running Total** formula (**WOCount>200**) into the *Group Footer 1* section under the **#WO >\$200** column header.

	-	Work Order ?Report Subtitle	rs By Categor	ry Report				Print Date Print Time
	-	wo #	Status	, Status Date Main Task	Address	# WO #	# WO > \$200	*Total Cost
GH1		Group #1 Name	۲ د					
GH2		//Group/#2/Mame/	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////	////////	///////////////////////////////////////
D		///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////	////////	///////////////////////////////////////
GF2a	•	WO_NUMBER	WO_STAT_TY	@StatusDate WO_ACTN_TY	ž L	.ocations.ri	ot 🖸	@WOCost
GF2b		///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////	1010051//	///////////////////////////////////////
GF1					#W	OCount	OC ount>200	
RF	•							@GrTot

Preview

Work Orde	ers By Category	Report					4/2/201- 2:42 PM
WO #	Status	Status Date	Main Task	Address	# WO	# WO > \$200	*Total Cos
Auxiliary Equipm	nent						
2009-00041	New Work Order	8/7/2009	Emergency Response	202 E LAK	EDR		\$281.23
					1	1	
Backflow Preven	ntors						
2006-02311	New Work Order	3/5/2014	Routine Maintenance				\$14.64
					1	0	

Work Order Reports

The importance of using Running Totals and Grouping can't be stressed enough for Work Order reports that have summaries.

This is only an issue if the report is to be run with a filter on any field that is normaly a grid (child) type field such as Location, Task or Resource. Never assume the report will not be used with a filter.

Grouping

In the previous report the Work Order information was placed in the **Work Order Number** *Group Footer* section.

If the information had been put in the *Detail* section and the report run with a filter on a field that is normaly a grid type field, then the information in the *Detail* section would show up as many times as the filter is true.

		-		Work Order	rs By Catego	ory Report			Print Date Print Tim e
		-		wo #	Status	, Status Date Main Task	Address	# W0 # W	0 > \$200 *Total Cost
	GH1			Group #1 Name	7				
	GH2		1	Group #2 Warne/	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////
(D)			WO_NUMBER	WO_STAT_T	∕ @StatusDate WO_ACTN_TY	i L	.ocations.rpt	@WOCostT
	GF2a		1	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////
	GF2b				<u> </u>			///////////////////////////////////////	t¢¢\$ <u>t}////////////////////////////////////</u>
	GF1						#W	O Count OC	ount>200
	RF	•							@GrTot

In the previous example the WO# 2009-00041 record has the following Resources:

esources	-					<u> </u>
Group	Туре	Resource	Resource Text ⊽	UOM	Units	Cost
	Employee	332	WILLIS HENDRIX	Hours	3.00	108
	Equipment	PWU0490	PWU0490 CHEVROLET SILVERADO	Hours	4.00	11.18
	Employee	345	OTTO JONES		4.00	125
	Material	13020	Lamp, 100 W	Each	4.00	36.00

If a Lucity filter had been created to view records that had Employees as Resources (WR_RTYP_CD=1) then the report run in Lucity with this filter, the previous report would have looked like this:

WO #	Status	Status Date	Main Task	Address	# WO	# WO > \$200 *1	Total Cost
Auxiliary Equipme	nt						
2009-00041	New Work Order	8/7/2009	Emergency Response	202 E LAKE D	R		\$281.23
2009-00041	New Work Order	8/7/2009	Emergency Response	202 E LAKE D	R		\$281.23
					1	2	
							\$562.46

The WO# 2009-00041 record shows up twice because there are two Employees in the Resource section.

The **Total Cost** and **# WO>\$200** for the Auxiliary Equipment is also double. The **#** WO value is correct because we said to evaluate *on change of group* (WO_NUMBER).

Running Totals

The way the report is currently set up, the information is placed in the **Work Order Number** *Group Footer* section and the Total Cost Field is in a formula with variables (discussed in later documents). The Cost field could have been brought in simply as a field (**WO_TOTCOST**). Running Totals could have been used to total the cost for both the **Category Group** and the **Report Total**.

The following example shows the importance of the Running Total $\stackrel{\sim}{\cong}$ instead of the Summary $\stackrel{\sim}{\cong}$ when the report is run with a filter of a field from a grid.

The information is placed in the Work Order Number Group Footer section so it only shows once.

	-	Work Orders By Category Report	Print Date Print Time
		WO#] Status] Status Date Main Task] Summary Running Total [*1	otal Cost
GH1		Group #1 Name	
GH2		//ˈSiroup/#2/Name///////////////////////////////////	//////.
D			///////
GF2a		WO_NUMBER WO_STAT_TY @StatusDate WO_ACTN_TY WO_	otcost
GF2b			///////
GF1		[Sum of WKORDER.WO_TO TC OST] [#WO Cost	

The total cost for the Category is shown with a simple summary in **Bold** and as a Running Total formula in *Italic*.

WO #	Status	Status Date	Main Task	/	Summary	Running Total	\nearrow	*Total Cost
Auxiliary Equipment 2009-00041	New Work Order	8/7/2009	Emergency Response					281.23
					562.46	281.23		

Concatenate Fields

Multiple fields can be joined together in a single formula as opposed to bringing all of the fields in separately.

This might be useful for names or address. The concept is simple; however, if any of the fields in a simple "+" type formula are empty, the formula would show up as blank.

The null fields need to be addressed as follows:

Two Field Formula

1. In the current Work Order Detail Report (WODetail.rpt) the Billing information looks like this:

				Billing	
	Billed Party `				
Customer ID:	ู <i>โ</i> พo_всบรтю	2		<mark>CustomerNumber:</mark>) โุ่⊮ O_BCUSTNO	-
Customer Name:	្ទំស្រo_BFIRST		3	Last Name: [VO_BLAST	
Address:	្រ៍ហ្O_BADDR1				

Preview

	Billed Party	Billing ————————————————————————————————————
Customer ID:	Difference	Customer Number:
Customer Name:	C arol	Last Name: Smith
Address:	123 Oak	

2. We can create a formula to join the First and Last Names. In the example we will create a formula called **Name**:

In the **Formula Workshop** the formula can be typed in manually or parts can be brought in from the various workshop sections (Field, Function or Operator). "If Then Else" can be brought from *Operators > Control Structure*. "Is Null" can be brought in from *Functions > Print State*.

(If IsNull({WKORDER.WO_BFIRST}) Then " " Else {WKORDER.WO_BFIRST})&" "&

(If IsNull({WKORDER.WO_BLAST}) Then " " Else {WKORDER.WO_BLAST})

• This would change the format to:

[Billed Party `			Billing				
- 1	Customer ID : Customer Name: Address:	wo_bound of the second of the	ŗ	-	Custo -	mer Numi]	ber:] į́vo_в	cus

Preview

	Dillad Darts	Billing ———
Customer ID:	Billed Party –	Customer Number:
Customer Name:	Carol Smith	
Address:	123 Oak	

Address Formula

Another common usage of concatenated fields is the Address field. Any time a record shows the address as multiple parts ADR_BDG and ADR_DIR then this is a field that uses the address set up in the General section of Lucity. It should be brought into a report as a concatenated formula.

The Work Order Location Address is as follows:

(If isNull({WKORDERLOC.WL_ADR_BDG})then "" else Trim(ToText({WKORDERLOC.WL_ADR_BDG},0,"","")))+" "+

(If isNull({WKORDERLOC.WL_ADR_DIR})then "" else Trim({WKORDERLOC.WL_ADR_DIR}))+" "+

Trim({WKORDERLOC.WL_ADR_STR})+" "+

(If isNull({WKORDERLOC.WL_ADR_TY}) then "" else Trim({WKORDERLOC.WL_ADR_TY}))+" "+

(If isNull({WKORDERLOC.WL_ADR_SFX}) then "" else Trim({WKORDERLOC.WL_ADR_SFX}))+" "+

(If isNull({WKORDERLOC.WL_ADR_APT}) then "" else Trim({WKORDERLOC.WL_ADR_APT}))

A null Street Name is not addressed because we do not want to see the formula if there is no Street Name.