

SAP BW to Bucket

- SAP connection
- FTP Connection
- GCP Connection
- Component to Connect BW
 - 1. SAP Table
 - 2 InfoObject (Master data)
 - 3 DSO
 - 4. InfoCube
 - 5. ADSO
 - 6. MultiProvider
 - 7. Composite Provider
 - 8. BW Query
 - 8.1 BW Server
 - 8.2 Xtract
 - Move to prod
 - 8.3 Talend

SAP connection

We need to fill following parameter in order to connect BW on component tSAPConnection. Default context is already created for all BW systems.


tSAPConnection_1

Basic settings
Advanced settings
Dynamic settings
View
Documentation

Property Type
Built-In

SAP API Version
talend sap api

Connection configuration

Server Type
Application Server

Client
context.sapClient

Userid
context.sapUser

Password
context.sapUserPwd

Language
"EN"

Host name
context.sapHost

System number
context.sapSystemNumber

Shared destination
This option only applies when deploying and running in the Talend Runtime
☐ Specify a shared destination

SAP Properties

Property	Value
"api.use_z_talend_read_table"	"true"

The user to connect must be RFC_TAL_WBP, which is the RFC user for Talend (DE team). It already save in global context g_CNX_SAP_WBP

Variable	SBX	DEV	QAS	PRE	PRD
sapClient	400	110	400	400	400
sapUser	RFC_TAL_WBP	RFC_TAL_WBP	RFC_TAL_WBP	RFC_TAL_WBP	RFC_TAL_WBP
sapHost	wb1.eua.solvay.com	wbd.eua.solvay.com	wbq.eua.solvay.com	wbv.eua.solvay.com	wbp.eua.solvay.com
sapSystemNumber	20	48	32	85	00
sapUserPwd	get it from Keypass				

To run the test, DE can select the system that you want to run, it will automatically connect to that system and get the result.

Component ▶ Run (Job J025_BW_ADSO_to_GCS) Contexts(J025_BW_ADSO_to_GCS) Properties

	Name	Type	Comment	WB1 Value
1	g_CNX_SAP_WBP (from repository context)			
2	sapClient	String		400
3	sapUser	String		RFC_TAL_WBP
4	sapUserPwd	Password		*****
5	sapHost	String		wb1.eua.solvay.com
6	sapSystemNumber	String		20
7	I_PATHDIR_GCS_CSV_TO_STAGING_SERVICE_ACCOUNT_P	String		C:/Talend_workspace/bi-gcp-sandbox-cdbad79e9534.json
8	I_VAR_GCS_CSV_TO_STAGING_BUCKETNAME	String		"test_ank2"
9	I_VAR_FILE	String		"C:/DATA/SBOX/REFERENCE/SANDBOX_REFERENCE/InOut/bw_ADSO
10	g_CNX_FTP_BW (from repository context)			
11	ftpHost	String	host of the ftp server	wbq.eua.solvay.com
12	ftpFolder	String	Path of the folder in the ftp server	/exploit/BW/test/
13	ftpPort	int Integer	Port number of the ftp server used to co	22
14	ftpUser	String	ftp user used to connect	sftpbw
15	ftpPwd	Password	ftp user's password	*****

Default context environment: QAS, WB1, DEV, QAS, PRE, PRD

FTP Connection

It is required when FTP-Batch is used. This is required when we load a huge volume of data (more than 10,000 records), it is required to split the data and temporarily save to the folder. To connect to RFC, we can use QAS folder to keep the file

It also already save in global context g_CNX_FTP_BW

Variable	Value
ftpHost	wbq.eua.solvay.com
ftpFolder	/exploit/BW/test
ftpPort	22
ftpUser	sftpbw
ftpPwd	get it from Keepass

This function is available only some component

CRQM03(tSAPInfoCubeInput_1)

Basic settings: ☒ Use FTP-Batch Options

FTP Batch

File Protocol	SFTP *
Host	context.ftpHost *
Port	context.ftpPort
User	context.ftpUser *
Password	context.ftpPwd
Directory	context.ftpFolder *
Data filename prefix	"current_data_file"

GCP Connection


tGSPut_1

Basic settings

Advanced settings

Dynamic settings

View

Documentation

Connection

☐ Use an existing connection

Credential type

Service account

Service account key

context.I_PATHDIR_GCS_CSV_TO_STAGING_SERVICE_ACCOUNT_PATH

Bucket name

context.I_VAR_GCS_CSV_TO_STAGING_BUCKETNAME

Local directory

context.I_VAR_FILE

Google Storage directory

""

☐ Use files list

☐ Die on error

Variable	Meaning
I_VAR_GCS_CSV_TO_STAGING_BUCKETNAME	Bucket Name in GCS
I_VAR_FOLDER	Local path
I_VAR_FILE	Local filename
I_VAR_LIMITROW	Limit number of row per file. Required only tSAPTableInput
I_PATHDIR_GCS_CSV_TO_STAGING_SERVICE_ACCOUNT_PATH	Location path and file of service account (JSON file)

💡 [More detail how to get GCP service account](#)

Component to Connect BW

OBJECT	Talend component	COMMENT
SAP Tables InfoObject (master data)	tSAPTableInput	Delta No Filter Yes FTP-Batch Yes
DSO (old model)	tSAPDSOInput	Delta No Filter Yes FTP-Batch Yes
InfoCube MultiProvider (old model)	tSAPCubeInput	Delta No Filter Yes FTP-Batch Yes
ADSO Composite Provider	tSAPADSOInput	Delta Yes Filter Yes FTP-Batch No
BW Queries	tHttpRequest is used for Xtract	The best solution for query is Xtract and use tHttpRequest

1. SAP Table

It is the same as ECC SAP Table just to connect to BW

2 InfoObject (Master data)

Although Talend has the component to get data from infoObject but it is better to get it from table since the tSAPInfoobjectInput can't have filter and there is no FTP batch or load by starting row like tSAPTableInput. Therefore, it is better to use tSAPTableInput

3 DSO

4. InfoCube

5. ADSO

6. MultiProvider

7. Composite Provider

8. BW Query

There are 3 main servers that we need to setup

8.1 BW Server

The query that will be available on Xtract program need to mark flag Remote Access "By OLE DB for OLAP"

The query that mark this flag should have the technical name starting with

QV_ for Qlik

DO_ for Talend that load to GCP for the new concept of data ocean

The flag must NOT be flagged in the cored query for BW, which name starting with BW_QRY_xxxx

The screenshot displays the 'General' tab of the SAP BW Query Designer for the query 'DO_BW_QRY_CPCOBOM1_0001 - WP1 BOM explosion for PCF (DE)'. The 'Technical Name' is 'DO_BW_QRY_CPCOBOM1_0001' and the 'Description' is 'WP1 BOM explosion for PCF (DE)'. The 'InfoProvider' is 'CPCOBOM1' and the 'Key Date' is '<default>'. The 'Output Settings' section includes checkboxes for 'Adjust Formatting after Refreshing' (checked), 'Suppress Repeated Key Values', and 'Show Scaling for Measures'. The 'Sign Format' is 'Before, for example -1' and the 'Zero Format' is 'With Currency/Unit'. The 'Custom Zero Format' is empty. The 'Remote Access' section has checkboxes for 'By Easy Query', 'By OLE DB for OLAP' (checked), 'By OData', and 'External SAP HANA View'. The 'Result Location' section has radio buttons for 'Rows' (Above, Below) and 'Columns' (Left, Right), with 'Below' and 'Right' selected. The 'Zero Suppression' section has checkboxes for 'Applies to: Rows' and 'Columns', both unchecked, and a 'Condition' of 'Only result value must be zero'. The 'Universal Display Hierarchy' section has checkboxes for 'Active on rows' and 'Active on columns', both unchecked, with 'Expand to Level' set to '0'. The 'Variables Order' and 'Extended' tabs are visible at the bottom.

It has to be done by BW developer and transport from WBD to WBP

8.2 Xtract

1. Open Xtract Designer in a virtual machine having this application like bgsoa-wks116. Connect to the Xtract sever (XU server : ACEW1DXTRAXUS01:8082)

Connect to Xtract Universal Server

Xtract Universal

XU Server: ACEW1DXTRAXUS01:8082

Authentication: Windows credentials (current user)

Username:

Password:

☐ Remember password

Target principal: Show

THEOBALD SOFTWARE

2. Create a job in Xtract (No need to create connection since all connection should have been already created so you will only have to decide which one to use)

Xtract Universal Designer

Designer Extraction Server Security Help

Xtract Universal

1

Name	Type
CURR_NG	Table
CUST_NG	Table
DD03L_NG	Table
DEV_ZTEST_BW_QRY_CPIMMM01_0004	BWCube
DE_BW_QRY_CPCOBOM1_0001_dataocsa	BWCube
DE_BW_QRY_MVCOPP01_0021	BWCube
DE_BW_QRY_MVCOPP01_0021_Dataocsa	BWCube
DI_BW_QRY_CPDYN13_0001	BWCube
MATERIAL_NG	Table
MCPFCTR1_NG	Table
PLAN_NG	Table
PROD_BW_QRY_MVFIWC01_0013_BY_GB	BWCube
PROD_BW_QRY_MVSDSO45_SD0001	BWCube
PROD_CRM_QVBW_QRY_MVSDSO57_00	BWCube

Create Extraction

Source: WBD_TALEND **2**

Name: DEV_DE_BW_QRY_MVCOPP01_0021 **3**

Type:

- ☐ BAPI **4**
- ☐ BW Cube
- ☐ BW Hierarchy
- ☐ DeltaQ
- ☐ ODP
- ☐ Open Hub Services (OHS)
- ☐ Query
- ☐ Report
- ☐ Table
- ☐ Table CDC (preview)

2.1 Click on New (or Edit then go to 3.5)

2.2 Select **BW server**. DE should use connection which use user **RFC_TAL_WBP**, which is dedicate for Talend and DE team not sure the one for Qlik

2.3 Enter the job name. The **naming convention = TALEND_<Landscape>_<QueryName>** such as TALEND_PRD_DO_BW_QRY_XXXX (Query name to connect via Talend must starting with DO (data ocean), therefore, it can differentiate with Qlik query that have starting name with QV)

<Landscape>

- PRD = Production
- PRE = Pre-production
- QAS = Quality
- DEV = Development

2.4 To connect with BW query, it is required to select BW Cube

3. Define data source

Xtract Cube - MDX

Define data source for SAP Cube

[General settings](#) [Extraction Settings](#) [Edit Runtime Parameters](#)

Cube or Query Preview

☐ Key Figures

Cube and Query Lookup

Extractor

☒ MDX 2

☐ BICS (Beta)

Datasource type

☐ InfoCube

☒ Query

Extractor settings

☒ Only structures

Name	Description
CPCOBOM1/DO_BW_QRY_CPCOBOM1_0001	WP1 BOM explosion for PCF Talend (DE)
MVCOPP01/DO_BW_QRY_MVCOPP01_0021	MEP - WP1/PF1 data for PCF Talend (DE)

4

For Xtract jobs that will be used by Talend please use WBD_TALEND, WBQ_TALEND, WBP_TALEND. Avoid using *bw_qlikview*.

3.1 Click on search and

3.2 Select MDX (or BICS) and enter the Query name to search

MDX versus BICS (beta)

	MDX	BICS (beta)
Syntax in lookup for BEx Queries	<code>[tech. name of InfoProvider]/[tech. name of BEx Query]</code> example: OSD_C03/OSD_C03_Q0018	<code>[tech. name of BEx Query]</code> example: OSD_C03_Q0018
Syntax in lookup for InfoProviders	<code>\$(tech. name of InfoProvider)</code> example: \$OSD_C03	<code>[tech. name of InfoProvider]</code> example: OSD_C03
Wildcards in lookup	supported example: *OSD_C03_Q0018 instead of OSD_C03/OSD_C03_Q0018	not required and therefore not supported
Supported InfoProviders	InfoCubes, Multiproviders, Composite Providers	InfoCubes, MultiProviders, Composite Providers, DSOs
Setting in BEx Query	Setting "Allow External Access to this Query" is required. If not set, BEx Query won't appear in the lookup, see Allow External Access to BW Queries .	not required

3.3 Select the query

3.4 Click on Load

3.5 It will get Metadata of the query. Select the characteristics and key figures that required. Default value at the parent node is the text. If we need the key of the characteristic, we need to select at the properties

Define data source for SAP Cube

General settings Extraction Settings Edit Runtime Parameters

Cube or Query: MVCOPP01/DE_BW_QRY_MVCOPP01_0021

Preview

Key Figures:

- ☒ Actual Qty [0489880H2DMR7NNBU4LOMMNH]
- ☒ Std Qty [0489880H2DMR7NNBU4LOMMNH]
- ☒ Actual Qty - Util [0489880H2DMR7NNBU4LOMMNH]
- ☒ Cost Element [0COSTELMNT]
- ☒ XCS-ALL CE Grp Level 6 [0COSTELMNT_C_CELTHX]
- ☒ CO Area [0CO_AREA]
- ☒ Source Syst. [0LOGS]
- ☒ BFC GBU [CPFCTR1_2]
- ☒ Company Code [C_COMPDE]

Properties:

- ☒ Key [2C_COMPDE]
- ☒ Medium Name [2C_COMPDE]
- ☐ Key (Not Compounded) [8C_COM]
- ☐ Chart of accounts (Key) [20CHRT]
- ☐ Chart of accounts (Long Name) [4]
- ☐ Company (Key) [20COMPANY]
- ☐ Company (Medium Name) [50C]
- ☐ Country (Key) [20COUNTRY]
- ☐ Country (Name) [10COUNTRY]
- ☐ Currency (Key) [20CURRENCY]
- ☐ Currency (Name) [10CURRENCY]
- ☐ Currency (Medium Name) [50C]
- ☐ Credit Control Area (Key) [20CCT]
- ☐ Credit Control Area (Long Name) [4]
- ☐ Fiscal Year Variant (Key) [20FISCV]
- ☐ Fiscal Year Variant (Medium Name) [50FISCV]
- ☐ Source system ID (Key) [20SOURS]
- ☐ Source system ID (Medium Name) [50SOURS]
- ☐ Open Fiscal Year (Key) [20OFYEAR]
- ☐ Open Fiscal Year (Medium Name) [50OFYEAR]

Edit variables for MVCOPP01/DE_BW_QRY_MVCOPP01_0021

Name	Caption	Sel. Type	Sign	Option	Value [from]	Value [to]	Complex Edit
V_OFISCPER_0020	Fiscal Year/Period (Selection Option, Optional)	Complex		Between	K42015004	K42015004	Edit
V_CPFCTR1_2_0008	BFC GBU (Selection Option, Optional)	Complex		Between			Edit
V_AUT_C_PLANT_0001	Plant (Selection Option, Optional, Auth)	Complex		Between			Edit

Load live preview Refresh metadata Edit Variables Show MDX

Edit the variable to filter if required. Be careful that MDX and BICS input can be different in some fields like date format

Edit variables for CPCOBOM1/DE_BW_QRY_CPCOBOM1_0001

Name	Caption	Sel. Type	Sign	Option	Value [from]	Value [to]	Complex Edit
* V_OFISCPER_0004	Fiscal Period	Single	Include	Equal	2020012		Edit
V_CPFCTR1_2_0006	GBU (Select Optional, Optional, Auth)	Complex		Between			Edit
VPLANT01	Plant (Selection option, Optional)	Complex		Between			Edit
MATNR1_1	Material (Select option, Optional)	Complex		Between			Edit

Edit variables for CPCOBOM1/DE_BW_QRY_CPCOBOM1_0001

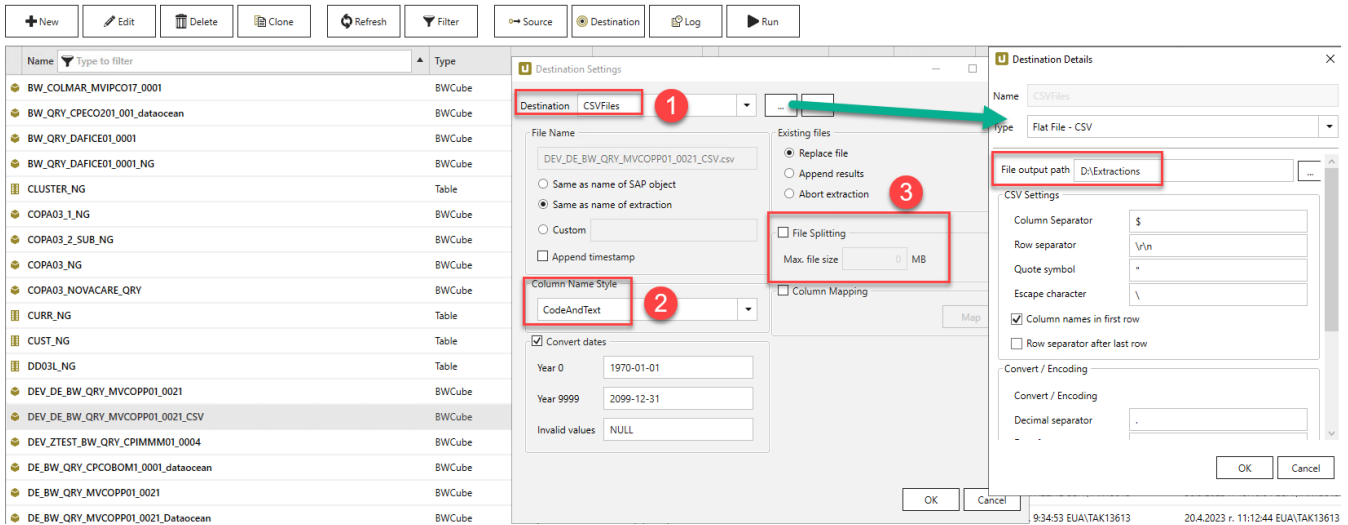
MDX

Name	Caption	Sel. Type	Sign	Option	Value [from]	Value [to]	Complex Edit
* V_OFISCPER_0004	Fiscal Period	Single	Include	Equal	K42020012		Edit
V_CPFCTR1_2_0006	GBU (Select Optional, Optional, Auth)	Complex		Between			Edit
VPLANT01	Plant (Selection option, Optional)	Complex		Between			Edit
MATNR1_1	Material (Select option, Optional)	Complex		Between			Edit

⚠ In case you can't find the query in MDX, then select BICS(Beta). BICS will not possible to select key and text for the characteristics on this version

Click on "Load live preview" to check the setup is OK

3.6 Click on Destination to configure output and header of the column.



3.6.1 The destination is **http-csv** (this will work with talend component tFileOutputDelimited) The result from BW query will go to Talend directly.

The destination is **CSVFiles** (this will work with talend component tFileInputDelimited) **Recommended option**. This option will load data from BW query and save to Xtract server.

3.6.2 The column name should be "Code and Text". We need code to create a field in google big query and text to explain the DA and DE what they are

Column by default will be "Code"

	A	B	C	D
1	[0COSTELMNT]	[0COSTELMNT__C_CELTHX5]	[0CO_AREA]	[0LOGSYS]
2				
3				

"Code and Text" will be:

A	B	C	D
[0COSTELMNT]_Cost Element	[0COSTELMNT__C_CELTHX5]_XCS-ALL CE Grp Level 6	[0CO_AREA]_CO Area	[0LOGSYS]_Source Syst.

The field name in BQ should be the one in []

3.6.3 File Splitting: It is required when the output from BW is too huge and it is required to split the files. This option will available only when select destination = CSV files. If this option select, the FileInput component has to get all the files. It may add to specific folder in Xtract server and use component tFileList.

3.7 Click on Run on the top menu. The detail job will appear and the URL that is required for Talend will appear

+ New Edit Delete Clone Refresh Filter Source Destination Log ▶ Run

Name	Type	Source	Destination	Last Run	Rows	Duration	Last Change	Created On
DEV_DE_BW_QRY_MVCOPP01_0021	BWCube	WBD_TALEND	http-csv		0		9.6.2023 r. 8:09:07 EUA\TH30085	9.6.2023 r. 7:59:52 EUA\TH30085

Run Extraction

General info

Extraction name: DEV_DE_BW_QRY_MVCOPP01_0021

Source: WBDTALEND

Destination: http-csv

Execution start:

Rows extracted: 0

Status: Not started

Duration:

Runtime parameters

Name	Value	Type	Description
clearBuffer	☐ False	Flag	Clear/keep the result buffer
preview	☐ False	Flag	Enable/disable preview mode
source	WBD_TALEND	List	Sets the name of the source
destination	http-csv	List	Sets the name of the destination

URL: http://ACEW1DXTRAXUS01:8085/?name=DEV_DE_BW_QRY_MVCOPP01_0021

xu.exe -s ACEW1DXTRAXUS01 -p 8085 -n DEV_DE_BW_QRY_MVCOPP01_0021

Log xu.exe Output

Elapsed time	Level	Source	Message

Run
Abort
Close

3.7 Click on Run again (Optional) at the below screen to test that the job is OK.

Now the job is running and ready for Talend to get the data

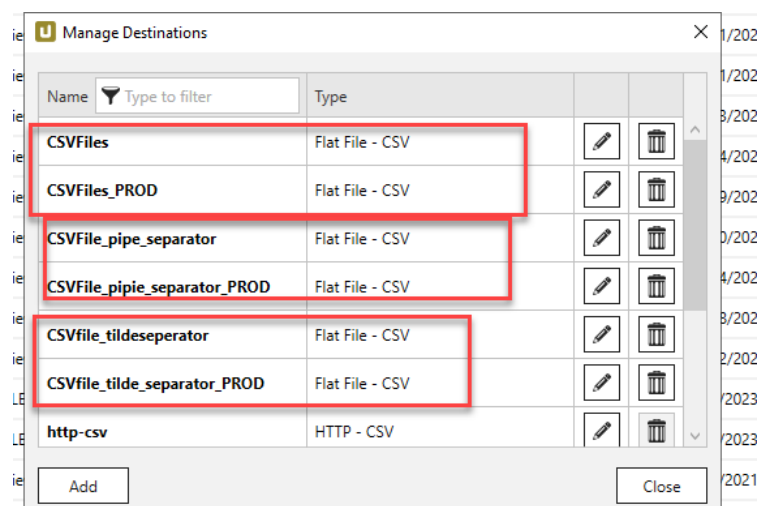
+ New Edit Delete Clone Refresh Filter Source Destination Log ▶ Run

Name	Type	Source	Destination	Last Run	Rows	Duration	Last Change	Created On
DEV_DE_BW_QRY_MVCOPP01_0021	BWCube	WBD_TALEND	http-csv	✔ 9.6.2023 r. 8:12:23	36421	00:00:15.568	9.6.2023 r. 8:09:07 EUA\TH30085	9.6.2023 r. 7:59:52 EUA\TH30085

Move to prod

Differentiate the Xtract that will be used in DEV, TEST, PRE-PROD from the one used in PROD. For production you can

- Duplicate the Xtract query and well specify the prod environment (**name must start with TALEND_PROD**)
- Switch the Destination to point to the corresponding production one



- If needed adjust the file name to have the sam prefix as dev

8.3 Talend

[Copy the job J028_BW_Query_csv_to_GCS to the new job](#)