

Guide – Understanding Dynamic Syntax

Throughout B1 Usability Package you will encounter the use of the dynamic syntax. This is inspired by the SAP formatted search syntax and allows you to do SQL and other arguments with syntax code that upon execution will replace the dynamic syntax with the data from the current SAP Business One window.

The syntax

There are basically 2 syntaxes; the item syntax and the table syntax.

The Item Syntax

This is the most common syntax and allow you to inject a value of an SAP Window item into SQL and arguments. The syntax is as follows:

`$ [$<ItemUID>.<ColumnUID>.<DataType>]`

Where <ItemUID>, <ColumnUID> and <DataType> is the 3 things you need to provide.

Let's look at a sample:

The screenshot shows the SAP Sales Order form with several fields highlighted by red boxes and arrows, indicating their dynamic syntax:

- Customer/Vendor Name:** Parameter Technology [Form=139 Item=54 Pane=0 Variable=1 ORDR,CardName]
- Document Number:** 2 [Form=139 Item=8 Pane=0 Variable=1 ORDR,DocNum]
- Posting Date (Date):** 01/05/05 [Form=139 Item=10 Pane=0 Variable=1 ORDR,DocDate]
- Unit Price:** USD 400.00 [Form=139 Item=38 Pane=1 Column=14 Row=1 Variable=81]
- Discount % for Document (Numeric 19.6):** 10.500 [Form=139 Item=24 Pane=0 Variable=1 ORDR,DiscPrct]
- Document Total:** USD 392.01 [Form=139 Item=29 Pane=0 Variable=91]

The form also displays a table of items with the following data:

#	Item No.	Item Description	Quantity	Unit Price	Disc...	Tax C...	T
1	A00001	IBM Inforprint 1312	1	USD 400.00	0.000	PA	
2					0.000		

Summary values at the bottom right:

- Total Before Discount: USD 400.00
- Discount: 10.5 %
- Freight: USD 0.00
- Discount: USD 34.01
- Total: USD 392.01

Here we have the Sales order where we have pointed out 6 fields that we will look at. They all represent the different datatypes we will encounter in SAP Business One

1. String values (Customer Name)
2. Integer values (Document Number)
3. Dates (Posting Date)
4. Data on line level (Price After Discount)
5. Decimal values (Discount)
6. Decimal values mixed with currency codes (Document Total)

We will now look at each and determine how we translate into the dynamic syntax.

String values (Customer Name)

Its item UID is 54 and the type is a string.

It is not on line level so there are no columnUid involved (we indicate this by setting it to 0)

The string data type in the syntax is either shown by to enter STRING or the more popular 0 (because it is faster to write).

With this information our dynamic value will be:

Customer/Vendor Name	= \$ [\$54.0.STRING]
Parameter Technology [Form=139 Item=54 Pane=0 Variable=1 ORDR,CardName]	= \$ [\$54.0.0]

If we used this in an SQL-sentence:

```
SELECT $ [$54.0.0] = SELECT 'Parameter Technology'
```

Integer values (Document Number)

Its item UID is 8 and the type is a integer.

It is not on line level so there are no columnUid involved (we indicate this by setting it to 0)

The integer data type in the syntax is shown by to entering NUMBER.

With this information our dynamic value will be:

Document Number	= \$ [\$8.0.NUMBER]
2 [Form=139 Item=8 Pane=0 Variable=1 ORDR,DocNum]	

If we used this in an SQL-sentence:

```
SELECT $ [$8.0.NUMBER] = SELECT 13
```

Dates (Posting Date)

Its item UID is 10 and the type is a date.

It is not on line level so there are no columnUid involved (we indicate this by setting it to 0)

The date data type in the syntax is shown by to entering DATE.

With this information our dynamic value will be:

Posting Date (Date)	= \$ [\$8.0.DATE]
01/05/05 [Form=139 Item=10 Pane=0 Variable=1 ORDR,DocDate]	

If we used this in an SQL-sentence:

```
SELECT $ [$8.0.DATE] = SELECT '2007-10-20'
```

(2007-10-20) is an invariant standard of dates, so you wish to compare dates please use this format.

Data on line level (Price After Discount)

Its item UID is 38 and the type is a mix of decimals and currency.

This is on line level so we also need to set the ColumnUid which is 17

The decimal/currency data type in the syntax is either shown by to entering NUMBER or CURRENCY¹.

With this information our dynamic value will be:

(40 Characters)	= \$ [\$38.17.NUMBER]
USD 400.00 [Form=139 Item=38 Pane=1 Column=14 Row=1 Variable=81]	= \$ [\$38.17.CURRENCY]

If we used this in an SQL-sentence:

SELECT \$ [\$38.17.NUMBER] = SELECT 500.00

Decimal values (Discount)

Its item UID is 24 and the type is a decimal.

It is not on line level so there are no columnUid involved (we indicate this by setting it to 0)

The decimal data type in the syntax is shown by to entering NUMBER or CURRENCY.

With this information our dynamic value will be:

Discount % for Document (Numeric 19.6)	= \$ [\$24.0.NUMBER]
10.500 [Form=139 Item=24 Pane=0 Variable=1 ORDR,DiscPrnt]	= \$ [\$24.0.CURRENCY]

If we used this in an SQL-sentence:

SELECT \$ [\$24.0.NUMBER] = SELECT 10.500

¹ Before version 2.740 you need to use CURRENCY as datatype here. After version 2.740 NUMBER and CURRENCY work the same way. This was done to be closer to the Formatted Search Syntax

Decimal values mixed with currency codes (Document Total)

Its item UID is 29 and the type is a mix of decimals and currency.

It is not on line level so there are no columnUid involved (we indicate this by setting it to 0)

The decimal/currency data type in the syntax is either shown by to entering NUMBER or CURRENCY².

With this information our dynamic value will be:

(40 Characters)
 USD 392.01 [Form=139 Item=29 Pane=0 Variable=91]

= \$ [\$29.0.NUMBER]

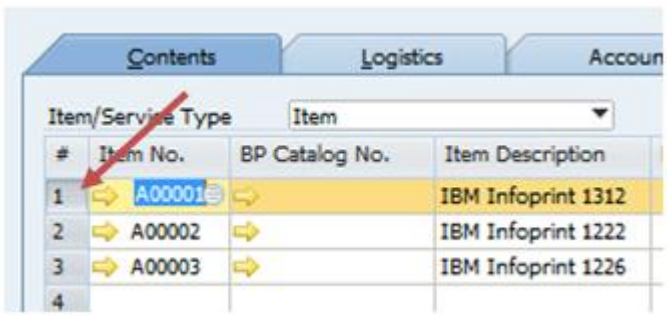
= \$ [\$29.0.CURRENCY]

If we used this in an SQL-sentence:

SELECT \$ [\$29.0.NUMBER] = SELECT 495.01

Extensions to dynamic item syntax

Other than the normal \$[\$item.col.type] B1UP add a few additional features to the syntax

Feature	Description
.row extension	<p>This syntax extend .row (aka \$[\$item.col.type.row]) so you can target a specific row. You can write a specific row number or the keywords .FIRST, .LAST, .LAST-1 and .SELECTED</p> <p>For more on this syntax please see the following video: http://youtu.be/SdCUS9IZF7Q</p>
ROWSHEADER	<p>If you need to target a row header of a matrix it is done like this:</p> <div style="text-align: center;">  </div> <p>\$[\$<MatrixItemUid>.ROWSHEADER.0]</p>

² Before version 2.7.4.0 you need to use CURRENCY as datatype here. After version 2.7.4.0 NUMBER and CURRENCY work the same way. This was done to be closer to the Formatted Search Syntax

The Table Syntax

In a few cases like User defined Fields we have a window that behind have some data but the data is not shown to the user. If that is the case we use the table syntax instead.

Here we have a user defined field called Kit Number but since it is only part of the side-bar and not part of the main window we need to use the table syntax:

\$ [<TableName>.<FieldId>.<DataType>]

Working the same way as with the item-syntax we need to provide the 3 values needed.

The table the field is on is ORDR and the field is U_KitNo

The data type is string (STRING or 0)

Kit Number (10 Characters)	= \$ [ORDR.U_KitNo.STRING]
A1234 [Form=-139 Item=U_KitNo Pane=1 Variable=1 ORDR,U_KitNo]	= \$ [ORDR.U_KitNo.0]

If we used this in an SQL-sentence:

```
SELECT ${ORDR.U_KitNo.0} = SELECT 'A1234'
```

Special keyword syntax

NB: THESE SPECIAL KEYWORDS ARE SUPPORTED FROM B1UP 2.910 AND ABOVE

Other than the two syntaxes above, SAP formatted searches contains two additional keywords that can be used in B1UP as well.

Formatted Search keywords

Keyword	Description
\$(USER)	Gives you the unique id of the user logged in. NB: PLEASE NOTE THAT THIS IS NOT THE USERNAME OF THE USER, BUT THE ID OF HIM/HER. YOU CAN USE THE OUSR TABLE TO FIND WHAT USER HAVE WHAT ID OR USE THE B1UP SPECIFIC KEYWORD \$(USERNAME)
\$(PERIOD)	Gives you the id of the currently used posting period

B1UP specific keywords

To extend the formatted search syntax, the B1UP accepts the following keywords

Keyword	Description
\$(USERNAME)	The username of the currently logged in user
\$(DATABASENAME)	The name of the database logged into
\$(LOCALIZATION)	The Database country localization
\$(COMPANYNAME)	The name of the company
\$(SERVERNAME)	The name of the server
\$(SERVERDATE)	The date of the server presented in the client format
\$(SERVERTIME)	The time of the server presented in the client format
\$(SYSTEMID)	The System Id of the company
\$(INSTALLATIONID)	The Installation Id of the company
\$(CURRENT_PANE)	The forms current pane
\$(CURRENT_LANGUAGE)	The current language of the B1 Client in a numeric form 1 = Hebrew, 2 = Spanish (Argentina), 3 = English (United States) , 5 = Polish, 6 = English (Singapore), 7 = Spanish (Panama), 8 = English (United Kingdom), 9 = German , 10 = Serbian, 11 = Danish, 12 = Norwegian, 13 = Italian, 14 = Hungarian, 15 = Chinese, 16 = Dutch, 17 = Finnish, 18 = Greek, 19 = Portuguese , 20 = Swedish, 22 = French , 23 = Spanish , 24 = Russian, 25 = Spanish (Latin America), 26 = Czech, 27 = Slovak, 28 = Korean, 29 = Portuguese (Brazil), 30 = Japanese, 31 = Turkish, 35 = Traditional Chinese (Hong Kong)
\$(NEWID)	The Id of the currently added object (Example DocEntry of a newly added Invoice). WARNING: THIS KEYWORD WILL ONLY BE REPLACED IF THE EVENT IS DATA ADD AND DATA UPDATE EVENTS IN ACTIONSUCCESS (THE KEYWORD WILL NOT BE REPLACED IN OTHER EVENT-TYPES)
\$(ROW)	The row of the event
\$(ATTACHMENT_FOLDER)	The path to SAP's Attachment folder
\$(BITMAP_FOLDER)	The path to SAP's Bitmap (picture) folder
\$(WORD_FOLDER)	The path to SAP's Word folder
\$(EXTENSION_FOLDER)	The path to SAP's Extension folder

\$(EXCEL_FOLDER)	The path to SAP's Excel folder
\$(XML_FOLDER)	The path to SAP's XML folder