

Section 11



CRYSTAL REPORTS

For SAP Business One

Using Parameters

Common Use Of Parameters

- Parameters prompt the user of a report to enter information. That information can determine what appears in the report or how the report processes.
- By using parameter fields in formulas, selection formulas, and in the report itself, you can create a single report that you can change as your user reporting needs change.
- A parameter field can be identified by French braces and a question mark before the parameter name.
 - For example {?parameter_name}
- Parameter setup and usage is significantly different in Business One 8.8 vs. 2005/2007

The screenshot shows the 'Edit Parameter: BPCode@Select CardCode from OCRD' dialog box. The title bar indicates the parameter name. The main area is titled 'Edit a parameter and list of values.' It contains several fields: 'Name' (BPCode@Select CardCode from OCRD), 'Type' (String), and 'List of Values' (Static). Below these are 'Value Field' and 'Description Field', both set to '(None)'. There is a section for 'Value' and 'Description' with a table for listing values. At the bottom, there is a 'Value Options' section with a table of settings.

Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Select Your Business Partner
Prompt With Description Only	False
Optional Prompt	False
Default Value	

Common Use Of Parameters in Business One

Enter Values

Select Your Invoice Date Range Docdate

Start of Range: ... End of Range: ...

1 1

☒ Include this value ☐ No lower value ☒ Include this value ☐ No upper value

Add Range

Available Values: 1/22/2006 00:00:00
1/27/2006 00:00:00
2/11/2006 00:00:00
2/12/2006 00:00:00
2/16/2006 00:00:00
3/9/2006 00:00:00

Selected Values:

Remove Remove All

Select Your Business Partner CardCode

...

Pick Your Invoices InvNo

1

- Select Document Dates
- Select Business Partners
- Select Specific Document Numbers
- Select Salesperson
- Select specific or range of Accounts
- Conditionally print prices on a report
-

- Selection Criteria

Select Invoice Date Range ☐ ...

Select Your Business Partner ...

Pick Your Invoices ☐ ...

OK Cancel

How Parameters work in 8.8

- Dialog creation during runtime that has the same look-and-feel as Business One system reports
- Parameter defined in reports and run in Business One will display familiar Business One User Interface (UI) controls
- The UI control displayed will vary based on your parameter definition

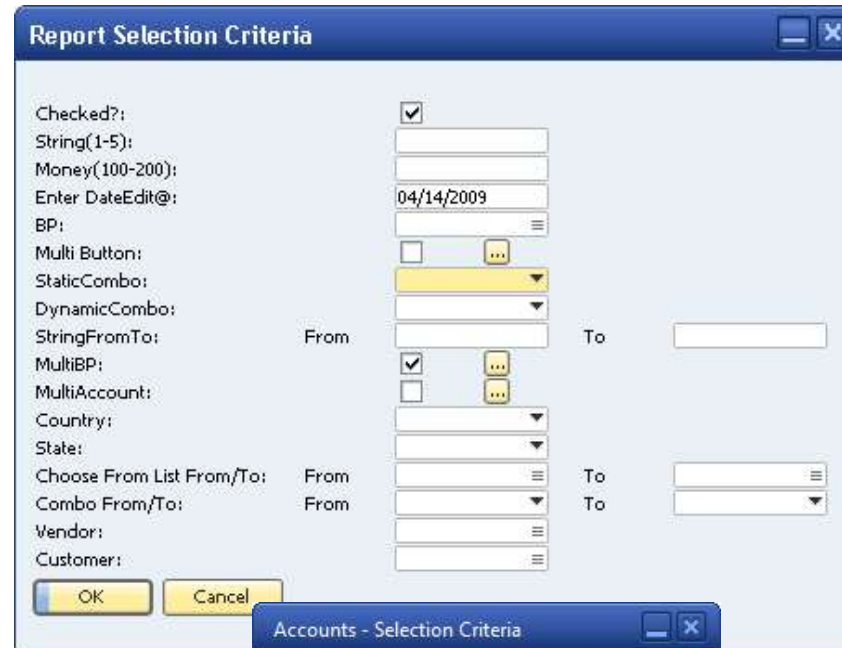


Items List - Selection Criteria

Item No. From To

Group

☐ Hide Items with No Quantity in Stock



Report Selection Criteria

Checked?: ☒

String(1-5):

Money(100-200):

Enter DateEdit@:

BP:

Multi Button: ☐

StaticCombo:

DynamicCombo:

StringFromTo: From To

MultiBP: ☒

MultiAccount: ☐

Country:

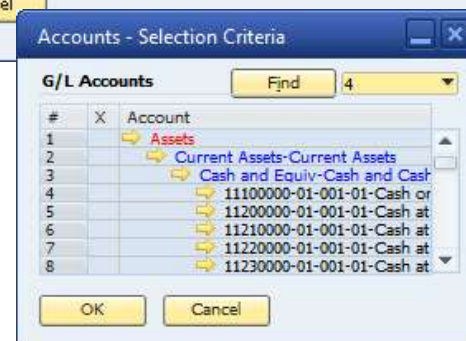
State:

Choose From List From/To: From To

Combo From/To: From To

Vendor:

Customer:

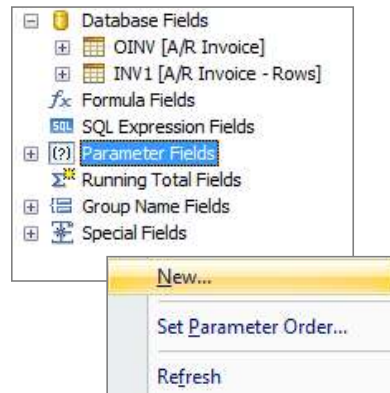


Accounts - Selection Criteria

G/L Accounts

#	X	Account
1		Assets
2		Current Assets-Current Assets
3		Cash and Equiv-Cash and Cash
4		11100000-01-001-01-Cash or
5		11200000-01-001-01-Cash at
6		11210000-01-001-01-Cash at
7		11220000-01-001-01-Cash at
8		11230000-01-001-01-Cash at

Create/Edit Parameters Window



Create New Parameter

Create a new parameter and list of values.

Name: Type: List of Values:

Value Field: Description Field:

Value

Value	Description
Click here to add item	

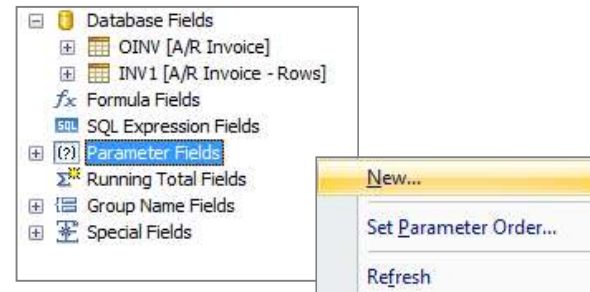
Value Options:

Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Enter My Parameter:
Prompt With Description Only	False
Optional Prompt	False
Default Value	
Allow custom values	True
Allow multiple values	False
Allow discrete values	True
Allow range values	False
Min length	

OK Cancel Help

Creating Business One Enabled Parameters

- Right Click of Parameter Fields in the Field Explorer
- Select “New”
- In the Name field enter your “Token”
 - Tokens Consist of 3 components
 - Unique Name + “@” + “SQL Select Statement”
 - There is no space between your name and the @ symbol, or the SELECT keyword
 - SQL Select Statement is any valid Business One SQL Statement **
- Choose your parameter Data Type (String, Boolean, Number, Date, Currency, ...)
- Keep the default “List of Values” setting as Static
- Select the Value Options you desire. The key ones for Business One ARE:
 - Prompt Text
 - Allow Multiple Values
 - Allow Discrete Values
 - Allow Range of Values



Business One Token Examples (1)

■ SelectItem@Select * from OITM

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

■ SelectAccount@Select * from OACT

Value Options	Setting
Allow multiple values	True
Allow discrete values	True
Allow range values	False

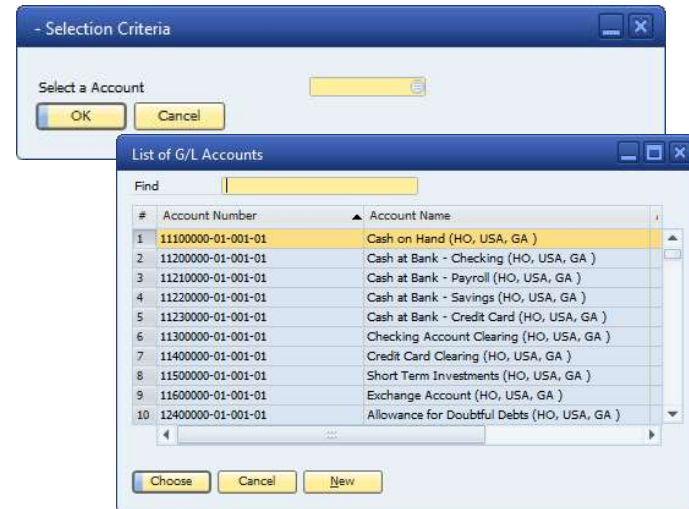
■ SelectBPCode@Select CardCode from OCRD

Value Options	Setting
Allow multiple values	False
Allow discrete values	False
Allow range values	True

Business One Token Examples (2)

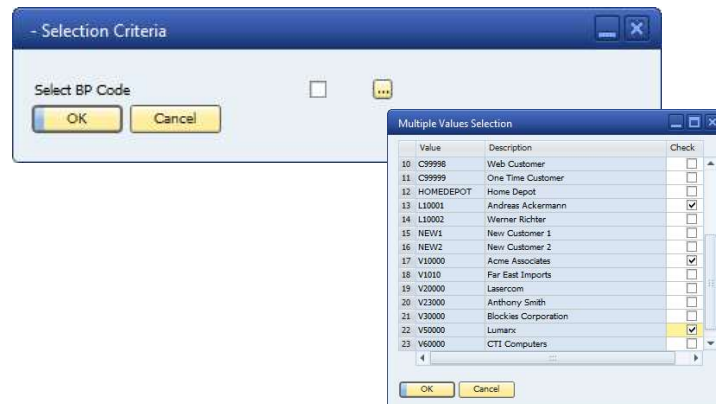
■ SelectAccount@Select * from OACT

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False



■ SelectBPCode@Select * from OCRD

Value Options	Setting
Allow multiple values	True
Allow discrete values	True
Allow range values	False



Business One Token Examples (3)

- **SelectVendors@SELECT * from OCRD where CardType = 'S'**

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

The screenshot shows two overlapping SAP dialog boxes. The top box is titled '- Selection Criteria' and contains a 'Select Vendor' field with an 'OK' button and a 'Cancel' button. The bottom box is titled 'List of Business Partners' and contains a table with columns for '#', 'BP C...', 'BP Name', and 'BP Balance'. The table lists several business partners with their respective IDs and balances. At the bottom of the table are 'Choose', 'Cancel', and 'New' buttons.

#	BP C...	BP Name	BP Balance
1	V10000	Acme Associates	-377,022.89
2	V1010	Far East Imports	-473,882.39
3	V20000	Lasercom	-305,546.47
4	V23000	Anthony Smith	-671,236.62
5	V30000	Blockies Corporation	-327,699.82
6	V50000	Lumax	-547,796.44
7	V60000	CTI Computers	-473,675.25
8	V70000	SMD Technologies	-309,386.72

- **Country@SELECT distinct Country FROM OCST**

- **State@SELECT code, name FROM OCST WHERE (Country = '@Country')**

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

The screenshot shows the '- Selection Criteria' dialog box. It has fields for 'Select Country' and 'Select State'. The 'Select Country' field is set to 'CA' and has a dropdown menu open showing a list of Canadian provinces and territories. The 'Select State' field is empty. At the bottom are 'OK' and 'Cancel' buttons.

Country	State
CA	

- AB - Alberta
- BC - British Columbia
- MB - Manitoba
- NB - New Brunswick
- NF - Newfoundland and Labrador
- NS - Nova Scotia
- NT - Northwest Territories
- NU - Nunavut
- ON - Ontario
- PE - Prince Edward Island
- QC - Québec
- SK - Saskatchewan
- YK - Yukon

Business One Date Tokens

■ MyDate@

- Parameter Type "Date"

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

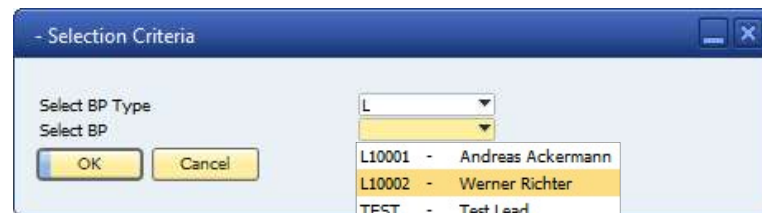
■ OFPRDate@SELECT * FROM OFPR

- Parameter Type "Date"

Value Options	Setting
Allow multiple values	False
Allow discrete values	False
Allow range values	True

Recap: Syntax & Rules for Defining Tokens

- Parameter names must start with an alphanumeric character or an underscore “_”
- The at sign @ must follow the parameter name with no space between them.
- An SQL statement usually follows the at sign @, with no space after the at sign @
- The general syntax for creating SAP Business One tokens is:
 - <Parameter Name>@SELECT ... FROM ... WHERE
- The SELECT command is not always mandatory for all SAP Business One tables
- A Token may include another parameter name. This means that a second parameter may depend on a first parameter
 - BPTYPE@SELECT Distinct CardType from OCRD
 - SelectBPs@SELECT CardCode, CardName from OCRD WHERE (CardType ='@BPTYPE')



Special Business One Tokens (1)

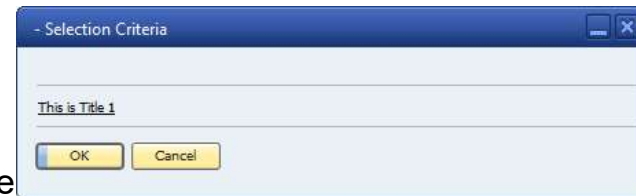
- **Titles** - You can assign a “title” token to label a group of selection criteria. Place the text that you want to appear in the title, in the Value Options “Prompt Text” field

- <parameter_name>@title

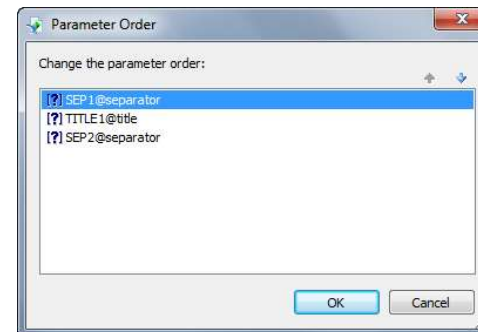
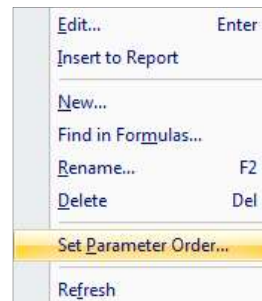
Value Options	Setting
Prompt Text	This is Title 1

- **Separators** - separators are horizontal lines that span the width of a selection criteria window

- <parameter_name>@separator



- To define your parameter order, select a parameter in the Field List, right-click, and select “Set Parameter Order”. Then use up and down arrows to position each parameter



Special Business One Tokens (2)

- **Value Lists** – Build your own list of “static” values for the user to select from
- In the Edit Parameter window, in the Value list, enter a list of valid values
 - <parameter_name>@

Edit Parameter: ValueList@

Enter a parameter and list of values.

Name: ValueList@ Type: String List of Values: Static

Value Field: (None) Description Field: (None)

Value Options:

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

Selection Criteria dialog: Enter Priority (Low, Med, High)

Special Business One Tokens (3)

- **DockKey@**
- The DockKey@ token is mandatory in a report that you want to use as a document Layout. The DockKey@ token contains the current active document number in Business One. Use this token in your report Select Expert to restrict the data to just this document. Example for a Invoice layout: {OINV.DocEntry}={DockKey@}
- If the DockKey@ token does not exist, create a new parameter with the following settings:
 - In the Name field, enter DockKey@
 - In the Type dropdown list, select Number
 - In all other fields, leave the default settings
- **ObjectId@**
- The ObjectId@ token is recommended when you want to use the Layout as a Master Layout for multiple marketing documents. The ObjectId@ token will contain a numeric value that identifies the current document type. (13 = Invoices, 17= Sales Orders) See BoObjectTypes Enumeration in the SDK help File or a complete list of ObjectID values
- If the ObjectId@ token does not exist, create a new parameter with the following settings:
 - In the Name field, enter ObjectId@
 - In the Type dropdown list, select Number
 - In all other fields, leave the default settings

Special Business One Tokens (4)

- **UserCode@**
- The UserCode@ token contains the currently logged on Business One user code, such as “manager”. The parameter type is String. This token is only available for layouts; you cannot use it in reports.
- **FolioPref@ and FolioNum@**
- These parameters are optional tokens in layouts in which you want to display a Folio prefix and a Folio number. Business One populates them with the Folio prefix and Folio number you assign to the document for the first printing. Folio's and therefore these tokens are available only in the Mexico, Chile, Costa Rica, and Guatemala Business One localizations

Crystal Reports for Business One

Value Options and Settings

Value Option	UI Control Type	Description
Show on (Viewer) Panel	N/A	Do not show/Editable/Read Only - No Impact in Business One UI
Prompt Text	N/A	Enter Text - The text appears in the B1 Selection Criteria window as a Prompt
Prompt With Description Only	N/A	True/False - No Impact in Business One UI
Optional Prompt	N/A	True/False - When set to True, the user does NOT have to provide a value for the parameter in Business One
Default Value	N/A	Enter Value - No Impact in Business One UI
Allow custom values	N/A	True/False - No Impact in Business One UI
Allow multiple values	Browse Button	True/False - Creates a Browse Button in Business One UI 
Allow discrete values	Drop Down List	True/False Creates Choose From List or Drop Down Selection depending on SELECT statement   If the SQL statement does not specify columns B1 provides a field with a standard Choose from List icon that opens a window with a default list. If the SQL statement specifies columns, B1 provides a dropdown list control. If multiple columns are specified, the first one is used as dropdown list's key, and the second column is used as descriptions for the dropdown list.
Allow range values	From /To Fields	True/False - Creates 2 (From & To) Choose From List or Drop Down Selection depending on SELECT statement From To From To

Crystal Reports for Business One

Parameter Types

Parameter Type	UI Control Type	Values
Boolean	Checkbox	True/False
Currency	Edit Box with Calculator	Only currencies
Date	Calendar Date Picker	Only dates
Date Time	Calendar Date Picker	Note: Because SAP Business One does not have a time control, this parameter provides a default time of 00:00
Number	Edit Box with Calculator Calculator	Only Numbers
String	Edit Box	Alphanumeric,
Time	Not Supported	NA

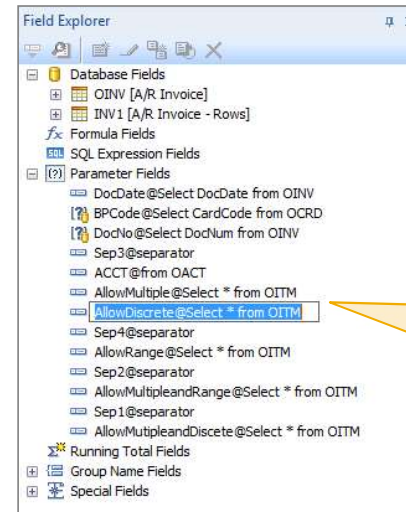
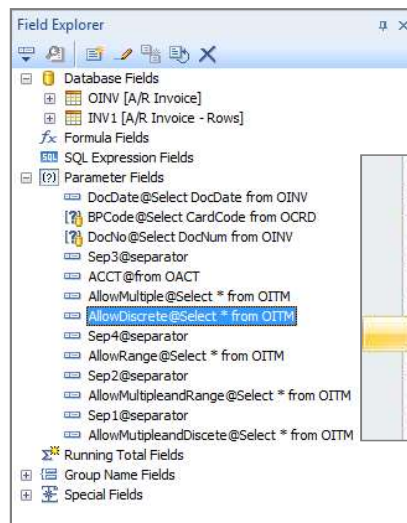
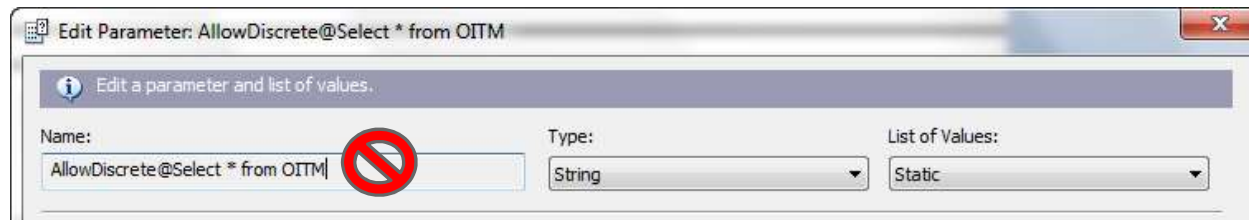
 Edit a parameter and list of values.

Name:
 Type:
 List of Values:

Boolean
Currency
 Date
 Date Time
 Number
 String
 Time

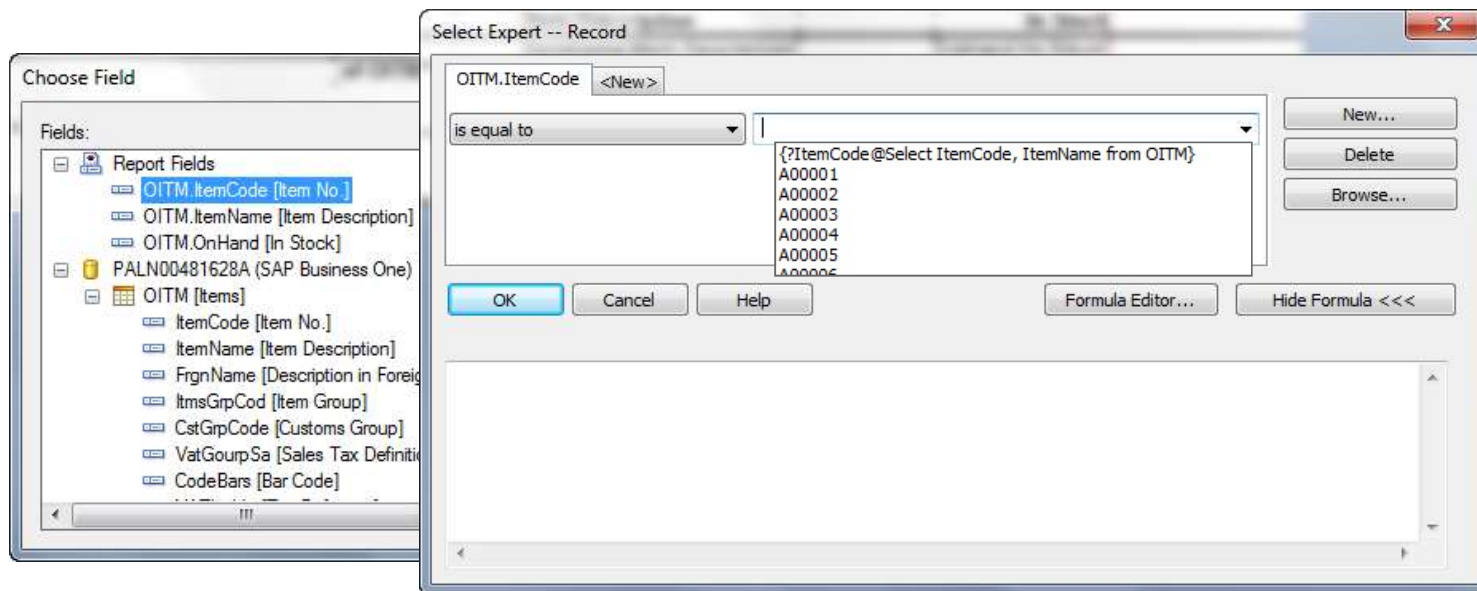
Edit Parameter Tokens

- You can't edit a Parameter Name from the Edit Parameter window once it has been added.
- You need to select the Parameter name in the Field Explorer and Right click,
- Select "Rename F2" from the pop up menu



Using Parameters with Select Expert

- Once you have defined your parameter/token you can use it with the Select Expert to allow your user to filter the report data
- Menu: Report>Select Expert>Record
- Choose the field to select on
- Choose the comparison operator
- Click the drop down and select your ?parameter



Using Parameters with Select Expert

- It builds the selection formula below
- You can add multiple selection criteria with ANDs and ORs between them
- Click OK to Save

Select Expert -- Record

OITM.ItemCode

is equal to {?ItemCode@Select ItemCode, ItemName from OITM}

{OITM.ItemCode} = {?ItemCode@Select ItemCode, ItemName from OITM}

Using Parameters with Select Expert

■ Examples

The top screenshot shows the 'Select Expert -- Record' dialog box with the following configuration:

- Field: OPOR.DocEntry
- Operator: is equal to
- Value: {?DocKey@}
- Buttons: New..., Delete, Browse..., OK, Cancel, Help, Formula Editor..., Hide Formula <<<

The bottom screenshot shows the 'Select Expert -- Record' dialog box with the following configuration:

- Field: OITB.ItmsGrpNam
- Operator: is one of
- Value: Accessories, IBM Printers, PC
- Buttons: New..., Delete, Browse..., OK, Cancel, Help, Formula Editor..., Hide Formula <<<

The formula editor shows the following formula:

```
{OITB.ItmsGrpNam} in ["Accessories", "IBM Printers", "PC"] and  
{OITM.OnHand} > 0.00 and  
{OITM.ItemCode} = {ItemCode@Select ItemCode, ItemName from OITM}
```

Exercise 7

Sales Report Grouped by Sales Employee with Parameters

