

## Line Loop – Samples – Calculate Total Quantity

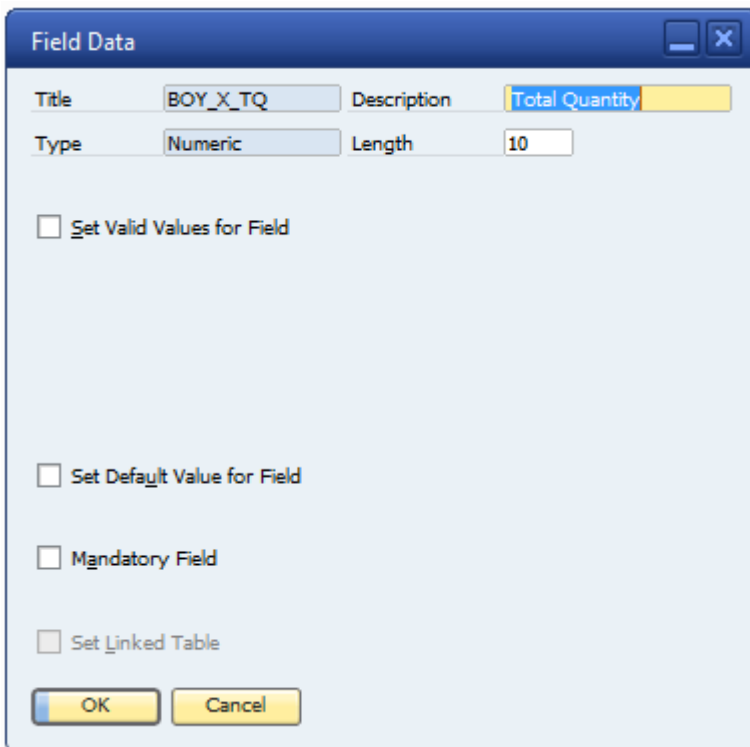
Summary	
<b>Module</b>	Universal functions
<b>Level</b>	Advanced
<b>Requirements</b>	B1UP 3.6.0.0 or higher

### Description

This sample will create a B1 Validation that calculate the total quantity from all lines on a document and place the result in a User-defined Field.

### Setup

The first thing we do is create the UDF on document header level that should hold the Total quantity.



Next in order to use this field we use B1UP's Item Placement Tool to add the field onto the main window (Needed in order to work with the field)<sup>1</sup>. Please note that the fields UID is set as IPT\_1

---

<sup>1</sup> Tip: You can also use the Content Creator to add the field.

**Item Placement Tool: Configuration**

Code: IPT-013  
 FormType: 139  
 Description: Sales Order  
 Form Width:   
 Form Height:   
 Include Universal Function:   
 Users (Empty = All):   
 Include users  Exclude users  
 Use description as form title  
 Development Mode

**System Item Lines**

Active	Item UID	Description	Left	Top	Width	Height	Hide	From Pane	To Pane	Link to	Override description (...)
<input checked="" type="checkbox"/>							<input type="checkbox"/>	-1	-1		<input type="checkbox"/>

**UDF Item Lines**

Active	Item UID	Description	Table	Field	Type	Left	Top	Width	Height	From Pane	To Pane	Label	Label width
<input checked="" type="checkbox"/>	IPT_1	Total Quantity	ORDR	U_BOY_X_1	EditText	6	371	145	14	0	0	<input checked="" type="checkbox"/>	122

Active

The screenshot shows a 'Sales Order' window with the following sections:

- Customer Information:** Fields for Customer Name, Contact Person, Customer Ref. No., and Local Currency.
- Order Details:** Fields for No. (Primary), Status (Open), Posting Date (01/05/11), Delivery Date, and Document Date (01/05/11).
- Item Table:** A table with columns: #, Item No., Item Description, Free Text, Quantity, and Unit ... The first row is numbered '1'.
- Summary Fields:** Sales Employee (-No Sales Employee-), Total Before Discount, Discount (%), Freight (USD 5.00), Rounding (checkbox), Tax (USD 0.00), and Total (USD 5.00).
- Remarks:** A text area for additional notes.
- Buttons:** Add, Cancel, Copy From, and Copy To.

A red rectangular box highlights the 'Total Quantity' field in the summary section.

Tip: Since the field should not be writeable in the IPT config, we uncheck the Edit: Add and Edit: Ok options

### B1 Validation Config

We now make a B1 Validation Config that will execute everytime we exit the quantity column.

**B1 Validation Configuration**

Name: Calculate total when quantity change    Sort: 100    Number: 158  
 Users (Empty = All): [ ]     Include users     Exclude users

**Trigger**

FormType: 139  
 Item: 38  
 Column: 11  
 Row: [ ]  
 Menu Uid: [ ]

FormMode: All  
 Event: Validate  
 BeforeAction: True  
 ActionSuccess: Ignore  
 ItemChanged: Ignore  
 InnerEvent: False  
 CharPressed: [ ]    Modifier: None

**Comments**

[ ]

Active

[ Add ]    [ Cancel ]    [ Import ]    [ Export ]

**Condition**

No condition, just execute function    ⇒ UF-203

Simple condition  
 When item | (column) | Comparison type: [ ]    [ ]    Equals  
 Value | Type | Execute function: [ ]    String (0)    [ ]

SQL Condition    Common SQL structures: [ ]

[ ]

Condition result	Function to execute
[ ]	[ ]
[ ]	[ ]

[ Add line ]    [ Remove line ]

## Universal Functions

For this sample we need 2 universal Functions. One for the calculation and one for setting the calculated value in the User-defined Field.

### Line Loop for calculation

**Universal Function Configuration**

Code: UF-203    Remarks: [ ]  
 Name: Calculate Quantity Total  
 Type: Line Loop

Line item UID: 38     Ignore last line     Ignore text-lines/sub-totals (Docs only)    Direction: First to last

No condition    First pass UF: [ ]    Line UF: [ ]    Final result value / type: \$[38.11.NUMBER]    Sum

SQL Condition

[ ]

Result	First pass UF	Line UF	Final result value	Final result type	Break loop
[ ]	[ ]	[ ]	[ ]	Overwrite	<input type="checkbox"/>

[ Add ]    [ Remove ]

**Final result**

Condition	Value type	Compare type	Compare value	Universal Function
Always execute	Result as string	Equal	[ ]	⇒ UF-204

[ Add ]    [ Remove ]

[ OK ]    [ Cancel ]    [ Import ]    [ Export ]

The Line Loop is quite simple. Since this is items on documents we using item 38 (Item Matrix Item Uid) as the line Item.

Next we do a No-condition.

⊙ No condition    First pass UF     Line UF     Final result value / type     Sum

If we find an itemline we use **\$\$\$38.11.NUMBER** to find the lines quantity and use the Final result type **“Sum”**, because we would like to get the combined total of all quantities.

Finally we execute a Final Result. In this case there is no special conditions on if it should be executed or not so we choose Always Execute

Final result	Condition	Value type	Compare type	Compare value	Universal Function
	Always execute ▼	Result as string ▼	Equal ▼		⇒ UF-204

In this it if UF-204 that is described below.

### Macro for setting calculation in the UDF

Since this macro is launched from a Line Loop we have the special keyword **\$\$\$LLRESULT.NUMBER** at our disposal, so all we need to do is to set our UDF (with item Uid = IPT\_1) with this value.

**Universal Function Configuration**

Code	<input type="text" value="UF-204"/>	Remarks	<input type="text"/>
Name	<input type="text" value="Set Total"/>		
Type	<input type="text" value="Macro"/>		

```
SET($[IPT_1.0.NUMBER]$$$LLRESULT.NUMBER);
```

```
SET($[IPT_1.0.Number]$$$LLRESULT.NUMBER);
```

### Usage

We can now go to our Sales order and as we enter quantities, the total will be summed in the UDF

Customer: C20000  
 Name: Norm Thompson  
 Contact Person: Norm Thompson  
 Customer Ref. No.:  
 BP Currency: USD

No. Primary 73  
 Status Open  
 Posting Date 01/05/11  
 Delivery Date:  
 Document Date 01/05/11

#	Item No.	Item Description	Free Text	Quantity	Unit ...
1	A00001	IBM Infoprint 1318XXZ		2	
2	A00003	IBM Infoprint 1226		1	
3	A00004	HP Color LaserJet 5		10	
4	A00005	HP Color Laser Jet 4		1	
5					

Sales Employee: Bill Levine  
 Owner: Levine, Bill  
 Total Quantity: 14

Total Before Discount: USD 6963.50  
 Discount: %  
 Freight: USD 5.00  
 Rounding: USD 0.00  
 Tax: USD 661.53  
 Total: USD 7630.03

Remarks:

Buttons: Add, Cancel, Copy From, Copy To

### Things to consider

There are a few things to consider for additional B1 Validation events all depending on your demands for the functionality:

- The trigger in this sample only calculates the total if a quantity column is entered. This could lead to the following possible issues:
  - o If no one enter a quantity column then the calculation will never happen (add a few lines and just press add). If this is a problem you should consider also triggering the calculation just before you add the document (Item Pressed on ItemUid = 1 Before Action)
  - o If your scenario has many document-lines you should be aware of performance. The sample calculates every single time a quantity is changed. If this is too much, then consider if the calculation should be a manual triggering (But example doing it via a function button)