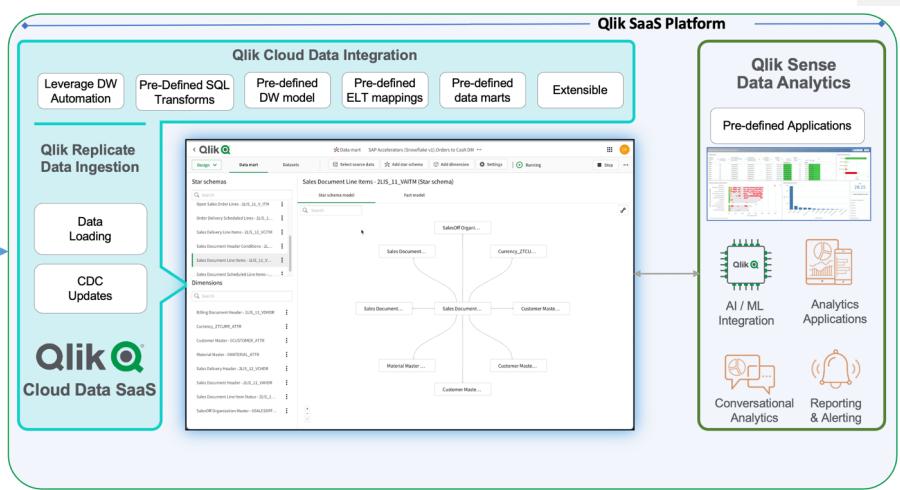


# SAP Accelerators – Qlik SaaS

## Installation and Configuration



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## Prerequisites / Assumptions

### Supported Versions

- SAP ECC 6+, SAP S/4 HANA

### General Requirements / Design Notes

- The Qlik SAP Accelerators Qlik Cloud Data Integration are designed as a starting point for SAP integration and creation of an end-to-end data pipeline.
- They are built against a STANDARD IDES implementation of SAP <https://erproof.com/what-is-sap-ides/>
- Data source for the analytics accelerators are the data marts created by the Qlik Cloud Data Integration SAP Accelerators tasks.

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### SAP Requirements

- Installed SAP ECC IDES System
- SAP GUI Access
- Access to SAP TCode: RSA3 – Extractor Enablement
- Access to SAP TCode: STMS – Transport Management System
- General knowledge of SAP nomenclature around extractor naming conventions, fact vs dimension vs text, and key SAP processes to test and validate data inside SAP.

### Qlik Requirements

- Installation of Qlik Data Movement Gateway near SAP System for optimal performance.
- Installation of the SAP jco drivers (detailed later) on the gateway server.

## List of relevant Extractors<sup>1</sup> to be activated:

SAP Extractor	Full Name	Description	Full/ Delta	Fact/ Dim	Project
OAC_DOC_TYP_TEXT	Document Type - OAC_DOC_TYP_TEXT	Document Type	Full	Dim	FI
	Depreciation Area Real or Derived - OASSET_AFAB_ATTR	Depreciation Area Real or Derived	Delta	Dim	FI
OASSET_AFAB_TEXT	Depreciation area real or derived text - OASSET_AFAB_TEXT	Depreciation area real or derived text Asset	Full	Dim	FI
OASSET_ATTR	Asset Subnumber with Description - OASSET_ATTR	Asset Subnumber with Description Asset	Full	Dim	FI
OASSET_ATTR_TEXT	Asset Subnumber with Description Text - OASSET_ATTR_TEXT	Asset Subnumber with Description Text	Full	Dim	FI
OASSET_CLAS_TEXT	Asset Class Master - OASSET_CLAS_TEXT	Asset Class Master	Full	Dim	FI
OASSET_MAIN_TEXT	Asset Class Text - OASSET_MAIN_TEXT	Asset Class Text	Full	Dim	FI
OCHRT_ACCTS_ATTR	Chart of Accounts Master - OCHRT_ACCTS_ATTR	Chart of Accounts Master	Full	Dim	FI
OCHRT_ACCTS_TEXT	Chart of Accounts Text - OCHRT_ACCTS_TEXT	Chart of Accounts Text	Full	Dim	FI
OCO_AREA_ATTR	Controlling Area Master - OCO_AREA_ATTR	Controlling Area Master	Full	Dim	FI, IM
OCO_AREA_TEXT	Controlling Area Text - OCO_AREA_TEXT	Controlling Area Text	Full	Dim	FI, IM
OCOMP_CODE_ATTR	Company Code Master - OCOMP_CODE_ATTR	Company Code Master	Full	Dim	FI, IM
OCOMP_CODE_TEXT	Company Code Text - OCOMP_CODE_TEXT	Company Code Text	Full	Dim	FI, IM
OCOSTCENTER_ATTR	Cost Center Master - OCOSTCENTER_ATTR	Cost Center Master	Full	Dim	FI, IM
OCOSTCENTER_TEXT	Cost Center Text - OCOSTCENTER_TEXT	Cost Center Text	Delta	Dim	FI, IM

<sup>1</sup> ZTCURR is a Custom Extractor. SAP Extractors typically starts with a number or '/'

	Cost Element Master -	Cost Element			
OCOSTELMNT_ATTR	OCOSTELMNT_ATTR Cost Element Text -	Master Cost Element	Delta	Dim	FI
OCOSTELMNT_TEXT	OCOSTELMNT_TEXT Customer Master -	Text Customer	Delta	Dim	FI
OCUSTOMER_ATTR	OCUSTOMER_ATTR Customer Text -	Master	Delta	Dim	ALL
OCUSTOMER_TEXT	OCUSTOMER_TEXT Standardization of	Customer Text	Delta	Dim	ALL
ODEPRARTYPE_TEXT	Deprec. Area - ODEPRARTYPE_TEXT	Standardization of Deprec. Area	Full	Dim	FI
OEMPLOYEE_ATTR	Employee Master - OEMPLOYEE_ATTR	Employee Master	Full	Dim	O2C
OFI_AA_11	Asset Accounting: Transactions - OFI_AA_11	Asset Accounting: Transactions	Delta	Fact	FI
OFI_AA_12	Asset Accounting: Posted Depreciations - OFI_AA_12	Accounting: Posted Depreciations	Delta	Fact	FI
OFI_AP_4	Vendors: Line Items with Delta Extraction - OFI_AP_4	Vendors: Line Items with Delta Extraction	Delta	Fact	FI
OFI_AR_4	Accounts Receivable - OFI_AR_4	Accounts Receivable	Delta	Fact	FI, O2C
OFI_GL_10	General Ledger: Leading Ledger Balances - OFI_GL_10	General Ledger: Leading Ledger Balances	Delta	Fact	FI
OFI_GL_14	General Ledger (New): Line Items Leading Ledger - OFI_GL_14	(New): Line Items Leading Ledger	Delta	Fact	FI
OGL_ACCOUNT_ATTR	G/L Account Master - OGL_ACCOUNT_ATTR	G/L Account Master	Delta	Dim	FI, IM
OGL_ACCOUNT_TEXT	G/L Account Text - OGL_ACCOUNT_TEXT	G/L Account			
OMAT_PLANT_ATTR	Material Number with Plant - OMAT_PLANT_ATTR	Text Material Number with Plant	Full	Dim	FI, IM
OMATERIAL_ATTR	Material Master - OMATERIAL_ATTR	Material Master	Delta	Dim	FI, IM
OMATERIAL_TEXT	Material Text - OMATERIAL_TEXT	Material Text	Delta	Dim	FI, IM
OMATL_CAT_TEXT	Material Category - OMATL_CAT_TEXT	Material Category	Full	Dim	FI, IM

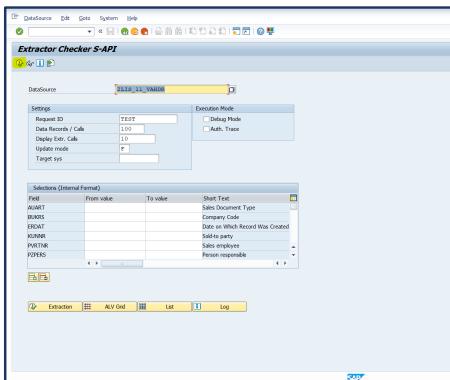
	Material Group -				
OMATL_GROUP_TEXT	OMATL_GROUP_TEXT	Material Group	Full	Dim	FI, IM
	Material Type -				
OMATL_TYPE_TEXT	OMATL_TYPE_TEXT	Material Type	Full	Dim	FI, IM
	Movement Type -				
OMOVE_TYPE_TEXT	OMOVE_TYPE_TEXT	Movement Type	Full	Dim	IM
	Plant Master -				
OPLANT_ATTR	OPLANT_ATTR	Plant Master	Full	Dim	IM
OPLANT_TEXT	Plant Text - OPLANT_TEXT	Plant Text	Full	Dim	IM
	Profit Center Master -				
OPROFIT_CTR_ATTR	OPROFIT_CTR_ATTR	Profit Center Master	Delta	Dim	FI, IM
	Profit Center Text -				
OPROFIT_CTR_TEXT	OPROFIT_CTR_TEXT	Profit Center Text	Delta	Dim	FI, IM
	Customer Country -				
ORECIPCTRY_TEXT	ORECIPCTRY_TEXT	Customer Country	Full	Dim	O2C
	Sales Office Text -				
OSALES_OFF_TEXT	OSALES_OFF_TEXT	Sales Office Text	Full	Dim	O2C
	Sales Office Organization				
	Master -				
OSALESOFFICE_ORG_ATTR	OSALESOFFICE_ORG_ATTR	Sales Organization Master	Full	Dim	O2C
	Sales Organization -				
OSALESORG_TEXT	OSALESORG_TEXT	Sales Organization	Full	Dim	O2C
	Stock Category -				
OSTOCKCAT_TEXT	OSTOCKCAT_TEXT	Stock Category	Full	Dim	IM
	Stock Category Text -				
OSTOCKTYPE_TEXT	OSTOCKTYPE_TEXT	Stock Category Text	Full	Dim	IM
	Storage Location -				
OSTOR_LOC_TEXT	OSTOR_LOC_TEXT	Storage Location	Full	Dim	IM
	Asset -				
OTRANSTYPE_ATTR	OTRANSTYPE_ATTR	Asset Transaction Type	Transaction		
		Type	Full	Dim	FI
		Asset			
	Asset Transaction Type				
OTRANSTYPE_TEXT	Text - OTRANSTYPE_TEXT	Asset Transaction Type Text	Transaction Type Text	Full	Dim
	Valuation Class -				
OVAL_CLASS_TEXT	OVAL_CLASS_TEXT	Valuation Class	Full	Dim	IM
	Vendor Master -				
OVENDOR_ATTR	OVENDOR_ATTR	Vendor Master	Delta	Dim	FI, IM
	Vendor Text -				
OVENDOR_TEXT	OVENDOR_TEXT	Vendor Text	Delta	Dim	FI, IM
	COPA Custom Extractor -				
1_CO_PA_DS2	1_CO_PA_DS2	COPA Custom Extractor	Extractor	Fact	FI
	Goods Movements from				
	Inventory Management -				
2LIS_03_BF	2LIS_03_BF	Inventory Management	Movements from		
			Management		

2LIS_03_UM	Inventory Revaluations - 2LIS_03_UM	Inventory Revaluations	Delta	Fact	IM
2LIS_11_V_ITM	Open Sales Order Lines - 2LIS_11_V_ITM	Open Sales Order Lines Allocation	Delta	Fact	O2C
2LIS_11_V_SCL	Allocation Scheduled Lines - 2LIS_11_V_SCL	Scheduled Lines Order Delivery	Delta	Fact	O2C
2LIS_11_V_SSL	Order Delivery Scheduled Lines - 2LIS_11_V_SSL	Scheduled Lines Sales	Delta	Fact	O2C
2LIS_11_VAHDR	Sales Document Header - 2LIS_11_VAHDR	Document Header Sales	Delta	Fact	O2C
2LIS_11_VAITM	Sales Document Line Items - 2LIS_11_VAITM	Document Line Items Sales	Delta	Fact	O2C
2LIS_11_VAKON	Sales Document Header Conditions - 2LIS_11_VAKON	Document Header Conditions	Delta	Fact	O2C
2LIS_11_VASCL	Scheduled Line Items - 2LIS_11_VASCL	Scheduled Line Items Sales	Delta	Fact	O2C
2LIS_11_VASTH	Sales Document Header Status - 2LIS_11_VASTH	Document Header Status Sales	Delta	Fact	O2C
2LIS_11_VASTI	Sales Document Line Item Status - 2LIS_11_VASTI	Document Line Item Status	Delta	Fact	O2C
2LIS_12_VCHDR	Sales Delivery Header - 2LIS_12_VCHDR	Sales Delivery Header	Delta	Fact	O2C
2LIS_12_VCITM	Sales Delivery Line Items - 2LIS_12_VCITM	Sales Delivery Line Items Billing	Delta	Fact	O2C
2LIS_13_VDHDR	Billing Document Header - 2LIS_13_VDHDR	Document Header Billing	Delta	Fact	O2C
2LIS_13_VDITM	Billing Document Line Items - 2LIS_13_VDITM	Document Line Items	Delta	Fact	O2C
2LIS_13_VDKON	Billing Item Conditions - 2LIS_13_VDKON	Billing Item Conditions	Delta	Fact	O2C
ZSP_STOCK_IND	Custom Stock Indicator - ZSP_STOCK_IND	Custom Stock Indicator	Full	Dim	IM
ZTCURR	Custom Currency Extractor - ZTCURR	Custom Currency Extractor	Full	Dim	ALL

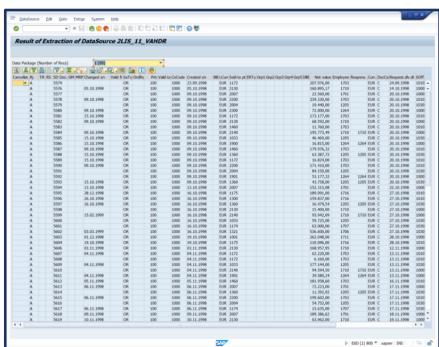
# Testing SAP Standard Extractor

This is to simply run a test to see if the Extractors listed in this project are populated. This step is optional.

- Run SAP transaction **RSA3\***  
*Note: prefixing the transaction code with a '/n' (/rsa3) will take you to the appropriate screen*
  - Enter or Select desired Standard Extractor, define parameters, and execute (click) or press F8 to execute the extraction
  - Click on 'ALV Grid' to evaluate the results and see if there is valid data returned.



- Click on 'ALV Grid'
  - evaluate the results



## Using the SAP Extractor Endpoint in Qlik Data Gateway

Qlik SAP Accelerators solution uses SAP Standard Extractors to extract data. Qlik Data Gateway comes with an endpoint that supports this method of extraction (SapExtractorSourceEndpoint). As this is a Java based endpoint it needs SAP Java Connectivity Package to connect to SAP on an application layer basis.

### Prerequisites

- SAP System prepared according to Qlik Data Gateway User Guide ([https://help.qlik.com/en-US/cloud-services/Subsystems/Hub/Content/Sense\\_Hub/Gateways/dm-gateway-setting-up.htm](https://help.qlik.com/en-US/cloud-services/Subsystems/Hub/Content/Sense_Hub/Gateways/dm-gateway-setting-up.htm))
- Choose Snowflake, Azure Synapse, Google Big Query, or Databricks as the Data Warehouse engine.
- Qlik Data Gateway installed
- SAP Standard & Custom Extractors activated
- SAP Java connectivity package (JCO) available

### Install SAP Java Connectivity package

- Download SAP JAVA Connectivity package x64\_x86 for Linux from [https://support.sap.com/en/product/connectors/jco.html#section\\_2129803369](https://support.sap.com/en/product/connectors/jco.html#section_2129803369)
- Download SAP JAVA Connectivity package x64\_x86 for Windows from [https://support.sap.com/en/product/connectors/jco.html#section\\_2129803369](https://support.sap.com/en/product/connectors/jco.html#section_2129803369)
- Unzip the zip file into any directory
- Unzip sapjco3\* into any directory
- Copy sapjco3.dll and sapjco3.jar to
  - o /opt/qlik/gateway/movement/endpoint\_srv/externals
- Restart Qlik Data Gateway

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## Setup SAP Qlik Cloud Data Integration Accelerators

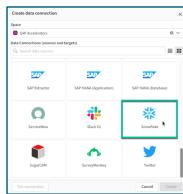
Confirming our data warehouse platform, we will need the correct export of the SaaS Accelerators from the Github. Currently we support:

- Azure Synapse (with ADLS bucket)
- Databricks (with S3/ADLS/GCS bucket)
- Google BigQuery (with Google Cloud Storage bucket)
- Snowflake (any cloud)

Opening up Qlik SaaS → Data Integration menu, we need to start by choosing/creating a Space and setting up our data connections.

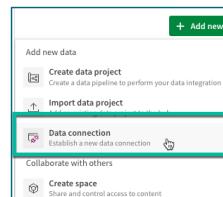
These connections are specific to a Data Space – they are independent from any Analytical Spaces you may have setup in Qlik SaaS.

NOTE: To avoid confusion, there are many sources available for data integration, but for the Qlik Cloud Data Integration data warehouse project are listed above.

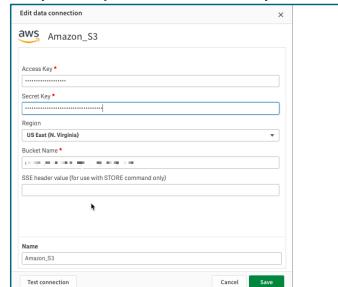


As an example, let's use Snowflake for this example import exercise. Once we choose Snowflake, hit the create button to move to the next step.

You'll need to enter all the credentials for the Snowflake system in this panel.



For Databricks (AWS), Azure Synapse, and Google BigQuery, you will also need to setup a file system connection (example for AWS S3)



With the data connections setup, we can start the IMPORT process.

## Import SAP Qlik Cloud Data Integration Accelerators

In the space we've chosen, we can start the import. Select from the top left, Add New – **Import Data Project**.

Either dragging or browsing – add the exported file from Github. NOTE: Any project will work for any data warehouse, choosing the one matched with the data warehouse engine will automatically set the project setting to that system.

For example:

The left screenshot shows the 'Import data project' dialog. It has fields for 'Name' (Imported\_SAP Accelerators V3 - Snowflake), 'Space' (SAP Accelerators), and 'Description' (Description). Below these are dropdowns for 'Data platform' (Snowflake) and 'Data connection' (Snowflake\_IMPORT, Space: SAP Accelerators). At the bottom are 'Open', 'Cancel', and 'Import' buttons.

The right screenshot shows the 'Import data project' dialog for a different project. It has a 'Data platform' dropdown set to 'Snowflake'. Under 'Data connection', it shows 'Snowflake\_IMPORT' (Space: SAP Accelerators) selected. There is a 'Replace imported source connections' section with 'Source connection' (SAP Accelerators.SAP\_Extractor) and 'Replace with' (SAP Accelerators.SAP\_Extractor). A 'Prefix for all schemas' field is present. In the 'Default database names' section, 'Landing' is mapped to 'SAP\_ACCEL\_IMPORT'. At the bottom are 'Open', 'Cancel', and 'Import' buttons.

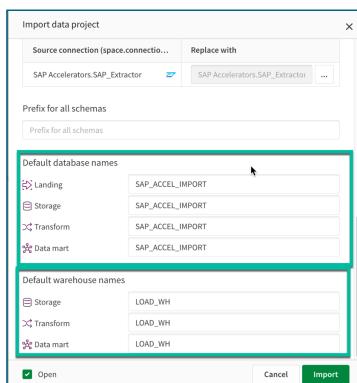
If they are not filled, choose the data connections for the correct data warehouse, and if necessary, the file system connection.

This screenshot shows the 'Edit data project' dialog for 'SAP Accelerators V2 - Databricks'. It includes fields for 'Description' (Description), 'Data platform' (Databricks), and 'Data connection' (Databricks, Space: SAP Accelerators). Below these are sections for 'Connection to staging area' (Amazon\_S3, Space: SAP Accelerators) and 'Test connection'. At the bottom are 'Cancel' and 'Save' buttons.

Next, you must attach to the SAP Connection from the Qlik Data Movement Gateway.

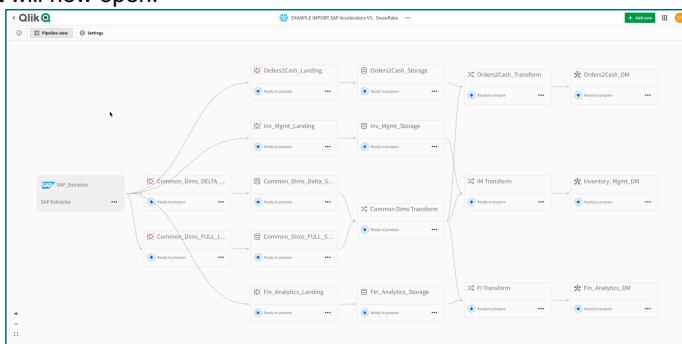


You can change the defaults for database names and add prefixes for the schemas if desired. For Snowflake, you can also alter using different Warehouses for different tasks.

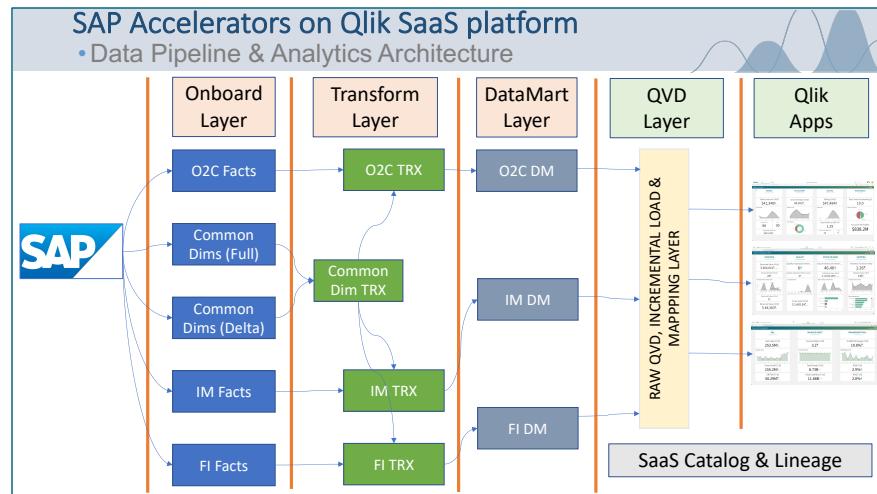


Once the settings are complete, select **IMPORT**.

The project will now open.

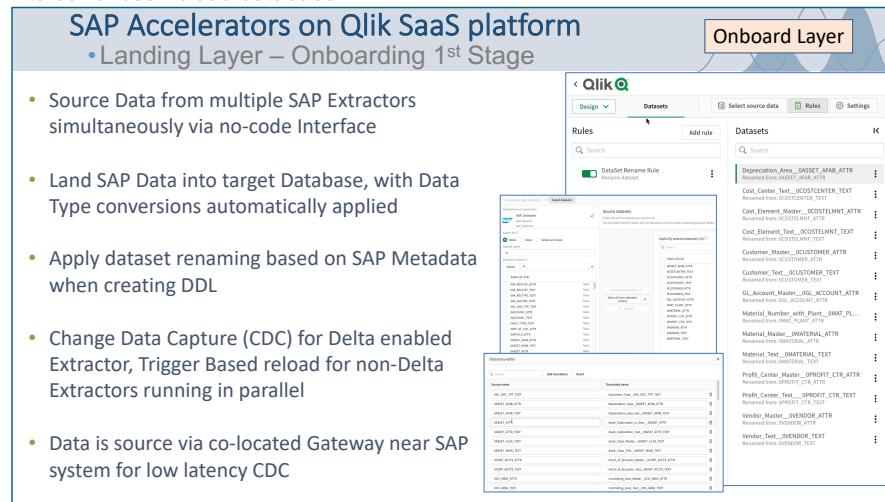


## Landing Tasks - SAP Qlik Cloud Data Integration Accelerators

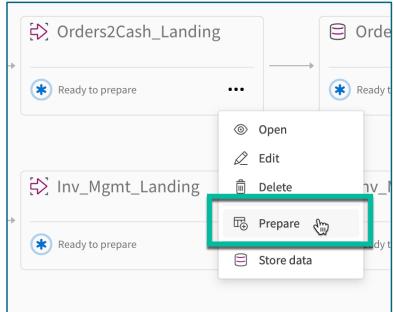


Let's now look at the process to run the Accelerators:

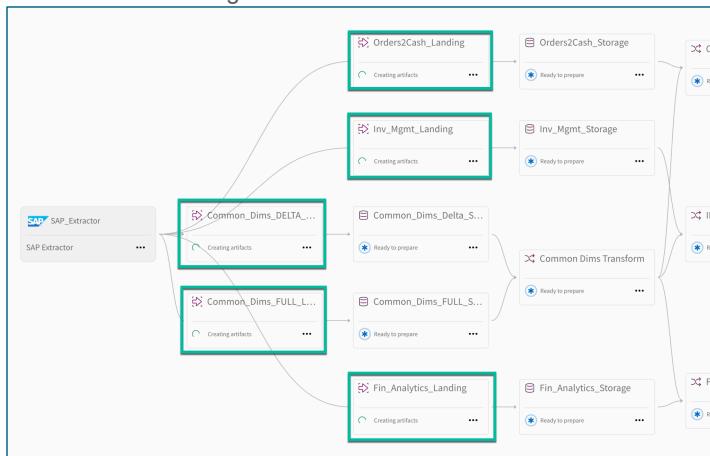
We will start at the LANDING layer. This is the first step where we move data from SAP into our chosen cloud database.



We start this process by running **PREPARE** on all the Landing tasks.



We can run all the landing **PREPARE** tasks simultaneously. This process is executing the creation of the target DDL and tables in the cloud database.



Once complete the task will show “Ready to Run”. Go ahead and **RUN** each task. This may take some time based on the size of the data and the computing power of the warehouse/database chosen. Once the base data has been loaded as the processes will move into active CDC mode automatically (except for trigger based dimensions).

## Storage Tasks - SAP Qlik Cloud Data Integration Accelerators

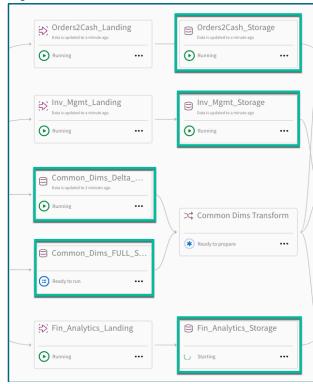
### SAP Accelerators on Qlik SaaS platform

- Storage Layer – Onboard 2<sup>nd</sup> Stage

The screenshot shows the SAP Accelerators on Qlik SaaS platform's Onboard Layer. It includes a sidebar with a list of SAP accelerators such as Customer\_Holder, OrderLine, OrderHeader, SalesLine, SalesHeader, Product, and others. The main area shows a dataset named 'Customer\_Master\_CUSTOMER\_ATTR' with columns like 'Customer\_Holder', 'Customer\_ID', 'Customer\_Name', 'Address', 'City', 'State', 'Zip', 'Country', 'Phone', 'Email', 'Fax', 'WebSite', 'Industry', 'Product', 'Category', 'Status', and 'LastUpdate'. Below the dataset, there is a 'Dictionary editor' window showing source names and translated names for each column.

- Apply Business Keys and additional calculation logic
- Data Types are carried forward
- Data in non-materialized views of Landed data (no data copy or duplication)
- Apply DataSet renaming based on SAP Metadata when creating DDL for fields
- CDC is automatically updating for both Delta or Trigger based objects

We now start the process of changing the columns, adding keys, and renaming from SAP shorthand to business-friendly names. This process is non-materialized and runs on top of the STORAGE layer. Much like before, we execute the **PREPARE** and then **RUN** options on the Storage layer tasks.



For the HOW we mapped the SAP metadata to the correct names, read this article:

<https://community.qlik.com/t5/Official-Support-Articles/Qlik-Cloud-Data-Integration-The-SAP-Secret-Decoder-Ring/ta-p/1993515>

It also contains the app to generate the preferred SAP names in any language (English is the default)

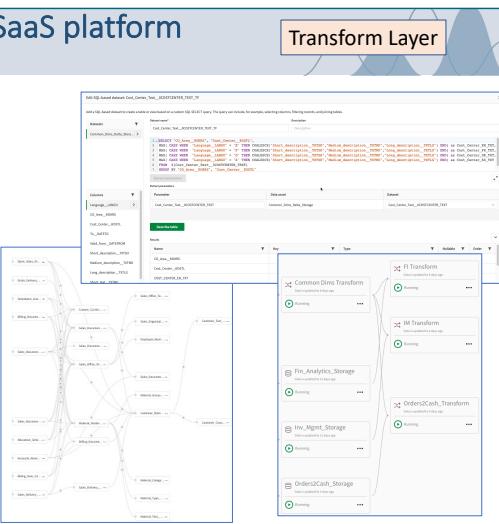
## Transformation Tasks - SAP Qlik Cloud Data Integration Accelerators

We now need to start altering the SAP data into a more analytics ready shape using ETL capabilities, as well as prepare the data for Data Mart by creating the relationships between the tables.

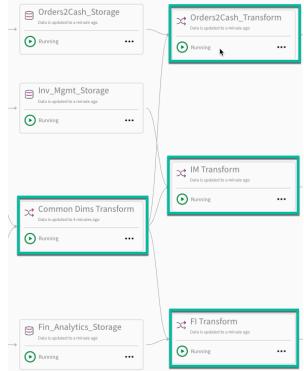
**SAP Accelerators on Qlik SaaS platform**

- Transformation Layer(s)

- Apply ELT Transforms (non-materialized) to the Data to pivot/flatten Text into analytics friendly columns (push down SQL)
- Combine dimensional data into common dimensional framework
- Apply joins and mappings to the data
- Qlik is managing all the keys and surrogates automatically
- CDC engine is still automatically updating



Much like before, we execute the **PREPARE** and then **RUN** options on the Storage layer tasks. Note – run the “**Common Dims Transform First**”



## Data Mart Tasks - SAP Qlik Cloud Data Integration Accelerators

We now need to run the final stage of deployment in Qlik Cloud Data Integration, the Data Mart tasks.

**SAP Accelerators on Qlik SaaS platform**

- DataMart Layer

• Creates non-materialized star schemas DataMarts with Conformed dimensions

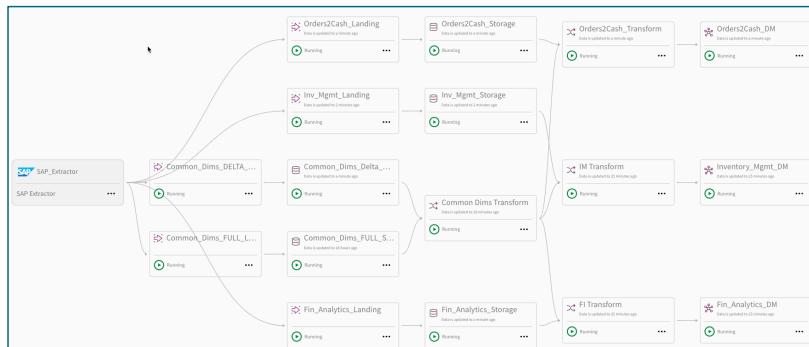
• Provided single table dimensions with collapsed flakes for easy of use by analytics users

• CDC engine constantly updating as new data flows through

• Data is ready for use by Qlik Sense analytics layer

Like before, we execute the **PREPARE** and then **RUN**. Once this is complete, the SAP Accelerators for Qlik Cloud Data Integration have been deployed. The entire data

preparation component of the project is now complete, and we move into the Analytics stage of the project.



## Understanding the Qlik Sense Accelerator Applications

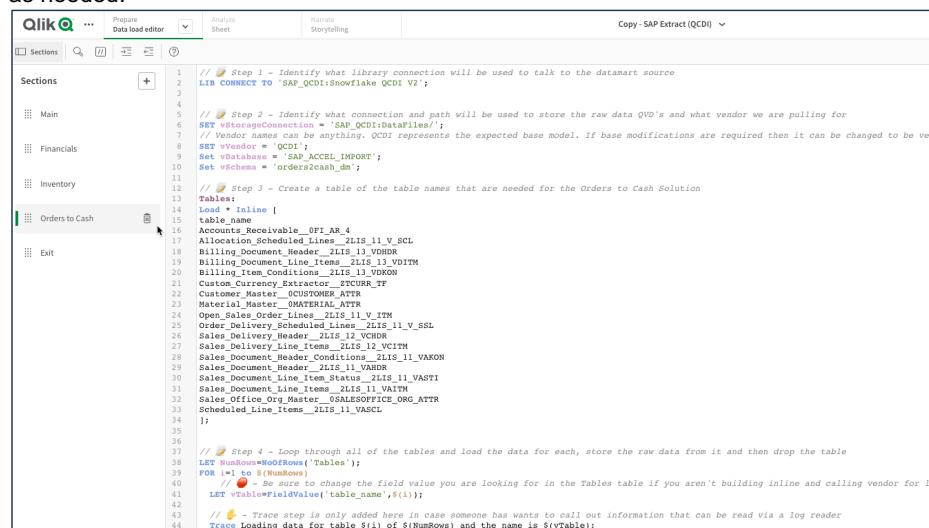
The “SAP Extract (QCDI)” application simply loads the raw data from every table, for each of the data marts and stores it in its raw format to QVD’s.

The SAP Orders to Cash (QCDI) application loads the raw QVD’s and goes through a bunch of denormalization and aliasing steps to create a more human friendly and readily consumable Qlik data model. SAP Financial Analytics (QCDI) and SAP Inventory Management (QCDI) load directly from the base SAP QVDs.

*The question often arises “Why not just do all steps in 1 application?”*

*The answer is always “In our test environment we can’t do incremental loads because data is never changed. So, after any POC you will need to modify the process to load the batched changes incrementally, merge the data with the existing raw data, then run the “denormalization” application.*

The SAP QCDI applications load the denormalized QVD’s and construct several data island tables used for KPI’s and analysis and builds a ton of variables that can be used as needed.



The screenshot shows the Qlik Sense Data Load Editor interface. The top navigation bar includes 'Program', 'Data load editor', 'Analysis', 'Sheet', 'Narrative', 'Storytelling', and a dropdown for 'Copy - SAP Extract (QCDI)'. The left sidebar shows a tree view of 'Sections' (Main, Financials, Inventory, Orders to Cash, Exit), with 'Orders to Cash' currently selected. The main area displays a large block of Qlik Script (QScript) code. The code is organized into sections: Step 1 (library connection), Step 2 (storage connection), Step 3 (table creation for the Orders to Cash solution), and Step 4 (looping through tables to load data). The code uses various Qlik functions like LIB CONNECT TO, SET, and FOR loops to manage multiple tables and vendor settings.

```
// Step 1 - Identify what library connection will be used to talk to the datasmart source
LIB CONNECT TO 'SAP_QCDI:Snowflake QCDI V2';

// Step 2 - Identify what connection and path will be used to store the raw data QVD's and what vendor we are pulling for
SET vStorageConnection = 'SAP_QCDI:DataFiles';
// Vendor name can be anything. QCDI represents the expected base model. If base modifications are required then it can be changed to be vendor specific
SET vVendor = 'QCDI';
Set vDatabase = 'SAP_ACCEL_IMPORT';
Set vSchema = 'orders2cash_dm';

// Step 3 - Create a table of the table names that are needed for the Orders to Cash Solution
Tables:
Load table_name;
Load table_name;
Accounts_Receivable_0FI_AR_4
Allocation_Scheduled_Lines_2LIS_11_V_SCL
Billing_Document_Header_2LIS_11_V_VATR
Billing_Document_Lines_2LIS_11_V_VITM
Billing_Item_Conditions_2LIS_13_VOKON
Custom_Currency_Extractor_ETCHURR_TF
Customer_Master_0SALESOFFICE_ATTR
Master_Plan_0SALESOFFICE_ATTR
Open_Sales_Order_Lines_2LIS_11_V_ITM
Order_Delivery_Scheduled_Lines_2LIS_11_V_SSL
Sales_Delivery_Model_2LIS_11_V_VITM
Sales_Delivery_Lines_2LIS_11_V_CITM
Sales_Document_Header_2LIS_11_VAKON
Sales_Document_Header_2LIS_11_VANDR
Sales_Document_Line_Statement_2LIS_11_VASTI
Sales_Document_Lines_2LIS_11_V_VATR
Sales_Office_Org_Master_0SALESOFFICE_ORG_ATTR
Scheduled_Line_Items_2LIS_11_VASCL
;

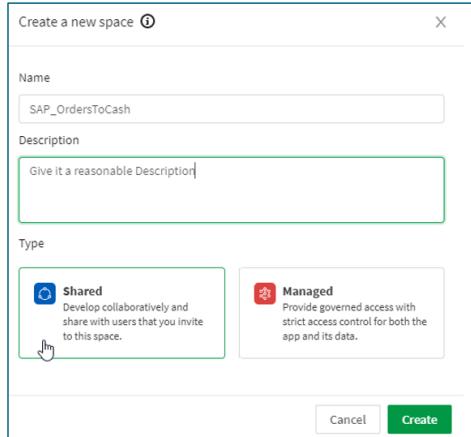
// Step 4 - Loop through all of the tables and load the data for each, store the raw data from it and then drop the table
LET NumRows=GetRows("Tables");
FOR i=1 to $NumRows
    // Be sure to change the field value you are looking for in the Tables table if you aren't building inline and calling vendor for 1
    LET vTable=FieldValue('table_name',$(i));
    LET vTable=FieldValue('table_name',$(i));
    // - Trace step is only added here in case someone has wants to call out information that can be read via a log reader
    Trace Loading data for table $(i) of $NumRows and the name is $(vTable);

```

## Install the Qlik Sense Accelerator Applications

### Step 1: Create a new Shared Space in the SaaS Tenant

Name the space SAP\_QCDI (as an example).



The screenshot shows a 'Create a new space' dialog box. It has a title bar with 'Create a new space' and a close button 'X'. Below the title are fields for 'Name' (containing 'SAP\_OrdersToCash') and 'Description' (containing 'Give it a reasonable Description'). Under the 'Type' section, there are two options: 'Shared' (selected, indicated by a green border) and 'Managed'. Both options have descriptive text below them. At the bottom are 'Cancel' and 'Create' buttons.

### Step 2: Upload the QVF's to the space just created.

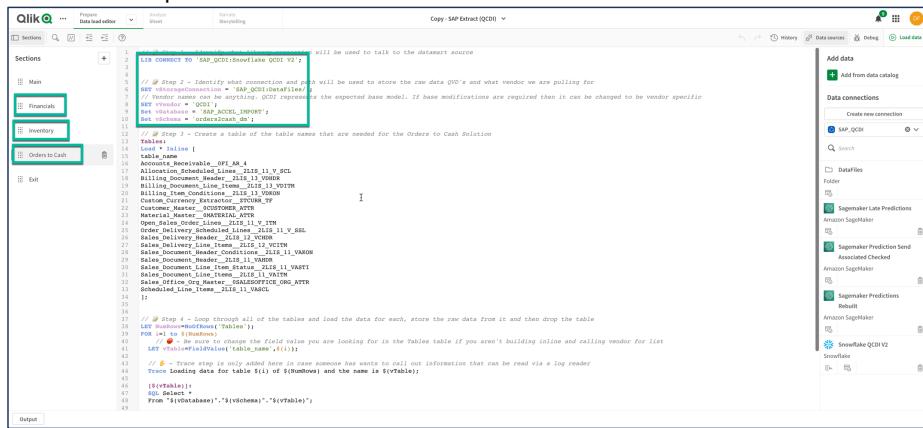
Name	Date Modified	Size	Kind
Qlik SAP Extract (QCDI).qvf	Today at 11:56 AM	229 KB	Document
Qlik SAP Financials Analytics (QCDI).qvf	Sep 12, 2022 at 10:20 AM	37.7 MB	Document
Qlik SAP Inventory Analytics (QCDI).qvf	Today at 11:58 AM	10.5 MB	Document
Qlik SAP Order-to-Cash Analytics (QCDI).qvf	Nov 23, 2022 at 8:44 AM	18.9 MB	Document
Qlik SAP Transform O2C (QCDI).qvf	Nov 16, 2022 at 7:54 AM	6.3 MB	Document

## Configure the SAP Extract (QCDI) app.qvf

**Step 1:** Open the application and go to the load script

**Step 2:** Create a new Connection for your Snowflake (or appropriate) Database

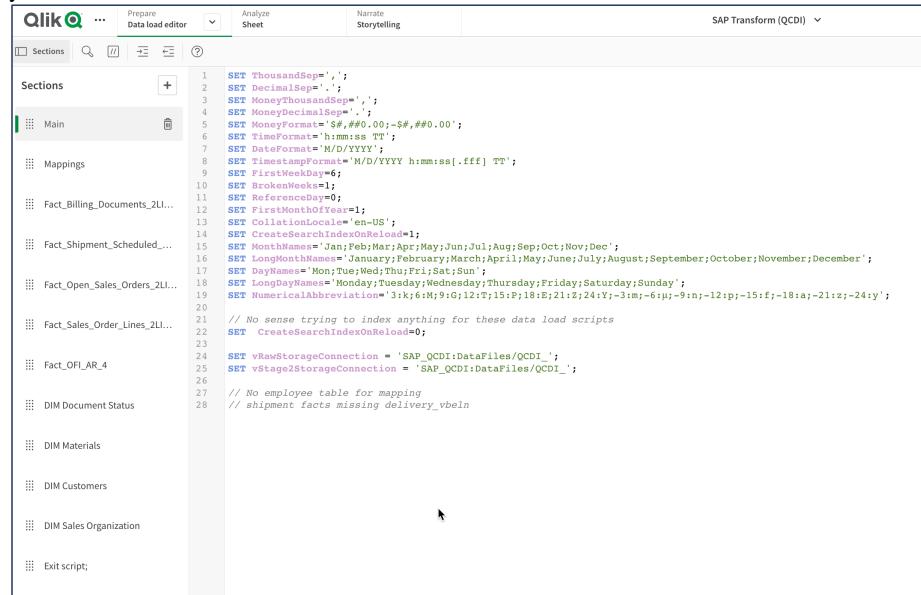
**Step 3:** Follow the prompts within the load script and replace the LIB CONNECT TO with the appropriate connection you created and change the variables for the Database and Schema as appropriate for your environment as well as desired QVD export location. You can use the same or different spaces/directories for the QVD or keep them all in one place.



**Step 4:** Run the load script so that the raw data is extracted from all the datamarts from the QCDI accelerators projects.

## Configure the SAP Transform O2C (QCDI).qvf. --- Only app requires this step...

Step 1: Simply set the variables for the RAW QVD file location and the location where you wish to save the denormalized QVD files.

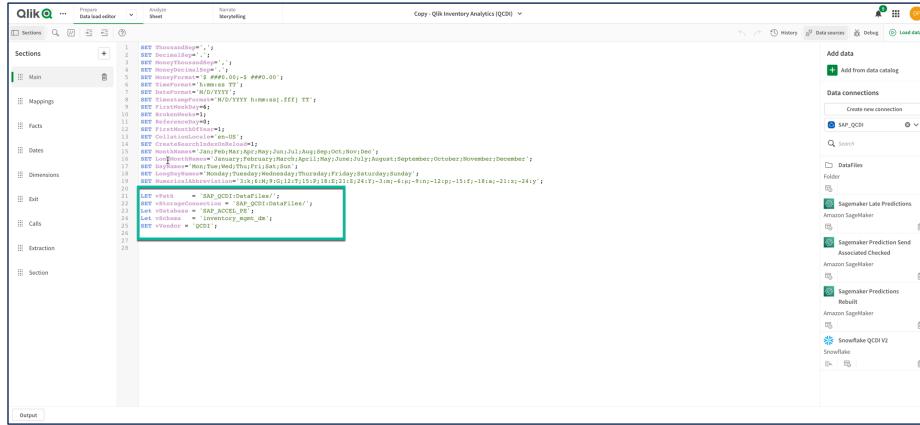


```
1 SET ThousandSep(',');
2 SET DecimalSep='.';
3 SET DateSeparator='.';
4 SET MoneyDecimalSep '.';
5 SET MoneyFormat="#$#.##0.00;-$#,##0.00";
6 SET TimeFormat="h'mm:ss TT";
7 SET DateFormat="M/D/YYYY";
8 SET TimestampFormat="M/D/YYYY h:mm:ss[.fff] TT";
9 SET FirstWeekDay=6;
10 SET DateFormatInDb=1;
11 SET ReferenceDay=0;
12 SET FirstMonthInYear=1;
13 SET CollationLocale='en-US';
14 SET CreateSearchIndexOnReload=1;
15 SET MonthNames='Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec';
16 SET LongMonthNames='January;February;March;April;May;June;July;August;September;October;November;December';
17 SET DayNames='Mon;Tue;Wed;Thu;Fri;Sat;Sun';
18 SET LongDayNames='Monday;Tuesday;Wednesday;Thursday;Friday;Saturday;Sunday';
19 SET NumericalAbbreviation='3k;6M;9G;12T;15P;18E;21Z;24Y;3w;+6\mu;+9\n;+12\p;+15\f;+18\a;+21\z;+24\y';
20
21 // No sense trying to index anything for these data load scripts
22 SET CreateSearchIndexOnReloade=0;
23
24 SET vRawStorageConnection = 'SAP_QCDI:DataFiles/QCDI_';
25 SET vStage2StorageConnection = 'SAP_QCDI:DataFiles/QCDI_';
26
27 // No employee table for mapping
28 // shipment facts missing delivery_vbeln
```

Step 2: Run the load script to generate the denormalized QVD files for Orders to Cash.

## Configure the Qlik SAP QCDI apps

**Step 1:** Even easier than the denormalizer application all you need to do is set the location where the denormalized QVD files are located:



**Step 2:** Run the load script to read all the denormalized QVD files and handle all the other processing needed to prepare the application.

**Step 3:** Ensure that the Master Field QA screen shows that data for the tables is loaded and validate it is about the volume of data you know your data marts were populated with. [You can also use the screen to check field values and data ranges.]

Master Field QA				
Table Name	Q	# Rows	# Fields	Q
Totals		439,448		
Billing Documents		52,254		93
Customers Bill To		658		134
Customers Ship To		670		134
Dimensions Island		13		3
Document Status		26,331		11
KPI Island		5		5
Languages Island		4		2
Materials		1,166		160
Measures1 Island		38		6
Measures2 Island		38		6
Measures3 Island		38		6
OFIAR4		14,230		82
Open Orders		24,327		16
ORG		263,310		4
Sales Items		26,330		123
Sales Organization		84		44
Schedule Lines		29,952		40

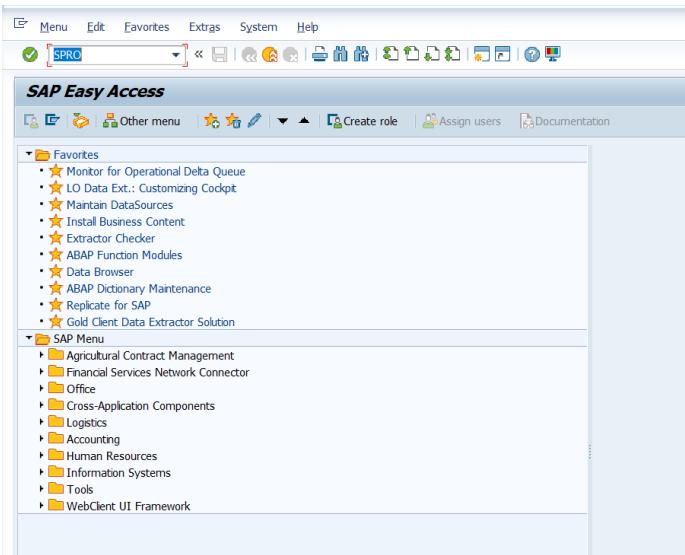
## Step 4: Enjoy!

## Example SAP Custom Extractor Appendix: ZTCURR

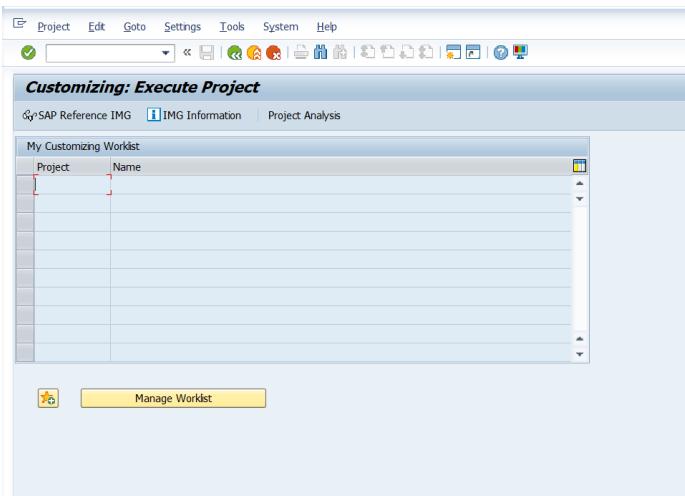
Introduction – Currency maintenance

Currency is maintained in SAP through

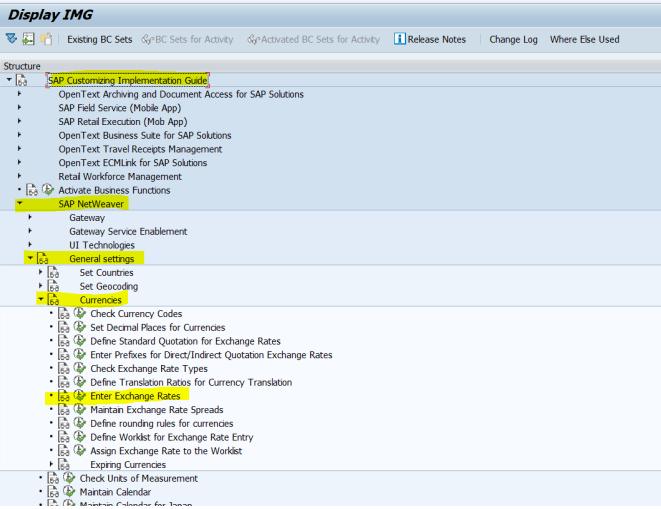
- Transaction SPRO



- SAP Reference IMG



- Select Activity

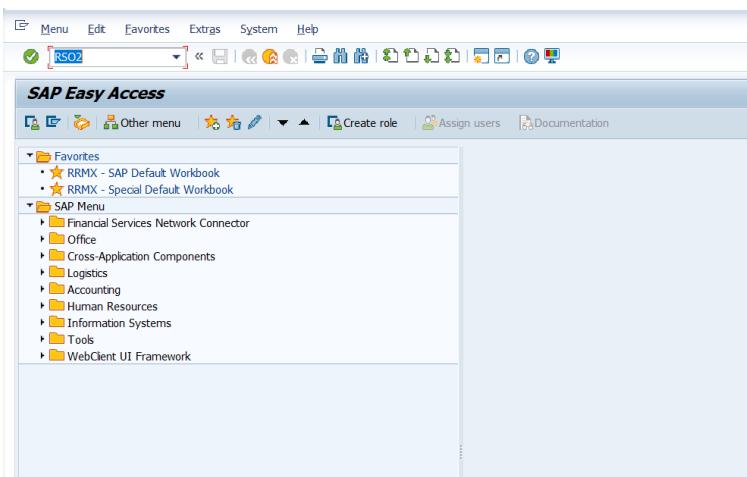


- Maintain currency

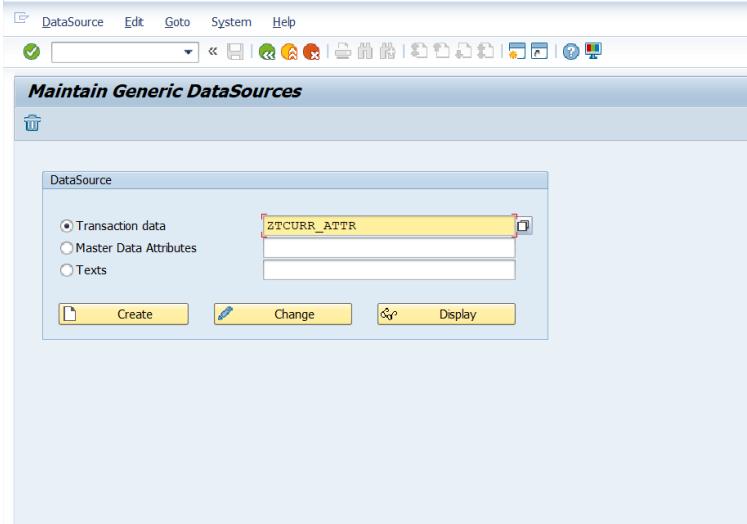
Change View "Currency Exchange Rates": Overview						
Ers	VonFrom	Ink.quot	X	RateFrom	From	To
001	11.03.1990	X	X	1GBP	X	1EUR
001	01.01.1990	X	X	1GBP	X	1EUR
001	01.01.1800	X	X	1GBP	X	1EUR
001	01.01.2007	X	X	1JPY	X	1EUR
001	01.01.2000	X	X	1PTT	X	1EUR
001	01.01.1990	X	X	1PTT	X	1EUR
001	01.01.1800	X	X	1PTT	X	1EUR
001	01.01.1900	X	X	1UNI	X	1EUR
001	11.03.1990	X	X	1USD	X	1EUR
001	01.01.1990	X	X	1USD	X	1EUR
001	01.01.1999	X	X	1EUR	X	1DEM
001	01.01.1800	X	X	1EUR	X	1DEM
001	01.01.1999	X	X	1GBP	X	1EUR
001	01.01.1999	X	X	1GBP	X	1EUR
001	01.01.1800	X	X	1GBP	X	1EUR
001	01.01.2000	X	X	1PTT	X	1EUR
001	01.01.1990	X	X	1PTT	X	1EUR
001	01.01.1990	X	X	1PTT	X	1EUR
001D	01.01.1900	X	X	1DEM	X	1EUR
001D	01.01.1999	X	X	1DEM	X	1EUR
001D	01.01.2000	X	X	1PTT	X	1EUR
001D	01.01.1990	X	X	1PTT	X	1EUR
0021	11.03.1999	X	X	1GBP	X	1EUR
0021	01.01.1999	X	X	1GBP	X	1EUR

## Create custom extractor ZTCURR\_ATTR

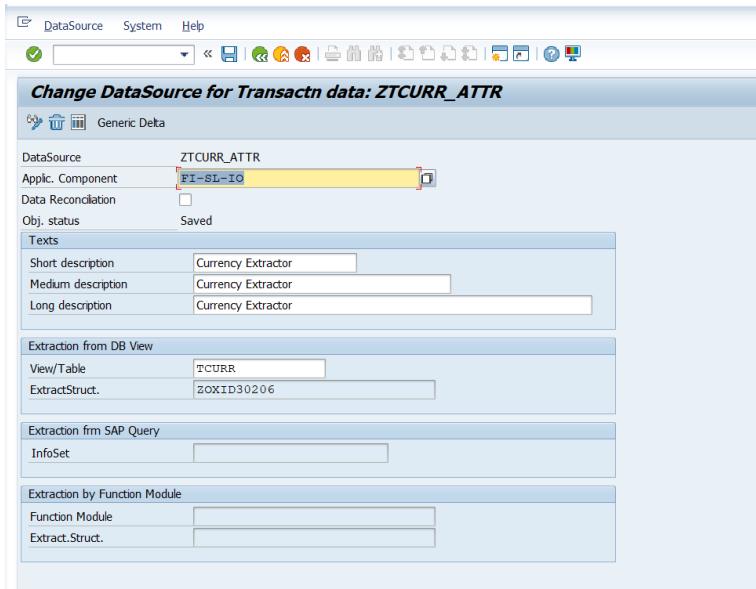
- This custom extractor is used to provide currencies for the data warehouse
- The extractor is 'delta enabled'
- Use transaction RSO2



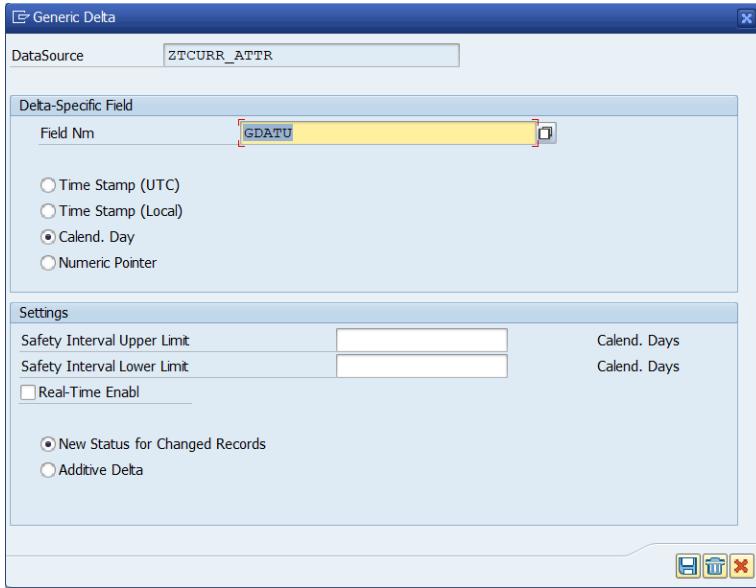
- Select 'Transaction data' – enter ZTCURR\_ATTR – click 'Create'



- Define Application Component – fill out fields as below

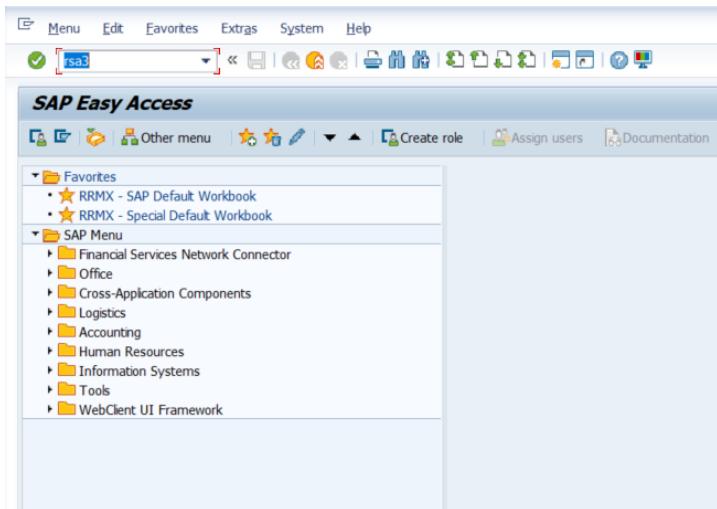


- Click Save – ‘click Generic Delta’ – fill out fields as below – click ‘Save’

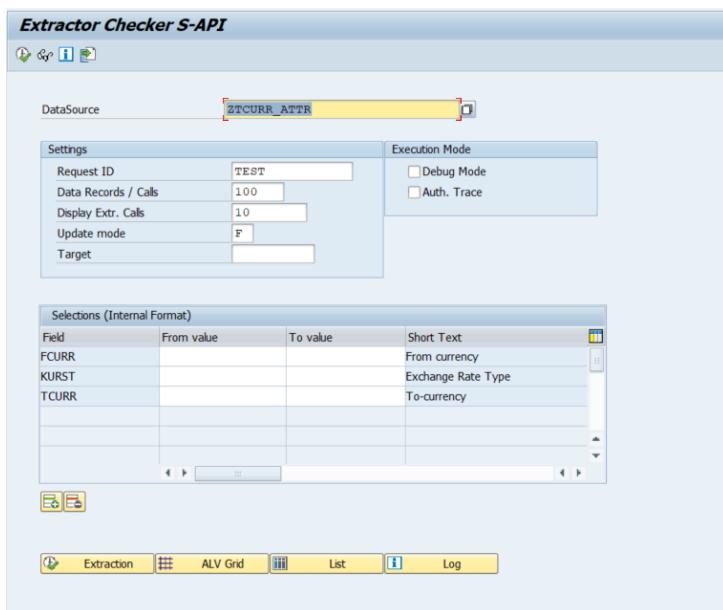


## Test extractor 'ZTCURR\_ATTR'

- Use transaction RSA3



- Fill out fields as below – click 'Extraction'



- Verify results – click on 'ALV Grid'

Result of Extraction of DataSource ZTCURR_ATTR						
Data Package (Number of Recs) 1 (100)						
ExRt	From	To	Valid from	Exch. Rate	Ratio	Rate
001	GBP	EUR	11.03.1999	1,50000	0	0
001	GBP	EUR	01.01.1999	1,40000	0	0
001	GBP	EUR	01.01.1800	1,50000	0	0
001	JPY	EUR	01.01.2007	0,00993	0	0
001	PTE	EUR	01.01.2000	0,00492	0	0
001	PTE	EUR	01.01.1995	0,00496	0	0
001	UNI	KRW	01.01.1999	1,40000	0	0
001	USD	EUR	11.03.1999	1,50000	0	0
0011	EUR	DEM	01.01.1999	1,95583	0	0
0011	EUR	DEM	01.01.1800	1,95583	0	0
0011	EUR	DEM	11.03.1999	1,50000	0	0
0011	GBP	EUR	01.01.1999	1,44000	0	0
0011	GBP	EUR	01.01.1800	1,44000	0	0
0011	PTE	EUR	01.01.2000	0,00492	0	0
0011	PTE	EUR	01.01.1995	0,00496	0	0
001D	DEM	EUR	01.01.1900	0,51050	0	0
001D	DEM	EUR	01.01.1800	0,51050	0	0
001D	EUR	DEM	01.01.1900	0,00496	0	0
001D	PTE	EUR	01.01.1990	0,51050	0	0
0021	GBP	EUR	11.03.1999	1,50000	0	0
0021	GBP	EUR	01.01.1999	1,40000	0	0
0021	GBP	EUR	01.01.1800	1,40000	0	0
0021	PTE	EUR	01.01.2000	0,00492	0	0
0021	PTE	EUR	01.01.1995	0,00496	0	0

## About Qlik

Qlik's vision is a data-literate world, one where everyone can use data to improve decision-making and solve their most challenging problems. Only Qlik offers end-to-end, real-time data integration and analytics solutions that help organizations access and transform all their data into value. Qlik helps companies lead with data to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward. Qlik does business in more than 100 countries and serves over 50,000 customers around the world.

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