



SAP Accelerator Packages

POC Guide

2023/12 V.3.3

Contents

| | | |
|-----|--|----|
| 1 | Introduction | 4 |
| 1.1 | POC environment | 4 |
| 1.2 | Supplemental information on this guide | 5 |
| 2 | Preparation | 6 |
| 2.1 | Download Qlik Replicate and Qlik Compose installation files..... | 7 |
| 2.2 | Download SAP Java Connector..... | 8 |
| 3 | Qlik Replicate Setup | 9 |
| 3.1 | Installing Qlik Replicate | 9 |
| 3.2 | Accessing the Qlik Replicate Console | 12 |
| 3.3 | Qlik Replicate license registration..... | 13 |
| 3.4 | Installing the SAP Java Connector | 14 |
| 3.5 | Installing the driver for the target DB | 15 |
| 4 | Qlik Compose Setup | 16 |
| 4.1 | Installing Qlik Compose..... | 16 |
| 4.2 | Accessing the Qlik Compose Console | 18 |
| 4.3 | Qlik Compose license registration..... | 19 |
| 4.4 | Installing the driver for the target DB | 19 |
| 5 | Releasing Extractor data sources to SAP ODP | 20 |
| 5.1 | Release execution (SA38)..... | 20 |
| 5.2 | Check release status | 21 |
| 6 | Activating Business Contents | 23 |
| 6.1 | List of data sources | 23 |
| 6.2 | Data source activation (RSA5) | 24 |
| 6.3 | Review enabled data sources (RSA6) | 25 |
| 6.4 | Logistics data extraction setup (LBWE) | 27 |
| 6.5 | Delete data in setup table (LBWG) | 31 |
| 6.6 | Initialize and rebuild setup table data (SBIW) | 33 |
| 7 | Creating generic data source (RSO2) | 43 |
| 7.1 | ZTCURR_ATTR..... | 43 |
| 7.2 | ZSP_STOCK_IND | 46 |
| 7.3 | ZPO_REQLNS..... | 47 |
| 7.4 | ZPUR_DOCTYPE_TEXT | 48 |
| 7.5 | ZFAGL_011QT..... | 50 |
| 7.6 | ZFAGL_011PC | 51 |
| 7.7 | ZFAGL_011ZC..... | 52 |
| 8 | Confirmation of data source extraction via ODP..... | 54 |

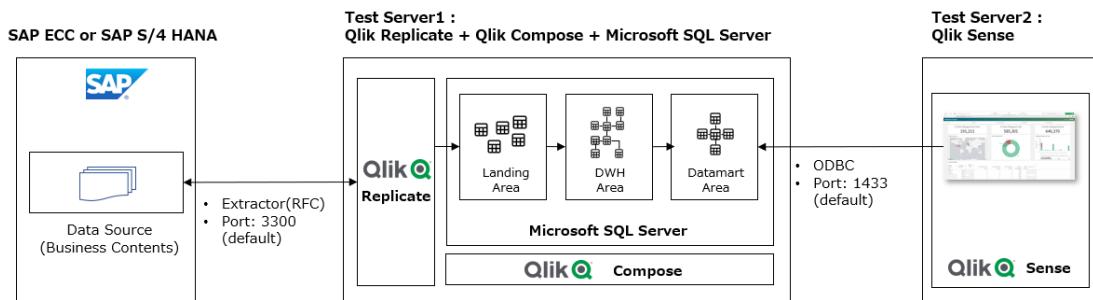
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| 9 | SAP configuration required only for Finance | 55 |
| 9.1 | Delta extraction settings for 0FI_GL_4, 0FI_AR_4, and 0FI_AP_4 | 55 |
| 9.2 | Delta extraction settings for 0FI_GL_10 and 0FI_GL_14 | 58 |
| 9.3 | Enabling FIAA_BW_DELTA_UPDATE | 60 |
| 10 | Target database settings | 62 |
| 11 | Data extraction from Qlik Replicate | 64 |
| 11.1 | Importing Replicate Tasks..... | 64 |
| 11.2 | Change/confirm user's numeric format | 65 |
| 11.3 | Endpoint configuration | 66 |
| 11.4 | Task execution..... | 69 |
| 12 | DWH and DM creation with Qlik Compose..... | 72 |
| 12.1 | Create a new project..... | 72 |
| 12.2 | Deploying projects | 73 |
| 12.3 | Updating connection definitions..... | 75 |
| 12.4 | Model validation..... | 79 |
| 12.5 | DWH creation and data loading..... | 80 |
| 12.6 | Creating Data Marts..... | 85 |
| 13 | Visualization with Qlik Sense | 88 |
| 13.1 | Qlik Sense Desktop | 88 |
| 13.2 | Qlik Sense Enterprise Client Managed (CM) | 91 |
| 13.3 | Qlik Sense SaaS | 96 |
| Appendix 1: | Setting up CO-PA in Finance | 100 |
| Setting up CO-PA on Qlik Compose | 100 | |
| Confirmation of Operating Concern | 101 | |
| Confirmation of activation of Costing-based..... | 103 | |
| CO-PA data source activation | 104 | |
| Appendix 2: | Creating user for Qlik Replicate..... | 108 |
| Creating user..... | 108 | |
| Creating role profiles | 110 | |
| Appendix 3: | Confirmation of BW Delta Queue | 125 |
| Appendix 4: | How to check the ODP Queue..... | 126 |
| Appendix 5: | Performing change data update processes in Qlik Compose | 127 |
| DWH change data update process..... | 127 | |
| Data mart change data update process | 129 | |
| Scheduling workflow | 129 | |
| Appendix 6: | How to recreate tables in Qlik Compose..... | 131 |

| | |
|--|-----|
| Re-create DWH tables | 131 |
| Re-create data mart tables | 132 |
| Reset project | 133 |
| Appendix 7: How to check the delta method..... | 135 |
| Appendix 8: Checking the Chart of Accounts and Financial Statement Versions..... | 137 |

1 Introduction

1.1 POC environment

The POC environment described in this guide assumes the following server environment in which the DWH is Microsoft SQL Server. Supplemental information on using Snowflake, Synapse, BigQuery, and Redshift as DWH is provided in this guide. However, these DWHs require separate configuration, which is not covered in this guide. Please refer to the product help site for details.



- ※ In a production environment, we recommend that Qlik Replicate, Qlik Compose, and DB/DWH servers be deployed on separate server instances.
- ※ If you use Snowflake, Synapse, BigQuery, or Redshift as DWH, you will need to configure them separately. Note that the Qlik Sense applications included in the SAP Accelerator Packages are not compatible with Redshift, only Replicate tasks and Compose projects work on Redshift.
- ※ The software versions used in the preparation of this guide are as follows:
 - SAP S/4 HANA 2022 FPS02 / SAP ECC 6.0 EhP8
 - Qlik Replicate November 2023 Release
 - Qlik Compose May 2022 SR2 Release
 - Qlik Sense SaaS
 - Microsoft SQL Server 2019 Release
- ※ The test servers used in this guide are Windows Server 2019.
- ※ SAP Accelerator Packages in this procedure use the SAP ODP endpoint, which must meet the following version requirements to use the ODP API 2.0 available from the following SAP BASIS levels and above:

- PI_BASIS 730 SP 14 (part of SAP NetWeaver 7.30 SP 14)
 - PI_BASIS 731 SP 16 (part of SAP NetWeaver 7.03 SP 16 and 7.31 SP 16)
 - PI_BASIS 740 SP 11 (part of SAP NetWeaver 7.40 SP 11)
 - SAP_BW 750 SP 0 (includes former PI_BASIS package)
- ※ PI_BASIS corresponds to the component name SAP_BASIS in the new system.
- ※ For more information, see SAP Note [1931427 - ODP Data Replication API 2.0](#) for more information.
- ※ For more information on Qlik Replicate ODP Endpoint prerequisites, please refer to [Prerequisites | Qlik Replicate Help](#).

1.2 Supplemental information on this guide

- [2. Preparation](#) summarizes the items to be prepared prior to POC implementation. Please check this section first.
- There are four SAP Accelerator Packages: Order to Cash, Inventory Management, Finance, and Procurement. This guide covers how to set up these four packages. We recommend that you first perform the validation on "Order to Cash", and then go through the steps before proceeding to the other types of validation.
- Basic configuration information for the package is described in [3. Qlik Replicate Setup - 13. Visualization with Qlik Sense](#).
- Some procedures explained in this document may be required only for specific types of packages. If this is the case, it will be indicated in the description of the procedure.
- [Appendix 2: Creating User for Replicate](#) explains how to create a SAP user for Replicate to perform data retrieval from SAP. However, it is recommended that a user with SAP_ALL (SAP administrator authority) execute the data retrieval test from Replicate first, since detailed authorization settings are required and incorrect settings are often made.
- [Appendix 5: Performing change data update process in Qlik Compose](#) explains the steps required to store the change data retrieved from SAP in the DWH and data mart after the DWH and data mart creation and initial full data load are complete.
- This guide describes a typical setup procedure in a SAP test environment. Therefore, the configuration method on the SAP side may vary depending on the environment and

existing configurations. It is recommended that the work in this guide be performed in consultation with and in the presence of an SAP specialist.

2 Preparation

The following preparations should be made in advance of the POC implementation.

- Qlik Replicate and Qlik Compose installation files.
 - Follow the instructions in [2.1 Download Qlik Replicate and Qlik Compose Installation Media](#) later in this section to download the files.
- License files for Qlik Replicate and Qlik Compose.
 - Please obtain a license file from a Qlik sales representative.
- Complete set of files in the Qlik Accelerator Packages
- SAP Java Connector
 - Follow the instructions in "[2.2 Downloading the SAP Java Connector](#)" later in this section to download the target file.
- Prepare test server (server running Qlik Replicate, Qlik Compose, and DB)
 - The test server in this guide uses Windows Server 2016. Prepare the server by referring to the following sites and documents:
 - ✧ [Recommended hardware configuration #Recommended hardware configuration - Qlik Replicate](#)
 - ✧ [Preparing your system for Compose - Qlik Compose](#)
 - Using a clean install server environment is highly recommended.
- Deployment of Microsoft SQL Server (Target DB)
 - Deploy Microsoft SQL Server on the test server according to the instructions provided by Microsoft.
 - SQL Server Management Studio (SSMS) needs to be installed.
 - On the SQL Server Configuration Manager tool, select "Network Configuration for SQL Server", enable the "TCP/IP" protocol, and restart the service beforehand.
- Microsoft SQL Server (Target DB) administrator user
 - An administrative user for the target DB to be used during test is required.
 - This guide uses the Microsoft SQL Server sa user.
- If you do not use Microsoft SQL Server as your DWH, and use Snowflake, Synapse, BigQuery, or Redshift instead, you will need to set up your DWH in advance by referring to help sites.
- SAP GUI
 - Install the SAP GUI to work on SAP configurations. Follow the instructions provided

by SAP to install the SAP GUI on the test server and verify the connection to the SAP system.

- Opening Server Ports
 - You need to release the inbound communication port for RFC communication from the verification server to the SAP system. The port number is 3300 (33NN where NN is the SAP instance ID), please refer to the following site for details.
 - ✧ [TCP/IP Ports of All SAP Products - SAP Help Portal](#)
 - You need to release the inbound communication port on the test server to access the DB server from Qlik Sense. 1433 is the default port number for Microsoft SQL Server.
 - Open inbound communication port 443 on the verification server for web browser access to the Qlik Replicate and Qlik Compose consoles.
- SAP_ALL (administrator) user preparation for SAP system
 - SAP users with SAP_ALL privileges to be used during test must be prepared in advance.
- Qlik Sense environment
 - Prepare a Qlik Sense Enterprise Client Managed, Qlik Sense Desktop, or Qlik Sense SaaS environment with access to the validation environment.
 - If you need a license, please obtain one from a Qlik sales representative.
- The installation procedures for Qlik Replicate and Compose are explained in this document, but please refer to the following documents for details on tasks and prerequisites.
 - Qlik Replicate Help: [Welcome to the Qlik Replicate online help - Qlik Replicate](#)
 - Qlik Compose Help: [Welcome to the Qlik Compose online help - Qlik Compose](#)

2.1 Download Qlik Replicate and Qlik Compose installation files

- ① Go to the [Home | Qlik Community](#) site, log on to the site and click on Support > Product News > Downloads. (You must be logged on as a user with a valid subscription to a Qlik product, if you do not have one, please contact a Qlik sales representative).



- ② Select "Data Integration", then "Qlik Replicate" from "Product" and download the following installation file from the download list:
- Qlik Replicate: QlikReplicate_<version>_Windows_x64.zip

| Product | Release | Release Number | Visibility |
|--------------------------------------|---------------|-------------------------|--------------------------------|
| Qlik Replicate | May 2022 | Initial Release (IR) | Latest release and patch ✓ |
| Qlik Enterprise Manager | November 2021 | Service Release 5 (SR5) | All releases with latest patch |
| Qlik Gold Client for BW | August 2021 | Service Release 4 (SR4) | All releases and all patches |
| Qlik Gold Client for Data Protection | May 2021 | Service Release 3 (SR3) | |
| Qlik Gold Client for ERP | November 2020 | Service Release 2 (SR2) | |

| Downloads | | | | | | | |
|----------------|----------|------|-----------|-------------|---|--------|---------------------|
| Product | Release | N... | Version | Publ... | Download Link | Size | End of Su... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_Arro_Decoder_SDK.zip | 1 MB | Qlik Replicate P... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_Docker_File_Generator_Cento... | 1 MB | Qlik Replicate P... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_Linux_X64.tar.gz | 159 MB | Qlik Replicate P... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_RAL1.zip | 1 MB | Qlik Replicate P... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_R4SAPEzip.zip | 1 MB | Qlik Replicate P... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_R4SAPEXtractor.zip | 1 MB | Qlik Replicate P... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_R4Z.zip | 1 MB | Qlik Replicate P... |
| Qlik Replicate | May 2022 | IR | v2022.5.0 | 10 May 2022 | QlikReplicate_2022_5_0_Windows_X64.zip | 185 MB | Qlik Replicate P... |

- ③ Similarly, select "Qlik Compose" and download the installation media.

| Product | Release | Release Number | Visibility |
|--------------------------------------|---------------|-------------------------|--------------------------------|
| Qlik Compose | May 2022 | Initial Release (IR) | Latest release and patch ✓ |
| Qlik Gold Client for BW | November 2021 | Service Release 5 (SR5) | All releases with latest patch |
| Qlik Gold Client for Data Protection | August 2021 | Service Release 4 (SR4) | All releases and all patches |
| Qlik Gold Client for ERP | May 2021 | Service Release 3 (SR3) | |
| Qlik Gold Client for SAP ERP | November 2020 | Service Release 2 (SR2) | |

| Downloads | | | | | | | |
|-----------|---------|------|---------|---------|---------------|------|--------------|
| Product | Release | N... | Version | Publ... | Download Link | Size | End of Su... |

| Qlik Compose | May 2022 | IR | v2022.5.0.140 | 10 May 2022 | Qlik_Compose_2022_5.0.140.zip | 129 MB | Qlik Compose ... |

2.2 Download SAP Java Connector

Download SAP Java Connector 3.1 from the [SAP Java Connector](#) site. (You will need an SAP ID with a valid subscription to download.)

SAP Java Connector

The SAP Java Connector is a Java API for SAP systems. It provides a standard interface for connecting Java applications to SAP databases and SAP ERP systems. The SAP Java Connector 3.1 is available for download.

Downloads

SAP Java Connector 3.1

The SAP Java Connector 3.1 includes the software documentation and examples. The SAP Java Connector 3.1 requires a JDK/JRE 8 or 11. SAP Java Connector 3.1 running on Windows operating systems requires the Microsoft Visual Studio 2013 C/C++ runtime libraries to be installed on the system. See SAP Note 278682.

Notes

- The SDK archive for Windows and macOS for the SAP Java Connector are shipped as a ZIP file and need to be extracted in a ZIP file.
- The ZIP archive for the Linux versions of the SAP Java Connector are shipped as a TGT file embedded in a ZIP file.
- Extract the nested archive variant from the downloaded archive first. In case you have installation instructions from some other component, they usually refer to the nested archive.
- After extracting the content from the nested archive, further installation instructions can be found in the file.

Note on 32-bit versus 64-bit versions:
You only need the 64-bit version of the SAP Java Connector if you are using a 64-bit Java VM. If you have to use a 32-bit Java VM on a 64-bit platform, download and use the 32-bit version of JCo. The 64-bit variant should always be preferred on 64-bit platforms.
Linux for Intel compatible processors and Linux for IBM PowerPC processors require the -Djava.awt.headless=true command-line start-up parameter to specify the mode. Usually these are options -D32 and -D64, please consult the JVM documentation for further details.

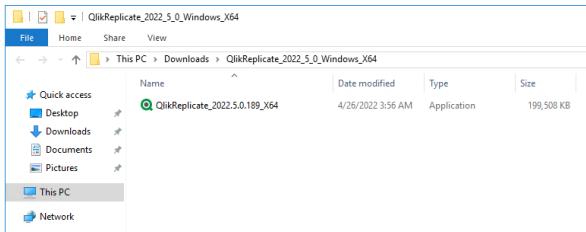
| Operating system | Processor | Release date | File size (KB) |
|---------------------------------------|-------------|-------------------|----------------|
| Microsoft Windows and Windows Server | 32-bit | November 25, 2021 | 5,951 |
| | 64-bit x86* | November 25, 2021 | 6,091 |
| Linux for Intel compatible processors | 64-bit x86* | November 25, 2021 | 4,574 |
| Linux for IBM PowerPC processors | 64-bit LE** | November 25, 2021 | 8,524 |
| Linux for IBM eServer zSeries | 64-bit | November 25, 2021 | 8,550 |

3 Qlik Replicate Setup

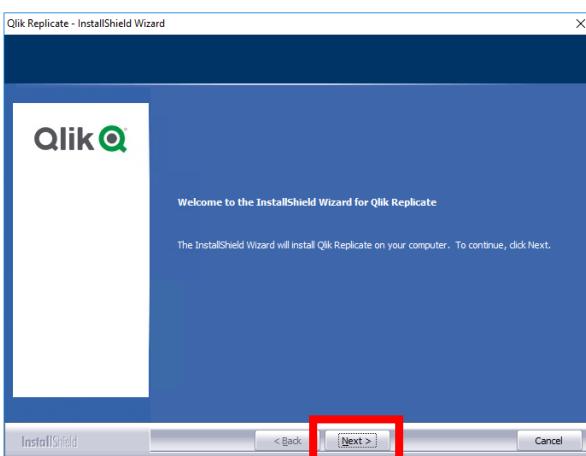
3.1 Installing Qlik Replicate

- ① Run the EXE file and follow the instructions in the setup wizard to install Qlik Replicate.

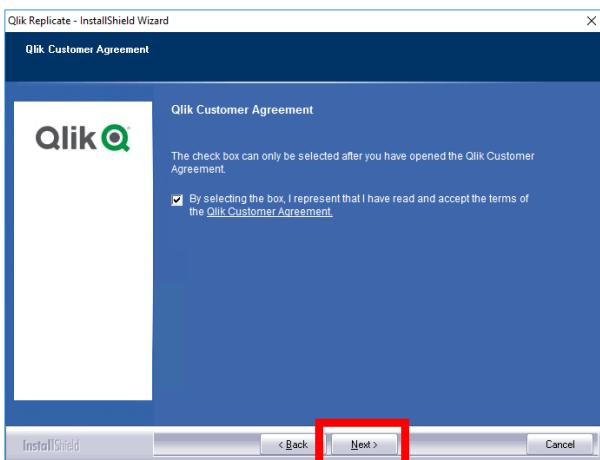
If .NET Framework 4.8 or higher and Visual C++ Redistributable for Visual Studio 2015 are not already installed, the installation of these products will start to run.



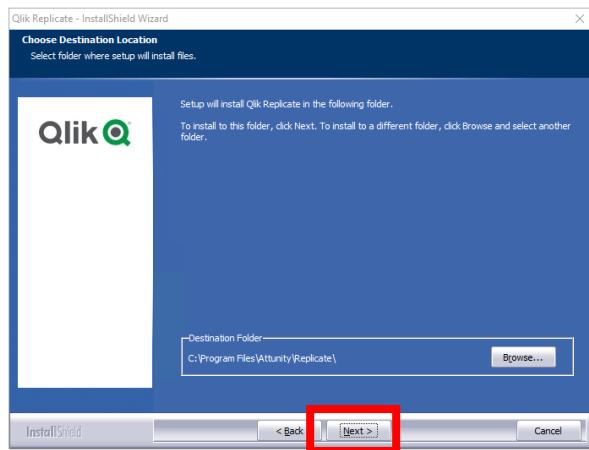
- ② Click [Next].



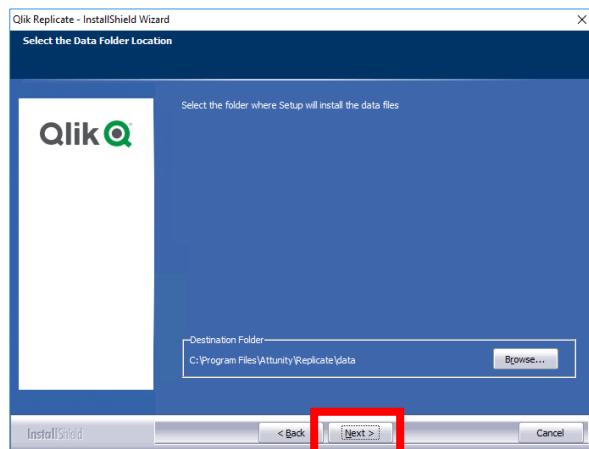
- ③ Click [Qlik License Agreement], review the contents, check the box [I have read ...] and click [Next].



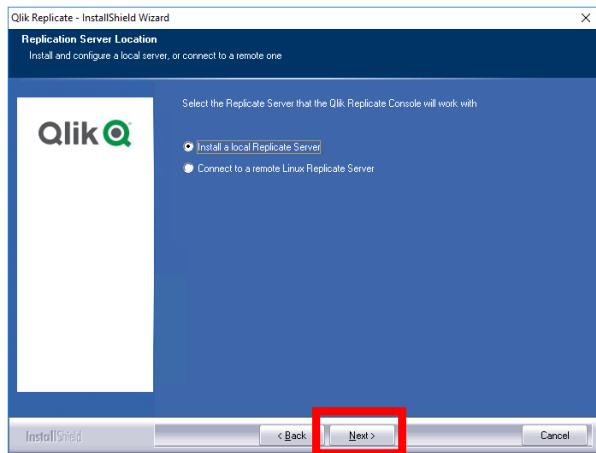
- ④ If you wish to place the installation directory in another location, specify that location here. Click [Next].



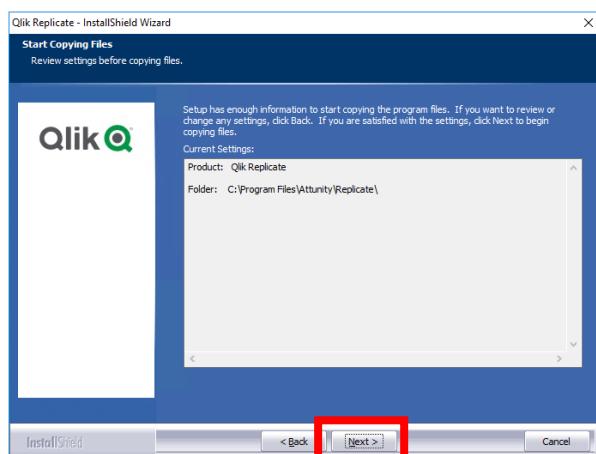
- ⑤ Configuration data created by the use of Qlik Replicate is stored in a directory named "data". By default, this directory is located in the installation directory where Qlik Replicate is installed. If you wish to create the data directory in another location, specify that location here. Click [Next].



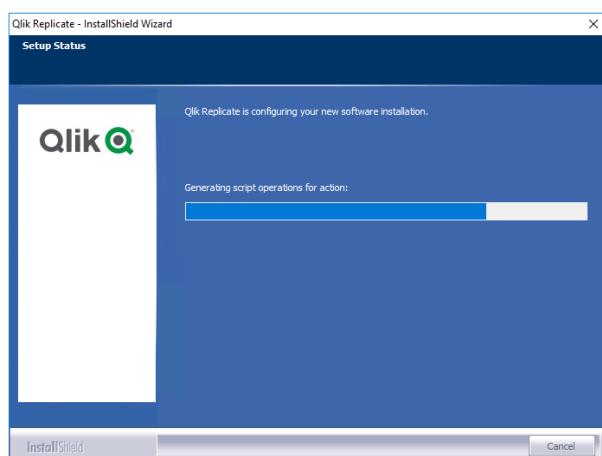
⑥ Select [Install a local Replicate Server].



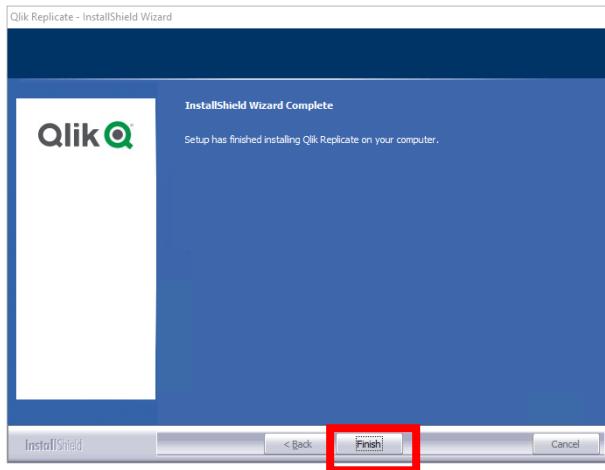
⑦ Click [Next].



⑧ Installation will begin.

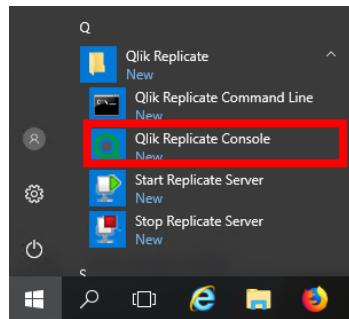


- ⑨ Click [Finish] when installation is complete.



3.2 Accessing the Qlik Replicate Console

- ① From the Start menu on Windows, click on [Qlik Replicate] > [Qlik Replicate Console].



- ② Since a self-signed certificate is used in the initial installation of Qlik Replicate, the following warning will be displayed when accessing the site with a browser. Continue to access the site.



Your connection is not private

Attackers might be trying to steal your information from **ec2amaz-3jt4dr7** (for example, passwords, messages, or credit cards). [Learn more](#)

NET::ERR_CERT_AUTHORITY_INVALID

To get Chrome's highest level of security, [turn on enhanced protection](#)

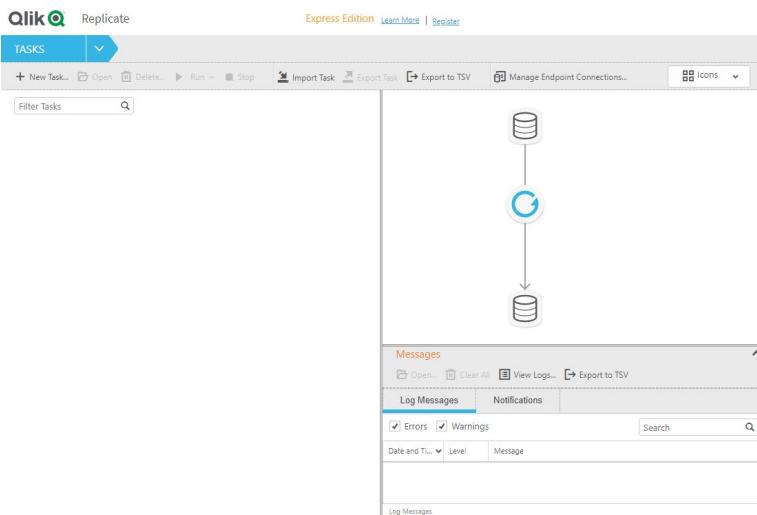
[Hide advanced](#)

[Back to safety](#)

This server could not prove that it is **ec2amaz-3jt4dr7**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

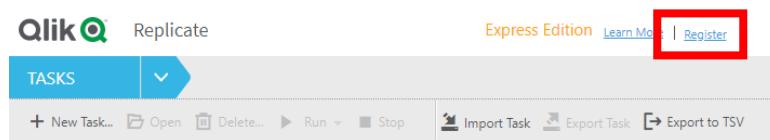
[Proceed to ec2amaz-3jt4dr7 \(unsafe\)](#)

③ The Qlik Replicate Console opens as follows:

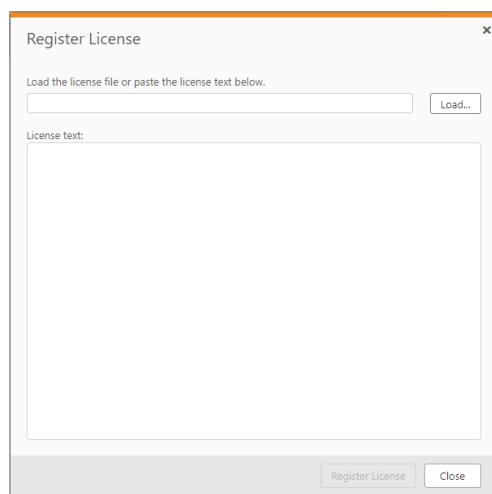


3.3 Qlik Replicate license registration

① Click [Register] at the top of the screen.



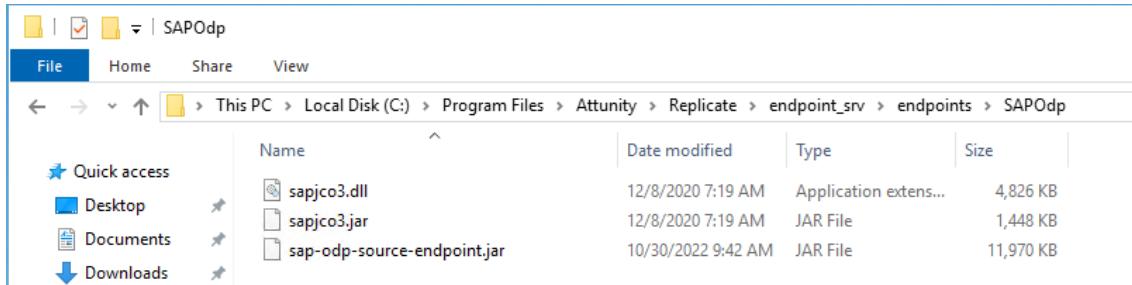
② Paste the contents of the license file into the [License text] area and click [Register License] to register the license.



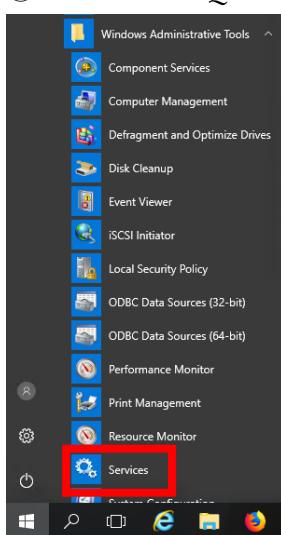
3.4 Installing the SAP Java Connector

- ① Copy the sapjco3.jar and sapjco3.dll files contained in the SAP Java Connector zip file to the following location under the Replicate installation directory:

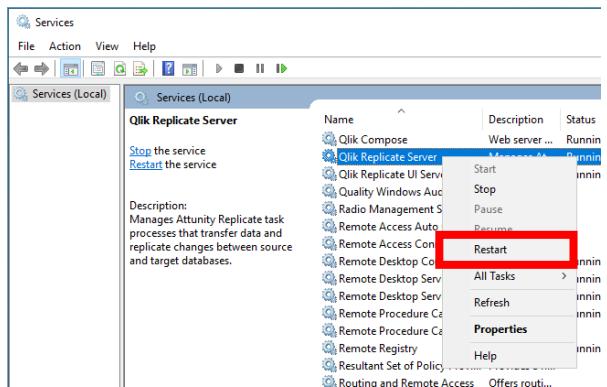
C:\Program Files\Attunity\Replicate\endpoint_srv\endpoints\SAPODP



- ※ If the SAP Extractor endpoint is already enabled, move the sapjco3.jar and sapjco3.dll files from {REPLICATE_INSTALL_DIR}\endpoint_srv\externals to {REPLICATE_INSTALL_DIR}\endpoint_srv\endpoints\SAP and restart the service.
 - ※ If you are using both SAP Extractor and SAP ODP, place the sapjco3.jar and sapjco3.dll files in both {REPLICATE_INSTALL_DIR}\endpoint_srv\endpoints\SAP and {REPLICATE_INSTALL_DIR}\endpoint_srv\endpoints\SAPODP folders and restart the service.
- ② Restart the Qlik Replicate service. Launch [Service] from the Windows screen,



- ③ Select "Qlik Replicate Server" and run [Restart].



3.5 Installing the driver for the target DB

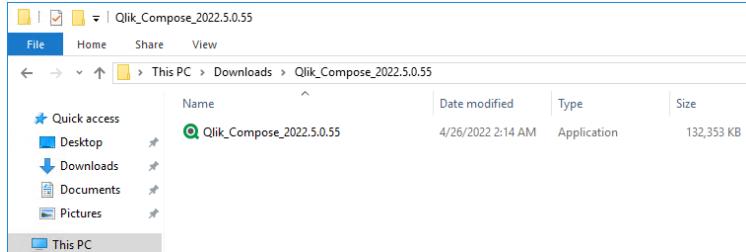
In the case of the POC environment assumed in this guide, Qlik Replicate and the Microsoft SQL Server to which it connects reside on the same server, so there is no need to install a driver for the connection. However, when connecting to a DWH such as Snowflake, Synapse, BigQuery, Redshift, etc., you will need to install a driver according to the endpoint type and restart the Qlik Replicate service. For more details, please refer to the following.

- [Welcome to the Qlik Replicate online help - Qlik Replicate](#)

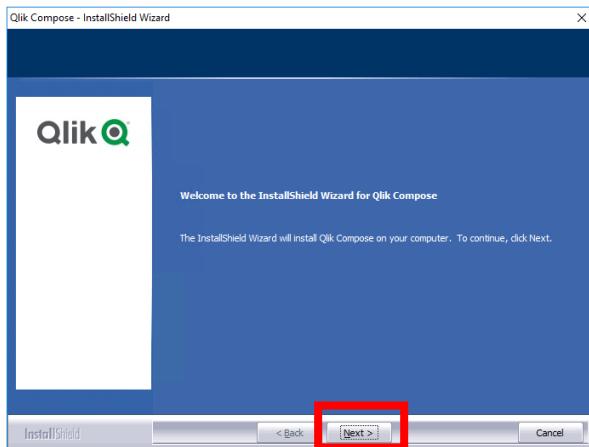
4 Qlik Compose Setup

4.1 Installing Qlik Compose

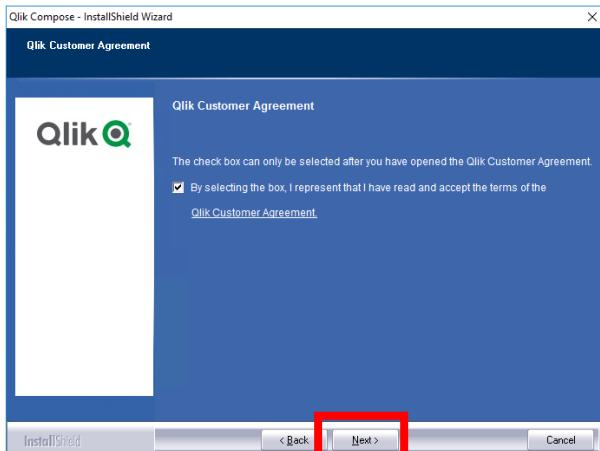
- ① Run the Exe file to launch the installer and click [Next].



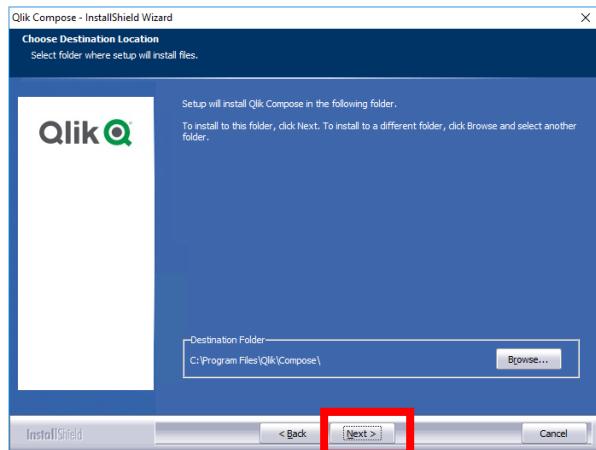
- ② Click [Next].



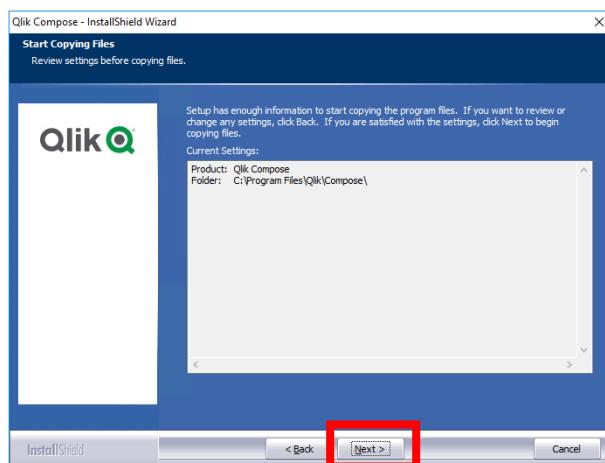
- ③ Click on [Qlik Customer Agreement], review the contents, check the box [By selecting the box...] and click [Next].



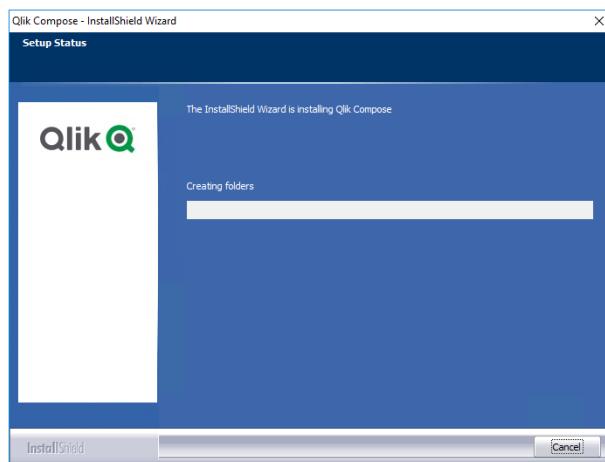
- ④ If you wish to place the installation directory in a different location, specify that location here and click [Next].



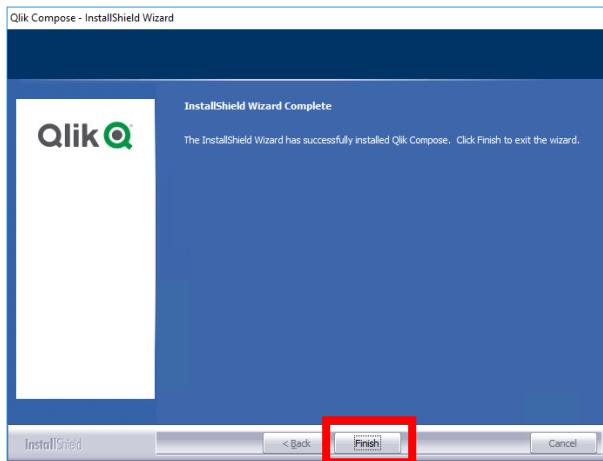
- ⑤ Confirm the contents and click [Next].



- ⑥ The installation starts running.

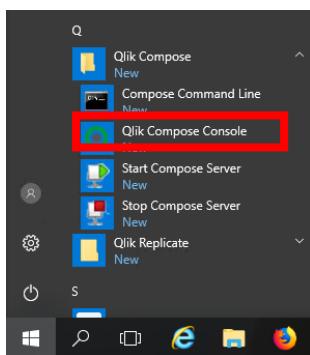


- ⑦ Confirm that the installation is complete and click [Finish].



4.2 Accessing the Qlik Compose Console

- ① From the Start menu on Windows, click [Qlik Compose] > [Qlik Compose Console].



- ② Since a self-signed certificate is used in the initial installation of Qlik Compose, the following warning will be displayed when accessing the site with a browser. Continue to access the site.



Your connection is not private

Attackers might be trying to steal your information from **ec2amaz-3jt4dr7** (for example, passwords, messages, or credit cards). [Learn more](#)

NET::ERR_CERT_AUTHORITY_INVALID

To get Chrome's highest level of security, [turn on enhanced protection](#)

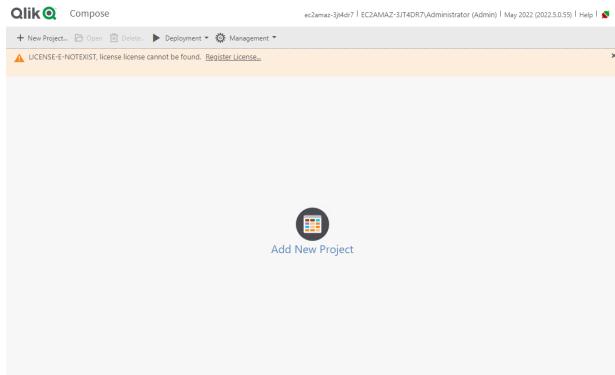
[Hide advanced](#)

[Back to safety](#)

This server could not prove that it is **ec2amaz-3jt4dr7**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

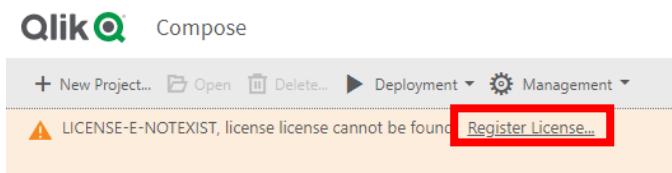
[Proceed to ec2amaz-3jt4dr7 \(unsafe\)](#)

④ The Qlik Compose Console opens as follows:

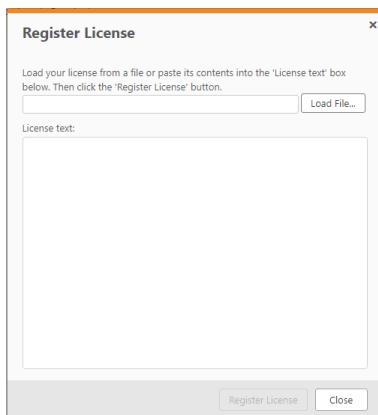


4.3 Qlik Compose license registration

③ Click [Register] at the top of the screen.



④ Paste the contents of the license file into the [License text] area and click [Register License].



4.4 Installing the driver for the target DB

In the POC environment assumed in this guide, Qlik Compose and the Microsoft SQL Server to which it connects reside on the same server, so there is no need to install a driver for the connection. However, when connecting to a DWH such as Snowflake, Synapse, BigQuery, Redshift, etc., you will need to install a driver according to the endpoint type and restart the Qlik Compose service. For more details, please refer to the following.

- [Welcome to Qlik Compose Online Help - Qlik Compose](#)

5 Releasing Extractor data sources to SAP ODP

5.1 Release execution (SA38)

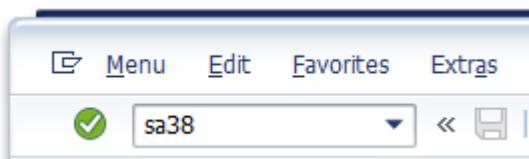
To use Extractor, Extractor must be released for ODP.

※ See SAP Note [2232584 - Release of SAP extractors for ODP replication \(ODP SAPI\)](#)

for detailed information.

※ Generic data sources are automatically released to the ODP after creation with t-code: RSO2. Alternatively, customer-specific data sources can be released with "RODPS_OS_EXPOSE". Below are the steps to perform a release of SAP standard data sources to the ODP.

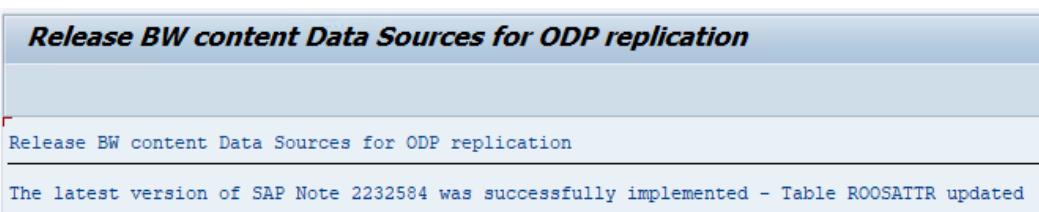
- ① Enter transaction code "sa38".



- ② Enter "BS_ANLY_DS_RELEASE_ODP" in [Program] and click [Execute].



- ③ When execution is complete, the following screen will appear.



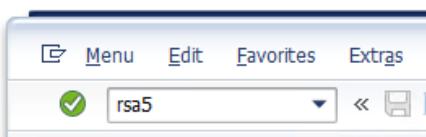
5.2 Check release status

To check if the Extractor data source has been released to the ODP, use one of the following methods

- Method 1: Go to T-code: rsa5 and confirm that the ODP icon for the appropriate data source is green.
- Method 2: Go to T-code:se16, open the "ROOSATTR" table and confirm that the corresponding data source is marked with an "X".

Method 1:

- ① Enter the T-code "rsa5".

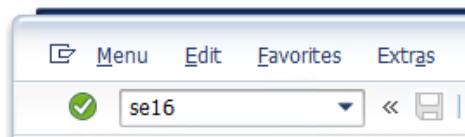


- ② Check the icons on the right side of the data source. Green ones indicate ODP enabled and red ones indicate ODP disabled. Make sure that all data sources to be enabled in the next step are ODP enabled.

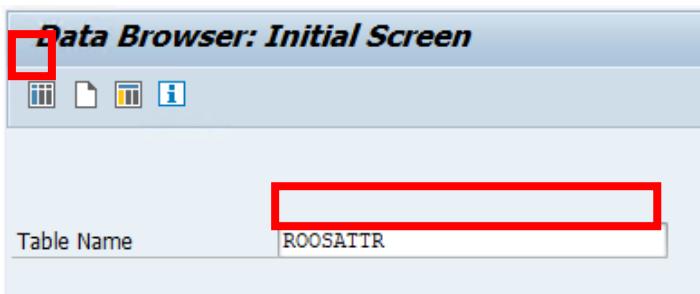
| Installation of DataSource from Business Content | |
|--|--|
| | |
| OFIS_TRK_DOC_FIENAME | Field Name of Changed Document |
| OFI_ACDOMA_10 | Unified Journal Entry |
| OFI_ACDOMA_20 | Unified Journal Entry (with Currency type) |
| OFI_GL_1 | General ledger: Transaction figures |
| OFI_GL_10 | General Ledger: Leading Ledger Balances |
| OFI_GL_11 | General Ledger: Balances of Leading Ledger via Line Items |
| OFI_GL_12 | General Ledger: Balances of Leading Ledger via Delta Queue |
| OFI_GL_14 | General Ledger (New): Line Items Leading Ledger |

Method 2:

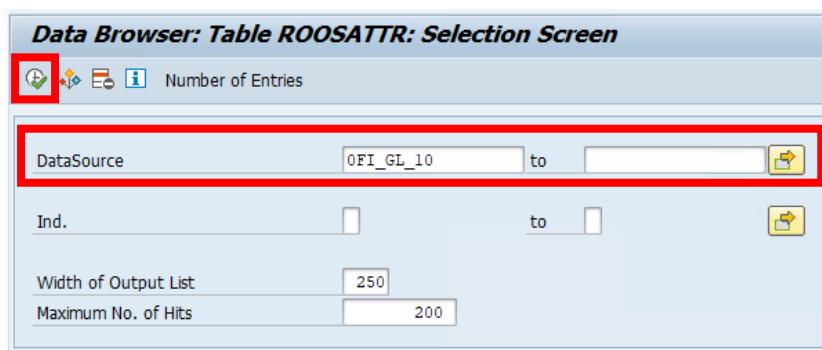
- ① Enter T-code "se16".



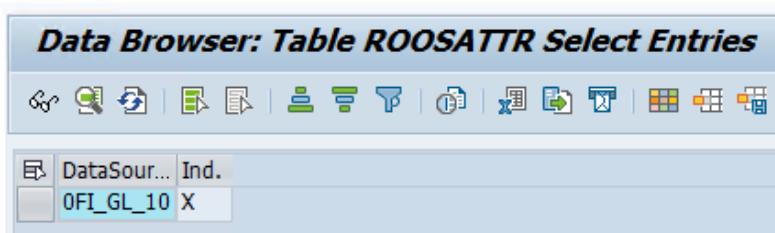
- ② Enter "ROOSATTR" in the [Table Name] field and click the [Table Contents] icon.



- ③ Enter the name of the data source to be searched in [DataSource] and click [Execute].



- ④ If the "X" flag is ON for the target data source as shown below, it indicates that ODP is enabled.



6 Activating Business Contents

To retrieve business content data on SAP with Qlik Replicate, business content must be enabled on the SAP side and configured for the data to be output. In addition, since the "Order to Cash," "Inventory Management," and "Procurement" packages use data in LO Cockpit, specific settings must also be made for these packages. This section describes those procedures.

6.1 List of data sources

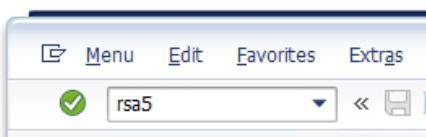
You will need to activate the data sources included in the attached, "Data Source List.xlsx," so check the list first.

- The data sources to be activated are different for "Order to Cash", "Inventory Management", "Finance" and "Procurement", each of which is listed in its own Excel tab. (All data sources are listed under "All").
- The seven data sources whose names begin with the letter Z, "ZTCURR_ATTR," "ZSP_STOCK_IND," "ZPO_REQLNS," "ZPUR_DOCTYPE_TEXT," "ZFAGL_011PC," "FAGL_011QT," and "FAGL_011ZC," are generic data sources to be created in the subsequent [7. Creating generic data sources \(RSO2\)](#) section, so they do not need to be activated here.
- "1_CO_PA_DS2" used in "Finance" is out of scope of the settings in this section. Refer to [Appendix 1: Setting up CO-PA in Finance](#).

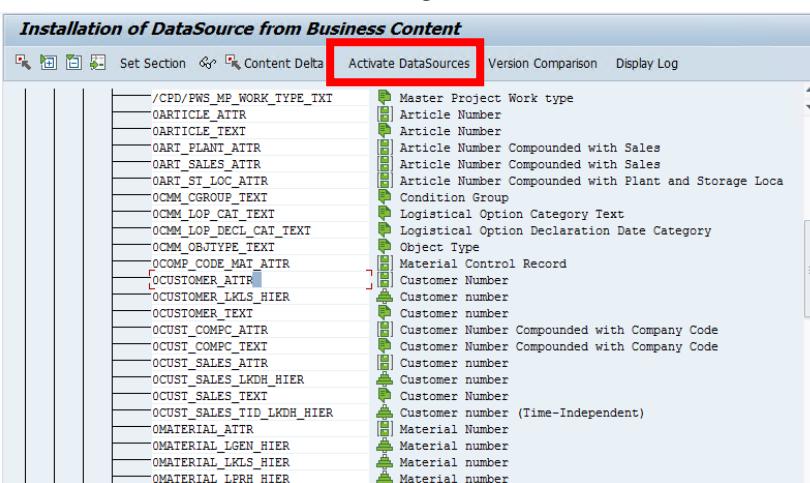
| A | B | C | D | E | F | G | H | I |
|----|------------------|---|-------------------------|------------------------------------|--------------|-----------|------|-------|
| NO | Datasource Name | Description in English | Description in Japanese | Hierarchy | Full / Delta | Delta Mod | Full | Delta |
| 1 | OGL_ACCOUNT_ATTR | G/L Account Master | 勘定コード | SAP-R/3 -> FI -> FI-IO | F, D | A | | ○ |
| 2 | OGL_ACCOUNT_TEXT | G/L Account Text | 勘定コード | SAP-R/3 -> FI -> FI-IO | F | | ○ | |
| 3 | OAC_DOC_TYP_TEXT | Document Type | 文書タイプ | SAP-R/3 -> FI -> FI-IO | F | | ○ | |
| 4 | 0FI_AR_4 | Accounts Receivable | 得意先: デルタ抽出による明細 | SAP-R/3 -> FI-AR | F, D | AIE | | ○ |
| 5 | OCUSTOMER_ATTR | Customer Master | 消費者 | SAP-R/3 -> LO -> LO-IO | F, D | NEWE | | ○ |
| 6 | OCUSTOMER_TEXT | Customer Text | 消費者 | SAP-R/3 -> LO -> LO-IO | F, D | A | | ○ |
| 7 | OMATERIAL_ATTR | Material Master | 品目コード | SAP-R/3 -> LO -> LO-IO | F, D | NEWE | | ○ |
| 8 | OMATERIAL_TEXT | Material Text | 品目コード | SAP-R/3 -> LO -> LO-IO | F, D | NEWE | | ○ |
| 9 | OMATL_CAT_TEXT | Material Category | 品目カテゴリ | SAP-R/3 -> MM -> MM-IO | F | | ○ | |
| 10 | OMATL_GROUP_TEXT | Material Group | 品目グループ | SAP-R/3 -> MM -> MM-IO | F | | ○ | |
| 11 | OEMPLOYEE_ATTR | Employee Master | 従業員 | SAP-R/3 -> PA -> PA-PA -> PA-PA-IO | F | | ○ | |
| 12 | 2LIS_11_V_ITM | Open Sales Order Lines | 販売・出荷割当明細データ | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 13 | 2LIS_11_V_SCL | Allocation Scheduled Lines | 販売・出荷割当納入日程行 | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 14 | 2LIS_11_V_SSL | Order Delivery Scheduled Lines | 販売伝票受注出荷 | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 15 | 2LIS_11_V_VHDR | Sales Document Header | 販売伝票ヘッダデータ | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 16 | 2LIS_11_VAITM | Sales Document Line Items | 販売伝票明細データ | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 17 | 2LIS_11_VAKON | Sales Document Header Conditions | 販売伝票条件 | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 18 | 2LIS_11_VASCL | Scheduled Line Items | 販売伝票納入日程行 | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 20 | 2LIS_11_VASTH | Sales Document Header Status | 販売伝票ヘッダステータス | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 21 | 2LIS_11_VASTI | Sales Document Line Item Status | 販売伝票明細ステータス | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 22 | 2LIS_12_VCHDR | Sales Delivery Header | 出荷伝票ヘッダデータ | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 23 | 2LIS_12_VCTIM | Sales Delivery Line Items | 出荷伝票明細データ | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 24 | 2LIS_13_VDHDR | Billing Document Header | 請求伝票ヘッダデータ | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 25 | 2LIS_13_VDITM | Billing Document Line Items | 請求伝票明細データ | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 26 | 2LIS_13_VDKON | Billing Item Conditions | 請求伝票条件 | SAP-R/3 -> SD | F, D | ABR | | ○ |
| 27 | ODISTR_CHAN_TEXT | Distribution Channel | 派遣チャネル | SAP-R/3 -> SD -> SD-IO | F | | ○ | |
| 28 | ODIVISION_TEXT | Division | 部門 | SAP-R/3 -> SD -> SD-IO | F | | ○ | |
| 29 | OMATL_TYPE_TEXT | Material Type | 品目タイプ | SAP-R/3 -> SD -> SD-IO | F | | ○ | |
| 30 | ORECIPCNTRY_TEXT | Customer Country | 仕向国 | SAP-R/3 -> SD -> SD-IO | F | | ○ | |
| 31 | OSENLES_GRP_TEXT | Sales Group | 営業グループ | SAP-R/3 -> SD -> SD-IO | F | | ○ | |
| 32 | OSENLES_OFF_TEXT | Sales Office Text | 営業所 | SAP-R/3 -> SD -> SD-IO | F | | ○ | |
| 33 | OSENLESORG_TEXT | Sales Organization | 販売組織 | SAP-R/3 -> SD -> SD-IO | F | | ○ | |
| 34 | ZTCURR_ATTR | Currency Exchange Rates (Table: TCURR) | 換算レート | | F | | ○ | |
| 35 | | | | | | | | |
| 36 | Blank | Delta Only Full Upload (ODS or InfoPackage Selection) | | | | | | |

6.2 Data source activation (RSA5)

- ① Enter the T-code "rsa5".

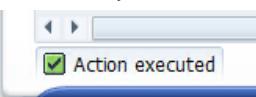


- ② Activate the data sources in the list one by one. Referring to the "Hierarchy" column in the list, find and select the target data source and click [Activate DataSources].

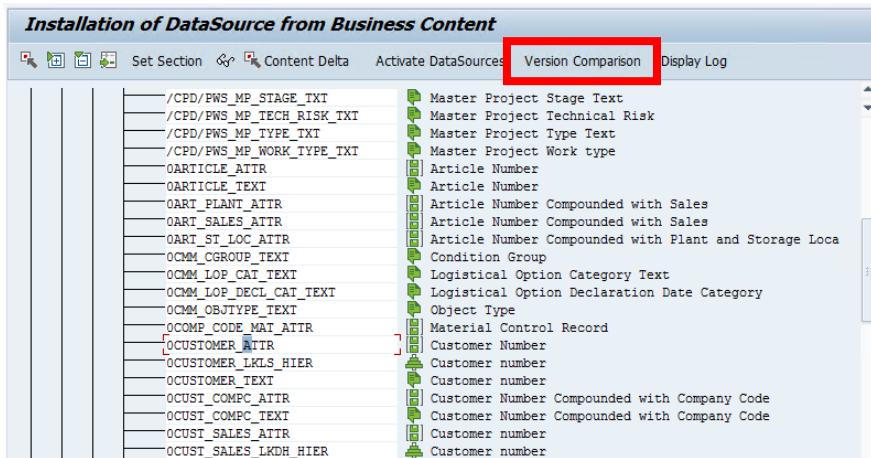


- ※ In the case where all the target nodes are placed in "NODESNOTCONNECTED" in the above screen, or if an "Application component does not exist" error is logged during activation, enter T-code "rsa9" and select "Yes" for "Do you want the content application Transfer Component Hierarchy?"

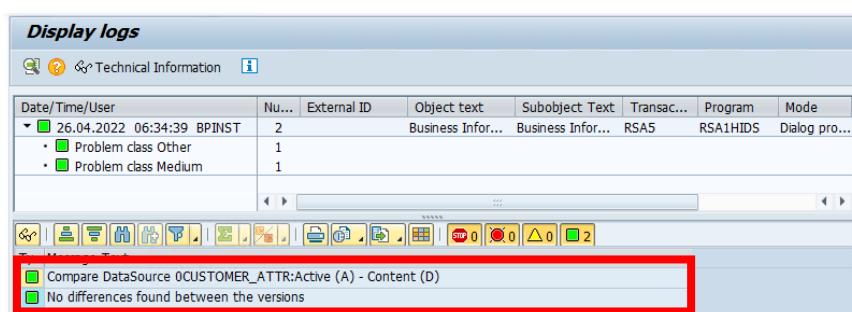
- ③ Verify that the data source has been activated.



- ④ Click on "Version Comparison" to see if the data source has been activated.

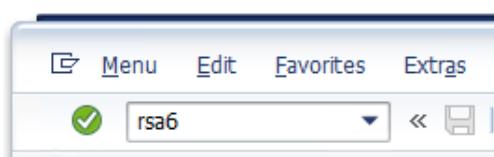


- ⑤ If the display looks like the following, it is activated.

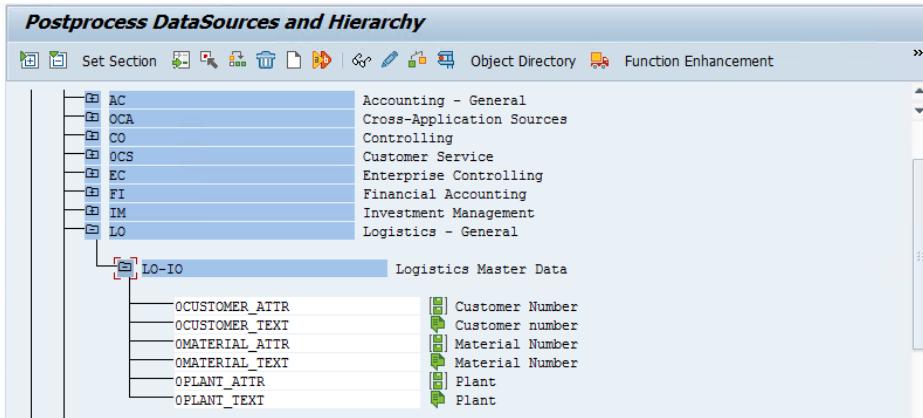


6.3 Review enabled data sources (RSA6)

- ③ To see a list of activated data sources, enter the T-code "rsa6".



- ④ The data sources displayed here are the activated data sources, so make sure all necessary data sources are displayed. Double-click on a data source to see its details.



- ⑤ Here you can see the name of the extract structure and the items it contains.

The screenshot shows the 'DataSource: Customer version Display' configuration screen. It includes sections for Header Data, Extraction, and Field Selection.

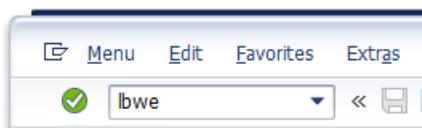
- Header Data:** Shows the DataSource as 'OCUSTOMER_ATTR', Package as '\$TMP', and Description as 'Customer Number'.
- Extraction:** Shows the ExtractStruct as 'BIW_KNA1_S', Direct Access as '1', and Delta Update as checked. There is also a checkbox for 'DataSource for Reconciliation' which is unchecked.
- Field Selection:** A table listing fields with checkboxes for Selection, Hide field, Inversion, and Field only.. The fields listed are: ABRVW, ADRNR, ANRED, AUFSD, BAHNE, BAHNS, BBBNR, BBSNR, BEGRU, BRAN1, BRAN2, BRAN3, and BRAN4. Most fields have the 'Hide field' checkbox checked.

6.4 Logistics data extraction setup (LBWE)

Configure the target source data extraction settings according to the following SAP Accelerator Packages types.

| SAP Accelerator Types | Target source data |
|-----------------------|--|
| Order to Cash | 11: SD Sales BW 12: LE Shipping BW 13: SD Billing BW |
| Inventory Management | 03: Inventory Controlling |
| Procurement | 02: Purchasing 06: Invoice Verification |

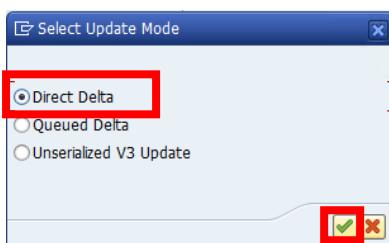
- ① Enter T-code "lbwe".



- ② Click "Update Mode" under "11: SD Sales BW".

| LO Data Extraction: Customizing Cockpit | | | | | |
|--|-----------|---------------|-------------|---------------------|----------|
| Source data | Structure | DataSource | Update | Update Mode | |
| ↳ Logistics applications | | | | | |
| ↳ 02 : Purchasing | | | Job Control | Queued Delta | |
| ↳ 03 : Inventory Controlling | | | Job Control | Unserialized V3 ... | |
| ↳ 04 : Shop Floor Control | | | Job Control | Queued Delta | |
| ↳ 05 : Quality Management | | | Job Control | Queued Delta | |
| ↳ 06 : Invoice Verification | | | Job Control | Direct Delta | |
| ↳ 08 : Shipment | | | Job Control | Queued Delta | |
| ↳ 11 : SD Sales BW | | | Job Control | Queued Delta | |
| ↳ Extract structures | | | | | |
| ↳ MC11VA0HDR: Extraction SD Sales BW: Document Head | Maint... | 2LIS_11_VAHD | Job Control | Queued Delta | Inactive |
| ↳ MC11VA0ITM: Extraction SD Sales BW: Document Item | Maint... | 2LIS_11_VAITM | Job Control | Queued Delta | Inactive |
| ↳ MC11VA0KON: Extraction SD Sales BW: Document Con | Maint... | 2LIS_11_VAKON | Job Control | Queued Delta | Inactive |
| ↳ MC11VA0SCL: Extraction SD Sales BW: Document Sche | Maint... | 2LIS_11_VASCL | Job Control | Queued Delta | Inactive |
| ↳ MC11VA0STH: Extraction MD Order Header Status | Maint... | 2LIS_11_VASTH | Job Control | Queued Delta | Inactive |
| ↳ MC11VA0STI: Extraction MD Order Item Status | Maint... | 2LIS_11_VASTI | Job Control | Queued Delta | Inactive |
| ↳ MC11V_0ITM: Extraction SD Sales BW: Document Item | Maint... | 2LIS_11_V_ITM | Job Control | Queued Delta | Inactive |
| ↳ MC11V_0SCL: Extraction SD Sales BW: Allocation Sched | Maint... | 2LIS_11_V_SCL | Job Control | Queued Delta | Inactive |
| ↳ MC11V_0SSL: Extraction MD Sales: Order Delivery | Maint... | 2LIS_11_V_SSL | Job Control | Queued Delta | Inactive |
| ↳ 12 : LE Shipping BW | | | Job Control | Queued Delta | |

- ③ Select "Direct Delta" and click [Continue].



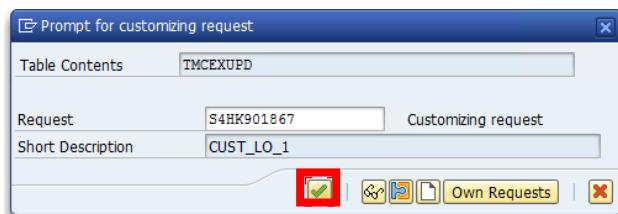
- ※ Additional settings are required when using Queued Delta or Unserialized V3 Update.

In that case, please refer to SAP documents such as [Setting up Delta Process for LO Extractors for First Time Using Queued Delta](#) for additional settings.

- ④ Click [Continue].



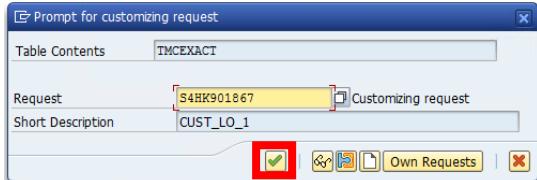
- ⑤ Click [Continue].



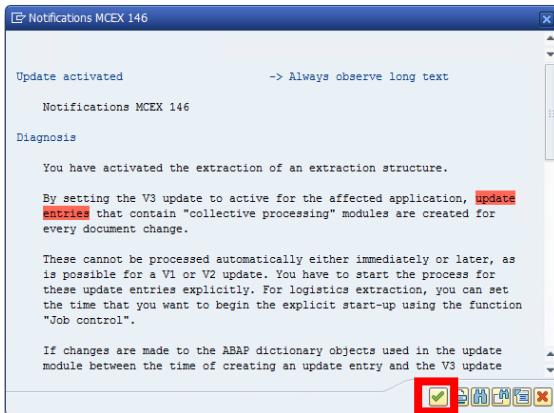
- ⑥ Now we activate the Extract structure. Click [Update] on the "Inactive" Extract structure.

| LO Data Extraction: Customizing Cockpit | | | | | | |
|---|-----------|------------------|-------------|---------------------|--|--|
| Source data | Structure | DataSource | Update | Update Mode | | |
| ↳ Logistics applications | | | | | | |
| ↳ 02 : Purchasing | | | Job Control | Queued Delta | | |
| ↳ 03 : Inventory Controlling | | | Job Control | Unserialized V3 ... | | |
| ↳ 04 : Shop Floor Control | | | Job Control | Queued Delta | | |
| ↳ 05 : Quality Management | | | Job Control | Queued Delta | | |
| ↳ 06 : Invoice Verification | | | Job Control | Direct Delta | | |
| ↳ 08 : Shipment | | | Job Control | Queued Delta | | |
| ↳ 11 : SD Sales BW | | | Job Control | Direct Delta | | |
| ↳ Extract structures | | | | | | |
| ↳ MC11VA0HDR: Extraction SD Sales BW: Document Header | Maint... | 2LIS_11_VAHD... | | Inactive | | |
| ↳ MC11VA0ITM: Extraction SD Sales BW: Document Item | Maint... | 2LIS_11_VAITM... | | Inactive | | |
| ↳ MC11VA0KON: Extraction SD Sales BW: Document Con... | Maint... | 2LIS_11_VAKON... | | Inactive | | |
| ↳ MC11VA0SCL: Extraction SD Sales BW: Document Sche... | Maint... | 2LIS_11_VASCL... | | Inactive | | |
| ↳ MC11VA0STH: Extraction MD Order Header Status | Maint... | 2LIS_11_VASTH... | | Inactive | | |
| ↳ MC11VA0STI: Extraction MD Order Item Status | Maint... | 2LIS_11_VASTI... | | Inactive | | |
| ↳ MC11V_0ITM: Extraction SD Sales BW: Document Item | Maint... | 2LIS_11_V_ITM... | | Inactive | | |
| ↳ MC11V_0SCL: Extraction SD Sales BW: Allocation Sched... | Maint... | 2LIS_11_V_SCL... | | Inactive | | |
| ↳ MC11V_0SSL: Extraction MD Sales: Order Delivery | Maint... | 2LIS_11_V_SSL... | | Inactive | | |
| ↳ LE Shipping BW | | | | Queued Delta | | |

⑦ [Click Continue.]



⑧ Click [Continue].



⑨ Confirm that all Extract structures have been activated.

| Source data | Structure | DataSource | Update | Update Mode |
|---|-----------|------------------|-------------|---------------------|
| Logistics applications | | | | |
| 02 : Purchasing | | | Job Control | Queued Delta |
| 03 : Inventory Controlling | | | Job Control | Unserialized V3 ... |
| 04 : Shop Floor Control | | | Job Control | Queued Delta |
| 05 : Quality Management | | | Job Control | Queued Delta |
| 06 : Invoice Verification | | | Job Control | Direct Delta |
| 08 : Shipment | | | Job Control | Queued Delta |
| 11 : SD Sales BW | | | Job Control | Direct Delta |
| Extract structures | | | | |
| MC1VA0HDR: Extraction SD Sales BW: Document Head | Maint... | 2LIS_11_VAHD... | | Active |
| MC1VA0ITM: Extraction SD Sales BW: Document Item | Maint... | 2LIS_11_VAITM... | | Active |
| MC1VA0KON: Extraction SD Sales BW: Document Com | Maint... | 2LIS_11_VAKON... | | Active |
| MC1VA05CL: Extraction SD Sales BW: Document Sche | Maint... | 2LIS_11_VASCL... | | Active |
| MC1VA05TH: Extraction MD Order Header Status | Maint... | 2LIS_11_VASTH... | | Active |
| MC1VA0STI: Extraction MD Order Item Status | Maint... | 2LIS_11_VASTI... | | Active |
| MC1V_0ITM: Extraction SD Sales BW: Document Item | Maint... | 2LIS_11_V_ITM... | | Active |
| MC1V_05CL: Extraction SD Sales BW: Allocation Sched | Maint... | 2LIS_11_V_SCL... | | Active |
| MC1V_05SL: Extraction MD Sales: Order Delivery | Maint... | 2LIS_11_V_SSL... | | Active |
| Events | | | Job Control | Queued Delta |
| 12 : LE Shipping BW | | | | |

- ⑤ In the same way, set Direct Delta in Update Mode and enable Extract Structure for "12: LE Shipping BW" and "13: SD Billing BW" (2LIS_12_VCSCL is not applicable).

| LO Data Extraction: Customizing Cockpit | | | | | |
|---|-----------|---------------|-------------|-------------|---------------------|
| Source data | Structure | DataSource | Update | Update Mode | |
| ↳ Logistics applications | | | | | |
| ↳ 02 : Purchasing | | | | Job Control | Queued Delta |
| ↳ 03 : Inventory Controlling | | | | Job Control | Unserialized V3 ... |
| ↳ 04 : Shop Floor Control | | | | Job Control | Queued Delta |
| ↳ 05 : Quality Management | | | | Job Control | Queued Delta |
| ↳ 06 : Invoice Verification | | | | Job Control | Direct Delta |
| ↳ 08 : Shipment | | | | Job Control | Queued Delta |
| ↳ 11 : SD Sales BW | | | | Job Control | Queued Delta |
| ↳ 12 : LE Shipping BW | | | | Job Control | Direct Delta |
| ↳ Extract structures | | | | | |
| ↳ MC12V0HDR: Extraction LE Shipping BW: Document H | Maint... | 2LIS_12_VCHDR | Job Control | Active | |
| ↳ MC12V0ITM: Extraction LE Shipping BW: Document It | Maint... | 2LIS_12_VCITM | Job Control | Active | |
| ↳ MC12V0SCL: Extraction LE Shipping BW: Schedule Line | Maint... | 2LIS_12_VCSCL | Job Control | Inactive | |
| ↳ 13 : SD Billing BW | | | | Job Control | Direct Delta |
| ↳ Extract structures | | | | | |
| ↳ MC13V0HDR: Extraction SD Billing Document BW: Doc | Maint... | 2LIS_13_VDHDR | Job Control | Active | |
| ↳ MC13V0ITM: Extraction SD Billing Document BW: Doc | Maint... | 2LIS_13_VDITM | Job Control | Active | |
| ↳ MC13V0KON: Extraction SD Billing Documents BW: Do | Maint... | 2LIS_13_VDKON | Job Control | Active | |
| ↳ Events | | | | | |
| ↳ 17 : Plant Maintenance BW | | | | Job Control | Queued Delta |

- ⑥ When using Inventory Management, "03: Inventory Controlling" also needs to be set to Direct Delta in Update Mode and enables Extract Structure in the same way.

| LO Data Extraction: Customizing Cockpit | | | | | |
|--|-----------|------------|-------------|-------------|--------------|
| Source data | Structure | DataSource | Update | Update Mode | |
| ↳ Logistics applications | | | | | |
| ↳ 02 : Purchasing | | | | Job Control | Queued Delta |
| ↳ 03 : Inventory Controlling | | | | Job Control | Direct Delta |
| ↳ Extract structures | | | | | |
| ↳ MC03BF0 : Extraction MM-BW: Goods Movements | Maint... | 2LIS_03_BF | Job Control | Active | |
| ↳ MC03UM0 : Extraction MM-BW: Stock Revaluations | Maint... | 2LIS_03_UM | Job Control | Active | |
| ↳ 04 : Shop Floor Control | | | | Job Control | Queued Delta |
| ↳ 05 : Quality Management | | | | Job Control | Queued Delta |

- ⑦ When using Procurement, "02: Purchasing" and "06: Invoice Verification" are also need to be set to Direct Delta in Update Mode and Extract Structure is enabled in the same way.

| LO Data Extraction: Customizing Cockpit | | | | | |
|--|-----------|-------------|-------------|-------------|--------------|
| Source data | Structure | DataSource | Update | Update Mode | |
| ↳ Logistics applications | | | | | |
| ↳ 02 : Purchasing | | | | Job Control | Direct Delta |
| ↳ Extract structures | | | | | |
| ↳ MC02M_0ACC: Extraction Purchasing (Account) | Maint... | 2LIS_02_ACC | Job Control | Active | |
| ↳ MC02M_0CGR: Produced Activity: Delivery of Confirmation | Maint... | 2LIS_02_CGR | Job Control | Active | |
| ↳ MC02M_0HDR: Extraction Purchasing (Header) | Maint... | 2LIS_02_HDR | Job Control | Active | |
| ↳ MC02M_0ITM: Extraction Purchasing (Item) | Maint... | 2LIS_02_ITM | Job Control | Active | |
| ↳ MC02M_0SCL: Extraction Purchasing (Schedule Line) | Maint... | 2LIS_02_SCL | Job Control | Active | |
| ↳ MC02M_0SCN: Produced Activity: Confirmation of Schedule Line | Maint... | 2LIS_02_SCN | Job Control | Active | |
| ↳ MC02M_0SGR: Produced Activity: Delivery of Schedule Line | Maint... | 2LIS_02_SGR | Job Control | Active | |

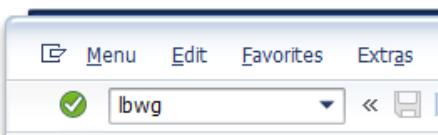
| LO Data Extraction: Customizing Cockpit | | | | | |
|---|-----------|-------------|-------------|--------------|--|
| Source data | Structure | DataSource | Update | Update Mode | |
| ↳ Logistics applications | | | | | |
| ↳ 02 : Purchasing | | | Job Control | Direct Delta | |
| ↳ 03 : Inventory Controlling | | | Job Control | Direct Delta | |
| ↳ 04 : Shop Floor Control | | | Job Control | Queued Delta | |
| ↳ 05 : Quality Management | | | Job Control | Queued Delta | |
| ↳ 06 : Invoice Verification | | | Job Control | Direct Delta | |
| ↳ Extract structures | | | | | |
| ↳ MC06M_0ITM: Extraction Structure BW | Maint... | 2LIS_06_INV | | Active | |
| ↳ Events | | | | | |

6.5 Delete data in setup table (LBWG)

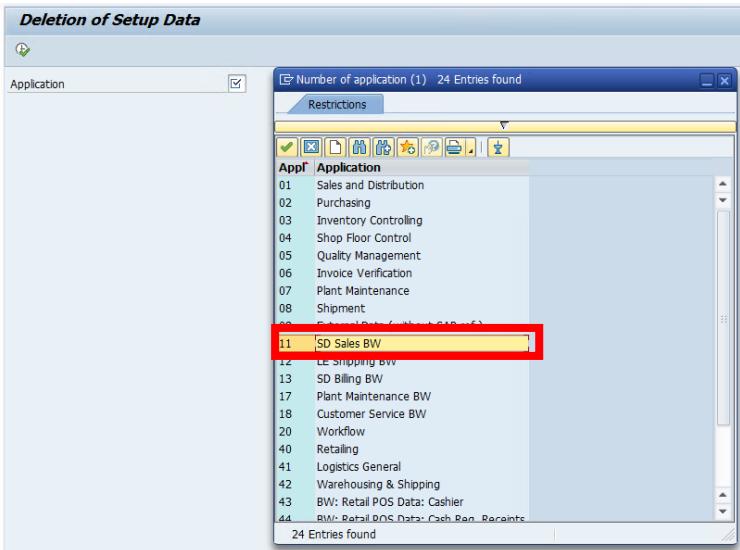
To extract the full data of LO Cockpit, you need to prepare the data in the setup table in advance. Before filling the setup tables, you delete the data already contained in the setup table. Delete the data of appropriate setup tables according to the following SAP Accelerator types.

| SAP Accelerator Types | setup data |
|-----------------------|--|
| Order to Cash | 11: SD Sales BW 12: LE Shipping BW 13: SD Billing BW |
| Inventory Management | 03: Inventory Controlling |
| Procurement | 02: Purchasing 06: Invoice Verification |

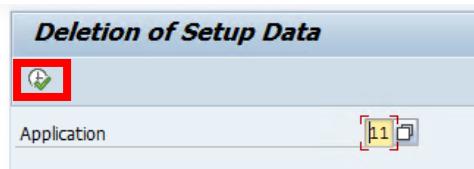
- ① Enter T-code "lbwg".



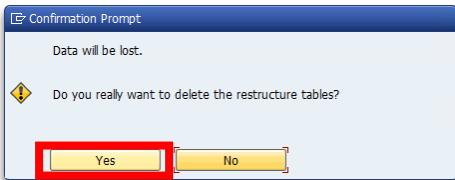
- ② Select "11: SD Sales BW" in [Application].



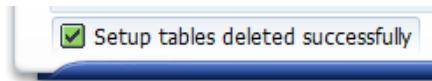
- ③ Click [Execute].



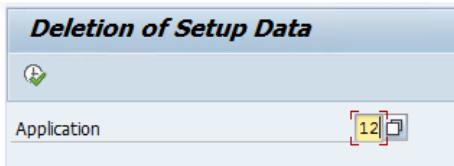
- ④ Click [Yes].



- ⑤ Confirm that the execution completes without problems.



- ⑥ Repeat the same procedure for “12: LE Shipping BW”, “13: SD Billing BW”, “03: Inventory Controlling” if you use Inventory Management”, and “02: Purchasing” if you use Procurement.

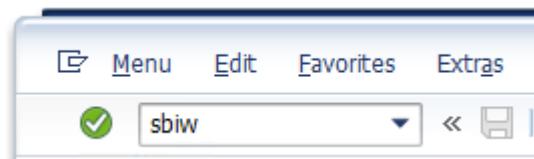


6.6 Initialize and rebuild setup table data (SBIW)

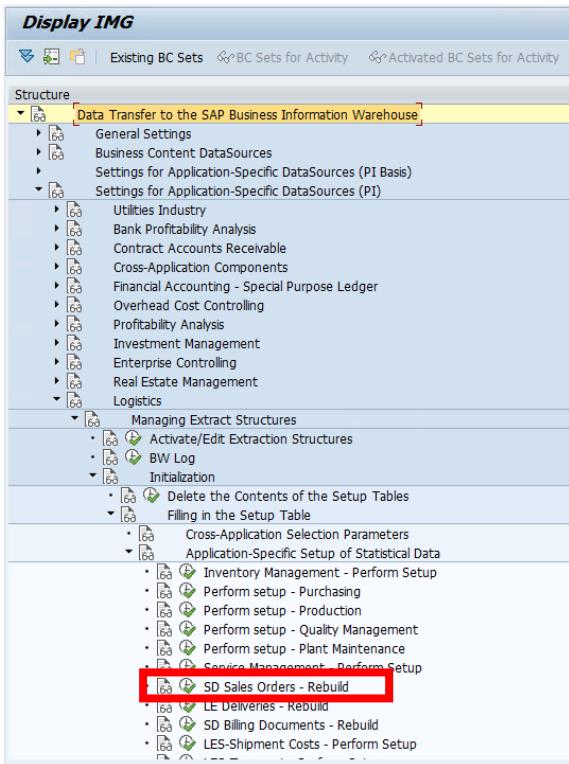
Initialize and rebuild the target setup data according to the following SAP Accelerator Packages types. This process stores the data in the setup table so that the LO Cockpit data is retrieved by the full load process from Qlik Replicate.

| SAP Accelerator Types | setup data |
|-----------------------|---|
| Order to Cash | SD Sales Orders LE Deliveries SD Billing Document |
| Inventory Management | Inventory Management |
| Procurement | Purchasing Invoice Verification |

- ① Enter T-code "sbiw".



- ② Open [Settings for Application-Specific Datasources(PI)]>[Logistics]>[Managing Extract Structures]>[Initialization]>[Filling in the Setup Table]>[Application-specific Setup of Statistical Data] and click [SD Sales Orders - Rebuild].



- ※ If the error "No extraction structure active or no BW connected" occurs during the above process, please check the following two points. Please refer to [SAP Note: 2386514](#) for details.

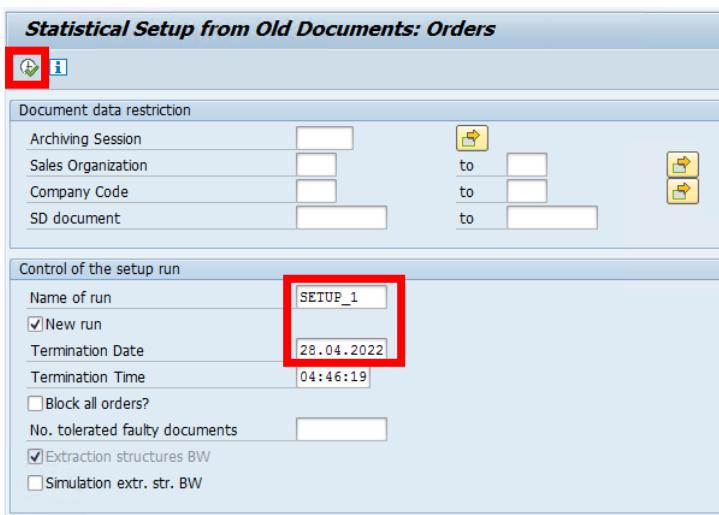


- 1) Please double check that all Extract Structures described in [6.4 Logistics data extraction setup \(LBWE\)](#) are enabled.
- 2) Once you have verified that the above activation has taken place, follow the procedure described in [8 Confirmation of data source extraction via ODP](#) to run a data extraction check for each logistics application that failed, against one of the extraction structures included in that application. Listed below are examples of

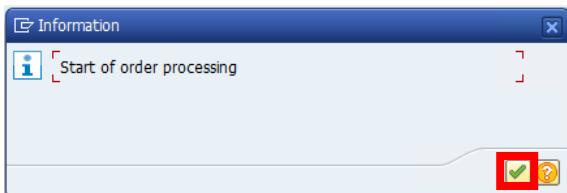
extraction structures included in each logistics application. After confirmation, perform the setup data initialization process again.

| Types of logistics applications | Example of Extraction Structure |
|-------------------------------------|---------------------------------|
| Order to Cash: SD Sales Orders | 2LIS_11_VAHDR |
| Order to Cash: LE Deliveries | 2LIS_12_VCHDR |
| Order to Cash : SD Billing Document | 2LIS_13_VDHDR |
| Inventory Management | 2LIS_03_BF |
| Procurement | 2LIS_02_HDR |

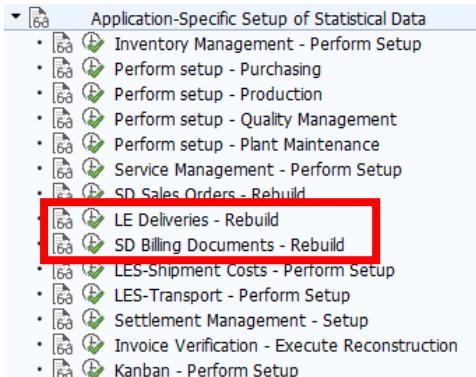
- ③ Set [Name of run] and [Termination Date] and click [Execute].



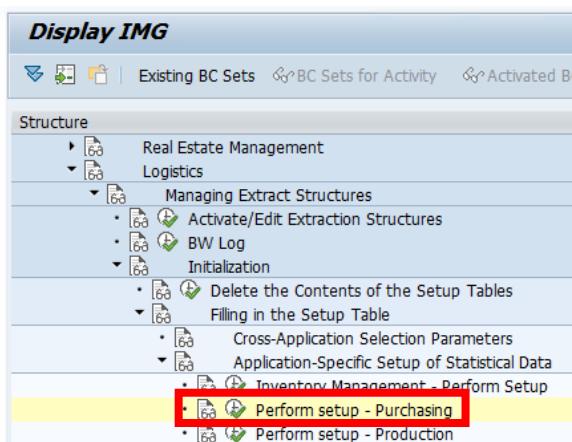
- ④ Click [Continue].



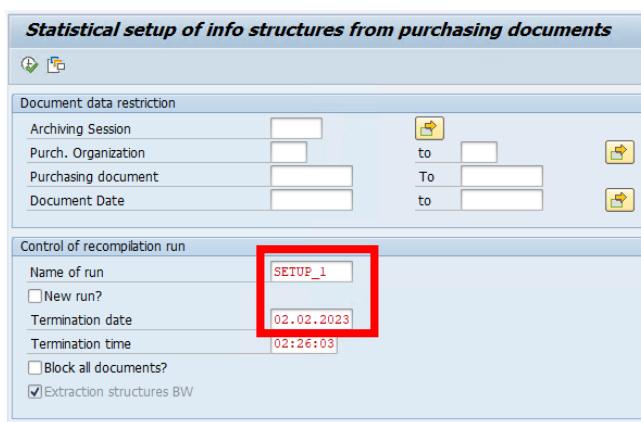
⑤ Repeat the same procedure for "LE Deliveries" and "SD Billing Document".



⑥ When you use Procurement, click [Perform setup – Purchasing].



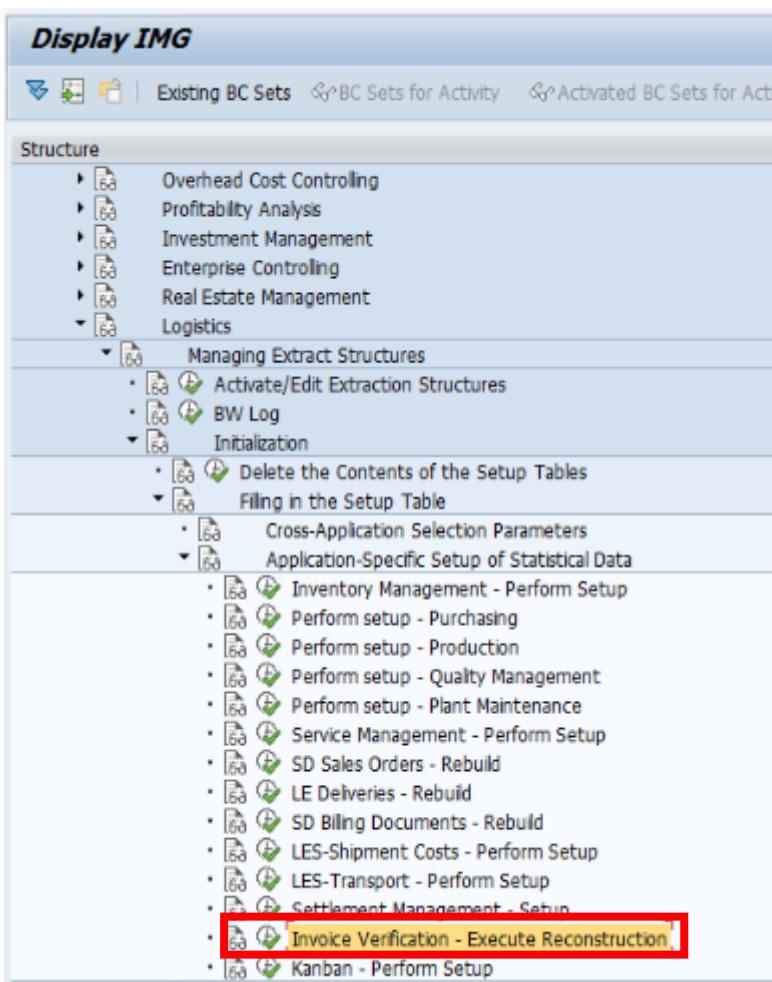
⑦ Set [Name of run] and [Termination Date] and click [Execute].



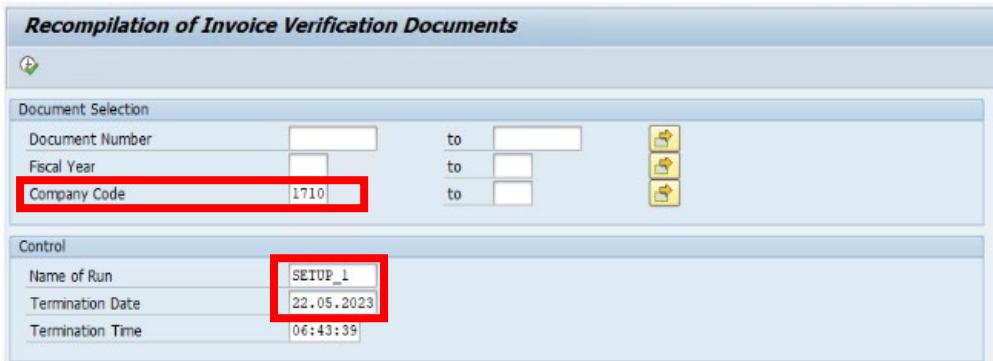
⑧ Click [Continue].



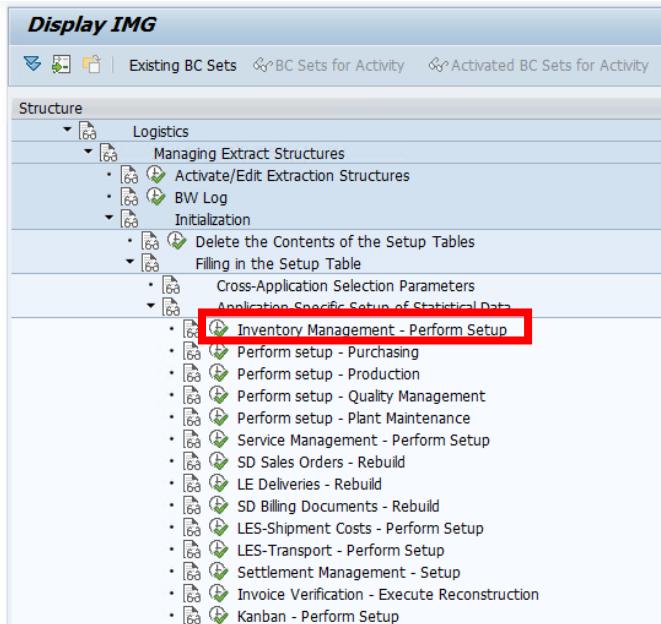
⑨ When you use Procurement, continue and click "Invoice Verification - Execute Reconstruction".



- ⑩ Enter the [Company Code] (and other selection criteria if necessary), set the [Name of run] and [Termination Date] and click [Execute].



- ⑪ When you use Inventory Management, click [Inventory Management - Perform Setup].



- ⑫ Click [Setup : Material Movements]. (This is a setup for the data source "2LIS_03_BF".)



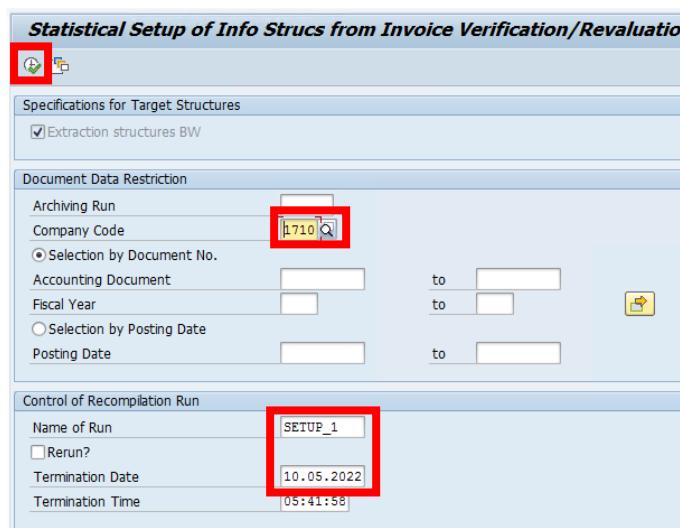
- ⑬ Set [Name of run] and [Termination Date] and click [Execute].

The screenshot shows a dialog box titled 'New Setup for Info Structures from Material Movements'. It has several sections: 'Specifications for the target structures' (with a checked checkbox for 'Extraction structures BW'), 'Document data restriction' (with options for 'Archiving run', 'Selection by posting date' (selected), 'Posting Date' and 'to' fields, and 'Selection by material doc.'), and 'Control of recompilation run'. In the 'Control of recompilation run' section, the 'Name of run' field contains 'SETUP_1' (highlighted with a red box), the 'Termination Date' field contains '10.05.2022' (highlighted with a red box), and the 'Termination Time' field contains '05:37:43'. There are also checkboxes for 'Rerun?' and another one that is not clearly legible.

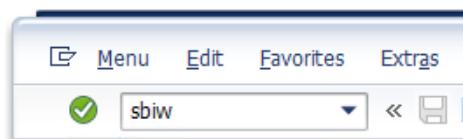
- ⑭ Return to the previous screen and click on [Setup : Invoice Verification, Revaluation].
 (This is a setup for the data source "2LIS_03_UM".)



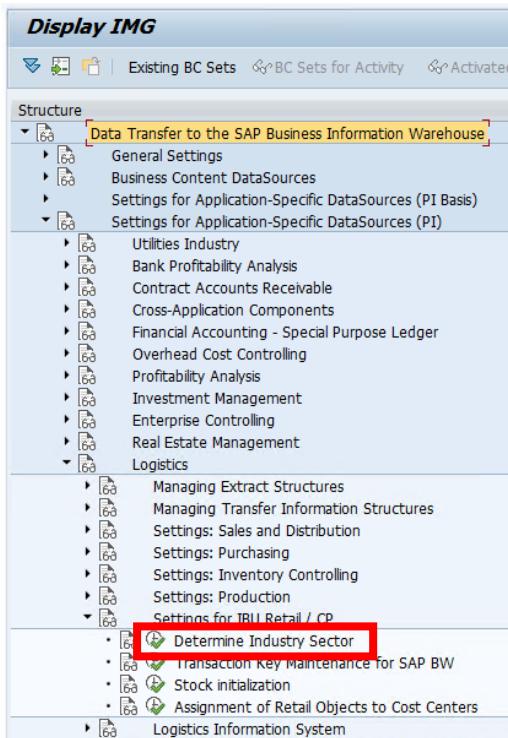
- ⑮ Set [Company Code], [Name of run], and [Termination Date] and click [Execute].



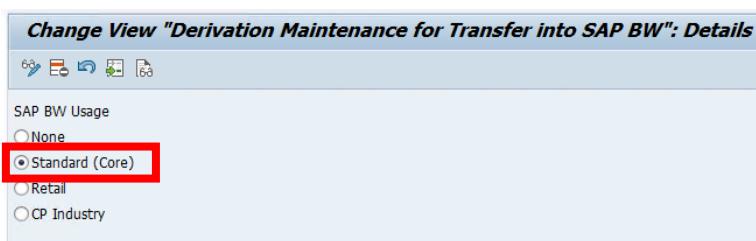
- ⑯ When you use Inventory, reopen the top screen of T-code "sbiw".



- ⑯ Open [Settings for Application-Specific Datasources(PI)]>[Logistics]>[Settings for IBU Retail/CP] and click [Determine Industry Sector]. (This will be the setting for the data source "2LIS_03_BX").



- ⑰ Select [Standard(Core)] and save.



- ⑲ Enter T-code "mcnb".



- ②⓪ Set "2LIS_03_BX" in [TransferStructure], select [All stocks] and click [Execute].

BW: Initialization of opening stocks in transfer structure

General control info

| | | |
|---------------------|------------|---|
| Name of run | BPINST | <input checked="" type="checkbox"/> New run |
| Termination date | 06.05.2023 | |
| Time of termination | 13:04:21 | 5000 No. of data recs per LUW |

Data destination info

| | |
|-------------------|------------|
| TransferStructure | 2LIS_03_BX |
|-------------------|------------|

Data source info

| | | |
|------------------|----|-----|
| Plant | to | [] |
| Material | to | [] |
| Storage Location | to | [] |

Only Valuated Stocks
 All stocks (including non-valuated stocks)
 Zero stock to be transferred

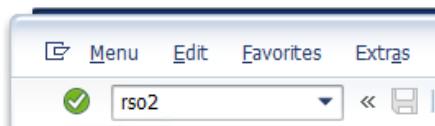
7 Creating generic data source (RSO2)

The generic data source required depends on the type of SAP Accelerator Package. Create the required generic data source according to the table below.

| SAP Accelerator Types | generic data source | source table |
|-----------------------|---------------------|--------------|
| Order to Cash | ZTCURR_ATTR | TCURR |
| Finance | | |
| Procurement | | |
| Finance | ZFAGL_011QT | FAGL_011QT |
| | ZFAGL_011PC | FAGL_011PC |
| | ZFAGL_011ZC | FAGL_011ZC |
| Inventory Management | ZSP_STOCK_IND | T148T |
| Procurement | ZPO_REQLNS | EBAN |
| | ZPUR_DOCTYPE_TEXT | T161T |

7.1 ZTCURR_ATTR

- ① Enter T-code "rso2".



- ② Enter "ZTCURR_ATTR" in the [Transaction data] field and click [Create].

A screenshot of the 'Maintain Generic DataSources' screen. The title bar says 'Maintain Generic DataSources'. Below it is a toolbar with a trash can icon. The main area is titled 'DataSource' and contains three radio button options: 'Transaction data' (selected), 'Master Data Attributes', and 'Texts'. The 'Transaction data' field is highlighted with a red box and contains the value 'ZTCURR_ATTR'. At the bottom of the screen are three buttons: 'Create' (highlighted with a red box), 'Change', and 'Display'.

- ③ Enter the following and click [Generic Delta].

Create DataSource for Trans. Data: ZTCURR_ATTR

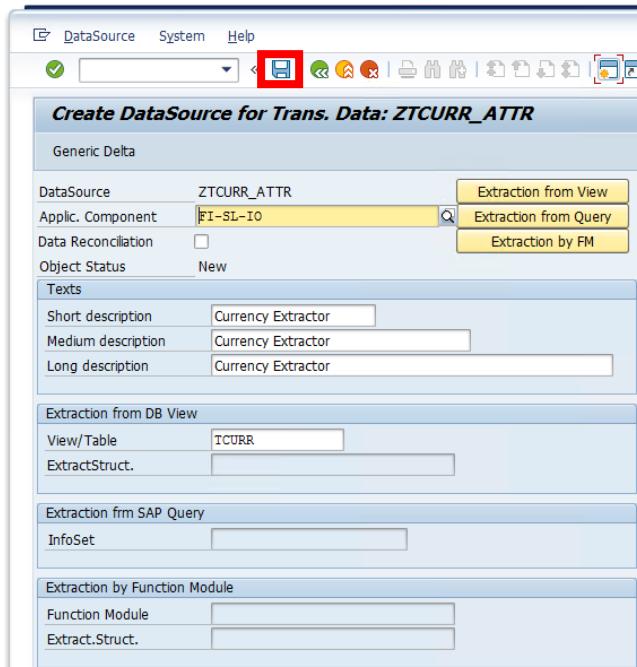
| | | |
|--------------------------------------|--------------------------|-----------------------|
| Generic Delta | | |
| DataSource | ZTCURR_ATTR | Extraction from View |
| Appl. Component | FI-SL-IO | Extraction from Query |
| Data Reconciliation | <input type="checkbox"/> | Extraction by FM |
| Object Status | New | |
| Texts | | |
| Short description | Currency Extractor | |
| Medium description | Currency Extractor | |
| Long description | Currency Extractor | |
| Extraction from DB View | | |
| View/Table | TCURR | |
| ExtractStruct. | | |
| Extraction from SAP Query | | |
| InfoSet | | |
| Extraction by Function Module | | |
| Function Module | | |
| Extract.Struct. | | |

- ④ Enter and save the following

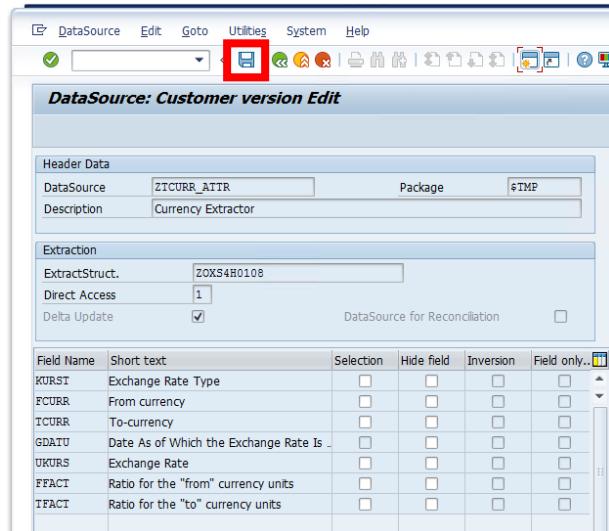
Generic Delta

| | |
|---|-------------|
| DataSource | ZTCURR_ATTR |
| Delta-Specific Field | |
| Field | GDATU |
| <input type="radio"/> Time Stamp (UTC) <input type="radio"/> Time Stamp (Local) <input checked="" type="radio"/> Calend. Day <input type="radio"/> Numeric Pointer | |
| Settings | |
| Safety Interval Upper Limit | |
| Safety Interval Lower Limit | |
| <input type="checkbox"/> Real-Time Enabl | |
| <input type="radio"/> New State for Changed Records <input type="radio"/> Additive Delta | |
| <input type="button" value="Save"/> <input type="button" value="Cancel"/> <input type="button" value="Delete"/> | |

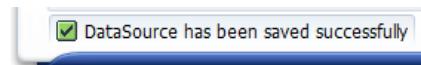
⑤ Click [Save].



⑥ Click [Save] again.



⑦ Confirm that the process has been completed without problems.

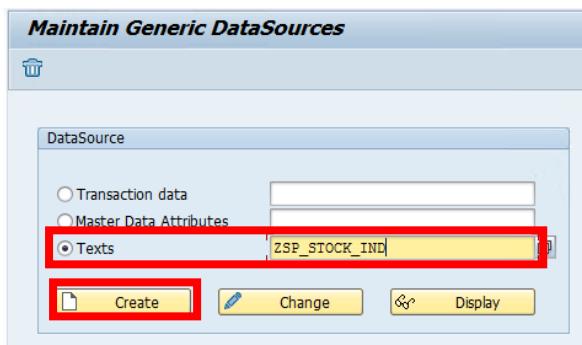


7.2 ZSP_STOCK_IND

- ① Enter T-code "rso2".



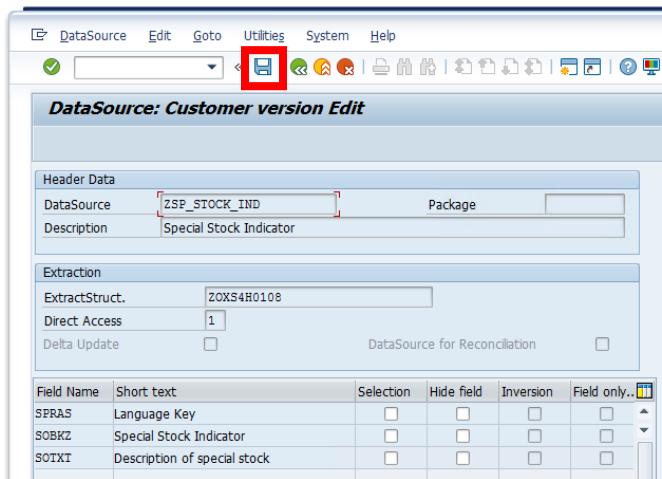
- ② Enter "ZSP_STOCK_IND" in [Texts] and click [Create].



- ③ Enter and save the following:

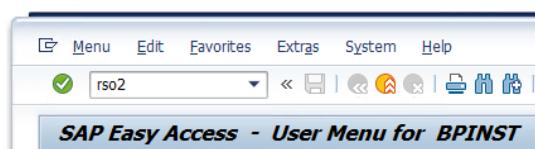
A screenshot of the 'Create DataSource for Texts: ZSP_STOCK_IND' configuration screen. The 'Generic Delta' section contains: DataSource 'ZSP_STOCK_IND', Appl. Component 'MM-IO', Data Reconciliation checked, Object Status 'New'. To the right are four extraction methods: 'Extraction from View', 'Extraction from Query', 'Extraction by FM', and 'Extraction fr.Domain'. The 'Texts' section contains: Short description 'Special Stock Ind', Medium description 'Special Stock Indicator', Long description 'Special Stock Indicator'. The 'Extraction from DB View' section contains: View/Table 'T148T', ExtractStruct. empty. The 'Extraction from SAP Query' section contains: InfoSet empty. The 'Extraction by Function Module' section contains: Function Module empty, Extract.Struct. empty. The 'Extraction from Domain Fixed Values' section contains: Domain empty.

- ④ Click [Save] again.

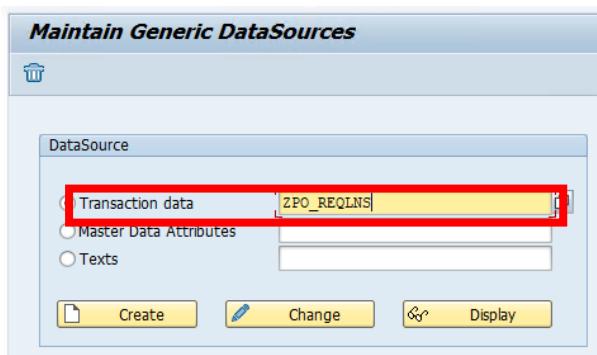


7.3 ZPO_REQLNS

- ① Enter T-code "rso2".



- ② Enter "ZPO_REQLNS" in [Transaction data] and click [Create].



③ Enter and save the following:

Create DataSource for Trans. Data: ZPO_REQLNS

| | | |
|-------------------------------|--------------------------|-----------------------|
| Generic Delta | | |
| DataSource | ZPO_REQLNS | Extraction from View |
| Appl. Component | MM | Extraction from Query |
| Data Reconciliation | <input type="checkbox"/> | Extraction by FM |
| Object Status | New | |
| Texts | | |
| Short description | ZPO | |
| Medium description | ZPO | |
| Long description | ZPO | |
| Extraction from DB View | | |
| View/Table | EBAN | |
| ExtractStruct. | | |
| Extraction from SAP Query | | |
| InfoSet | | |
| Extraction by Function Module | | |
| Function Module | | |
| Extract.Struct. | | |

④ Click [Save] again.

DataSource: Customer version Edit

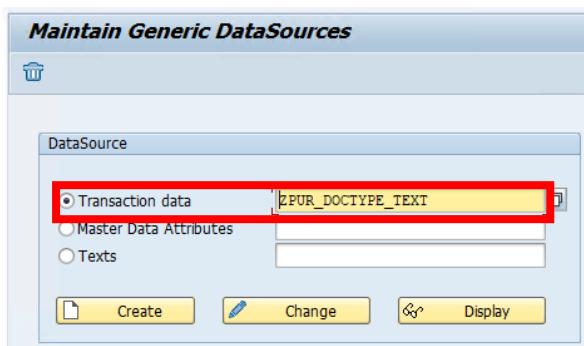
| | | | | | |
|----------------|-------------------------------------|--|--------------------------|--------------------------|--------------------------|
| DataSource | ZPO_REQLNS | Package | | | |
| Description | ZPO | | | | |
| Extraction | | | | | |
| ExtractStruct. | Z0XS4B0107 | | | | |
| Direct Access | 1 | | | | |
| Delta Update | <input type="checkbox"/> | DataSource for Reconciliation <input type="checkbox"/> | | | |
| Field Name | Short text | Selection | Hide field | Inversion | Field only.. |
| BANFN | Purchase Requisition Number | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| BNFPO | Item number of purchase requisition | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| BSART | Purchase Requisition Document Type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

7.4 ZPUR_DOCTYPE_TEXT

① Enter T-code "rso2".

SAP Easy Access - User Menu for BPINST

- ② Enter "ZPUR_DOCTYPE_TEXT" in the [Transaction data] field and click [Create].



- ③ Enter and save the following:

Create DataSource for Trans. Data: ZPUR_DOCTYPE_TEXT

| | |
|---|-----------------------|
| Generic Delta | |
| DataSource: ZPUR_DOCTYPE_TEXT | Extraction from View |
| Appl. Component: MM | Extraction from Query |
| Data Reconciliation: <input type="checkbox"/> | Extraction by FM |
| Object Status: New | |
| Texts | |
| Short description: ZPUR_DOCTYPE_TEXT | |
| Medium description: ZPUR_DOCTYPE_TEXT | |
| Long description: ZPUR_DOCTYPE_TEXT | |
| Extraction from DB View | |
| View/Table: T161T | |
| ExtractStruct. | |
| Extraction from SAP Query | |
| InfoSet | |
| Extraction by Function Module | |
| Function Module | |
| Extract.Struct. | |

- ④ Click [Save] again.

DataSource: Customer version Edit

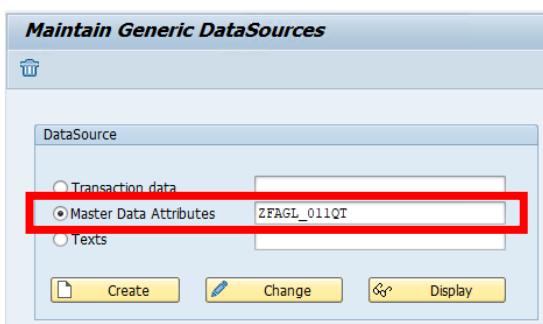
| Header Data | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------------|--------------------------|--------------------------|--------------------------|-----------|--------------|-------|--------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| DataSource: ZPUR_DOCTYPE_TEXT | Package: <input type="text"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| Description: ZPUR_DOCTYPE_TEXT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extraction | | | | | | | | | | | | | | | | | | | | | | | | | |
| ExtractStruct.: ZOXS4H0108 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Direct Access: 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Delta Update: <input type="checkbox"/> | DataSource for Reconciliation: <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Field Name</th> <th>Short text</th> <th>Selection</th> <th>Hide field</th> <th>Inversion</th> <th>Field only..</th> </tr> </thead> <tbody> <tr> <td>SPRAS</td> <td>Language Key</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>BSART</td> <td>Purchasing Document Type</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>BSTYP</td> <td>Purchasing Document Category</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> | | Field Name | Short text | Selection | Hide field | Inversion | Field only.. | SPRAS | Language Key | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | BSART | Purchasing Document Type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | BSTYP | Purchasing Document Category | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Field Name | Short text | Selection | Hide field | Inversion | Field only.. | | | | | | | | | | | | | | | | | | | | |
| SPRAS | Language Key | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | |
| BSART | Purchasing Document Type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | |
| BSTYP | Purchasing Document Category | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | |

7.5 ZFAGL_011QT

- ① Enter T-code "rso2".



- ② Enter "ZFAGL_011QT" in the [Master data] field and click [Create].

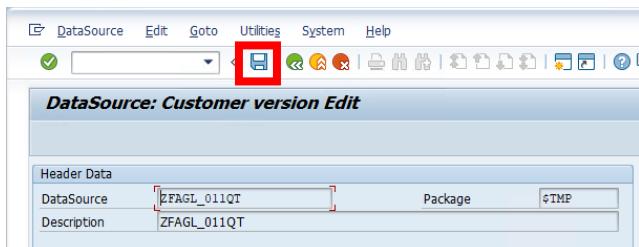


- ③ Enter and save the following:

A screenshot of the 'Create DataSource for Master data attrs: ZFAGL_011QT' configuration screen. The screen is divided into several sections:

- Generic Delta**: Contains fields for 'DataSource' (ZFAGL_011QT), 'Applc. Component' (FI-GL-IO), 'Data Reconciliation' (unchecked), and 'Object Status' (New). It also includes extraction methods: 'Extraction from View' (yellow), 'Extraction from Query' (yellow), and 'Extraction by FM' (yellow).
- Texts**: Contains fields for 'Short description' (ZFAGL_011QT), 'Medium description' (ZFAGL_011QT), and 'Long description' (ZFAGL_011QT).
- Extraction from DB View**: Contains 'View/Table' (FAGL_011QT) and 'ExtractStruct.' (empty input field).
- Extraction from SAP Query**: Contains 'InfoSet' (empty input field).
- Extraction by Function Module**: Contains 'Function Module' (empty input field) and 'Extract.Struct.' (empty input field).

④ Click [Save] again.

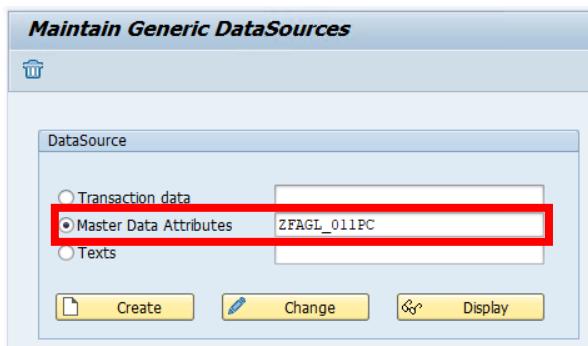


7.6 ZFAGL_011PC

① Enter T-code "rso2".



② Enter "ZFAGL_011PC" in the [Master data] field and click [Create].



- ③ Enter and save the following:

Create DataSource for Master data attrs: ZFAGL_011PC

| | | |
|-------------------------------|--------------------------|-----------------------|
| Generic Delta | | |
| DataSource | ZFAGL_011PC | Extraction from View |
| Applc. Component | FI-GL-IO | Extraction from Query |
| Data Reconciliation | <input type="checkbox"/> | Extraction by FM |
| Object Status | New | |
| Texts | | |
| Short description | ZFAGL_011PC | |
| Medium description | ZFAGL_011PC | |
| Long description | ZFAGL_011PC | |
| Extraction from DB View | | |
| View/Table | FAGL_011PC | |
| ExtractStruct. | | |
| Extraction frm SAP Query | | |
| InfoSet | | |
| Extraction by Function Module | | |
| Function Module | | |
| Extract.Struct. | | |

- ④ Click [Save] again.

DataSource: Customer version Edit

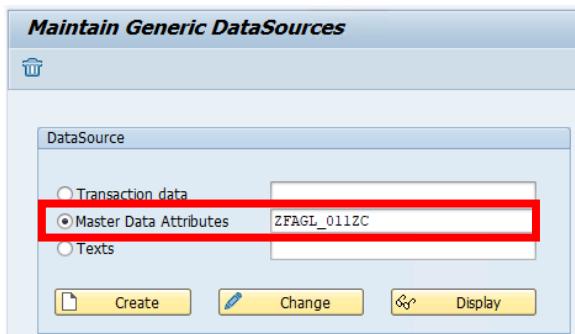
| | | | |
|-------------|-------------|---------|--|
| Header Data | | | |
| DataSource | ZFAGL_011PC | Package | |
| Description | ZFAGL_011PC | | |

7.7 ZFAGL_011ZC

- ① Enter T-code "rso2".

SAP Easy Access - User Menu for BPINST

- ② Enter "ZFAGL_011ZC" in the [Master data] field and click [Create].

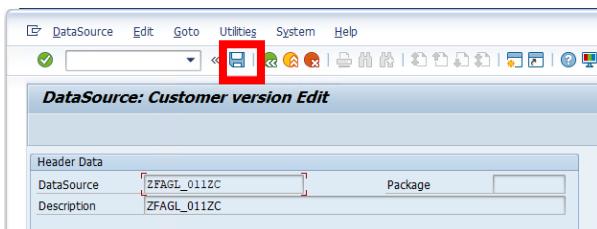


- ③ Enter and save the following:

This screenshot shows the configuration details for the newly created DataSource 'ZFAGL_011ZC'. The configuration includes:

- Generic Delta** section:
 - DataSource: ZFAGL_011ZC
 - Appl. Component: FI-GL-IO
 - Data Reconciliation:
 - Object Status: New
- Texts** section:
 - Short description: ZFAGL_011ZC
 - Medium description: ZFAGL_011ZC
 - Long description: ZFAGL_011ZC
- Extraction from DB View** section:
 - View/Table: FAGL_011ZC
 - ExtractStruct.:
- Extraction from SAP Query** section:
 - InfoSet:
- Extraction by Function Module** section:
 - Function Module:
 - Extract.Struct.:

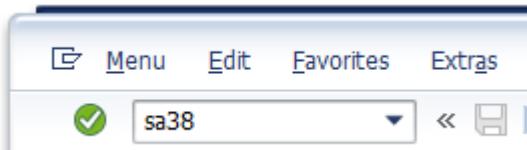
- ④ Click [Save] again.



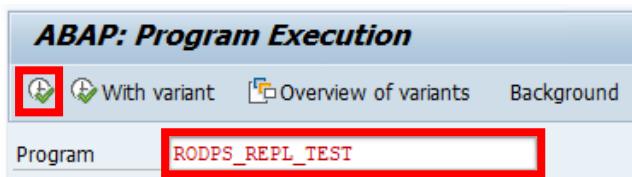
8 Confirmation of data source extraction via ODP

To verify the extraction of data sources via the ODP, the following steps are performed for each target data source.

- ① Enter transaction code "sa38".



- ② Enter "RODPS_REPL_TEST" in [Program] and click [Execute].



- ③ Select "DataSources/Extractors" from [ODP Context], select the data source name in [ODP Name], Full or Delta mode in [Replication Mode], and click [Execute].

The screenshot shows the 'Extract Data (Warning: Not Simulated)' dialog. The configuration includes:

- General Settings:** ODP Context is set to 'DataSources/Extractors', ODP Name is '2LIS_11_VAHDR', and Replication Mode is 'Extraction of All Data (Full)'.
- Selection and Projection:** Selections are set to '<All>'.
- Read Open Pointer:** An empty input field.
- Settings for Execution:** Parallel Extraction Using ODQ is selected.
- Output:** ALV List (XML) is selected as the output format. Other options include ALV List (XString), Classic List (XString), Without Data Transfer, Hierarchy Leveling, Max. Number of Displayed Rows (set to 1.000), Package Size in MB (0=Default), and Old Types (DATS not DATN).

- ④ If the data is successfully extracted, it will be displayed.

| Extract Data with/from {2023-04-17 08:15:20 000005 UTC} | | | | | | | | | | | | | | | | | | | | | | |
|---|-------|-------|------|-------|-------|-------------|-----------|------------|--------|-------|-------|-------|-------|-------|--------|--------|-------------|-------|--------|-------|-------|----|
| R(VBELN | ANGDT | AUA.. | AU.. | BNDDT | BUK.. | ERDAT | FAFHWA... | KUNNR | KUR... | KV... | KV... | KV... | KV... | LI... | PVRTNR | STW... | VBT... | VDATU | VKB... | VK... | VKO.. | VT |
| 0000000002 | TA | | | | 1710 | 06.10.20... | USD | 0017100003 | | | | | | | USD | C | 06.10.20... | | 1710 | 10 | ▲ | |
| 0000000004 | TA | | | | 1710 | 08.10.20... | USD | USCU_L10 | | | | | | | USD | C | 08.10.20... | | 1710 | 10 | ▼ | |
| 0000000022 | TA | | | | 1710 | 08.10.20... | USD | USCU_S07 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000023 | TA | | | | 1710 | 08.10.20... | USD | USCU_S03 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000024 | TA | | | | 1710 | 08.10.20... | USD | USCU_S15 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000025 | TA | | | | 1710 | 08.10.20... | USD | USCU_L04 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000026 | TA | | | | 1710 | 08.10.20... | USD | USCU_L02 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000027 | TA | | | | 1710 | 08.10.20... | USD | USCU_L09 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000028 | TA | | | | 1710 | 08.10.20... | USD | USCU_S05 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000029 | TA | | | | 1710 | 08.10.20... | USD | USCU_S17 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000030 | TA | | | | 1710 | 08.10.20... | USD | USCU_L03 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000031 | TA | | | | 1710 | 08.10.20... | USD | USCU_L08 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000032 | TA | | | | 1710 | 08.10.20... | USD | USCU_S10 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000033 | TA | | | | 1710 | 08.10.20... | USD | USCU_S06 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000034 | TA | | | | 1710 | 08.10.20... | USD | USCU_S09 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000035 | TA | | | | 1710 | 08.10.20... | USD | USCU_L01 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000036 | TA | | | | 1710 | 08.10.20... | USD | USCU_S15 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000037 | TA | | | | 1710 | 08.10.20... | USD | USCU_L04 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000038 | TA | | | | 1710 | 08.10.20... | USD | USCU_L10 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000039 | TA | | | | 1710 | 08.10.20... | USD | USCU_S07 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000040 | TA | 006 | | | 1710 | 09.10.20... | USD | 0017100003 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000041 | TA | 006 | | | 1710 | 09.10.20... | USD | 0017100008 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000042 | TA | | | | 1710 | 09.10.20... | USD | 0017100009 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000043 | TA | 006 | | | 1710 | 09.10.20... | USD | 0017100003 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | | |
| 0000000044 | TA | | | | 1710 | 09.10.20... | USD | 0017100003 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | ▲ | |
| 0000000045 | TA | | | | 1710 | 09.10.20... | USD | 0017100003 | | | | | | | USD | C | 09.10.20... | | 1710 | 10 | ▼ | |
| 0000000046 | TA | | | | 1710 | 09.10.20 | IUSD | 0017100003 | | | | | | | IUSD | C | 09.10.20 | | 1710 | 10 | | |

9 SAP configuration required only for Finance

If you wish to use SAP Accelerator's Finance Package, perform the following configuration tasks.

9.1 Delta extraction settings for OFI_GL_4, OFI_AR_4, and OFI_AP_4

The OFI_GL_4, OFI_AR_4, and OFI_AP_4 data sources are initially set to extract only the previous day's Delta data. To change this to retrieve the day's data, one of the following settings must be made in BWOM_SETTINGS.

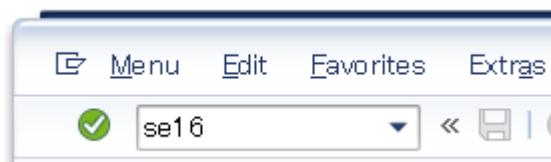
- ① Enable BWFINEXT
 - Extracts in delta mode all records posted up to the time "now" minus one hour. The time can be changed with the parameter BWFINSAF = 3.600 (1 hour), but it is recommended by SAP that it be set to at least 1 hour.
 - The disadvantage of this method is that only change data older than 1 hour can be obtained.
- ② BWFIOVERLA activates (Minutes based extraction)
 - All data up to "current" is extracted in delta mode.
 - The disadvantage of this method is that all delta data for the day is subject to extraction, so records are extracted redundantly.

Once the parameter is set, it applies to all 0FI_GL_4, 0FI_AP_4, and 0FI_AR_4. This cannot be set at the data source level. For more information, see the following pages:

- [BW-BCT-FI-GL \(General Ledger\) - SAP NetWeaver Business Warehouse - Support Wiki](#)
- [BWOM_SETTINGS for FI loads in SAP BI | SAP Blogs](#)
- [FI-CO Delta Safety Interval Summary | SAP Blogs](#)
- [1012874 - FAQ extractors 0FI_AP_* 0FI_AR_* 0FI_GL_* \(except 0FI_GL_10, 0FI_GL_11, 0FI_GL_12, 0FI_GL_14\) - SAP ONE Support Launchpad](#)
- [991429 - Minute Based extraction enhancement for 0FI_*_4 extractors - SAP ONE Support Launchpad](#)
- [485958 - BCT-FI: Extracting FI line items up to the current date - SAP ONE Support Launchpad](#)
- [1523670 - BW delta extraction: Setting safety intervals - SAP ONE Support Launchpad](#)

Below is an explanation of how to set parameters for BWOM_SETTINGS.

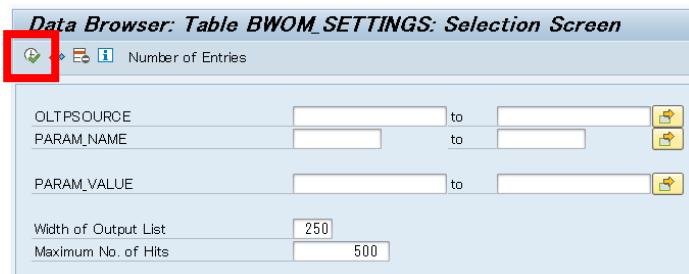
- ① Enter transaction code "se16".



- ② Enter "BWOM_SETTINGS" in the [Table Name] field and click the [Table Contents] icon.



- ③ Click on the [Execute] icon.



- ④ Place the cursor on the parameter to be changed and click the [Change] icon. Here, select BWFIOVERLA to activate the parameter.

| MANDT | OLTPSOURCE | PARAM_NAME | PARAM_VALUE |
|-------|------------|--------------|-------------|
| 400 | | BUFFERREF | |
| 400 | | BWCOPLARES | |
| 400 | | BWFIAAFYV | L |
| 400 | | BWFIAEIM | |
| 400 | | BWFIBLREQ | |
| 400 | | BWFIBSEGMO | |
| 400 | | BWFIGLEND | |
| 400 | | BWFIGLOG | |
| 400 | | BWFILLOWIM | 19910101 |
| 400 | | BWFINEXTCHG | |
| 400 | | BWFINOCHNG | |
| 400 | | BWFIORDBY | |
| 400 | | BWFIOVERLA | 1 |
| 400 | | BWFISAFETY | 1 |
| 400 | | BWFITIMBDR | 020000 |
| 400 | | DELTIMEST | 60 |
| 400 | | EXT_ZERO | |
| 400 | | FLAG_AL | |
| 400 | | GROUP_BY | |
| 400 | | HIE_DB_BUF | |
| 400 | | IBVACTIV | |
| 400 | | LOG | |
| 400 | | MAXLINES | |
| 400 | | NOLOCKING | |
| 400 | | NODBUPRESOL | |
| 400 | | OBJJOURNYPE | 10 |
| 400 | | OBJJFILESIZE | 100 |
| 400 | | OBLLIGODELT | X |
| 400 | | ORGSSONLY | |
| 400 | | TOFMESS | |
| 400 | | TR_QUE_EIS | |

- ⑤ Enter "X" in [PARAM VALUE] and click [Save].

| | |
|-------------|------------|
| MANDT | 400 |
| OLTPSOURCE | |
| PARAM NAME | BWFIOVERLA |
| PARAM VALUE | X |

9.2 Delta extraction settings for OFI_GI_10 and OFI_GL_14

For data sources OFI_GI_10 and OFI_GL_14, the ROOSOURCE table contains the Safety Interval settings, which are used to set the Delta extraction:

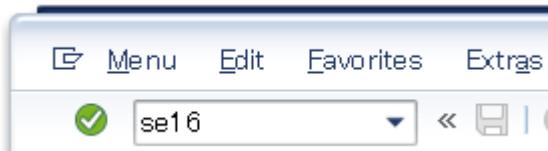
- ✓ DELTASAFE1 (lower safety interval): Real-time extraction is possible, but the time intervals overlap. For example, if the lower safety interval is set to 3,600 (1 hour), the Delta data for the past hour is subject to extraction, so records are extracted redundantly.
- ✓ DELTASAFE2 (upper safe interval): If the upper safe interval is set to 3,600 (1 hour), this means that only data older than 1 hour will be extracted.

The sum of DELTASAFE1 (lower safety interval) and DELTASAFE2 (upper safety interval) must be set to at least 3,600 (1 hour). For more information, please refer to the following page:

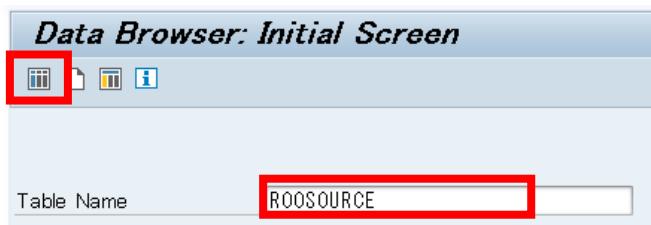
- [2116914 - Safety interval of BW DataSource - SAP ONE Support Launchpad](#)
- [1523670 - BW delta extraction: Setting safety intervals - SAP ONE Support Launchpad](#)

By default, OFI_GI_10 and OFI_GL_14 are both set to DELTASAFE1 (lower safety interval) of 3,600 (1 hour). Below is an explanation of how to check the settings.

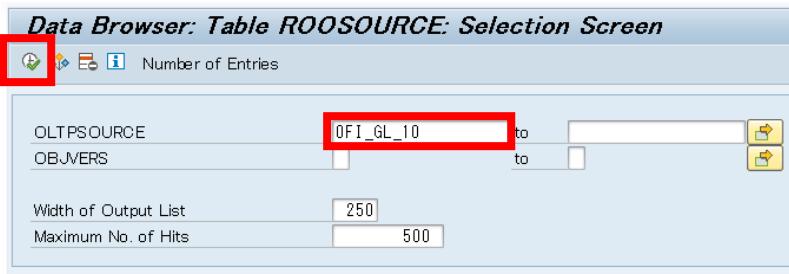
- ① Enter transaction code "se16".



- ② Enter "ROOSOURCE" in the [Table Name] field and click the [Table Contents] icon.



- ③ Enter the name of the data source in "OLAPSOURCE" and click the [Execute] icon.



- ④ From the table contents, the DELTASAFE1 (lower safety interval) and DELTASAFE2 (upper safety interval) settings can be checked.

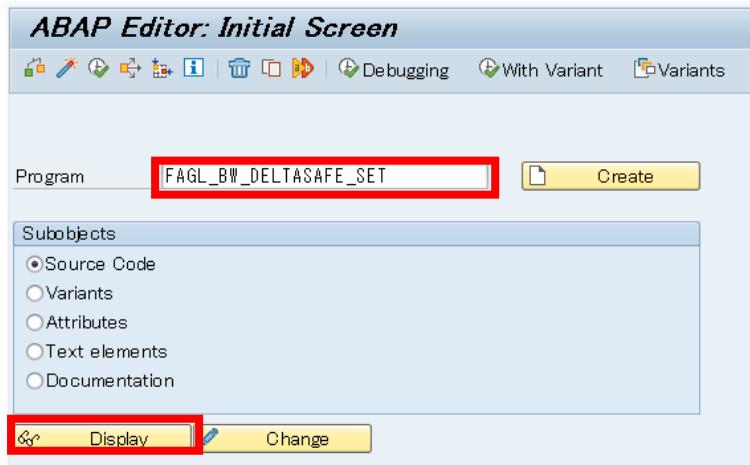
| Data Browser: Table ROOSOURCE Select Entries 2 | | | | |
|--|---------|------------|------------|------------|
| Table: ROOSOURCE Displayed Fields: 9 of 54 Fixed Columns: 2 List Width 0250 | | | | |
| OLTPSOURCE | OBJVERS | GENDELTATP | DELTASAFE1 | DELTASAFE2 |
| OFI_GL_10 | A | U | 3600 | |
| OFI_GL_10 | D | U | 3600 | |

Next, we explain how to change the DELTASAFE1 (lower safety interval) and DELTASAFE2 (upper safety interval) settings.

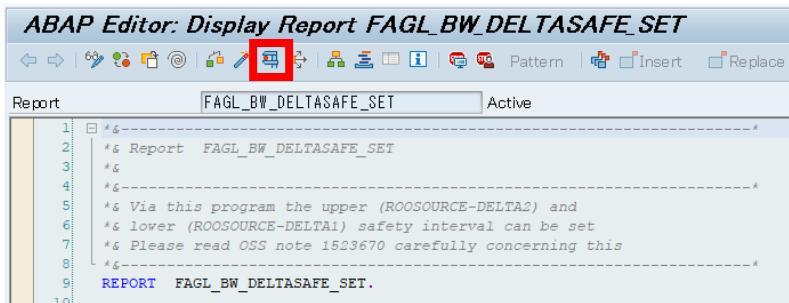
- ① Enter transaction code "se38".



- ② Enter "FAGL_BW_DELTASAFE_SET" in [Program] and click [Display].



- ③ Click on the [Direct Processing] icon.

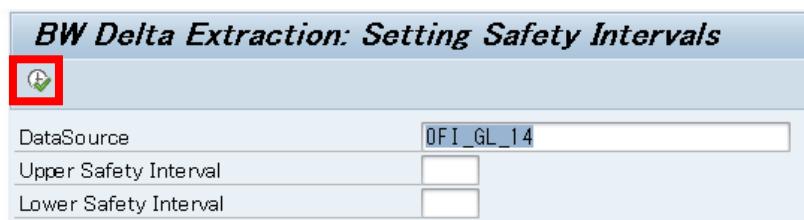


```

ABAP Editor: Display Report FAGL_BW_DELTASAFE_SET
Report          FAGL_BW_DELTASAFE_SET      Active
1  *&-----*
2  *& Report  FAGL_BW_DELTASAFE_SET
3  *&
4  *&
5  *& Via this program the upper (ROOSOURCE-DELTA2) and
6  *& lower (ROOSOURCE-DELTA1) safety interval can be set
7  *& Please read OSS note 1523670 carefully concerning this
8  *&
9  REPORT  FAGL_BW_DELTASAFE_SET.
10

```

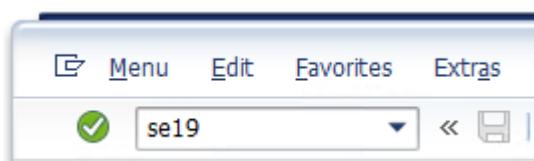
- ④ Enter the items and execute [Execute].



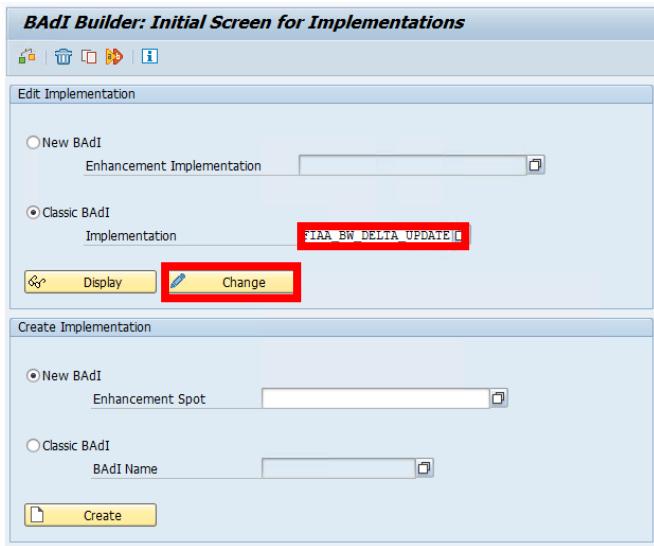
9.3 Enabling FIAA_BW_DELTA_UPDATE

To perform Delta extraction of 0ASSET_ATTR_TEXT, 0ASSET_AFAB_ATTR, 0FI_AA_11, and 0FI_AA_12 data sources used in Asset Accounting, "FIAA_BW_DELTA_UPDATE" must be enabled. Depending on the environment, this operation may not be possible. In that case, please perform extraction of these data sources with full load.

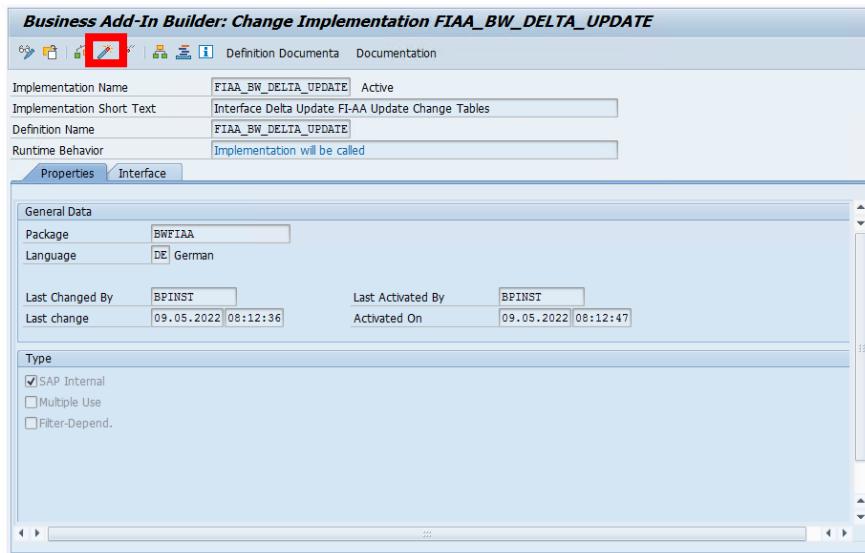
- ① Enter transaction code "se19".



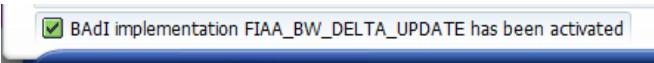
- ② Select [Classic BAdI] and enter "FIAA_BW_DELTA_UPDATE" in [Implementation] and click [Change].



- ③ Click [Activate business add-in implementation] button.



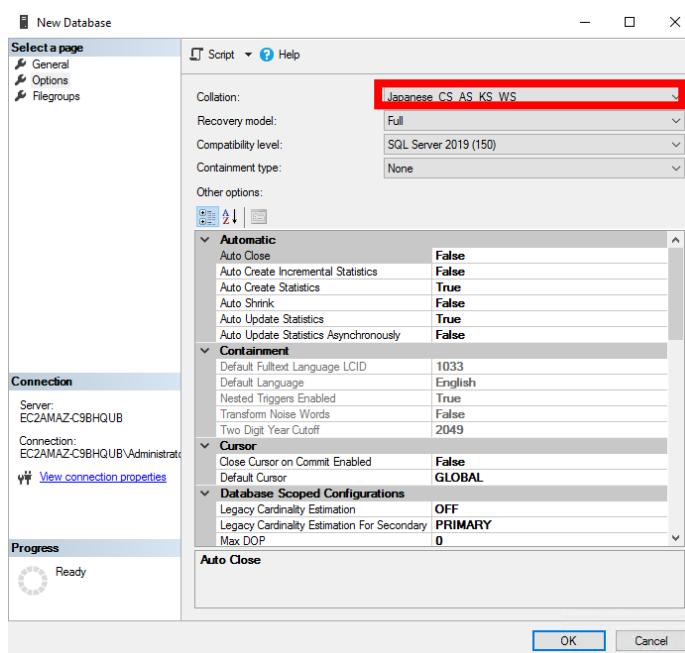
- ④ Confirm that activation has been completed without problems.



10 Target database settings

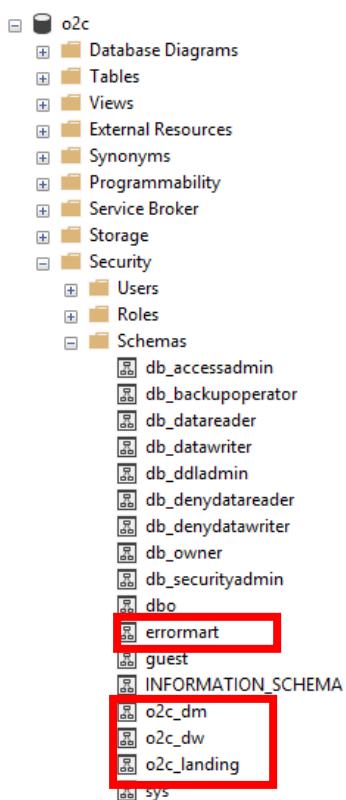
Access Microsoft SQL Server Management Studio as a user with administrative privileges and create the following database and the schema contained in the database.

- ※ Since SAP is case-sensitive in codes, etc., it is necessary to select a case-sensitive collation in the collation (Collation) setting on the Microsoft SQL Server side as well. Select a collation such as "Japanese_CS_AS_KS_WS" in the following manner when creating the DB.
- ※ When using Snowflake, Synapse, BigQuery, or Redshift, create the DB and schema in the same way on the configuration screens provided by each product. Be aware that the DB described here is also called SQL Pool in Synapse, and the DB and schema described here correspond to Project and Dataset in BigQuery, respectively.



| Accelerator Package Type | DB | schema |
|--------------------------|-----|--|
| Order to Cash (O2C) | O2C | o2c_landing errormart o2c_dw o2c_dm |
| Inventory Management | inv | inv_landing errormart inv_dw inv_dm |

| | | |
|-------------|-----|--|
| Finance | fin | fin_landing errormart fin_dw fin_dm |
| Procurement | p2p | p2p_landing errormart p2p_dw p2p_dm |



11 Data extraction from Qlik Replicate

11.1 Importing Replicate Tasks

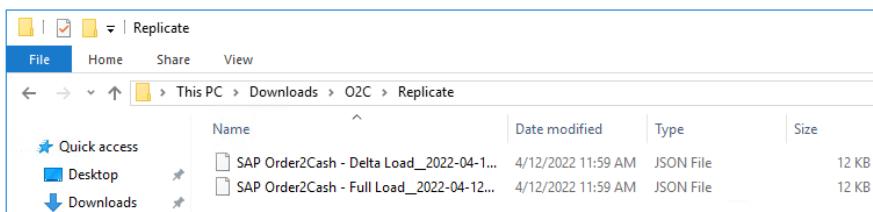
Import the required Qlik Replicate tasks according to the type of SAP Accelerator you are using.

| Accelerator Package Type | Qlik Replicate Task |
|--------------------------|--|
| Order to Cash (O2C) | ODP SAP Order2Cash - Delta ODP SAP Order2Cash - Full |
| Inventory Management | ODP SAP Inventory Mgmt - Delta ODP SAP Inventory Mgmt - Full |
| Finance | ODP SAP Finance - Delta ECC (*1) ODP SAP Finance - Delta S4 HANA (*1) ODP SAP Finance - Full ODP SAP Finance - AA Delta ODP SAP Finance - AA Full (*2) |
| Procurement | ODP SAP Procurement - Delta Load ODP SAP Procurement - Full Load |

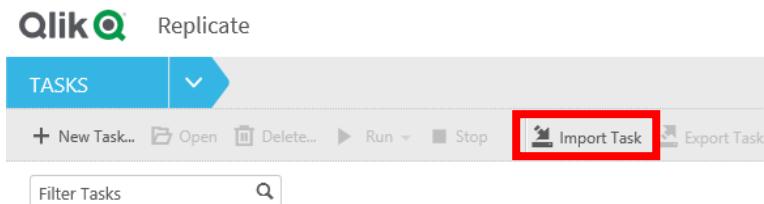
*1 Use "ODP SAP Finance - Delta ECC" if the source is SAP ECC, or "ODP SAP Finance - Delta S4 HANA" if the source is SAP S/4 HANA.

*2 In environments where it is not possible to [run 9.3 Enabling FIAA_BW_DELTA_UPDATE](#) use "ODP SAP Finance - AA Full" instead of "ODP SAP Finance - AA Delta".

- ① Check the folder containing the Qlik Replicate task.



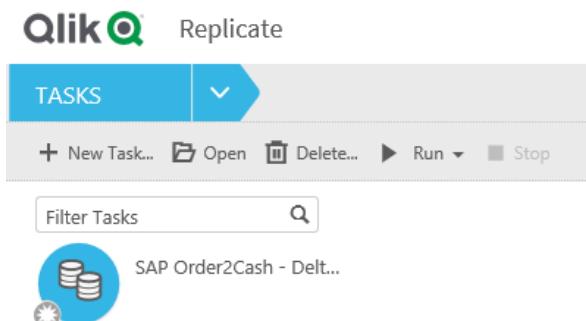
- ② Open the Qlik Replicate console screen and click [Import Task].



- ③ Click [Browse] to select the Qlik Replicate task file to import, then click [Import].



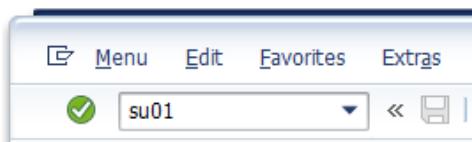
- ④ Confirm that the task has been imported. Repeat the same procedure for other Replicate tasks.



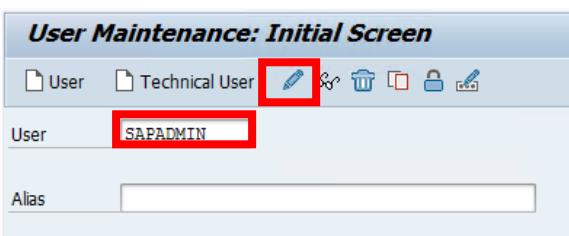
11.2 Change/confirm user's numeric format

The section of "[Appendix 2: Creating user for Qlik Replicate](#)" describes how to create a user with the privileges necessary for Replicate processing. However, it is recommended that a user with SAP administrator privileges (a user with SAP_ALL privilege) perform the connection check from Replicate first, since detailed authorization is required and often incorrect settings are made. Here, we assume the SAP administrator user is the user used to connect from Replicate to SAP. We will check the numeric format for this user.

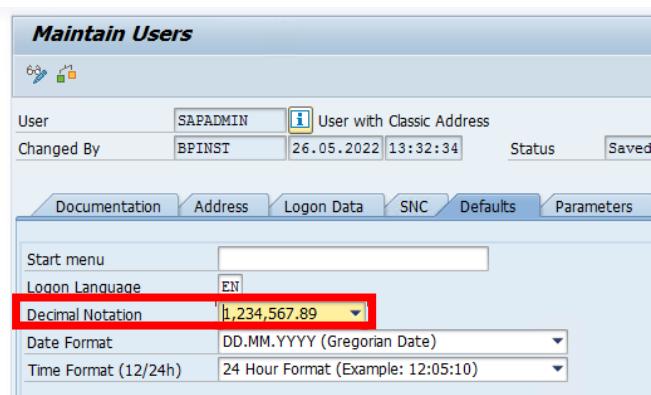
- ① Enter T-code "su01".



- ② In [User], specify the user who will be used to login to SAP from Qlik Replicate and click Change.

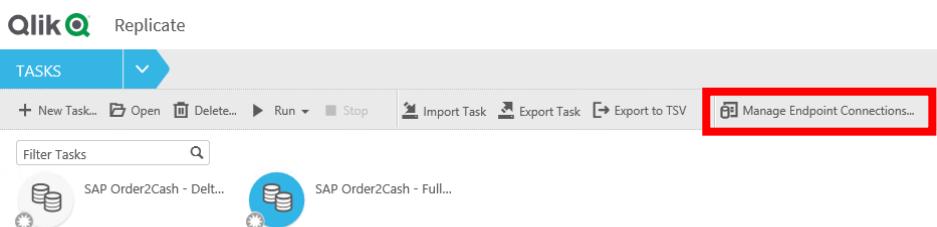


- ③ Click the [Defaults] tab, set [Decimal Notation] to "1,234,567.89" and click [Save].

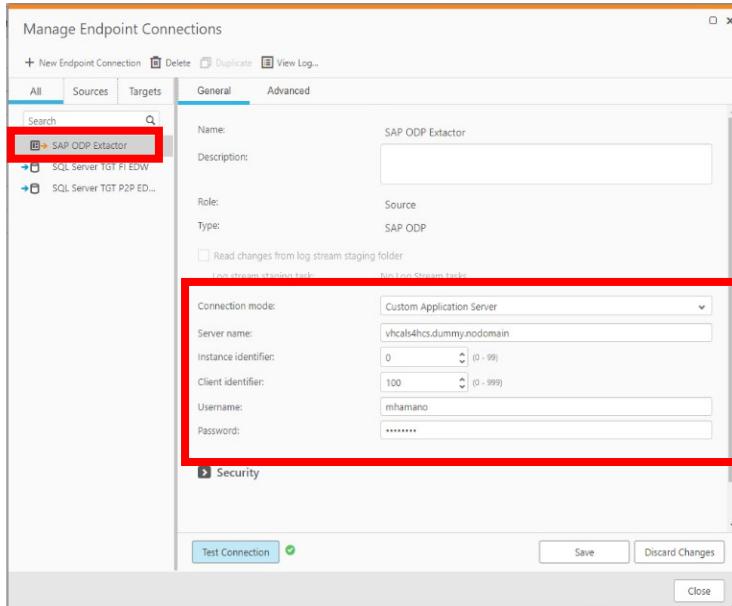


11.3 Endpoint configuration

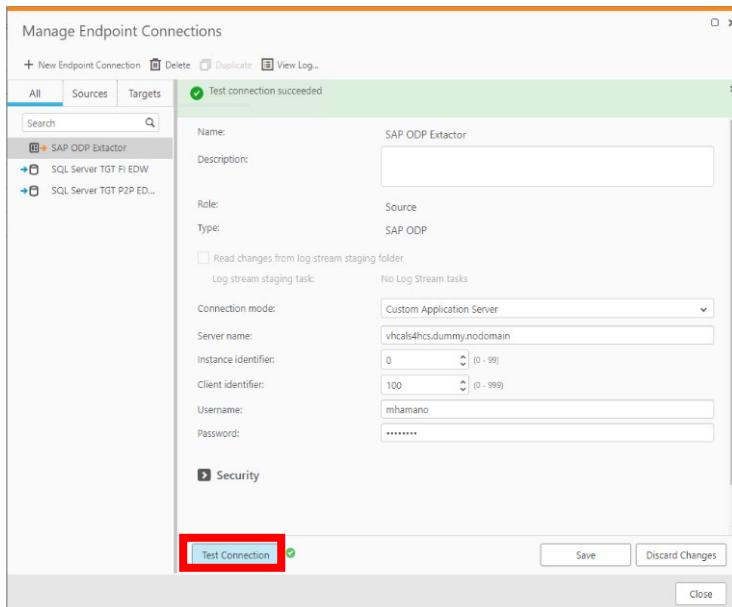
- ① Open the Qlik Replicate console screen and click [Manage Endpoint Connections].



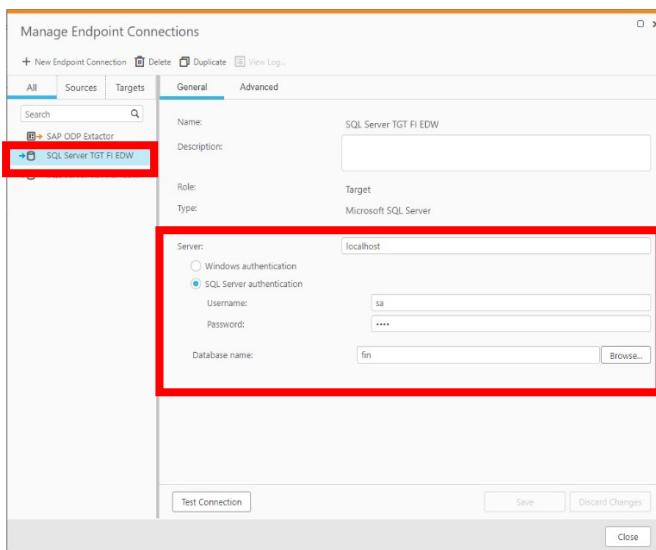
- ② Select "SAP ODP Extractor" and enter the authentication information. At this time, leave the Number Format set to the "1,234,567.89" that was set on SAP system in the previous step.



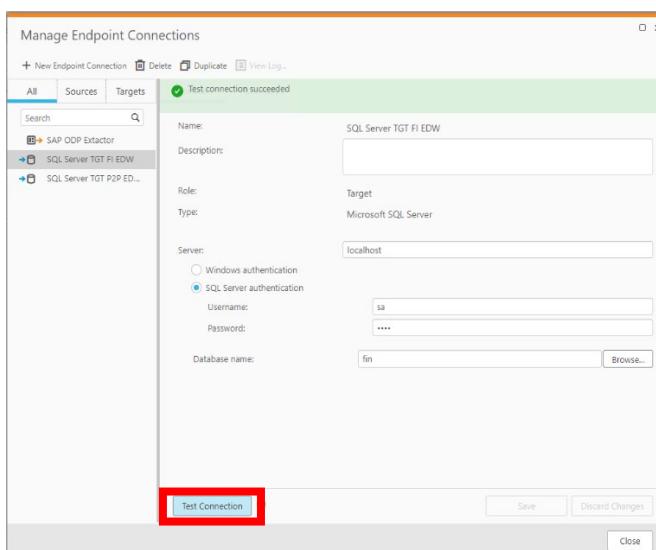
- ③ Click [Test connections] to confirm that the connection is successful, then click [Save].



- ④ Select "SQL Server TGT O2C/INV/FIN/P2P" (separate target endpoints are imported for "Order to Cash," "Inventory Management," "Finance" and "Procurement") and enter authentication information. If you want to use Snowflake, Synapse, BigQuery, or Redshift as the target DWH instead of Microsoft SQL Server, you need to create a new endpoint and replace the Microsoft SQL Server target with Snowflake, Synapse, BigQuery, or Redshift target in the task definition.



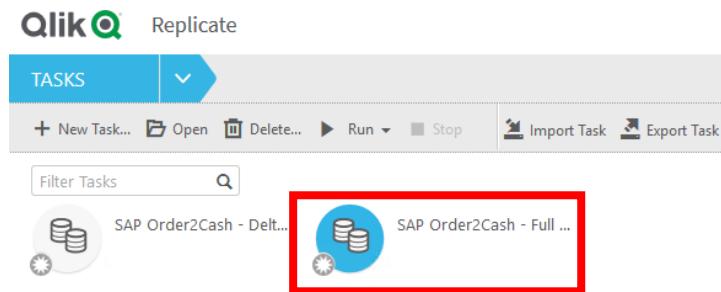
- ⑤ Click [Test connection] to confirm that the connection is successful, then click [Save]. Follow the same procedure to change the respective settings for "Order to Cash," "Inventory Management," "Finance" and "Procurement" depending on the package type used.



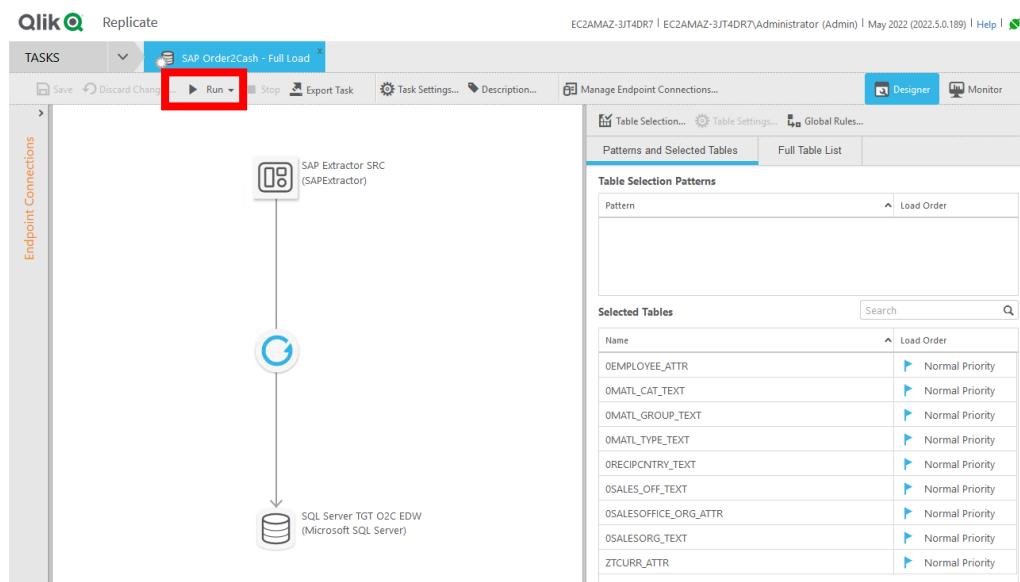
11.4 Task execution

Run the Qlik Replicate task for the SAP Accelerator you are using. Any order of tasks to be executed is acceptable.

- ① Double-click the task to be executed.



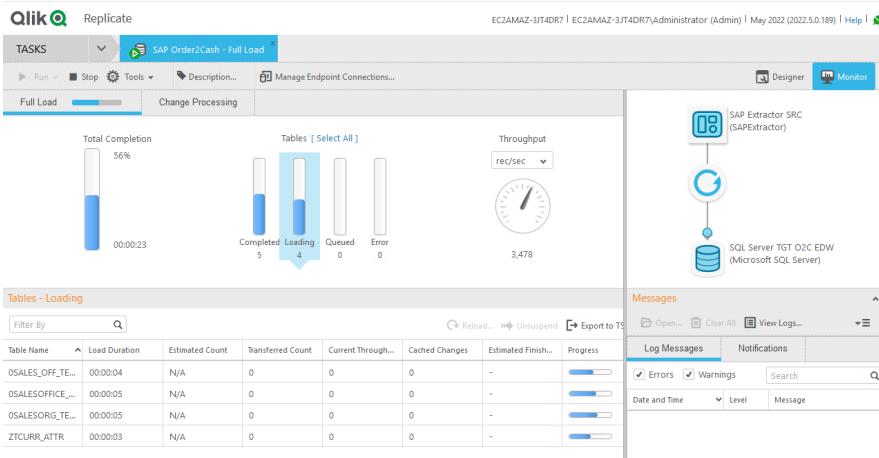
- ② Click [Run].



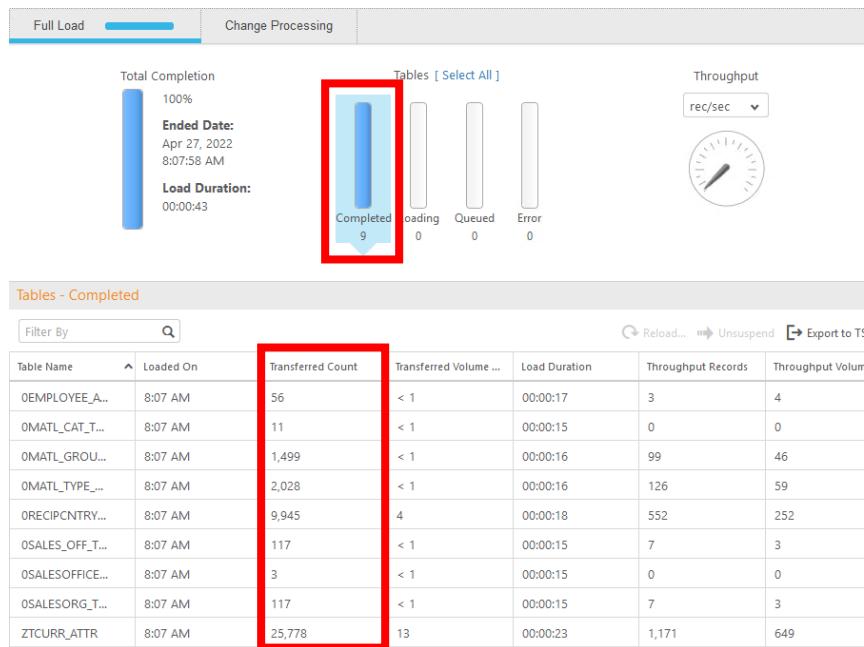
- ③ The task execution is started.



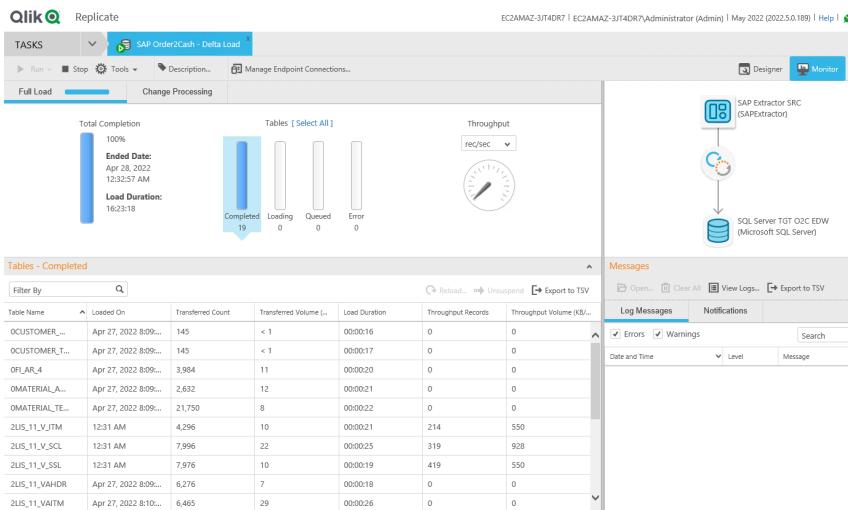
- ④ When the execution starts, the screen transitions to the Monitor screen.



- ⑤ Select [Completed] to confirm that all tasks have been completed without problems and that data has been transferred by checking the "Transferred Count" column.



- ⑥ After the Full Load task is executed, the task stops, but the Delta Load task continues to process the change data extraction. (The green task icon indicates that the task is being executed.) Depending on the package you are using, complete execution of all applicable tasks.

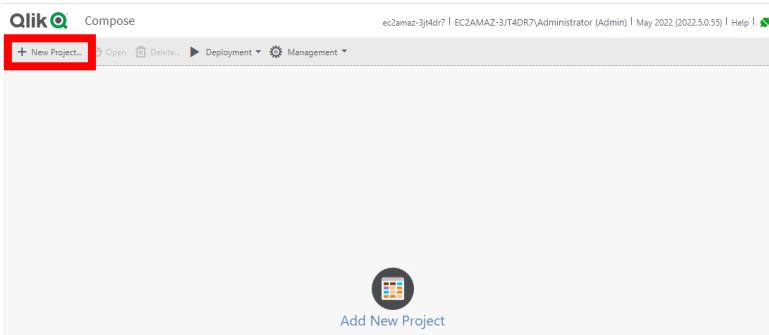


12 DWH and DM creation with Qlik Compose

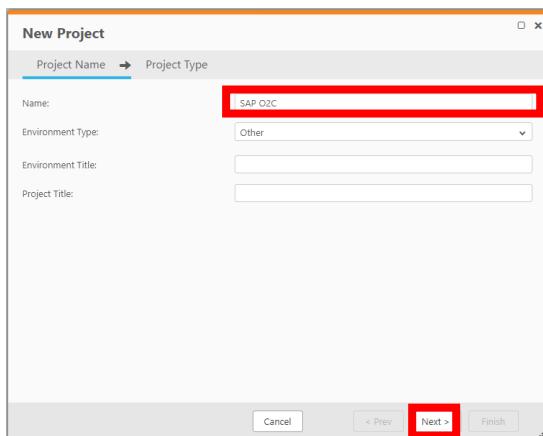
In the previous steps, Qlik Replicate has completed storing the SAP data on the target DB. Next, Qlik Compose will create a DWH and data mart using the data stored by Replicate on the target DB as input. The following steps are performed for “Order to Cash”, “Inventory Management”, “Finance”, and “Procurement”.

12.1 Create a new project

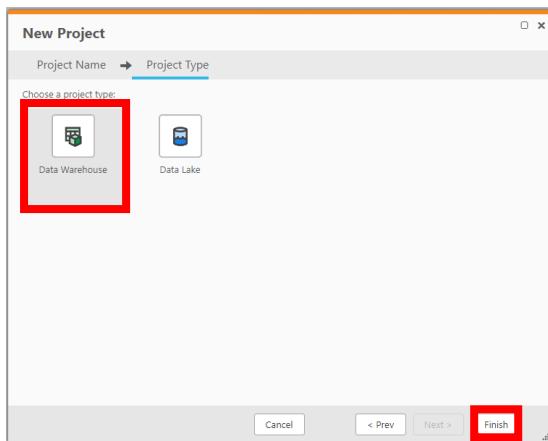
- ① Open the Qlik Compose console screen and click [New Project].



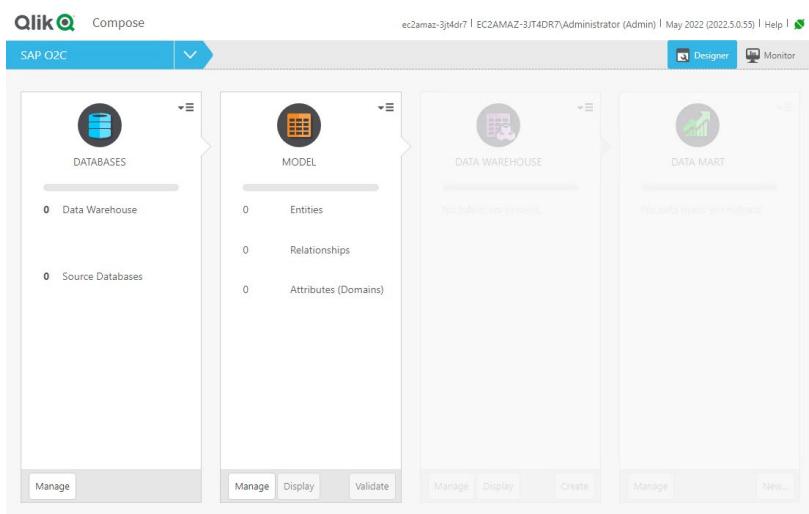
- ② Enter any project name and click [Next].



③ Select the [Data Warehouse] type and click [Finish].

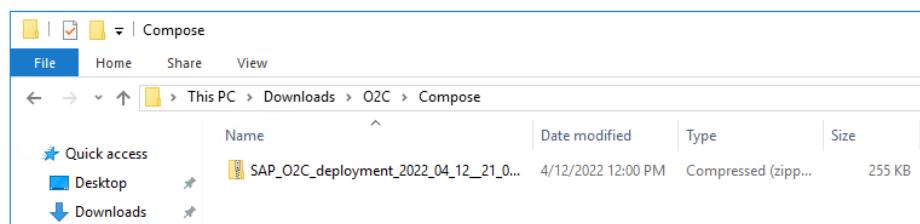


④ A new project will open.

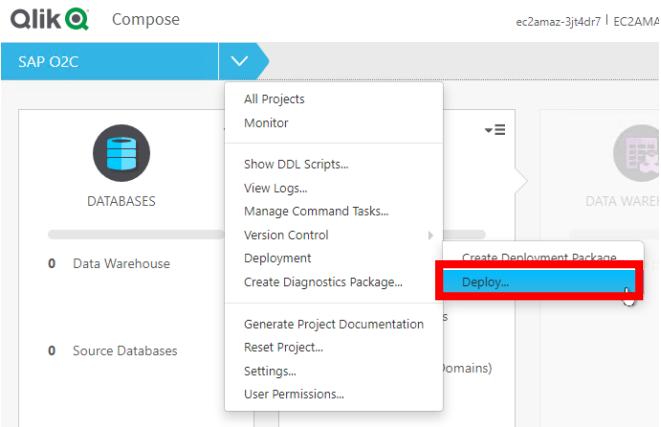


12.2 Deploying projects

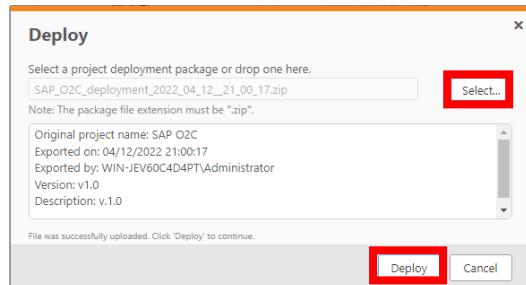
① Check the folder containing the Qlik Compose project files.



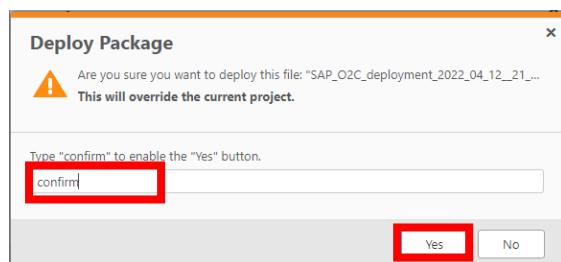
- ② Open the menu of the newly created Compose project and click [Deployment] > [Deploy].



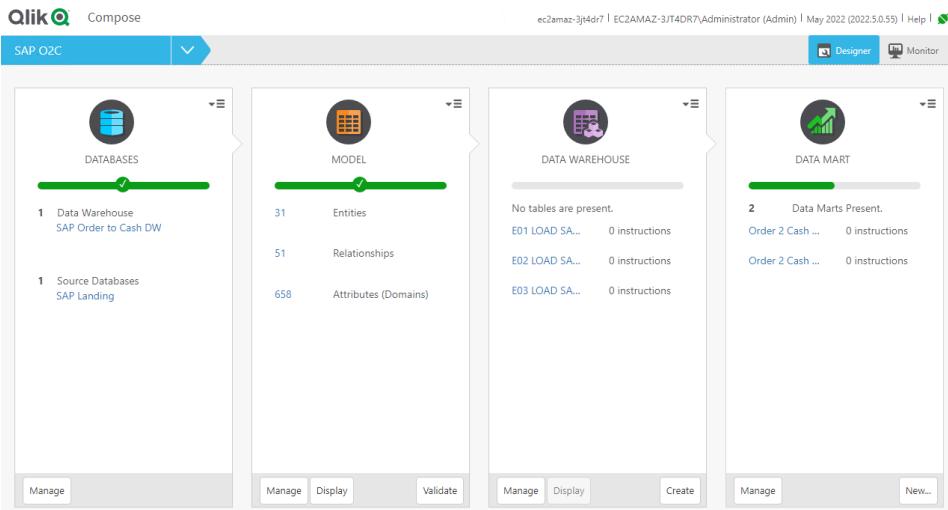
- ③ Click [Select] to select the Qlik Compose project file and click [Deploy].



- ④ Type "confirm" and click [Yes].

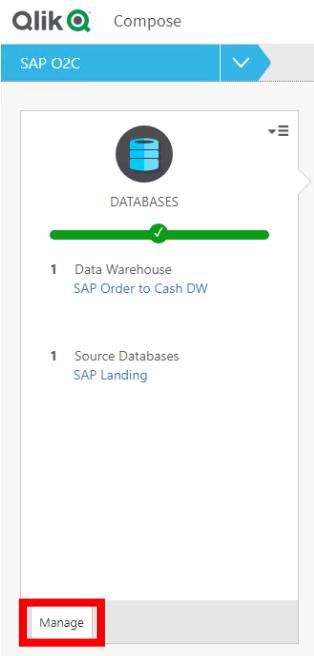


⑤ Project is imported from a Compose project file.

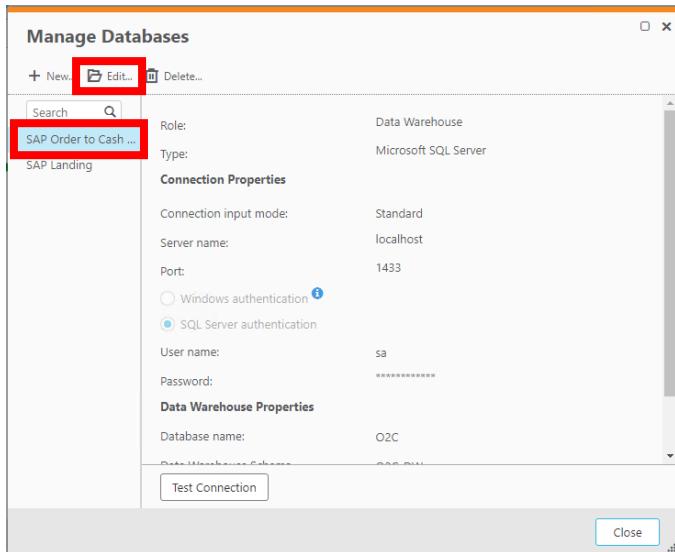


12.3 Updating connection definitions

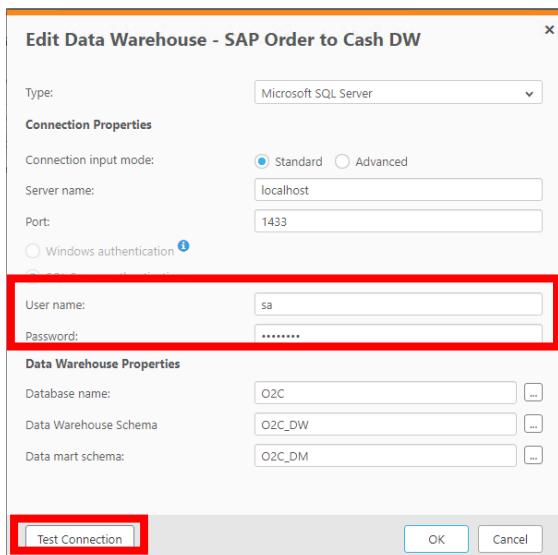
① Click [Manage] under [DATABASES].



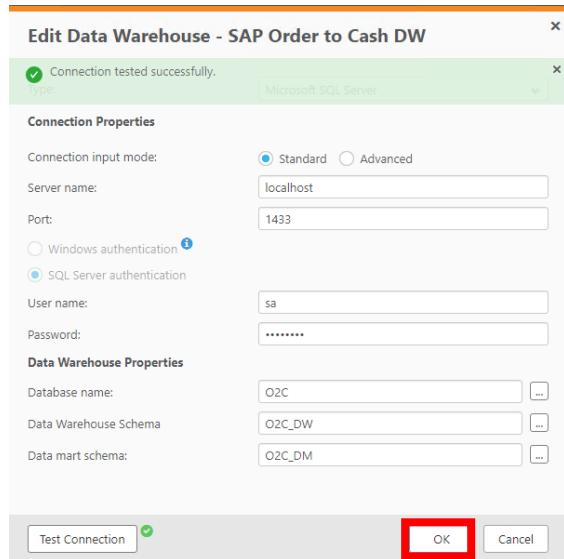
② Select the first connection definition from the list on the left and click [Edit].



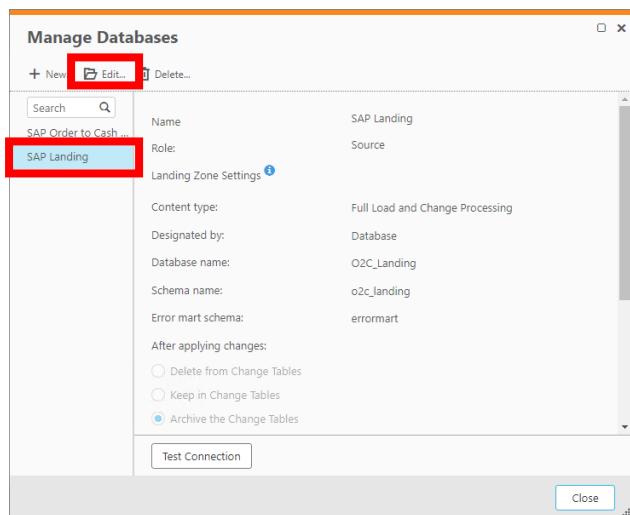
③ Correct the user name and password, and click [Test Connection].



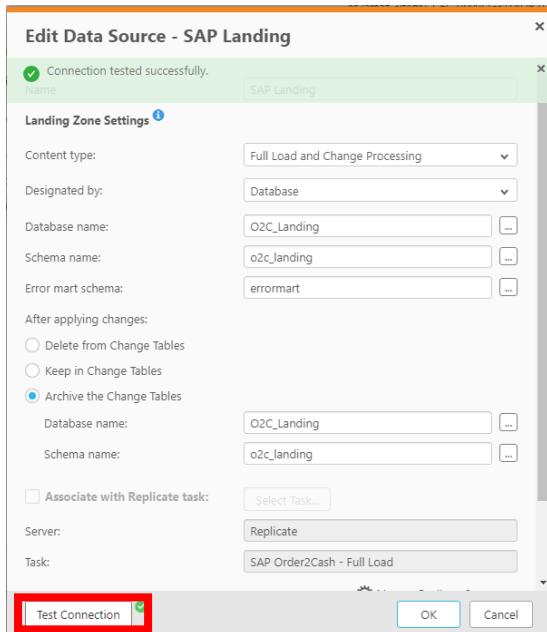
- ④ Confirm that the connection test was successful and click OK.



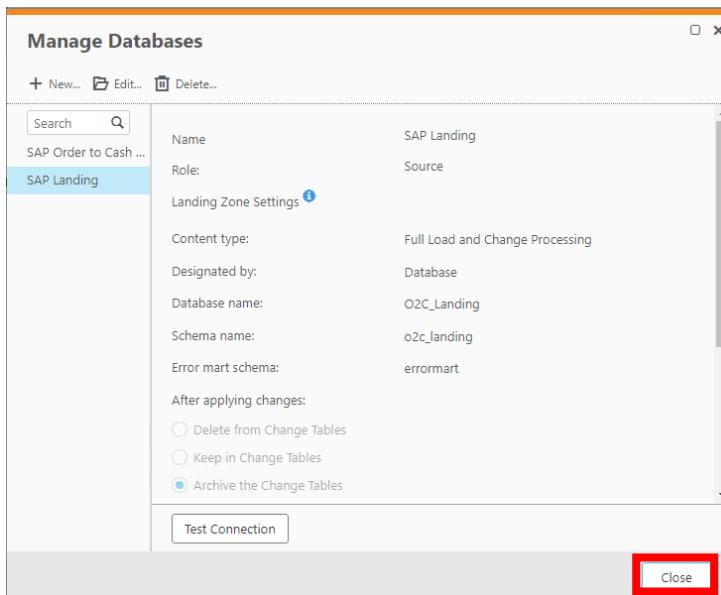
- ⑤ Select the second connection definition from the list on the left and click [Edit].



⑥ Click [Test Connection]. Confirm that the connection test was successful and click OK.

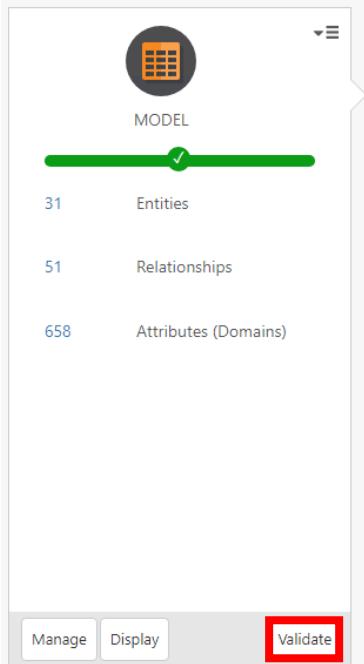


⑦ Click [Close].

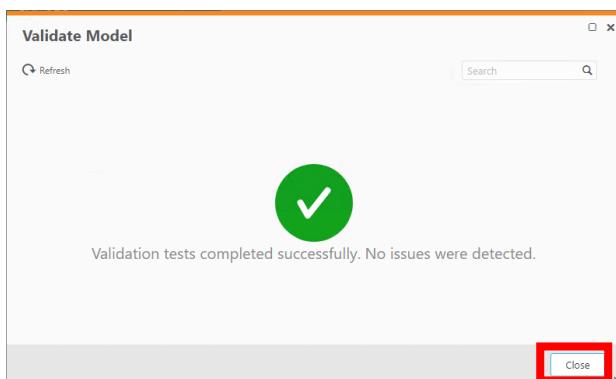


12.4 Model validation

- ① Click [Validate] under [MODEL].

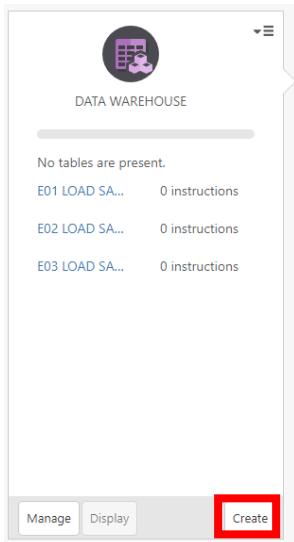


- ② Click [Close] after confirming that the model validation completes without any problems.

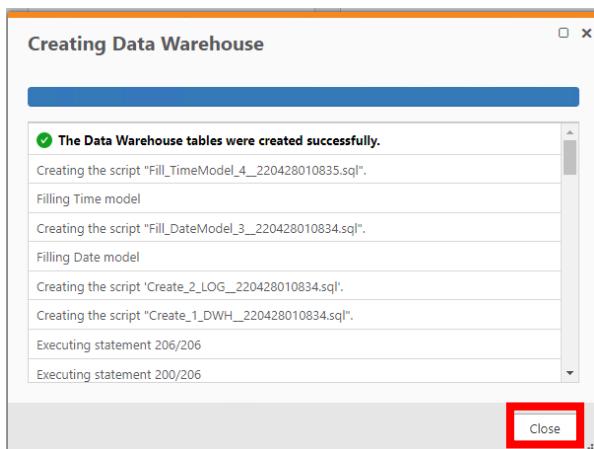


12.5 DWH creation and data loading

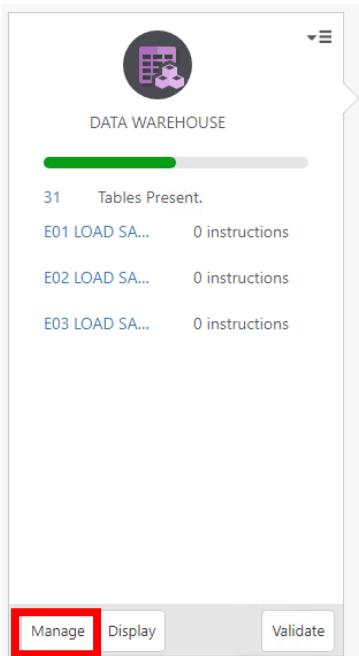
- ① Click [Create] under [DATA WAREHOUSE].



- ② Confirm that the database tables have been created without problems and click [Close].



- ③ Click [Manage] under [DATA WAREHOUSE].



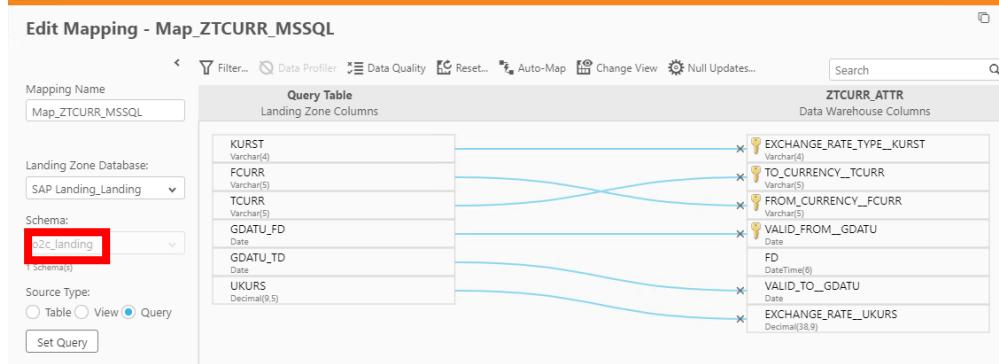
- ④ Select the task named "E01 Initialization", the first one in the list on the left, and make the following changes:

- When using "Order to Cash", "Procure to Pay", or "Finance", check ON one of the Mapping checkboxes depending on the target DWH used in "ZTCURR_ATTR".
Then click on the checked Mapping.

The screenshot shows a list of logical entities and their mappings. A specific mapping for 'EZLIS_11_V_SCL' is selected, showing its details. On the right, a dropdown menu for 'ZTCURR_ATTR' is open, listing four options: Snowflake, MSSQL, BigQuery, and Redshift. The 'Map_ZTCURR_MSSQL' option is checked.

| Logical Entity | Mappings |
|----------------|---|
| EZLIS_11_V_SCL | <input type="checkbox"/> Map_EZLIS_11_V_SCL_SAP Landing |
| EZLIS_11_V_SSL | <input checked="" type="checkbox"/> Map_EZLIS_11_V_SSL_SAP Landing |
| EZLIS_11_VAHD | <input checked="" type="checkbox"/> Map_EZLIS_11_VAHD_SAP Landing |
| EZLIS_11_VAITM | <input checked="" type="checkbox"/> Map_EZLIS_11_VAITM_SAP Landing |
| EZLIS_11_VAKON | <input checked="" type="checkbox"/> Map_EZLIS_11_VAKON_SAP Landing |
| EZLIS_11_VASC | <input checked="" type="checkbox"/> Map_EZLIS_11_VASC_SAP Landing |
| EZLIS_11_VASTH | <input checked="" type="checkbox"/> Map_EZLIS_11_VASTH_SAP Landing |
| EZLIS_11_VASTI | <input checked="" type="checkbox"/> Map_EZLIS_11_VASTI_SAP Landing |
| EZLIS_12_VCHDR | <input checked="" type="checkbox"/> Map_EZLIS_12_VCHDR_SAP Landing |
| EZLIS_12_VCITM | <input checked="" type="checkbox"/> Map_EZLIS_12_VCITM_SAP Landing |
| EZLIS_13_VDHDR | <input checked="" type="checkbox"/> Map_EZLIS_13_VDHDR_SAP Landing |
| EZLIS_13_VDITM | <input checked="" type="checkbox"/> Map_EZLIS_13_VDITM_SAP Landing |
| EZLIS_13_VDKON | <input checked="" type="checkbox"/> Map_EZLIS_13_VDKON_SAP Landing |
| Time | <input checked="" type="checkbox"/> |
| ZTCURR_ATTR | <input checked="" type="checkbox"/> Map_ZTCURR_ATTR_Snowflake <input checked="" type="checkbox"/> Map_ZTCURR_MSSQL |

Confirm that the mapping is done without errors as shown below. If not, click the [Set Query] button.



Correct the DB name and schema name in the SQL statement and click the [Test] button. Confirm that the test was successful and click [OK].

The screenshot shows the 'Edit Mapping Select Query: Map_ZTCURR_MSSQL' dialog. The top status bar says 'Test Success'. The left pane lists various database objects like OAC_DOC_TYP_TE... and OCUSTOMER_ATTR. The right pane contains a SQL query:

```

1: SELECT TOP(10000000)
2:     [KURST]
3:     ,[FCURR]
4:     ,[TCURR]
5:     ,CONVERT(DATE,LEFT(9999999-[GDATU],8)) AS GDATU_FD
6:     ,CASE
7:         WHEN [KURST]=(LAG([KURST],1) OVER (ORDER BY [KURST],[FCURR],[TCURR] DESC,[GDATU]
8:             ASC))
9:             AND [TCURR]=(LAG([TCURR],1) OVER (ORDER BY [KURST],[FCURR],[TCURR] DESC,[GDATU]
10:                ASC))
11:                 AND [FCURR]=(LAG([FCURR],1) OVER (ORDER BY [KURST],[FCURR],[TCURR] DESC,[GDATU]
12:                    ASC))
13:                     THEN DATEADD(DAY, -1, CONVERT(DATE,LEFT(9999999-(LAG([GDATU],1) OVER (ORDER BY
14: [KURST],[FCURR],[TCURR] DESC,[GDATU] ASC)),8)))
15:                     ELSE CONVERT(DATE,CAST('99991231' AS VARCHAR))
16:                 END AS GDATU_TO
17:                 ,[UKURS])
18: FROM [O2C].[o2c_landing].[ZTCURR_ATTR]
19: ORDER BY [KURST],[FCURR],[TCURR] DESC,[GDATU] ASC

```

At the bottom, a note says 'Note: Query testing and execution are performed on the Data Warehouse database.' There are 'Test', 'OK', and 'Cancel' buttons.

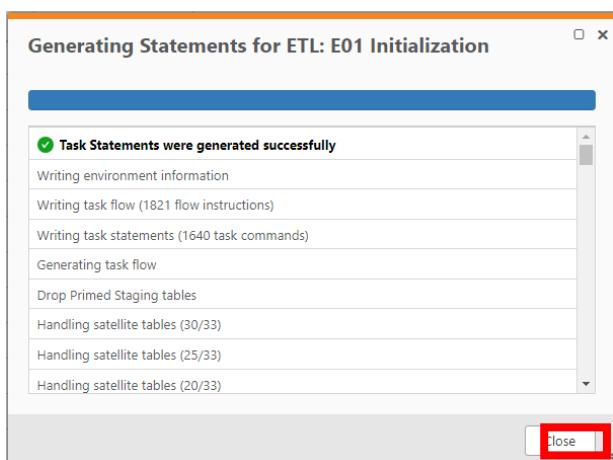
- When using "Finance" and the data source is SAP S/4 HANA, turn on the "E0FI_ACDOCA_20" check box and turn off "E0FI_GL_10". If the data source is SAP ECC, turn off the "E0FI_ACDOCA_20" check box and turn on "E0FI_GL_10".

| Mappings | Pre Loading ETL | Multi Table ETL | Single Table ETL | Post Loading ETL |
|------------------|--|---|------------------|------------------|
| + New Mapping... | Clear Landing Cache | Show: <input checked="" type="radio"/> All <input type="radio"/> Enabled Only | | |
| Logical Entities | <input type="checkbox"/> Handle Duplicates | <input type="checkbox"/> Mappings | | |
| E0FI_ACDOCA_20 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_E0FI_ACDOCA_20_SAP Landing | | |
| E0FI_AP_4 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_E0FI_AP_4_SAP Landing | | |
| E0FI_AR_4 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_E0FI_AR_4_SAP Landing | | |
| E0FI_GL_10 | <input type="checkbox"/> | <input type="checkbox"/> Map_E0FI_GL_10_SAP Landing | | |
| E0FI_GL_14 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_E0FI_GL_14_SAP Landing | | |

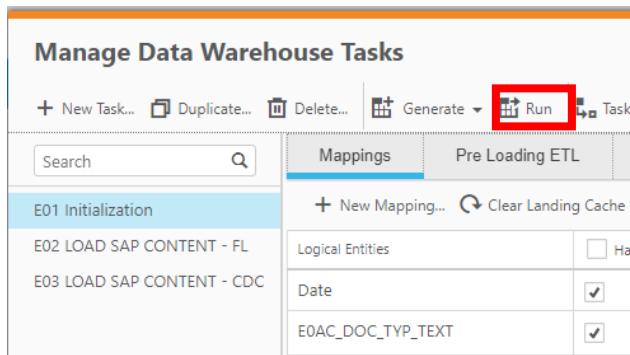
- Select the task named "E01 Initialization", the first one in the list on the left, and click [Generate].

The screenshot shows the 'Manage Data Warehouse Tasks' window. At the top, there are buttons for 'New Task...', 'Duplicate...', 'Delete...', 'Generate' (which is highlighted with a red box), 'Run', and 'Task'. Below these are tabs for 'Mappings' (selected) and 'Pre Loading ETL'. On the left, a list of tasks is shown: 'E01 Initialization' (highlighted with a red box), 'E02 LOAD SAP CONTENT - FL', and 'E03 LOAD SAP CONTENT - CDC'. To the right of the tasks are sections for 'Logical Entities' (with 'Handle Duplicates' checked) and 'Date' (with 'E0AC_DOC_TYP_TEXT' checked). A red box also highlights the 'E01 Initialization' task in the list.

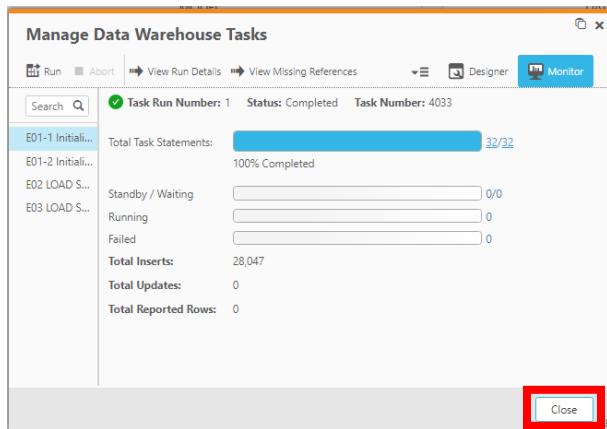
- Confirm that the task was created without any problems and click [Close].



- ⑦ Click [Run] to execute the task.

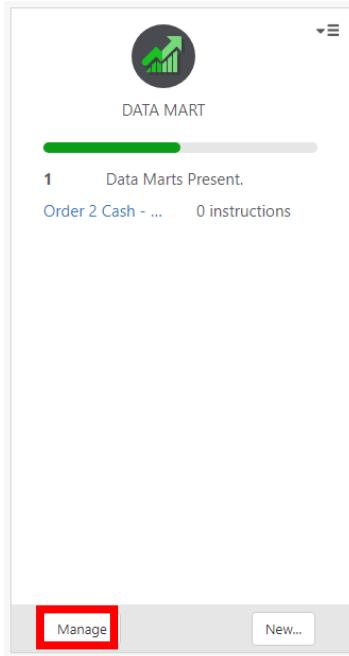


- ⑧ Confirm that the task has been completed without problems and click [Close].

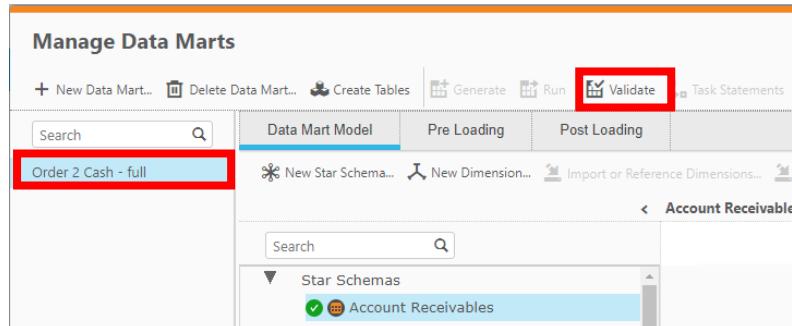


12.6 Creating Data Marts

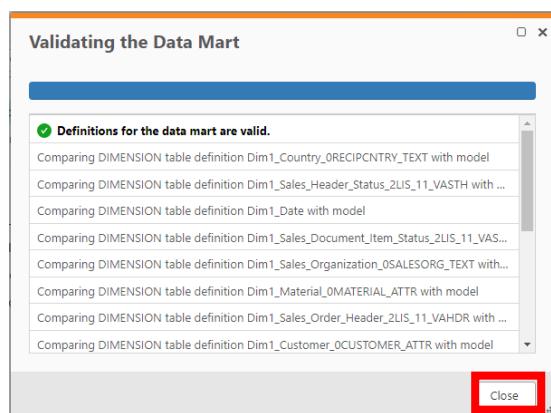
- ① Click on [Manage] under [DATA MART].



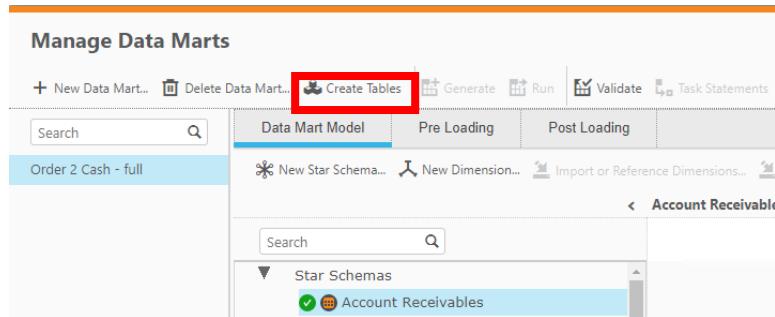
- ② Select the first task in the list on the left and click [Validate].



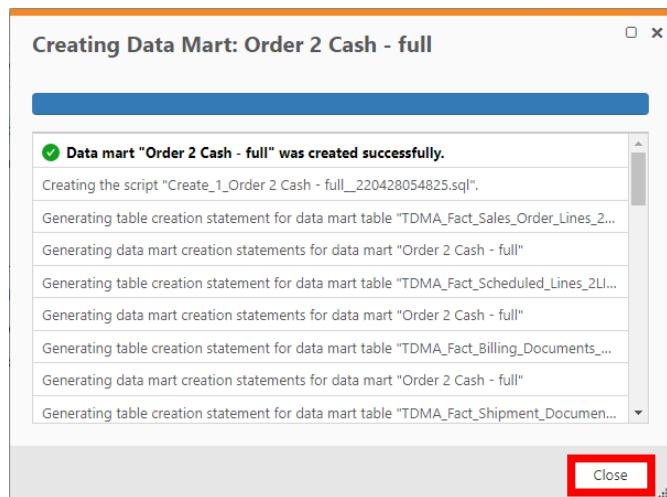
- ③ Confirm that the verification has completed without problems and click [Close].



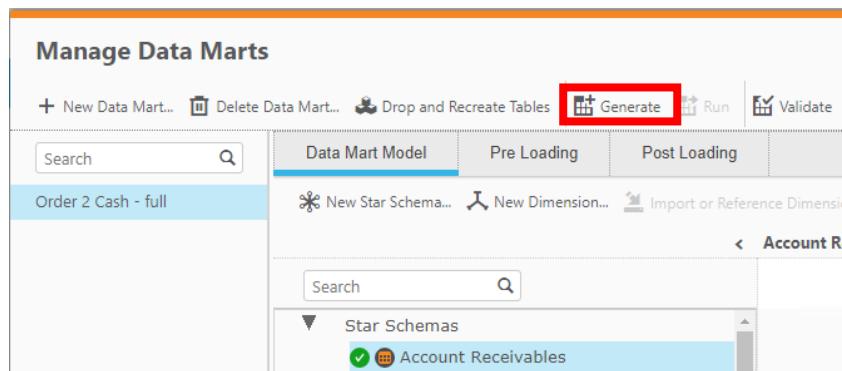
④ Click [Create Tables].



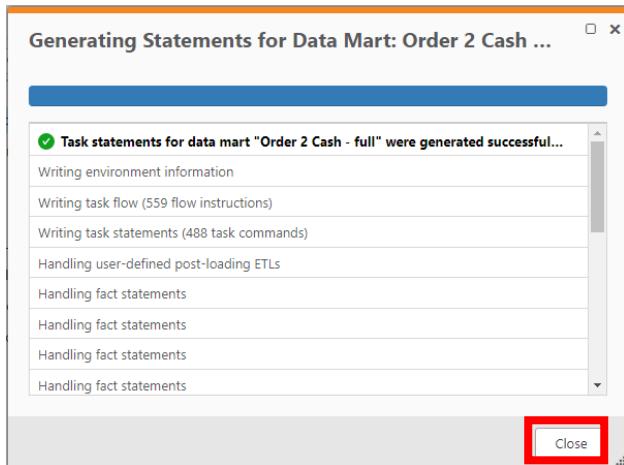
⑤ Confirm that the table has been created without any problems and click [Close].



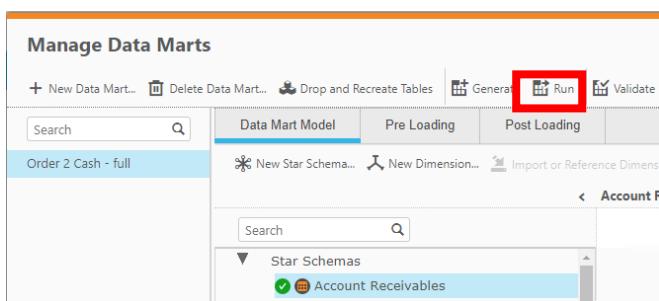
⑥ Click [Generate].



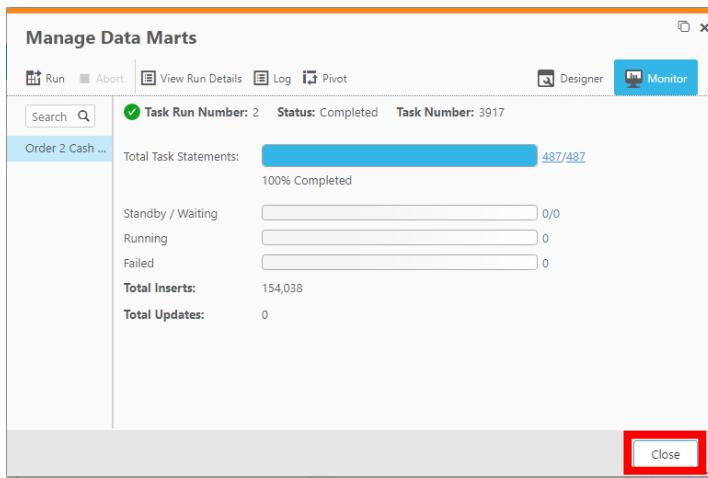
⑦ Confirm that the task was created without any problems and click [Close].



⑧ Click [Run] to execute the task.



⑨ Confirm that the task is completed without any problems and click [Close].

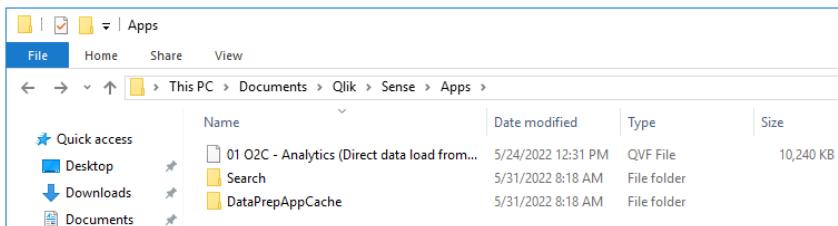


13 Visualization with Qlik Sense

The previous steps have completed the creation of the data mart using Qlik Compose. In this section, we will go through how to extract data from the data mart and visualize it with Qlik Sense. You can use either Qlik Sense Desktop, Qlik Sense Enterprise Client Managed (CM) or Qlik Sense SaaS below. The explanation here assumes that you are using Microsoft SQL Server as your DWH, but if you are using Snowflake, Synapse, BigQuery, or Redshift, the connection definitions should be created with these DBs, not in Microsoft SQL Server.

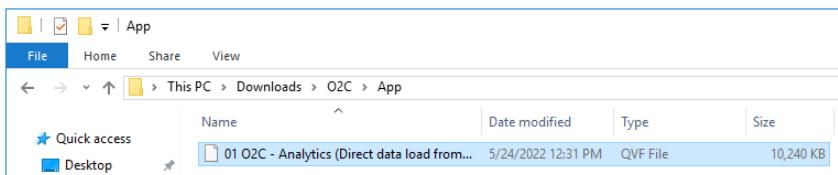
13.1 Qlik Sense Desktop

- ① Check the folder containing the Qlik Sense app.

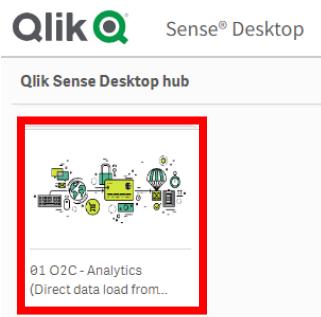


- ② Copy the app files to the folder

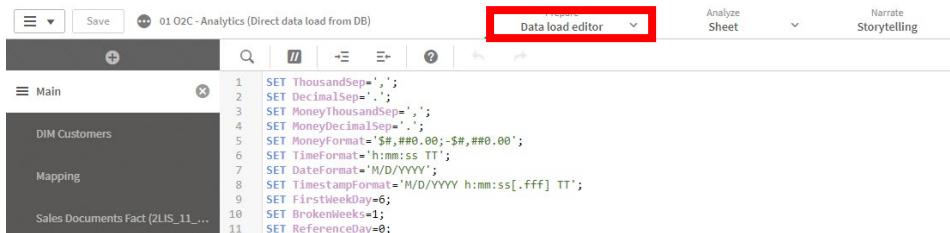
"C:\Users\%USERNAME%\Documents\Qlik\Sense\Apps".



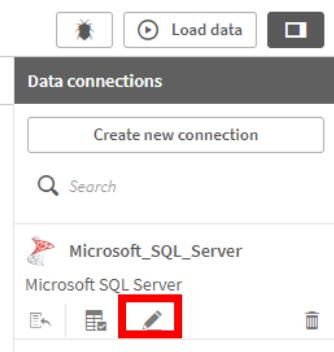
- ③ Launch Qlik Sense and click on the application.



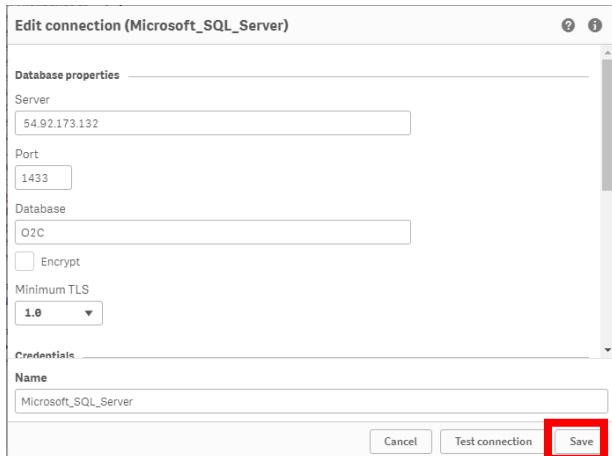
④ Open the Data Load Editor screen.



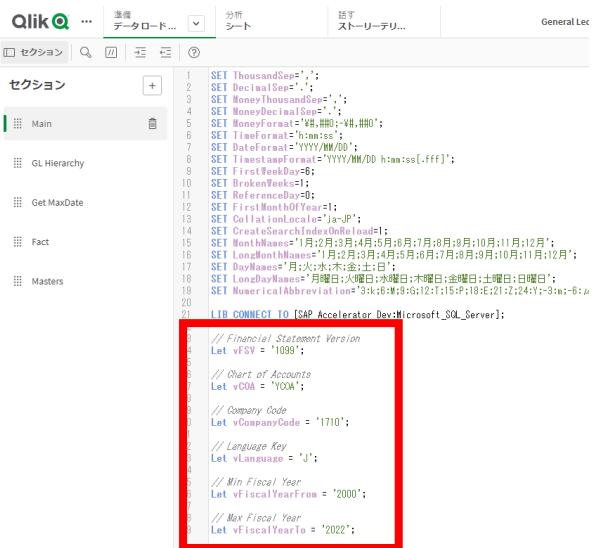
⑤ From the data connection definition, click the Edit button for "Microsoft_SQL_Server".



⑥ Update the connection information, test the connection, and save it.



- ⑦ Depending on the app, variable settings may be required in the "Main" tab of the load script, so set the appropriate values for the variables. For "Finance" apps, there are variable settings for Chart of Account and Financial Statement Version. Please refer to [Appendix 8: Checking Chart of Account and Financial Statement Version](#) to find out the appropriate values for these variables.

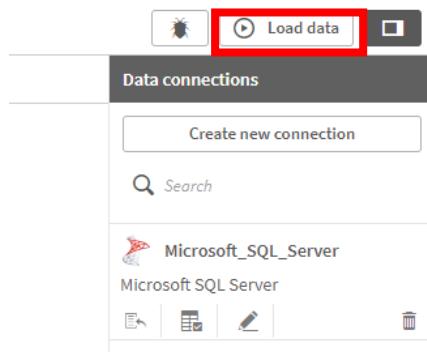


```

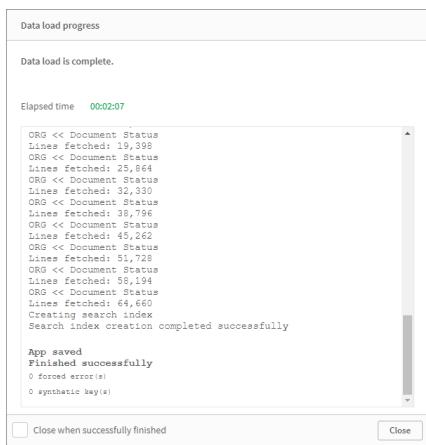
1 SET ThousandSep(',');
2 SET DecimalSep '.';
3 SET MoneyThousandSep(',');
4 SET MoneyDecimalSep '.';
5 SET Moneyformat="#,##0;#,##0";
6 SET Timeformat="h:mm:ss";
7 SET Dateformat="YYYY/MM/DD hh:mm:ss[.ffff]";
8 SET Ticketformat="YYYY/MM/DD hh:mm:ss[.ffff]";
9 SET FirstWeekDay=2;
10 SET BrokenWeek=1;
11 SET ReferenceDay=0;
12 SET FirstMonthOfYear=1;
13 SET CollationName='ja_JP';
14 SET DateSeparatorInLabel=1;
15 SET MonthNames='1月:2月:3月:4月:5月:6月:7月:8月:9月:10月:11月:12月';
16 SET LongMonthNames='1月:2月:3月:4月:5月:6月:7月:8月:9月:10月:11月:12月';
17 SET DayNames='月曜日:火曜日:水曜日:木曜日:金曜日:土曜日:日曜日';
18 SET LongDayNames='月曜日:火曜日:水曜日:木曜日:金曜日:土曜日:日曜日';
19 SET NumericalAbbreviation='3kk:6mm:8G12:1T:15:P:18:E:21:Z:24:Y:-3:n:-6:u';
20
21 LIB CONNECT TO [SAP Accelerator Dev:Microsoft_SQL_Server];
22
23 // Financial Statement Version
24 Let vFSV = '1099';
25
26 // Chart of Accounts
27 Let vCOA = 'Y03M';
28
29 // Company Code
30 Let vCompanyCode = '1710';
31
32 // Language Key
33 Let vLanguage = 'J';
34
35 // Min Fiscal Year
36 Let vfiscalYearFrom = '2000';
37
38 // Max Fiscal Year
39 Let vfiscalYearTo = '2022';

```

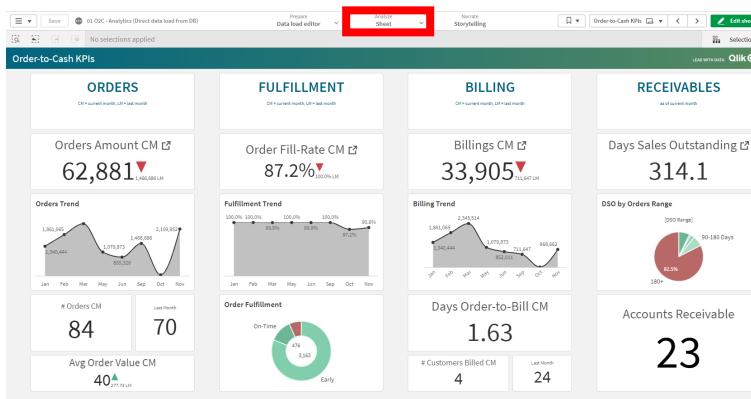
- ⑧ Click [Load data].



- ⑨ Verify that the data has been successfully loaded.

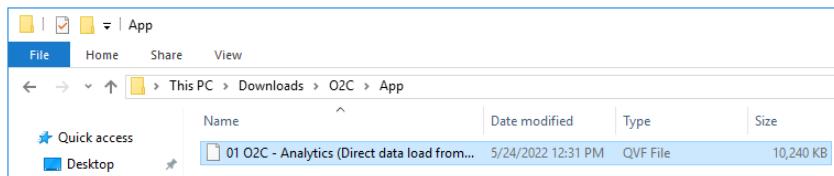


- ⑩ Display the sheet screen and verify that the values are displayed without problems.



13.2 Qlik Sense Enterprise Client Managed (CM)

- ① Check the folder containing the Qlik Sense app.



- ② Open the QMC screen (<https://<hostname>/qmc/>) and click on [Apps].

The screenshot shows the QMC Start screen. The left sidebar has a red box around the 'Apps' option under 'MANAGE CONTENT'. The main area has several sections: 'Tasks' (with filters '#My tasks', '#Everyone', '#Monitoring apps'), 'Users' (with a note about importing users), 'App objects' (with filter '#My app objects'), 'Streams' (with filter '#My streams'), and 'License management' (with a note about License Enabler File). A red box highlights the 'Apps' section in the center.

- ③ Click [Import].

The screenshot shows the QMC Apps screen. The top navigation bar has 'Start' and 'Help' with a dropdown 'qmi'. The main area shows a table of two apps: 'License Monitor' and 'Operations Monitor'. At the bottom, there are buttons for 'Edit', 'Delete', 'Publish', 'Move', 'Import' (which is highlighted with a red box), and 'More actions'.

- ④ Click [Choose File], select the app file, and click [Import].

The screenshot shows the 'Import app' dialog box. It has fields for 'Choose File' (highlighted with a red box) and 'App name' ('01 O2C - Analytics (Direct data load from DB)'). A yellow box contains a note: 'If the name of a data connection in the imported app is the same as the name of an existing data connection, the data connection will not be imported.' At the bottom are 'Cancel' and 'Import' buttons, with 'Import' highlighted with a red box.

- ⑤ Confirm that the application has been imported without problems.

The screenshot shows the Qlik Sense Enterprise interface. At the top, there's a navigation bar with 'Start', 'Help', and a user icon. Below it is a search bar and a 'Actions' dropdown. The main area is titled 'Apps Showing: 3 Selected: 0'. A table lists three applications: 'License Monitor' (Owner: sa_repository [INTERNAL], Published: 2022-05-31 07:09, Stream: Monitoring apps), 'Operations Monitor' (Owner: sa_repository [INTERNAL], Published: 2022-05-31 07:09, Stream: Monitoring apps), and '01 O2C - Analytics (Dir...' (Owner: qmi [QMI-QS-FF97qm]), which is currently selected. Below the table, a box titled 'Ongoing transports: 1 items' shows a single transport named 'Import' for the '01 O2C - Analytics' app, with a duration of '00:00:02'. At the bottom of this box are buttons for 'Edit', 'Delete', 'Publish', 'Move', 'Import', and 'More actions'.

- ⑥ Open the Qlik Sense Hub screen (<https://<hostname>/hub>) and click on Apps.

The screenshot shows the Qlik Sense Hub screen. On the left, there's a sidebar with a user profile for 'qmi', a dropdown for 'Personal', and a list of sections: 'Work' (highlighted with a red box), 'Published', 'Streams', 'Everyone', and 'Monitoring apps'. The main area is titled 'Work' and contains a thumbnail for the '01 O2C - Analytics' application, which is also highlighted with a red box. At the top right, there's a 'Create new app' button.

- ⑦ Open the Data Load Editor screen.

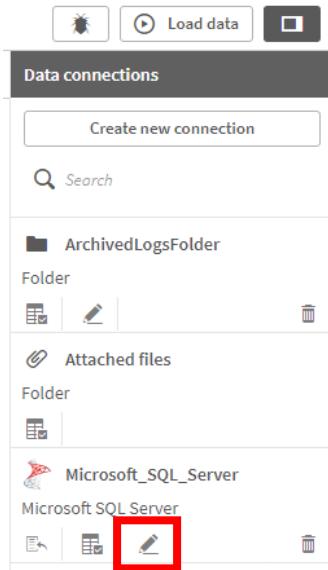
The screenshot shows the Qlik Data Load Editor screen. At the top, there's a header with a user icon, the app name '01 O2C - Analytics (Direct data load from DB)', and a dropdown menu 'Data load editor' (which is highlighted with a red box). To the right of the dropdown are buttons for 'Prepare', 'Analyze Sheet', 'Narrate', and 'Storytelling'. The main area is divided into sections: 'Main' (containing code snippets 1-9), 'DIM Customers' (with a delete icon), and 'Mapping'. On the far left, there's a toolbar with icons for creating new objects and a search bar.

```

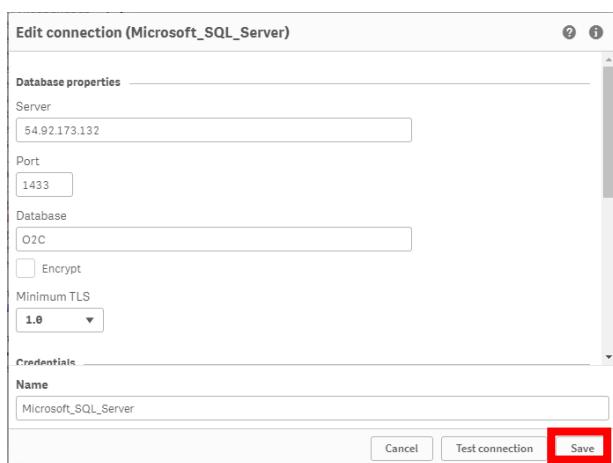
1 SET ThousandSep=',';
2 SET DecimalSep='.';
3 SET MoneyThousandSep=',';
4 SET MoneyDecimalSep='.';
5 SET MoneyFormat='$#,##0.00-$#,##0.00';
6 SET TimeFormat='h:mm:ss TT';
7 SET DateFormat='M/D/YYYY';
8 SET TimestampFormat='M/D/YYYY h:mm:ss[.fff] TT';
9 SET FirstWeekDay=6;

```

- ⑧ From the data connection definition, click the Edit button for "Microsoft_SQL_Server".



- ⑨ Update the connection information, test the connection, and save it.



- ⑩ Comment out "LIB CONNECT TO 'Microsoft_SQL_Server';" in the load script and add the connection string from the connection definition you just edited.

The screenshot shows the 'ServerLogFolder' interface. On the left is a code editor with a portion of a T-SQL script. Lines 22 and 23 contain the commented-out line: // LIB CONNECT TO 'Microsoft_SQL_Server';. On the right is a tree view of database connections. 'Microsoft_SQL_Server (qmi-qs-ff97_qmi)' is selected and its edit icon is highlighted by a red box. Other nodes in the tree include 'Microsoft SQL Server' and 'ServerLogFolder'.

```

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= 3:k;6:M;9:B;12:T;15:P;18:E;21:Z;24:Y;-3:m;-6:u;-9:n;-12:p;-15:f;-18:a;-21:z;-24:y';
20 SET HidePrefix='_';
21
22 // LIB CONNECT TO 'Microsoft_SQL_Server';
23 // LIB CONNECT TO 'Microsoft_SQL_Server (qmi-qs-ff97_qmi)';
24
25

```

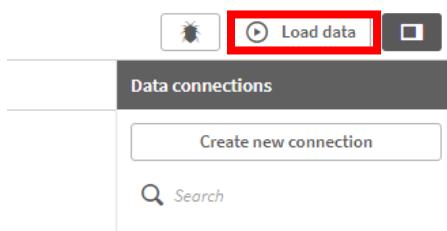
- ⑪ Depending on the app, variable settings may be required in the "Main" tab of the load script, so set the appropriate values for the variables. For "Finance" apps, there are variable settings for Chart of Account and Financial Statement Version. Please refer to [Appendix 8: Checking Chart of Account and Financial Statement Version](#) to find out the appropriate values for these variables.

```

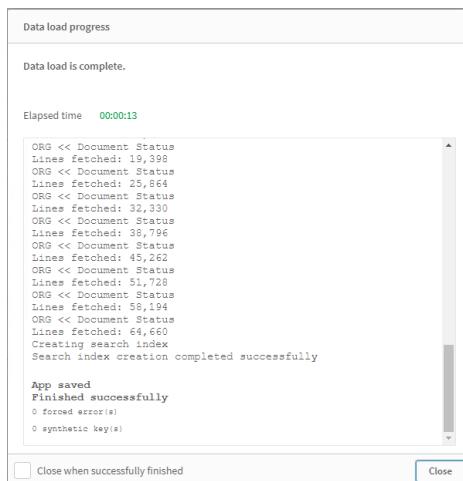
SET ThousandSep(',');
SET DecimalSep '.';
SET MoneyThousandSep(',');
SET MoneyDecimalSep '.';
SET Moneyformat="#,##0;-,###0";
SET Timeformat="h:mm:ss";
SET Dateformat="YYYY/MM/DD h:mm:ss[.ffff]";
SET Ticketformat="YYYY/MM/DD h:mm:ss[.ffff]";
SET FirstWeekDay=2;
SET BrokenWeek=1;
SET ReferenceDay=0;
SET FirstMonthOfYear=1;
SET CollationName='ja_JP';
SET MonthNames='1月:2月:3月:4月:5月:6月:7月:8月:9月:10月:11月:12月';
SET LongMonthNames='1月:2月:3月:4月:5月:6月:7月:8月:9月:10月:11月:12月';
SET DayNames='月:火:水:木:金:土:日';
SET LongDayNames='月曜日:火曜日:水曜日:木曜日:金曜日:土曜日:日曜日';
SET NumericalAbbreviation='3'k:6'k:9'G:12';T:15:P:18:E:21:Z:24:Y:-3:m:-6:h;
LIB CONNECT TO [SAP Accelerator Dev:Microsoft_SQL_Server];
// Financial Statement Version
Let vFSV = '1099';
Let vDM = 'Y03M';
// Chart of Accounts
Let vCMA = '1710';
// Company Code
Let vCompanyCode = '1710';
// Language Key
Let vLanguage = 'J';
// Min Fiscal Year
Let vFiscalYearFrom = '2000';
// Max Fiscal Year
Let vFiscalYearTo = '2022';

```

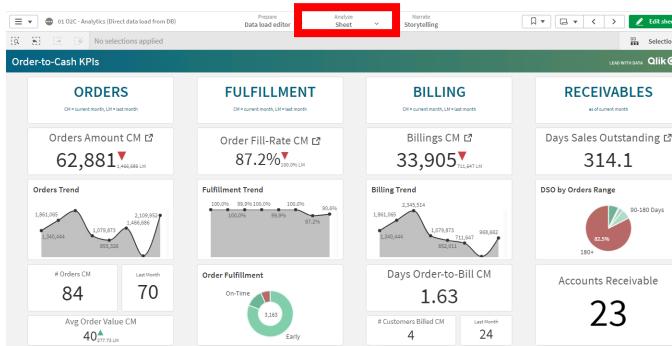
- ⑫ Click [Load data].



- ⑬ Verify that the data has been successfully loaded.

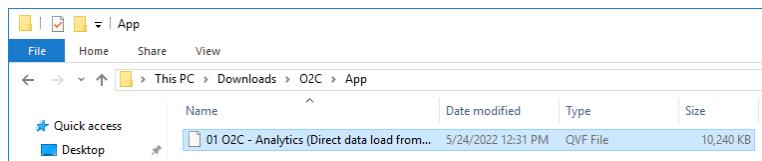


- ⑯ Display the sheet screen and verify that the values are displayed without problems.

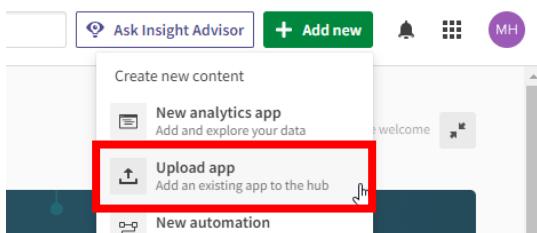


13.3 Qlik Sense SaaS

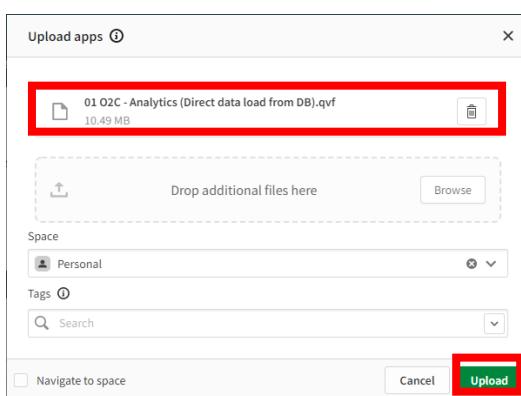
- ① Check the folder containing the Qlik Sense app.



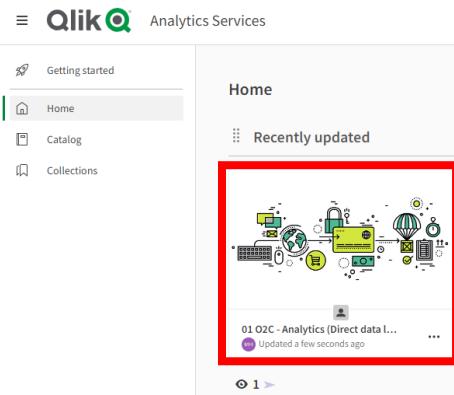
- ② Log on to the Qlik Sense SaaS screen and select [Add new]>[Upload app] in the upper right corner of the screen.



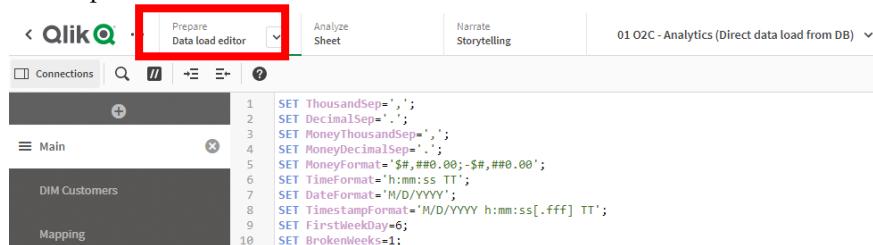
- ③ Select the app file and click Upload.



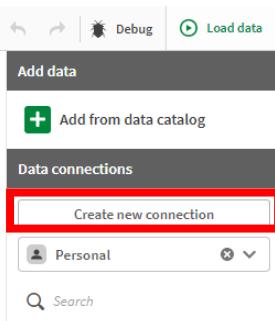
- ④ Click on the added app to open it.



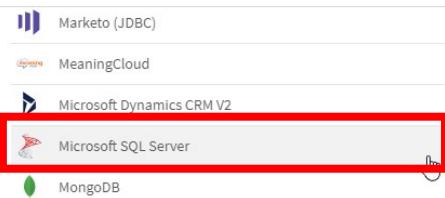
- ⑤ Open the Data Load Editor screen.



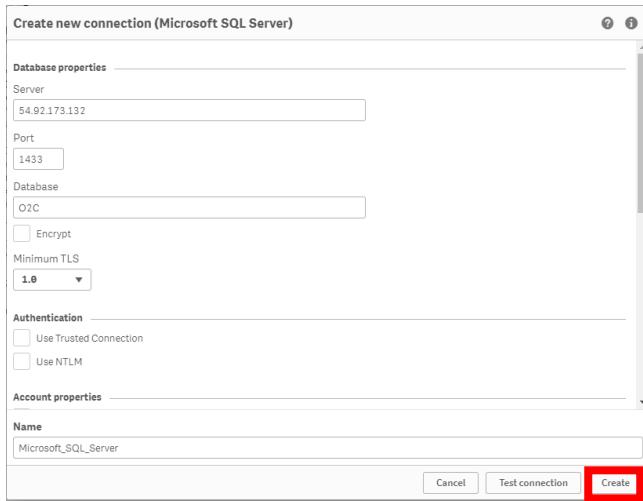
- ⑥ From the data connection definition, click [Create new connection].



- ⑦ Select "Microsoft SQL Server" from the list.



- ⑧ Enter authentication and other information. Specify "Database" as O2C, INV, FIN, or P2P. Change the [Name] to "Microsoft_SQL_Server" and click [Create].



- ⑨ Depending on the app, variable settings may be required in the "Main" tab of the load script, so set the appropriate values for the variables. For "Finance" apps, there are variable settings for Chart of Account and Financial Statement Version. Please refer to [Appendix 8: Checking Chart of Account and Financial Statement Version](#) to find out the appropriate values for these variables.

QlikQ ... データロード... 分析 シート 言語 ストーリーテリ... General Loc

セクション +

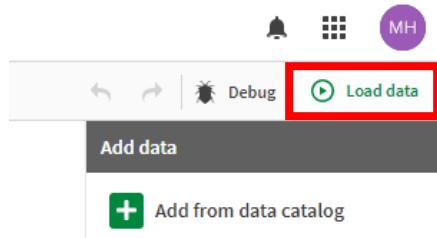
Main

```

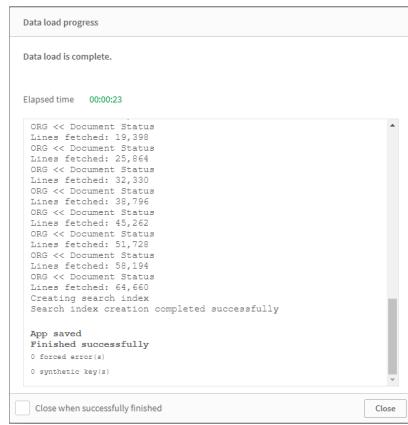
1 SET ThousandSep(',');
2 SET DecimalSep '.';
3 SET MoneyThousandsSep ',',';
4 SET MoneyDecimalSep '.';
5 SET Moneyformat='###,##0-###,##0';
6 SET Timeformat='HH:MM:SS';
7 SET Dateformat='YYYY/MM/DD';
8 SET Timestampformat='YYYY/MM/DD hh:mm:ss[.ffff]';
9 SET FirstWeekDay=1;
10 SET BrokenWeek=1;
11 SET ReferenceKey=0;
12 SET FirstMonthOfYear=1;
13 SET First12MonthsIndex=1;
14 SET CreateSearchIndexWithLoad=1;
15 SET MonthNames='1月;2月;3月;4月;5月;6月;7月;8月;9月;10月;11月;12月';
16 SET LongMonthNames='1月;2月;3月;4月;5月;6月;7月;8月;9月;10月;11月;12月';
17 SET DayNames='月曜日;火曜日;水曜日;木曜日;金曜日;土曜日;日曜日';
18 SET LongDayNames='月曜日;火曜日;水曜日;木曜日;金曜日;土曜日;日曜日';
19 SET NumericalAbbreviation='3sk;6W;9G;12T;15P;18E;2Z;2;24Y;3n;-6;μ
20
21 LIB CONNECT TO [SAP Accelerator Dev:Microsoft_SQL_Server];
22
23 // Financial Statement Version
24 Let vFSV = '1098';
25
26 // Chart of Accounts
27 Let vCOA = 'Y0M';
28
29 // Company Code
30 Let vCompanyCode = '1710';
31
32 // Language Key
33 Let vLanguage = 'J';
34
35 // Min Fiscal Year
36 Let vFiscalYearFrom = '2000';
37
38 // Max Fiscal Year
39 Let vFiscalYearTo = '2022';

```

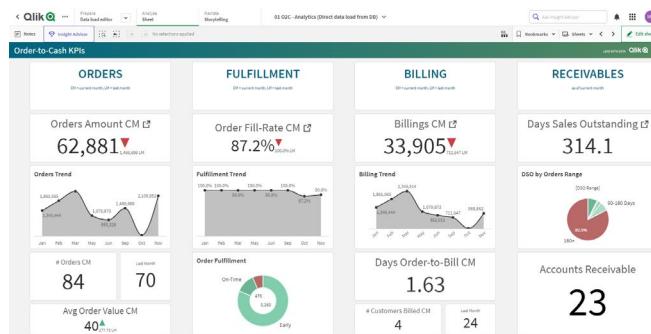
⑩ Click [Load data].



⑪ Verify that the data has been successfully loaded.



⑫ Display the sheet screen and verify that the values are displayed without problems.

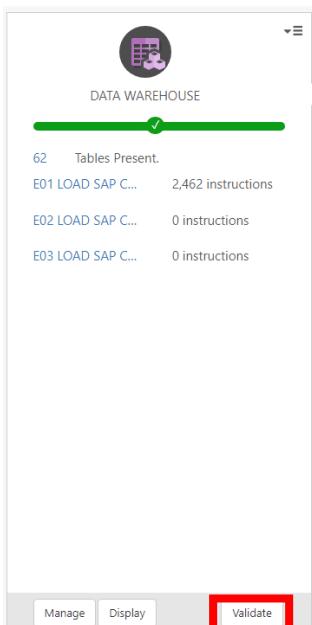


Appendix 1: Setting up CO-PA in Finance

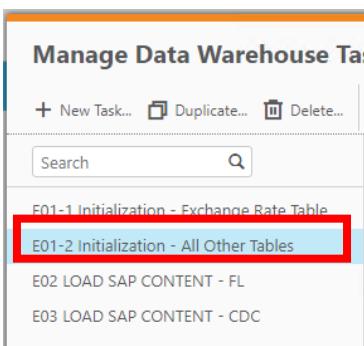
To extract CO-PA data, it is a prerequisite that CO-PA settings have been completed in advance on the SAP side. The following is an overview of the work required to extract the data, assuming that the settings have been completed.

Setting up CO-PA on Qlik Compose

- ① Open the "Finance" project on Qlik Compose and click on "Manage" under "DATA WAREHOUSE".



- ② [Open the tab E01-2 Initialization - All Other Tables.



- ③ Turn on the "Map_E1_CO_PA_DS2_S4_HANA_SAP Landing" checkbox if the source is SAP S/4 HANA or "Map_E1_CO_PA_DS2_SAP Landing" if the source is SAP ECC. If you do not use CO-PA, leave both checkboxes turned off.

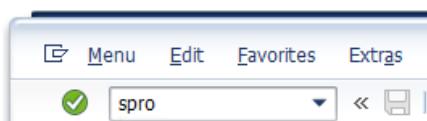
| | | |
|---------------|-------------------------------------|---|
| E0VENDOR_TEXT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_E0VENDOR_TEXT_SAP Landing |
| E1_CO_PA_DS2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> Map_E1_CO_PA_DS2_SAP Landing <input checked="" type="checkbox"/> Map_E1_CO_PA_DS2_S4_HANA_SAP Landing |
| Time | <input checked="" type="checkbox"/> | |

Perform the same procedure above with the "E03 LOAD SAP CONTENT - CDC" tab open.

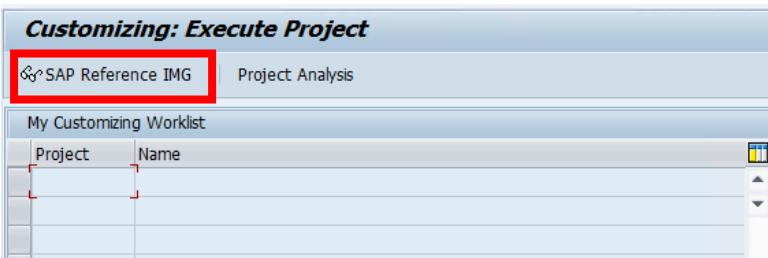
Confirmation of Operating Concern

Information on the Operating Concern (CO-PA) is required to activate CO-PA. Here, we explain how to confirm the information based on the Company Code.

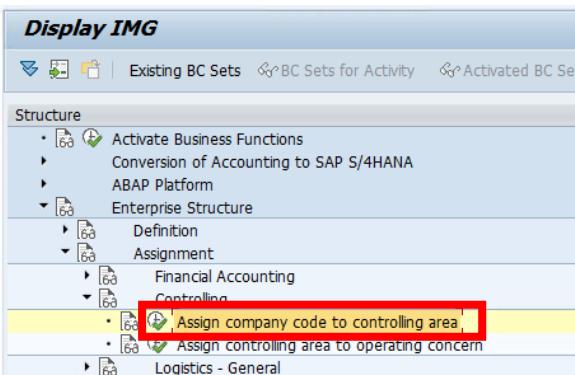
- ① Enter T-code "spro".



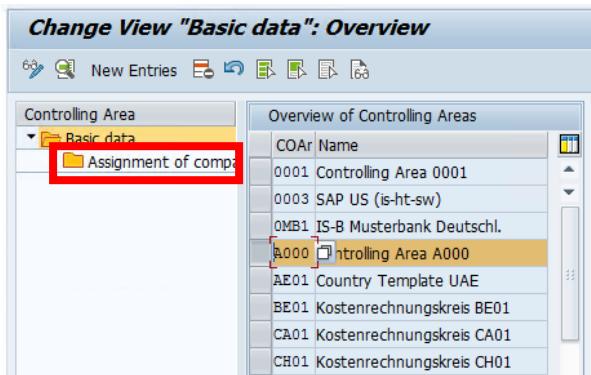
- ② Select [SAP Reference IMG].



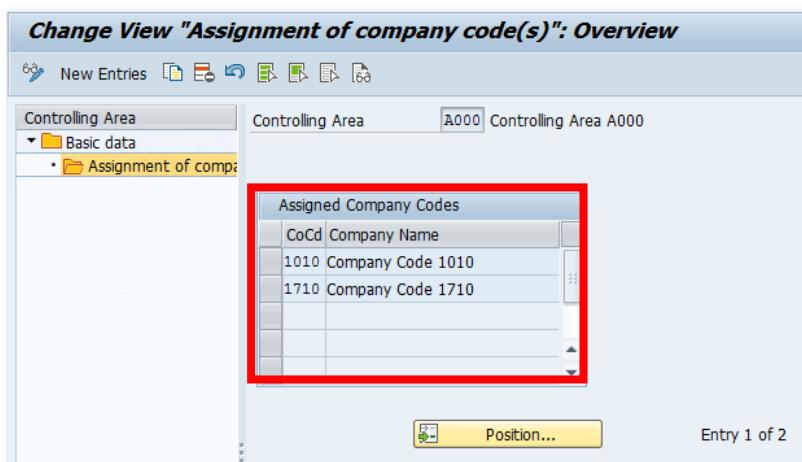
- ③ Click on [Enterprise Structure] > [Assignment] > [Controlling] > [Assign company code to controlling area].



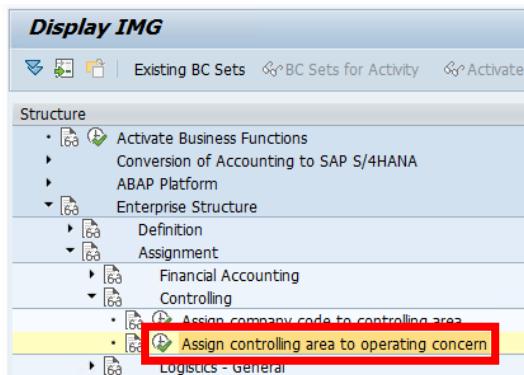
- ④ Select Controlling Area from the list and click [Assignment of company code].



- ⑤ You can check the Company Code assigned to the Controlling Area.



- ⑥ Return to the SAP Reference IMG screen and click [Enterprise Structure] > [Assignment] > [Controlling] > [Assign controlling area to operating concern]. Click [Assign controlling area to operating concern].

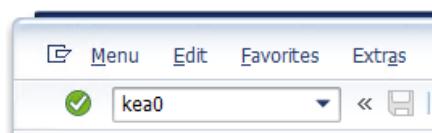


- ⑦ You can check the Operating Concern assigned to the Controlling Area.

| Change View "Assignment Operating concern -> CO Area": Overview | | | |
|---|---------------------------|------|-----------------------------|
| COAr | Name | OpCo | Name |
| 0001 | Controlling Area 0001 | S001 | Example Operating Concern 1 |
| 0003 | SAP US (is ht sw) | S001 | Example Operating Concern 1 |
| OMB1 | IS-B Musterbank Deutschl. | | |
| A000 | Controlling Area A000 | A000 | Best Practices |
| AE01 | Country Template UAE | | |
| BE01 | Kostenrechnungskreis BE01 | S001 | Example Operating Concern 1 |
| CA01 | Kostenrechnungskreis CA01 | S001 | Example Operating Concern 1 |
| CH01 | Kostenrechnungskreis CH01 | S001 | Example Operating Concern 1 |
| CN01 | Kostenrechnungskreis CN01 | S001 | Example Operating Concern 1 |
| CO01 | Kostenrechnungskreis CO01 | S001 | Example Operating Concern 1 |
| COPY | Test | | |
| CZ01 | Kostenrechnungskreis CZ01 | S001 | Example Operating Concern 1 |
| DE01 | Kostenrechnungskreis GKR | S001 | Example Operating Concern 1 |
| DE02 | Kostenrechnungskreis IKR | S001 | Example Operating Concern 1 |
| EG01 | Country Template Egypt | | |

Confirmation of activation of Costing-based

- ① Enter transaction code "kea0".

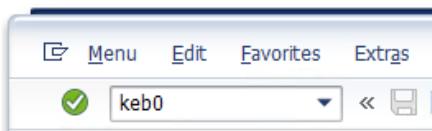


- ② Enter [Operating Concern] as confirmed in the previous step and press [Enter]. Confirm that [Costing-based] is ON. If not, you need to activate it.

| Maintain Operating Concern | |
|---|---------------------|
| Operating Concern | 0001 Best Practices |
| Status | CC |
| <input type="button" value="Data Structure"/> <input type="button" value="Attributes"/> <input type="button" value="Environment"/> | |
| Description | Best Practices |
| Type of Profitability Analysis <input checked="" type="checkbox"/> Costing-based <input checked="" type="checkbox"/> Margin Analysis <input type="checkbox"/> Combined | |
| <input type="button" value="Display"/> Status CC | |

CO-PA data source activation

- ① Enter transaction code "keb0".



- ② Enter "1_CO_PA_DS2" in the [CO-PA DataSource] field. Select [Create], enter [Operating concern], select [Costing-based] and click [Execute].

CO-PA / SAP BW: DataSource for Transaction Data

| | |
|---|---|
| <input type="button" value="New"/> | Control Parameters |
| | CO-PA DataSource <input type="text" value="1_CO_PA_DS2"/> |
| Function | |
| <input type="radio"/> Display | |
| <input checked="" type="radio"/> Create | |
| Operating concern <input type="text" value="A000"/> | |
| <input checked="" type="radio"/> Costing-based | |
| <input type="radio"/> Account-based | |
| <input type="radio"/> Delete | |

- ③ Enter [Short Text], [Medium-Length Text], [Long Text], and [Field Name for Partitioning] as follows

CO-PA / SAP BW: DataSource for Transaction Data

| | | | |
|---|------------------------------|------|----|
| DataSource | 1_CO_PA_DS2 | | |
| Delta Method | Generic Delta | | |
| Logical System | S4HCLNT100 | | |
| Operating concern | A000 | | |
| Type of Profit. Analysis | Costing-Based Prof. Analysis | | |
| Extract structure (DDIC) | | | |
| Short Text | DS2 | | |
| Medium-Length Text | DS2 | | |
| Long Text | DS2 | | |
| Field Name for Partitioning | BUKRS | | |
| Characteristics from the segment level | | | |
| <input checked="" type="checkbox"/> Currency type | PALEDER | CHAR | 2 |
| <input checked="" type="checkbox"/> Fiscal Year | GUJAHR | NUMC | 4 |
| <input checked="" type="checkbox"/> Period/Year | PERIO | NUMC | 7 |
| <input checked="" type="checkbox"/> Plan/Act. Indicator | PLIKZ | CHAR | 1 |
| <input checked="" type="checkbox"/> Record Type | VRGAR | CHAR | 1 |
| <input checked="" type="checkbox"/> Version | VERSI | CHAR | 3 |
| <input checked="" type="checkbox"/> Week/year | ALTPERIO | NUMC | 7 |
| Characteristics from the segment table | | | |
| <input checked="" type="checkbox"/> Company Code | BUKRS | CHAR | 4 |
| <input checked="" type="checkbox"/> Bill-to Party | KUNRE | CHAR | 10 |
| <input checked="" type="checkbox"/> Billing Type | FKART | CHAR | 4 |
| <input checked="" type="checkbox"/> Business Area | GSEBER | CHAR | 4 |
| <input checked="" type="checkbox"/> CO Area | KOKRS | CHAR | 4 |
| <input checked="" type="checkbox"/> Contract | VITKEY | CHAR | 20 |

- ④ Check the boxes for all items.

CO-PA / SAP BW: DataSource for Transaction Data

| <input checked="" type="checkbox"/> | Total var. COGM | COPACOGSV | CURR | 23 REC_WAERS |
|-------------------------------------|----------------------|-----------|------|--------------|
| <input checked="" type="checkbox"/> | CM I | COPAMRGN1 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Material Overhd Cst | COPAMATCH | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Fixed prod. costs | COPAPRDCF | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Total fixed COGM | COPACOGSF | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | CM II | COPAMRGN2 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Total Variances | COPAVRNCS | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | CM III | COPAMRGN3 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Marketing Overhead | COPAOHMRK | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Sales Overhead | COPAOHSLS | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Admin. Overhead | COPAOHADM | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | R & D Overhead | COPAOHRND | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Logistical Overhead | COPAOHLOG | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Other Overhead Costs | COPAOHOTH | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Total Overhead Cst | COPAOVHDC | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Operating profit | COPAPROFI | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Ratio 1 | COPAUSR01 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Ratio 2 | COPAUSR02 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Key Figure 3 | COPAUSR03 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Key Figure 4 | COPAUSR04 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Key Figure 5 | COPAUSR05 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Key Figure 6 | COPAUSR06 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Key Figure 7 | COPAUSR07 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Key Figure 8 | COPAUSR08 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Key Figure 9 | COPAUSR09 | CURR | 23 REC_WAERS |
| <input checked="" type="checkbox"/> | Total COGM | COPACOGS | CURR | 23 REC_WAERS |

Characteristics Calculated upon Extraction
(No selection conditions may be entered for the upload of transaction data to SAP BW)

Cust. lifetime COPACLT NUMC 4

- ⑤ Click on the [Infocatalog] icon (rightmost icon).



- ⑥ Click [Save].

DataSource: Customer version Edit

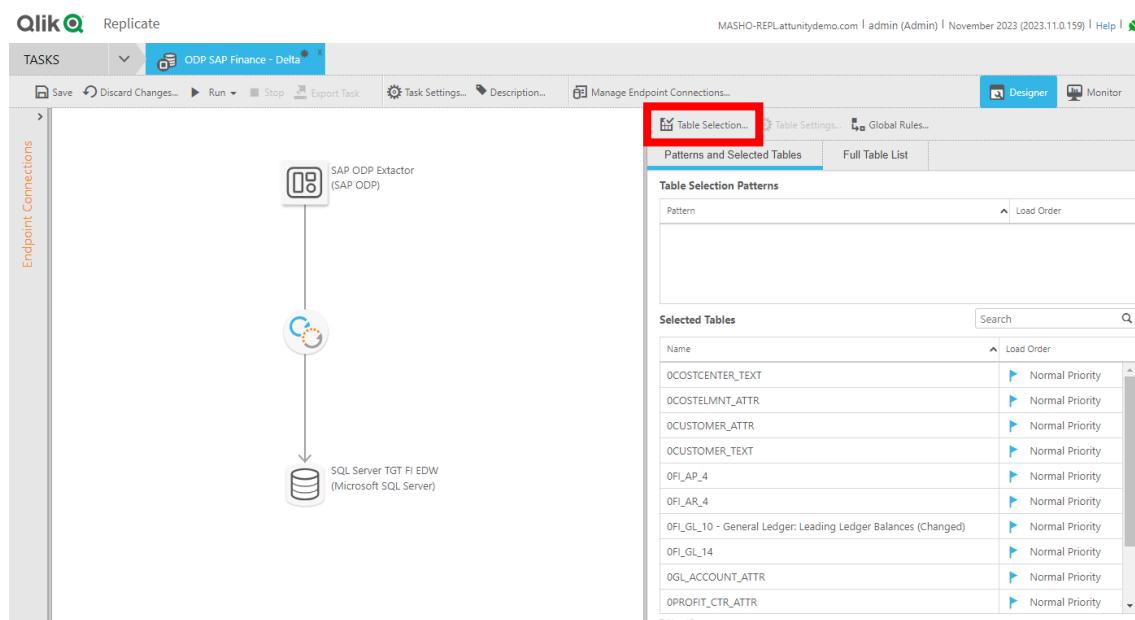
| Header Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------------------|-------------------------------|--------------------------|--------------------------|--------------------------|------------|-----------|------------|-----------|--------------|---------|---------------|--------------------------|--------------------------|--------------------------|--------------------------|---------|-----------|--------------------------|--------------------------|--------------------------|--------------------------|-------|-------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|-------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------|-------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|----------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------|----------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|--------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|---------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|--------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|---------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| DataSource | 1_CO_PA_DS2 | Package | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Description | DS2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extraction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ExtractStruct. | ZOXS4H0111 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Direct Access | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Delta Update | <input checked="" type="checkbox"/> | DataSource for Reconciliation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Field Name</th> <th>Short text</th> <th>Selection</th> <th>Hide field</th> <th>Inversion</th> <th>Field only..</th> </tr> </thead> <tbody> <tr><td>CURTYPE</td><td>Currency type</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>VALUTYP</td><td>Valuation</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>GJAHM</td><td>Fiscal Year</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>PERIV</td><td>Fiscal Year Variant</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>PERIO</td><td>Period/Year</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>WRTIP</td><td>Value type for Reporting</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>VRGAAT</td><td>Record Type</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>VERS1</td><td>Plan version (CO-PA)</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>CALWEEK</td><td>Calendar year / week</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>BUKRS</td><td>Company Code</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>KUNRE</td><td>Bill-to Party</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>FKART</td><td>Billing Type</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>GSBER</td><td>Business Area</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> <tr><td>KOKRS</td><td>Controlling Area</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr> </tbody> </table> | | | | | Field Name | Short text | Selection | Hide field | Inversion | Field only.. | CURTYPE | Currency type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | VALUTYP | Valuation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | GJAHM | Fiscal Year | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | PERIV | Fiscal Year Variant | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | PERIO | Period/Year | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | WRTIP | Value type for Reporting | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | VRGAAT | Record Type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | VERS1 | Plan version (CO-PA) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CALWEEK | Calendar year / week | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | BUKRS | Company Code | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | KUNRE | Bill-to Party | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | FKART | Billing Type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | GSBER | Business Area | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | KOKRS | Controlling Area | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Field Name | Short text | Selection | Hide field | Inversion | Field only.. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CURTYPE | Currency type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VALUTYP | Valuation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GJAHM | Fiscal Year | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PERIV | Fiscal Year Variant | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PERIO | Period/Year | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WRTIP | Value type for Reporting | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VRGAAT | Record Type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VERS1 | Plan version (CO-PA) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CALWEEK | Calendar year / week | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BUKRS | Company Code | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KUNRE | Bill-to Party | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FKART | Billing Type | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GSBER | Business Area | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KOKRS | Controlling Area | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

- ⑦ Confirm that the CO-PA data source has been created and click [Continue]. After completing the settings, perform a test to see if data can be extracted from "1_CO_PA_DS2" by following the procedure in [8 Confirmation of data source extraction via ODP](#). If data is not extracted, you will need to review the settings based on the description such as "[SAP BW COPA Extraction in detail, Delta Mechanisms and few challenges faced during Implementation](#)".

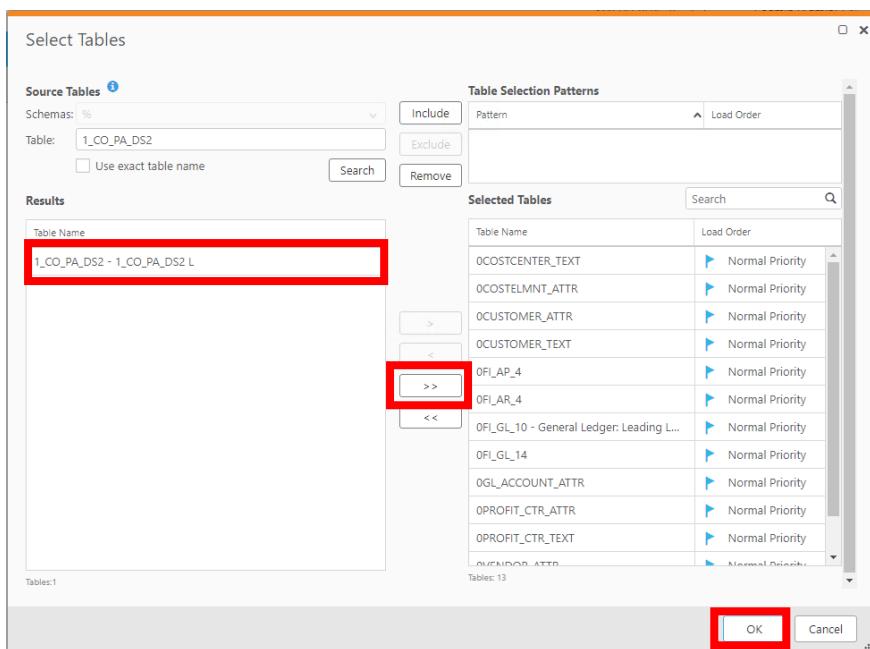


Adding a CO-PA table to a Qlik Replicate task

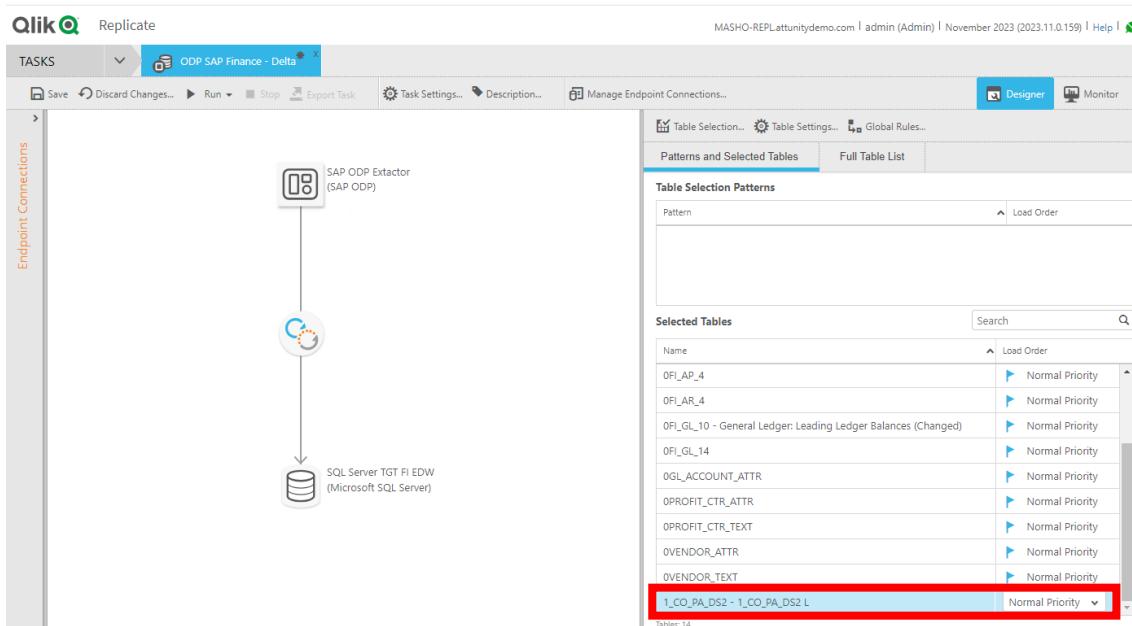
On the Qlik Replicate console, open the Finance task and click [Table Selection..]



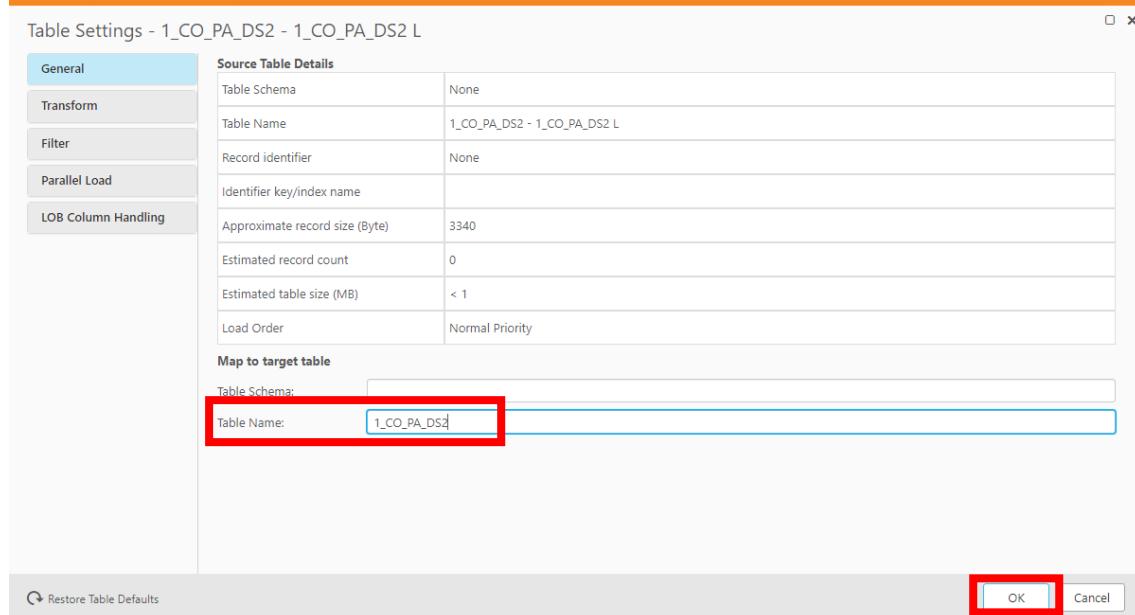
Add the "1_CO_PA_DS2" data source to [Selected Tables] and click [OK].



Double-click “1_CO_PA_DS2” table in the Selected Table.



For Table Name, type “1_CO_PA_DS2” and click [OK].

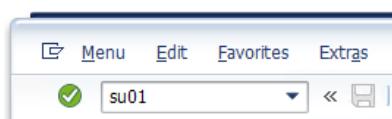


Appendix 2: Creating user for Qlik Replicate

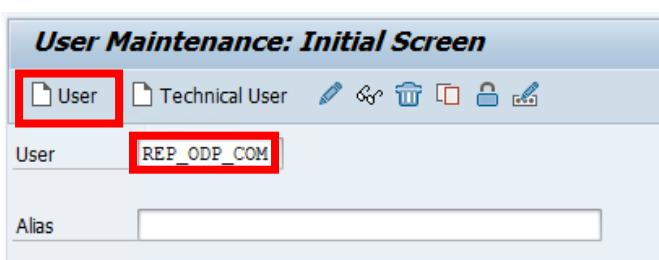
Creating user

To use SAP ODP as a source in the Qlik Replicate task, create a SAP user configured with the permission settings described below.

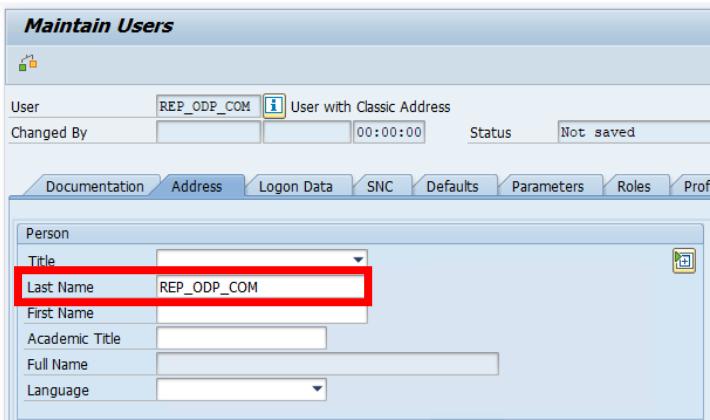
- ① Enter T-code "su01".



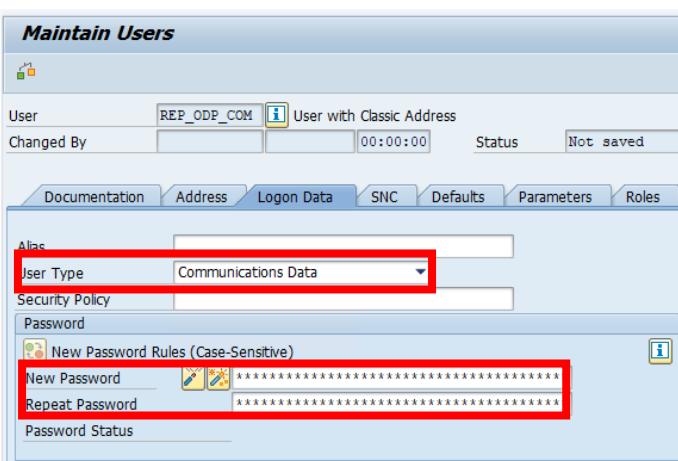
- ② Enter a user name in [User] and click [User].



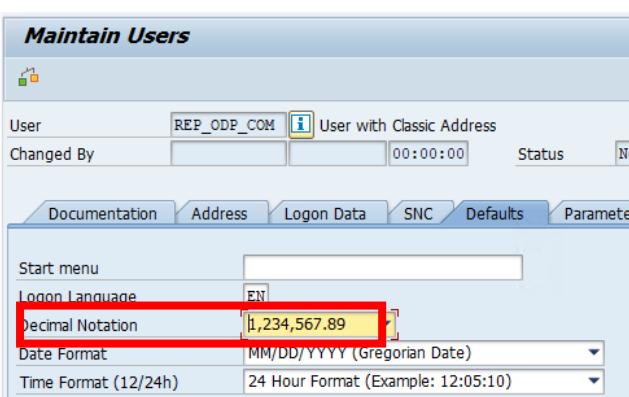
- ③ In the [Address] tab, enter the [Last name].



- ④ On the [Logon Data] tab, select [Communications Data] for [User Type] and enter the password.



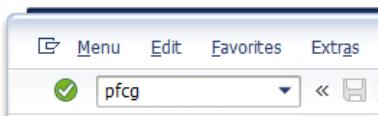
- ⑤ Click the [Defaults] tab, set [Decimal Notation] to "1,234,567.89" and click [Save].



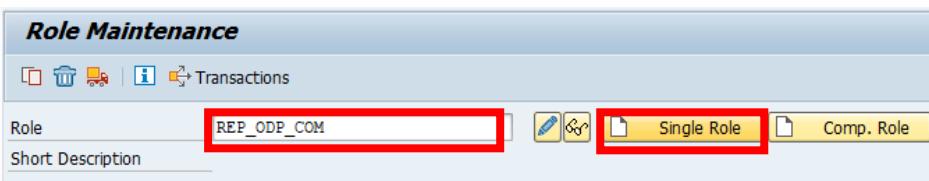
Creating role profiles

Authorization objects that need to be added to the user profile are as follows:

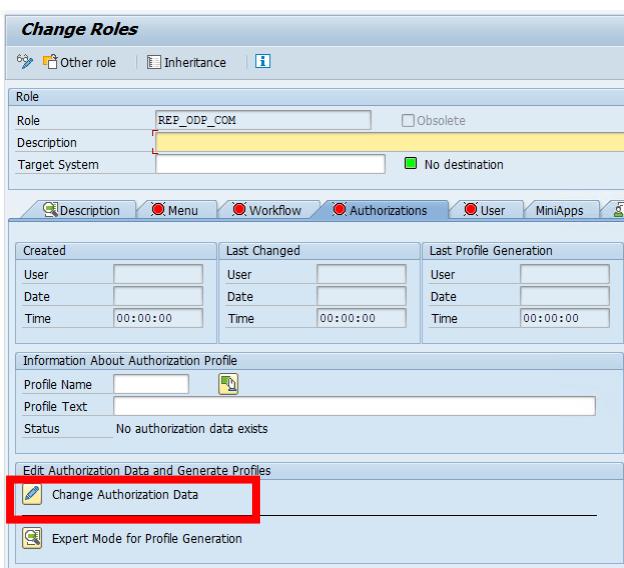
- ① Enter T-code "pfcg".



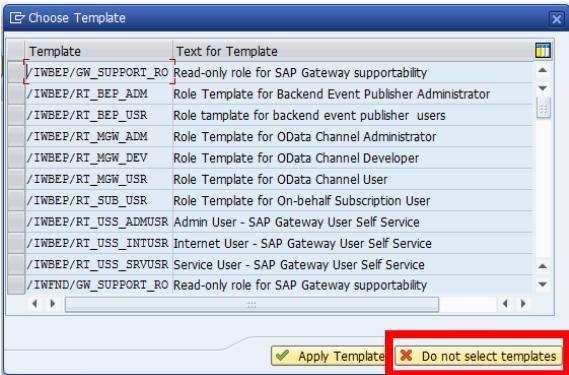
- ② Enter a role name in [Role] and click [Single Role].



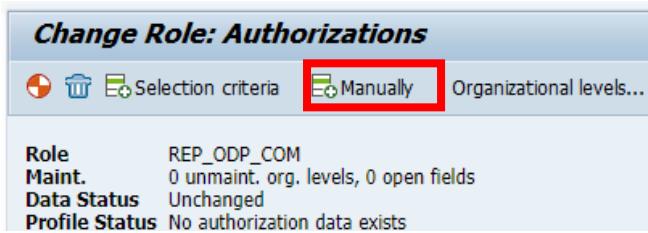
- ③ [Open the Authorizations tab and click on [Change Authorization Data].



④ Click on [Do not select templates].



⑤ Click [Manually].



⑥ Here, first enter the [Authorization Object] to add the "S_RFC" authorization object, and click [Continue].



- ⑦ Edit each authority object added to the list as follows:

S_RFC

| Group/Object/Authorization/Field | Maintain... | Value | Text |
|----------------------------------|-------------|---|--|
| Object class AAAB | Manually | | Cross-application Authorization Objects |
| Authorization Object S_RFC | Manually | | Authorization Check for RFC Access |
| Authorizat. 00 | Manually | Function Module | Authorization Check for RFC Access |
| RFC_TYPE | Manually | RFCPING, RFC_FUNCTION_SEARCH, RFC_GET_FUNCTI... | Type of RFC object to which access is to be allowed |
| RFC_NAME | Manually | Execute | Name (Allowlist) of RFC object to which access is all... |
| ACTVT | Manually | | Activity |

| Field Name | value |
|--|--|
| Type of RFC object to which access (RFC_TYPE) | Function Module |
| Name (Allowlist) of RFC object to which access is allowed (RFC_NAME) | RFCPING RFC_FUNCTION_SEARCH RFC_GET_FUNCTION_INTERFACE RFC_METADATA_GET RODPS_REPL_CONTEXT_GET_LIST RODPS_REPL_ODP_FETCH RODPS_REPL_ODP_GET_DETAIL RODPS_REPL_ODP_GET_LIST RODPS_REPL_ODP_OPEN RODPS_REPL_ODP_READ_DIRECT RODPS_REPL_ODP_RESET SADT_REST_RFC_ENDPOINT SCSI_GET_SYSTEM_INFO DDIF_FIELDINFO_GET |
| Activity (ACTVT) | 16 (Execute) |

- ⑧ Click [Save].



- ⑨ Follow the same procedure as above to further add and edit the following authorization objects.

S_RS_ADSO

| | | |
|--------------------------------|----------|---|
| Object class RS | Manually | Business Warehouse |
| Authorization Object S_RS_ADSO | Manually | Data Warehousing Workbench - DataStore Object (...) |
| Authorizat. 00 | Manually | Data Warehousing Workbench - DataStore Object (...) |
| · RSINFOAREA | Manually | InfoArea |
| · RSOADSONM | Manually | Datastore Object: Name |
| · RSOADSOPAR | Manually | Subobject for ADSO |
| · ACTVT | Manually | Activity |
| | Display | |

| Field Name | value |
|------------------------------------|--------------|
| InfoArea (RSINFOAREA) | * |
| Datastore Object: Name (RSOADSONM) | * |
| Subobject for ADSO (RSOADSOPAR) | |
| Activity (ACTVT) | 03 (Display) |

S_RS_COMP

| | | |
|--------------------------------|----------|------------------------------------|
| Authorization Object S_RS_COMP | Manually | Business Explorer - Components |
| Authorizat. 00 | Manually | Business Explorer - Components |
| · RSINFOAREA | Manually | InfoArea |
| · RSINFOCUBE | Manually | InfoCube |
| · RSZCOMP TP | Manually | Type of a reporting component |
| · RSZCOMPID | Manually | Name (ID) of a reporting component |
| · ACTVT | Manually | Activity |
| | Display | |

| Field Name | value |
|--|--------------|
| InfoArea (RSINFOAREA) | * |
| InfoCute (RSINFOCUBE) | * |
| Type of a reporting component (RSINFOCUBE) | * |
| Name (ID) of a reporting component (RSZCOMPID) | * |
| Activity (ACTVT) | 03 (Display) |

S_RS_COMP1

| | | |
|---------------------------------|----------|--|
| Authorization Object S_RS_COMP1 | Manually | Business Explorer - Components: Enhancements to .. |
| Authorizat. 00 | Manually | Business Explorer - Components: Enhancements to .. |
| · RSZCOMPID | Manually | Name (ID) of a reporting component |
| · RSZCOMP TP | Manually | Type of a reporting component |
| · RSZOWNER | Manually | Owner (Person Responsible) for a Reporting Compo.. |
| · ACTVT | Manually | Activity |
| | Display | |

| Field Name | value |
|---|--------------|
| Name (ID) of a reporting component (RSZCOMPID) | * |
| Type of a reporting component (RSZCOMPTP) | * |
| Owner (Person Responsible) for a Reporting Component (RSZOWNER) | * |
| Activity (ACTVT) | 03 (Display) |

S_RS_DS

| | | | |
|---------------------------------|----------|------------|---|
| OC Authorization Object S_RS_DS | Manually | | Data Warehousing Workbench - DataSource |
| OC Authorizat. 00 | Manually | | Data Warehousing Workbench - DataSource |
| · RSDS | Manually | * | DataSource |
| · RSLOGSYS | Manually | * | Source System |
| · RSDSPART | Manually | All values | Subobject for New DataSource |
| · ACTVT | Manually | Display | Activity |

| Field Name | value |
|---|--------------|
| DataSource (RSDS) | * |
| Source System (RSLOGSYS) | * |
| Subobject for New DataSource (RSDSPART) | * |
| Activity (ACTVT) | 03 (Display) |

S_RS_HCPR

| | | | |
|-----------------------------------|----------|------------|-------------------------------------|
| OC Authorization Object S_RS_HCPR | Manually | | Central CompositeProvider |
| OC Authorizat. 00 | Manually | | Central CompositeProvider |
| · RSINFOAREA | Manually | * | InfoArea |
| · RSHCPR | Manually | * | HanaCompositeProvider: Name |
| · ACTVT | Manually | Display | Activity |
| · RSHCPROBJ | Manually | All values | Hana Composite Provider - Subobject |

| Field Name | value |
|--------------------------------------|--------------|
| InfoArea (RSINFOAREA) | * |
| HanaCompositeProvider: Name (RSHCPR) | * |
| Activity (ACTVT) | 03 (Display) |

Hana Composite Provider - Subobject (RSHCPROBJ)

*

S_RS_HYBR

| | | |
|----------|------------|---|
| Manually | | Data Warehousing Workbench - HybridProvider |
| Manually | | Data Warehousing Workbench - HybridProvider |
| Manually | * | HybridProvider |
| Manually | Display | Activity |
| Manually | All values | HybridProvider Subobject |

| Field Name | value |
|--------------------------------------|--------------|
| HybridProvider (RSHYBRPROV) | * |
| Activity (ACTVT) | 03 (Display) |
| HybridProvider Subobject (RSHYBROBJ) | * |

S_RS_ICUBE

| | | |
|----------|------------|---------------------------------------|
| Manually | | Data Warehousing Workbench - InfoCube |
| Manually | | Data Warehousing Workbench - InfoCube |
| Manually | * | InfoArea |
| Manually | * | InfoCube |
| Manually | All values | InfoCube Subobject |
| Manually | Display | Activity |

| Field Name | value |
|---------------------------------|--------------|
| InfoArea (RSINFOAREA) | * |
| InfoCube (RSINFOCUBE) | * |
| InfoCube Subobject (RSICUBEOBJ) | * |
| Activity (ACTVT) | 03 (Display) |

S_RS_IOBJ

| | | |
|----------|------------|---|
| Manually | | Data Warehousing Workbench - InfoObject (InfoO... |
| Manually | | Data Warehousing Workbench - InfoObject (InfoO... |
| Manually | * | InfoObject catalog |
| Manually | * | InfoObject |
| Manually | All values | Subobject of InfoObject |
| Manually | Display | Activity |

| Field Name | value |
|--------------------------------------|-------|
| InfoObject catalog (RSIOBJCAT) | * |
| InfoObject (RSIOBJ) | * |
| Subobject of InfoObject (RSIOBJPART) | * |

Activity (ACTVT)

03 (Display)

S_RS_IOMAD

| | | | |
|---------------------------------|----------|---------|---|
| Authorization Object S_RS_IOMAD | Manually | | Data Warehousing Workbench - Maintain Master Data |
| Authorizat. 00 | Manually | | Data Warehousing Workbench - Maintain Master Data |
| • RSAPPLNM | Manually | * | Application Component |
| • RSINFOAREA | Manually | * | InfoArea |
| • RSIOBJNM | Manually | * | InfoObject |
| • ACTVT | Manually | Display | Activity |

| Field Name | value |
|----------------------------------|--------------|
| Application Component (RSAPPLNM) | * |
| InfoArea (RSINFOAREA) | * |
| InfoObject (RSIOBJNM) | * |
| Activity (ACTVT) | 03 (Display) |

S_RS_ISET

| | | | |
|--------------------------------|----------|------------|--------------------------------------|
| Authorization Object S_RS_ISET | Manually | | Data Warehousing Workbench - InfoSet |
| Authorizat. 00 | Manually | | Data Warehousing Workbench - InfoSet |
| • RSINFOAREA | Manually | * | InfoArea |
| • RSINFOSET | Manually | * | InfoSet |
| • ACTVT | Manually | Display | Activity |
| • RSISETOBJ | Manually | All values | InfoSet-Subobject |

| Field Name | value |
|-------------------------------|--------------|
| InfoArea (RSINFOAREA) | * |
| InfoSet (RSINFOSET) | * |
| Activity (ACTVT) | 03 (Display) |
| InfoSet-Subobject (RSISETOBJ) | * |

S_RS_MPRO

| | | | |
|--------------------------------|----------|------------|--|
| Authorization Object S_RS_MPRO | Manually | | Data Warehousing Workbench - MultiProvider |
| Authorizat. 00 | Manually | | Data Warehousing Workbench - MultiProvider |
| • RSINFOAREA | Manually | * | InfoArea |
| • RSMPRO | Manually | * | MultiProvider |
| • RSMPROOBJ | Manually | All values | MultiProvider Subobject |
| • ACTVT | Manually | Display | Activity |

| Field Name | value |
|-----------------------|-------|
| InfoArea (RSINFOAREA) | * |

| | |
|-------------------------------------|--------------|
| MultiProvider (RSMPRO) | * |
| MultiProvider Subobject (RSMPROOBJ) | * |
| Activity (ACTVT) | 03 (Display) |

S_RS_ODP_H

| | | |
|---------------------------------|----------|-------------------------------|
| Authorization Object S_RS_ODP_H | Manually | ODP: Extraction from SAP HANA |
| Authorizat. 00 | Manually | ODP: Extraction from SAP HANA |
| ACTVT | Manually | Activity |
| RSODPHPKG | Manually | SAP HANA Package |
| RSODPHNAME | Manually | SAP HANA Object Name |

| Field Name | value |
|-----------------------------------|--------------|
| Activity (ACTVT) | 03 (Display) |
| SAP HANA Package (RSODPHPKG) | * |
| SAP HANA Object Name (RSODPHNAME) | * |

S_RS_ODSO

| | | |
|--------------------------------|----------|---|
| Authorization Object S_RS_ODSO | Manually | Data Warehousing Workbench - DataStore Object |
| Authorizat. 00 | Manually | Data Warehousing Workbench - DataStore Object |
| RSINFOAREA | Manually | InfoArea |
| RSODSOBJ | Manually | DataStore Object |
| RSODSPART | Manually | Subobject for ODS Object |
| ACTVT | Manually | Activity |

| Field Name | value |
|--------------------------------------|--------------|
| InfoArea (RSINFOAREA) | * |
| DataStore Object (RSODSOBJ) | * |
| Subobject for ODS Object (RSODSPART) | * |
| Activity (ACTVT) | 03 (Display) |

S_RS_ODSV

| | | |
|--------------------------------|----------|--|
| Authorization Object S_RS_ODSV | Manually | Data Warehousing Workbench - Open ODS View |
| Authorizat. 00 | Manually | Data Warehousing Workbench - Open ODS View |
| ACTVT | Manually | Activity |
| RSINFOAREA | Manually | InfoArea |
| RSFBPNAME | Manually | View name |
| RSFBPOBJ | Manually | View Subobject |

| Field Name | value |
|------------|-------|
| | |

| | |
|---------------------------|--------------|
| Activity (ACTVT) | 03 (Display) |
| InfoArea (RSINFOAREA) | * |
| View name (RSFBPNAME) | * |
| View Subobject (RSFBPOBJ) | * |

S_RO_OSOA

| | | |
|--------------------------------|----------|--|
| Object class RO | Manually | Authorizations: BW Service API |
| Authorization Object S_RO_OSOA | Manually | SAP DataSource Authorizations |
| Authorization Object S_RO_OSOA | Manually | SAP DataSource Authorizations |
| Authorizat. 00 | Manually | |
| OLTPSOURCE | Manually | DataSource (OSOA/OSOD) |
| OSOAAPCO | Manually | Application Component of a DataSource (OSOA/OS.. |
| OSOAPART | Manually | Subobject for DataSource |
| ACTVT | Manually | Activity |

| Field Name | value |
|--|--------------|
| DataSource (OSOA/OSOD) (OLTPSOURCE) | * |
| Application Component of a DataSource (OSOA/OSOD) (OSOAAPCO) | * |
| Subobject for DataSource (OSOAPART) | * |
| Activity (ACTVT) | 03 (Display) |

S_ADMIN_FCD

| | | |
|----------------------------------|----------|---------------------------------------|
| Object class BC_A | Manually | Basis: Administration |
| Authorization Object S_ADMIN_FCD | Manually | System Authorizations |
| Authorization Object S_ADMIN_FCD | Manually | System Authorizations |
| Authorizat. 00 | Manually | Process administration using trans... |
| S_ADMIN_FCD | Manually | System administration function |

| Field Name | value |
|--|------------|
| System administration function (S_ADMIN_FCD) | PADM, ST22 |

S_ADT_RES

| | | |
|--------------------------------|----------|---------------------------------------|
| Object class BC_C | Manually | Basis - Development Environment |
| Authorization Object S_ADT_RES | Manually | ABAP Development Tool Resource Access |
| Authorization Object S_ADT_RES | Manually | ABAP Development Tool Resource Access |
| Authorizat. 00 | Manually | REST Resource URI Prefix |
| URI | Manually | /sap/bc/adt/* |

| Field Name | value |
|--------------------------------|---------------|
| REST Resource URI Prefix (URI) | /sap/bc/adt/* |

S_DEVELOP

| | | | |
|--------------------------------|----------|---------|----------------------------------|
| Authorization Object S_DEVELOP | Manually | | ABAP Workbench |
| Authorization Object S_DEVELOP | Manually | | ABAP Workbench |
| DEVCLASS | Manually | | Package |
| OBJTYPE | Manually | | Object Type |
| OBJNAME | Manually | | Repository object name |
| P_GROUP | Manually | | ABAP Program Authorization Group |
| ACTVT | Manually | Display | Activity |

| Field Name | value |
|--|--------------|
| Package (DEVCLASS) | |
| Object Type (OBJTYPE) | DEBUG, ST22 |
| Repository object name (OBJNAME) | |
| ABAP Program Authorization Group (P_GROUP) | |
| Activity (ACTVT) | 03 (Display) |

S_TCODE

| | | | |
|------------------------------|----------|--|---|
| Object class AAAB | Manually | | Cross-application Authorization Objects |
| Authorization Object S_RFC | Manually | | Authorization Check for RFC Access |
| Authorization Object S_TCODE | Manually | | Transaction Code Check at Transaction Start |
| Authorization Object S_TCODE | Manually | | Transaction Code Check at Transaction Start |
| TCD | Manually | | Transaction Code |

| Field Name | value |
|------------------------|-------|
| Transaction Code (TCD) | ST22 |

S_BTCH_ADMIN

| | | | |
|-----------------------------------|----------|--|--|
| Object class BC_A | Manually | | Basis: Administration |
| Authorization Object S_ADMIN_FCD | Manually | | System Authorizations |
| Authorization Object S_BTCH_ADMIN | Manually | | Background Processing: Background Administrator |
| Authorization Object S_BTCH_ADMIN | Manually | | Background Processing: Background Administrator |
| BTCADMIN | Manually | | Background Administrator Author... Background Administrator ID |

| Field Name | value |
|--|-------|
| Background Administrator ID (BTCADMIN) | Y |

S_BTCH_JOB

| | | | |
|--|-----------------------------------|----------|---|
| | Object class BC_A | Manually | Basis: Administration System Authorizations Background Processing: Background Administrator Background Processing: Operations on Background ... Background Processing: Operations on Background ... |
| | Authorization Object S_ADMIN_FCD | Manually | |
| | Authorization Object S_BTCH_ADMIN | Manually | |
| | Authorization Object S_BTCH_JOB | Manually | |
| | Authorization Object S_BTCH_NAM | Manually | |
| | Authorizat. 00 | Manually | |
| | JOBACTION | Manually | Release Jobs (Released Automati... Job operations |
| | JOBGROUP | Manually | * |
| | | | Summary of jobs for a group |

| Field Name | value |
|--|-------|
| Job operations (JOBACTION) | RELE |
| Summary of jobs for a group (JOBGROUP) | * |

S_BTCH_NAM

| | | | |
|--|-----------------------------------|----------|--|
| | Object class BC_A | Manually | Basis: Administration System Authorizations Background Processing: Background Administrator Background Processing: Operations on Background ... Background Processing: Background User Name Background Processing: Background User Name |
| | Authorization Object S_ADMIN_FCD | Manually | |
| | Authorization Object S_BTCH_ADMIN | Manually | |
| | Authorization Object S_BTCH_JOB | Manually | |
| | Authorization Object S_BTCH_NAM | Manually | |
| | Authorization Object S_BTCH_NAM | Manually | |
| | Authorizat. 00 | Manually | |
| | BTCTNAME | Manually | BWREMOTE |
| | | | Background User Name for Authorization Check |

| Field Name | value |
|---|----------|
| Background User Name for Authorization Check (BTCTNAME) | BWREMOTE |

- ⑩ After the completion of the authorization settings, the whole configuration should look as follows:

| Group/Object/Authorization/Field | Maintena... | A.. | Value | Text |
|--------------------------------------|-------------|-----|---------------------------------------|--|
| -> Object class AAAB | Manually | | | Cross-application Authorization Objects |
| -> Authorization Object S RFC | Manually | | | Authorization Check for RFC Access |
| -> Authorizat. 00 | Manually | | | Authorization Check for RFC Access |
| -> RFC_TYPE | Manually | | Function Module | Type of RFC object to which access is to be allowed |
| -> RFC_NAME | Manually | | DDIF_FIELDINFO_GET, RFCPING, ... | Name (Allowlist) of RFC object to which access is all... |
| -> ACTVT | Manually | | Execute | Activity |
| -> Authorization Object S_TCODE | Manually | | | Transaction Code Check at Transaction Start |
| -> Authorizat. 00 | Manually | | | Transaction Code Check at Transaction Start |
| -> TCD | Manually | | ST22 | Transaction Code |
| -> Object class BC_A | Manually | | | Basis: Administration |
| -> Authorization Object S_ADMIN_FCD | Manually | | | System Authorizations |
| -> Authorizat. 00 | Manually | | | System Authorizations |
| -> S_ADMIN_FCD | Manually | | Process administration using trans... | System administration function |
| -> Authorization Object S_BTCH_ADMIN | Manually | | | Background Processing: Background Administrator |
| -> Authorizat. 00 | Manually | | | Background Processing: Background Administrator |
| -> BTCADMIN | Manually | | Background Administrator Authori... | Background Administrator ID |
| -> Authorization Object S_BTCH_JOB | Manually | | | Background Processing: Operations on Background ... |
| -> Authorizat. 00 | Manually | | | Background Processing: Operations on Background ... |
| -> JOBACTION | Manually | | Release Jobs (Released Automati... | Job operations |
| -> JOBGROUP | Manually | | * | Summary of jobs for a group |
| -> Authorization Object S_BTCH_NAM | Manually | | | Background Processing: Background User Name |
| -> Authorizat. 00 | Manually | | | Background Processing: Background User Name |
| -> BTCTUNAME | Manually | | BWREMOTE | Background User Name for Authorization Check |
| -> Object class BC_C | Manually | | | Basis - Development: Environment |
| -> Authorization Object S_ADT_RES | Manually | | | ABAP Development Tool Resource Access |
| -> Authorizat. 00 | Manually | | | ABAP Development Tool Resource Access |
| -> URI | Manually | | /sap/bc/adt/* | REST Resource URI Prefix |
| -> Authorization Object S_DEVELOP | Manually | | | ABAP Workbench |
| -> Authorizat. 00 | Manually | | | ABAP Workbench |
| -> DEVCLASS | Manually | | DEBUG, ST22 | Package |
| -> OBJTYPE | Manually | | | Object Type |
| -> OBJNAME | Manually | | | Repository object name |
| -> P_GROUP | Manually | | | ABAP Program Authorization Group |
| -> ACTVT | Manually | | Display | Activity |
| -> Object class RO | Manually | | | Authorizations: BW Service API |
| -> Authorization Object S_RO_OSOA | Manually | | | SAP DataSource Authorizations |
| -> Authorizat. 00 | Manually | | | SAP DataSource Authorizations |
| -> OLTPSOURCE | Manually | | * | DataSource (OSOA/OSOD) |
| -> OSOAAPCO | Manually | | * | Application Component of a DataSource (OSOA/OS... |
| -> OSOAPART | Manually | | All values | Subobject for DataSource |
| -> ACTVT | Manually | | Display | Activity |
| -> Object class RS | Manually | | | Business Warehouse |
| -> Authorization Object S_RS_ADSO | Manually | | | Data Warehousing Workbench - DataStore Object (...) |
| -> Authorizat. 00 | Manually | | | Data Warehousing Workbench - DataStore Object (...) |
| -> RSINFOAREA | Manually | | * | InfoArea |
| -> RSOADSONM | Manually | | * | Datastore Object: Name |
| -> RSOADSOPAR | Manually | | | Subobject for ADSO |
| -> ACTVT | Manually | | Display | Activity |
| -> Authorization Object S_RS_COMP | Manually | | | Business Explorer - Components |
| -> Authorizat. 00 | Manually | | | Business Explorer - Components |
| -> RSINFOAREA | Manually | | * | InfoArea |
| -> RSINFOCUBE | Manually | | * | InfoCube |
| -> RSZCOMP_TP | Manually | | All values | Type of a reporting component |
| -> RSZCOMPID | Manually | | * | Name (ID) of a reporting component |
| -> ACTVT | Manually | | Display | Activity |

| | | | | |
|---|--------------------------------------|----------|--|---|
| ✓ | CO Authorization Object S_RS_COMP | Manually | | Business Explorer - Components |
| ✓ | CO Authorization Object S_RS_COMP00 | Manually | | Business Explorer - Components |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSINFOCUBE | Manually | | InfoCube |
| ✓ | RSZCOMPTP | Manually | | Type of a reporting component |
| ✓ | RSZCOMPID | Manually | | Name (ID) of a reporting component |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_COMP1 | Manually | | Business Explorer - Components: Enhancements to ... |
| ✓ | CO Authorization Object S_RS_COMP00 | Manually | | Business Explorer - Components: Enhancements to ... |
| ✓ | RSZCOMPID | Manually | | Name (ID) of a reporting component |
| ✓ | RSZCOMPTP | Manually | | Type of a reporting component |
| ✓ | RSZOWNER | Manually | | Owner (Person Responsible) for a Reporting Compo... |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_DS | Manually | | Data Warehousing Workbench - DataSource |
| ✓ | CO Authorization Object S_RS_DS00 | Manually | | Data Warehousing Workbench - DataSource |
| ✓ | RSDS | Manually | | DataSource |
| ✓ | RSLOGSYS | Manually | | Source System |
| ✓ | RSDSPART | Manually | | Subobject for New DataSource |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_HCPR | Manually | | Central CompositeProvider |
| ✓ | CO Authorization Object S_RS_HCPR00 | Manually | | Central CompositeProvider |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSHCPR | Manually | | HanaCompositeProvider: Name |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | RSHCPROBJ | Manually | | Hana Composite Provider - Subobject |
| ✓ | CO Authorization Object S_RS_HYBR | Manually | | Data Warehousing Workbench - HybridProvider |
| ✓ | CO Authorization Object S_RS_HYBR00 | Manually | | Data Warehousing Workbench - HybridProvider |
| ✓ | RSHYBPROV | Manually | | HybridProvider |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | RSHYBROBJ | Manually | | HybridProvider Subobject |
| ✓ | CO Authorization Object S_RS_ICUBE | Manually | | Data Warehousing Workbench - InfoCube |
| ✓ | CO Authorization Object S_RS_ICUBE00 | Manually | | Data Warehousing Workbench - InfoCube |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSINFOCUBE | Manually | | InfoCube |
| ✓ | RSICUBEOBJ | Manually | | InfoCube Subobject |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_IOBJ | Manually | | Data Warehousing Workbench - InfoObject (InfoO... |
| ✓ | CO Authorization Object S_RS_IOBJ00 | Manually | | Data Warehousing Workbench - InfoObject (InfoO... |
| ✓ | RSIOBJCAT | Manually | | InfoObject catalog |
| ✓ | RSIOBJ | Manually | | InfoObject |
| ✓ | RSIOBJPART | Manually | | Subobject of InfoObject |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_IOMAD | Manually | | Data Warehousing Workbench - Maintain Master Data |
| ✓ | CO Authorization Object S_RS_IOMAD00 | Manually | | Data Warehousing Workbench - Maintain Master Data |
| ✓ | RSAPPLNM | Manually | | Application Component |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSIOBJNM | Manually | | InfoObject |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_ISET | Manually | | Data Warehousing Workbench - InfoSet |
| ✓ | CO Authorization Object S_RS_ISET00 | Manually | | Data Warehousing Workbench - InfoSet |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSINFOSET | Manually | | InfoSet |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | RSISETOBJ | Manually | | InfoSet-Subobject |
| ✓ | CO Authorization Object S_RS_MPRO | Manually | | Data Warehousing Workbench - MultiProvider |
| ✓ | CO Authorization Object S_RS_MPRO00 | Manually | | Data Warehousing Workbench - MultiProvider |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSMPRO | Manually | | MultiProvider |
| ✓ | RSMPROOBJ | Manually | | MultiProvider Subobject |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_ODP_H | Manually | | ODP: Extraction from SAP HANA |
| ✓ | CO Authorization Object S_RS_ODP_H00 | Manually | | ODP: Extraction from SAP HANA |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | RSODPHPKG | Manually | | SAP HANA Package |
| ✓ | RSODPHNAME | Manually | | SAP HANA Object Name |
| ✓ | CO Authorization Object S_RS_ODSO | Manually | | Data Warehousing Workbench - DataStore Object |
| ✓ | CO Authorization Object S_RS_ODSO00 | Manually | | Data Warehousing Workbench - DataStore Object |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSODSOBJ | Manually | | DataStore Object |
| ✓ | RSODSPART | Manually | | Subobject for ODS Object |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | CO Authorization Object S_RS_ODSV | Manually | | Data Warehousing Workbench - Open ODS View |
| ✓ | CO Authorization Object S_RS_ODSV00 | Manually | | Data Warehousing Workbench - Open ODS View |
| ✓ | ACTVT | Manually | | Activity |
| ✓ | RSINFOAREA | Manually | | InfoArea |
| ✓ | RSFBPNAME | Manually | | View name |
| ✓ | RSFBPOBJ | Manually | | View Subobject |

- ⑪ Click on the [Generate] button to create a profile.

Change Role: Authorizations

   Selection criteria  Manually  Organizational levels...

| | |
|-----------------------|---------------------------------------|
| Role | REP_ODP_COM |
| Maint. | 0 unmaint. org. levels, 4 open fields |
| Data Status | Unchanged |
| Profile Status | Current version not generated |

- ⑫ Return to the previous screen and add the user created in the previous step. On the [User] tab, add a user and click [User Comparison].

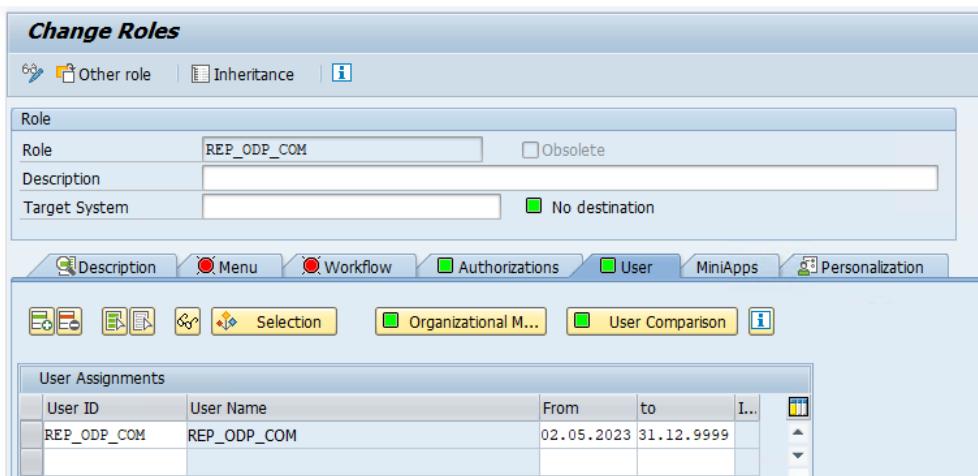
- ⑯ Click on [Full Comparison].

| | |
|---|---|
| Attempted Profile Comparison | |
| User | <input type="text"/> |
| Date | <input type="text"/> |
| Time | <input type="text"/> 00:00:00 |
| Profile comparison successful | |
| User | <input type="text"/> |
| Date | <input type="text"/> |
| Time | <input type="text"/> 00:00:00 |
| Information for user master comparison | |
| Status | User assignments for generated profiles are not current |
| <input checked="" type="button"/> Full Comparison  Information  | |

⑯ Click [Close].



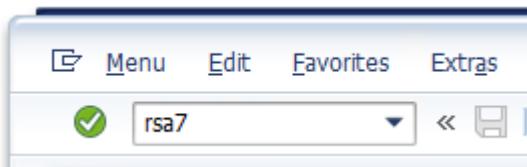
⑰ Confirm that the [User] tab has turned green.



Appendix 3: Confirmation of BW Delta Queue

Data from the LO Cockpit data source that has been modified on the SAP side is stored in the BW delta queue. This section explains how to check that queue.

- ① Enter the T-code "rsa7".



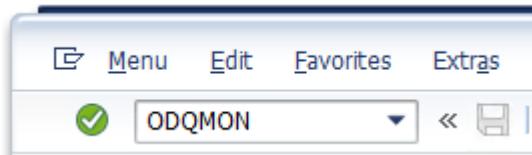
- ② The combination of [DataSource] and [BW System] displays the number of queues. Here you can see that one change to a data source such as "2LIS_11_V_SSL" is queued.

| BW Delta Queue Maintenance | | | | | |
|----------------------------|---------------|-----------|-------|-------|--|
| St... | DataSource | BW System | Total | Stat. | |
| ○○■ | 2LIS_11_V_SSL | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_V_SCL | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_V_ITM | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_VASTI | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_VASTH | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_VASCL | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_VAKON | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_VAITM | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_11_VAHDR | TARGETLG1 | 1 | | |
| ○○■ | 2LIS_13_VDKON | TARGETLG1 | 0 | | |
| ○○■ | 2LIS_13_VDITM | TARGETLG1 | 0 | | |
| ○○■ | 2LIS_13_VDHDR | TARGETLG1 | 0 | | |
| ○○■ | 2LIS_12_VCITM | TARGETLG1 | 0 | | |
| ○○■ | 2LIS_12_VCHDR | TARGETLG1 | 0 | | |
| ○○■ | 2LIS_03_UM | TARGETLG1 | 0 | | |
| ○○■ | 2LIS_03_BF | TARGETLG1 | 0 | | |
| ○○■ | 1_CO_PA_DS2 | TARGETLG1 | 0 | | |

Appendix 4: How to check the ODP Queue

Here is how to check the execution history of the process made to retrieve the Extractor data from Qlik Replicate.

- ① Enter the transaction code "ODQMON".



- ② Select the data source to be referenced from the list and double-click.

| Monitor Delta Queues | | | | | | | | |
|--|---------------|-----------------|---|-------------|----------|------|---------------------|--|
| | | Queues... | Subscriptions... | Requests... | Units... | | | |
| Provider | BW DataSource | Subscriber Type | | | | | | |
| Queue | | Subscriber | | | | | | |
| Time Stamp ID | | to | | | | | | |
| <input type="checkbox"/> Calculate Data Volume (Extended View) | | Request Select. | Subscriptions Only (Delta Init + Delta) | | | | | |
| | Queue | Qu | Subscriptns | Requests | Units | Rows | Original Size in By | |
| Purchasing Data (Schedule Line Level) | | 1 | 0 | | | | | |
| Produced Activity: Confirmation of Sch... | | 1 | 0 | | | | | |
| Produced Activity: Delivery of Schedul... | | 1 | 0 | | | | | |
| Goods Movements From Inventory Ma... | | 1 | 0 | | | | | |
| Revaluations | | 1 | 0 | | | | | |
| Sales Document Header Data | | 2 | 7 | | | | | |
| Sales Document Item Data | | 2 | 6 | | | | | |
| Sales Document Condition | | 2 | 6 | | | | | |
| Sales Document Schedule Line | | 2 | 6 | | | | | |

- ③ Click on [Data Units].

| Monitor Delta Queue Subscriptions | | | | | | | | | | | |
|--|---------------------|------------------|---|-------------|----------------|----------------|------------------------------|-----------------------|---------------------|-----------------------|--|
| | | Queues... | Subscriptions... | Requests... | Units... | | | | | | |
| Provider | BW DataSource | Subscriber Type | | | | | | | | | |
| Queue | 2LIS_11_VAHDR | Subscriber | | | | | | | | | |
| Time Stamp ID | | to | | | | | | | | | |
| <input type="checkbox"/> Calculate Data Volume (Extended View) | | Request Select. | Subscriptions Only (Delta Init + Delta) | | | | | | Max. No. of Matches | 1.000 | |
| | S...Subscriber | S...Subscription | RT | Requests | Units (Chan... | Rows (Changed) | Original Size (Changed) i... | Compressed Size (C... | Comp. % | Last TSN Confirmed | |
| QLIK_REPLICATE | ODP_SAP_Order2Ca... | | | 1 | | | | | | {2023-05-02 06:08:... | |
| QLIK_REPLICATE | | | | 7 | | | | | | | |

- ④ The number of data extracted, Extraction Mode, etc. can be checked here.

The screenshot shows a software interface titled "Monitor Delta Queue Data Units". It has several filter and search fields at the top, including "Provider" (BW DataSource), "Queue" (2LIS_11_VAHDR), and "Request Select" (Subscriptions Only (Delta Init + Delta)). A "Data Preview" table below displays the following data:

| Unique Time Stamp ID (such as TSN) | Transaction ID (TID) | Unit Number | Rows | Original Size in Bytes | Compressed Size in ... | Comp. % | Extraction Mode | Storage |
|------------------------------------|----------------------------------|-------------|-------|------------------------|------------------------|-----------|-----------------------|-----------|
| {2023-05-02 06:08:45 000009 UTC} | {2023-05-02 06:08:45 000008 UTC} | 1 | 6,648 | 2.109.184 | 51.629 | 97,6 | Initial Data (Delt... | ODQDATA_C |
| {2023-05-01 08:16:03 000008 UTC} | {2023-05-01 08:16:03 000005 UTC} | 1 | 1 | 276 | 423 | 53,3- | Data Changes (D... | ODQDATA |
| {2023-05-01 08:07:05 000001 UTC} | {2023-05-01 08:07:04 000001 UTC} | 1 | 1 | 276 | 421 | 52,5- | Data Changes (D... | ODQDATA |
| {2023-05-01 07:48:40 000009 UTC} | {2023-05-01 07:48:40 000008 UTC} | 1 | 6,648 | 2.109.184 | 51.629 | 97,6 | Initial Data (Delt... | ODQDATA_C |
| | | | * | 13.698 | * | 4.218.920 | * | 104.102 |

Appendix 5: Performing change data update processes in Qlik Compose

In [12 DWH and DM creation with Qlik Compose](#), we have created the DWH and Data Mart and initially loaded all the data. This section describes the procedures for storing the change data acquired from SAP after the initialization process of the DWH and data mart.

DWH change data update process

- ① Click on [Manage] under [DATA WAREHOUSE].

The screenshot shows the Qlik Compose interface with a sidebar titled "DATA WAREHOUSE". The main area displays the status "31 Tables Present." and a list of three entries: "E01 LOAD SAP ... 1,978 instructio...", "E02 LOAD SAP ... 0 instructions", and "E03 LOAD SAP ... 0 instructions". At the bottom of the sidebar are buttons for "Manage", "Display", and "Validate".

- ② In addition to the first task executed for initialization, two other tasks are pre-created.

The screenshot shows the 'Manage Data Warehouse Tasks' interface. At the top, there are buttons for 'New Task...', 'Duplicate...', 'Delete...', 'Generate', 'Run', 'Task Statements', and 'Settings...'. Below this is a search bar and a navigation bar with tabs: 'Mappings' (selected), 'Pre Loading ETL', 'Multi Table ETL', and 'Single Table ETL'. Under the 'Mappings' tab, there is a sub-navigation with 'New Mapping...', 'Clear Landing Cache', and 'Show: All' (radio button selected). A list of tasks is shown: E01 LOAD SAP CONTENT - Initialization, E02 LOAD SAP CONTENT - FL, and E03 LOAD SAP CONTENT - CDC. The last two tasks, E02 and E03, are highlighted with a red box. To the right of the tasks is a mapping table with columns: Logical Entities, Handle Duplicates, and Mappings. The table rows correspond to the logical entities listed in the task list.

| Logical Entities | <input type="checkbox"/> Handle Duplicates | <input type="checkbox"/> Mappings |
|------------------|--|--|
| OCUSTOMER_ATTR | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_0CUSTOMER_ATTR |
| OCUSTOMER_TEXT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_0CUSTOMER_TEXT |
| OEMPLOYEE_ATTR | <input type="checkbox"/> | <input type="checkbox"/> Map_0EMPLOYEE_ATTR |
| OFI_AR_4 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_OFI_AR_4 |
| OMATERIAL_ATTR | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Map_0MATERIAL_ATTR |

Each of these two tasks performs change data processing in the following form. To execute them, follow the procedure described in "[Creating a DWH and Loading Data](#)," click the [Generate] button to generate a script for the task, and then click the [Run] button to execute the task. It is also possible to schedule the execution by following the procedure described in the later section.

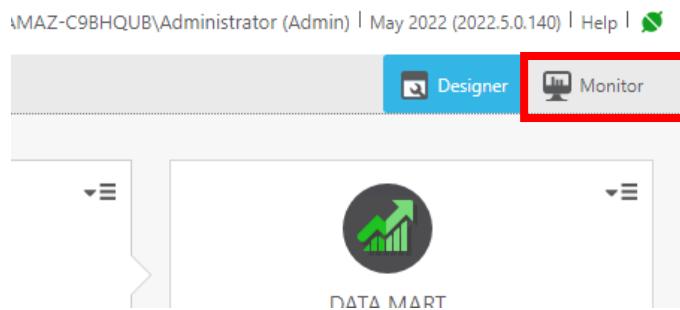
| Task Name | Description. |
|----------------------------|---|
| E02 LOAD SAP CONTENT - FL | Apply data from a data source that supports Full load only to the DWH; retrieve all data from tables replicated by Qlik Replicate and store it once in a staging table, then apply changes to the DWH for only those rows that have been added or changed. |
| E03 LOAD SAP CONTENT - CDC | Apply change data from Delta-enabled data sources to the DWH. By Qlik Replicate's Store Change enabled task, the changed data is stored in "<table name>_ct". This task retrieves only the rows that have been added or changed from the "table name_ct" table. |

Data mart change data update process

For updating data in a data mart, follow the procedure described in "[12.6 Creating a Data Mart](#)," click the [Generate] button to generate a script for the task, and then click the [Run] button to execute the task. (Unlike in the case of DWH, a single task can perform both data mart creation and updating in a data mart.)

Scheduling workflow

- ① Click on "Monitor" in the upper right corner of the top screen of the Qlik Compose project.

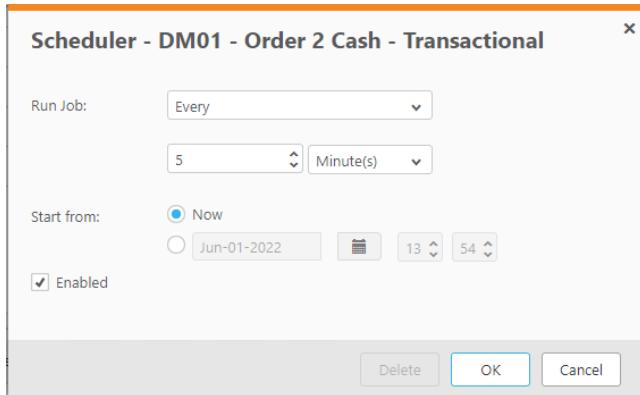


- ② Select a task and click Schedule.

A screenshot of the Qlik Compose 'Monitor' screen for a project named 'SAP O2C'. At the top, there is a header with the project name and a 'Schedule' button highlighted with a red box. Below the header is a summary section showing '0 Running' and '0 Error' tasks. The main area is a table listing tasks:

| Status | Task | Type | Started | Ended |
|--------|---------------------------------------|----------------|---------------|---------------|
| ✓ | DM01 - Order 2 Cash - Transactional | DataMart | May 27, 20... | May 27, 20... |
| ✓ | E01 LOAD SAP CONTENT - Initialization | Data Warehouse | May 27, 20... | May 27, 20... |
| ✓ | E03 LOAD SAP CONTENT - CDC | Data Warehouse | 1:27 PM | 1:27 PM |
| | Default Workflow | Workflow | N/A | |

- ③ This is where you set up the schedule. You can also create and schedule a workflow by clicking [New Workflow] on the previous screen instead of setting up schedule by task.



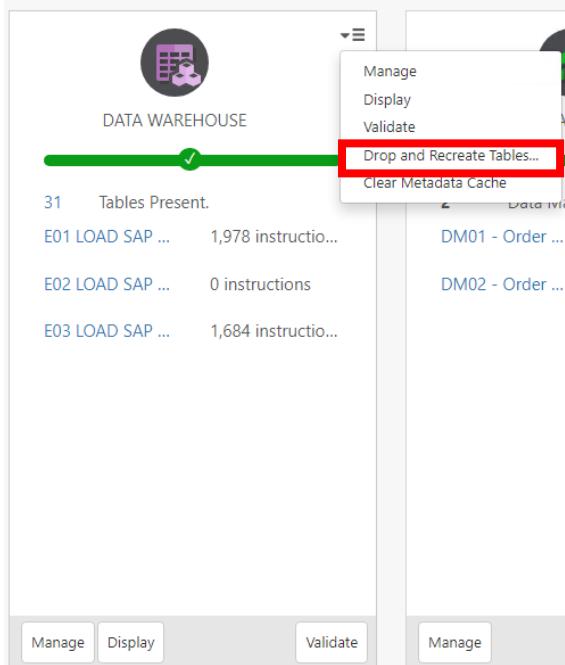
Appendix 6: How to recreate tables in Qlik Compose

If you need to re-create tables, for example for validation purposes, or if you have a configuration problem and want to start over again, you can re-create the tables, either by re-creating the DWH and Data Mart tables individually or by resetting the entire project and starting from scratch.

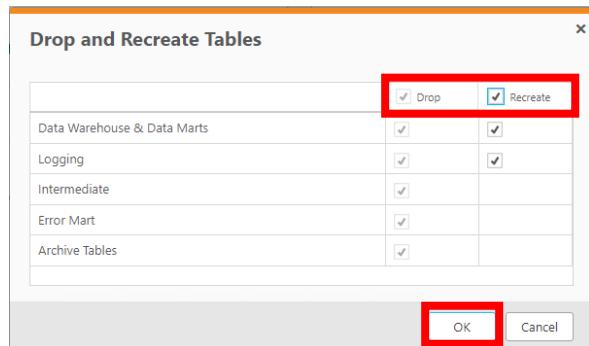
Re-create DWH tables

To recreate only the DWH tables, perform the following steps:

- ① Click on the menu in the upper right corner of [DATA WAREHOUSE] and select [Drop and Recreate Tables].



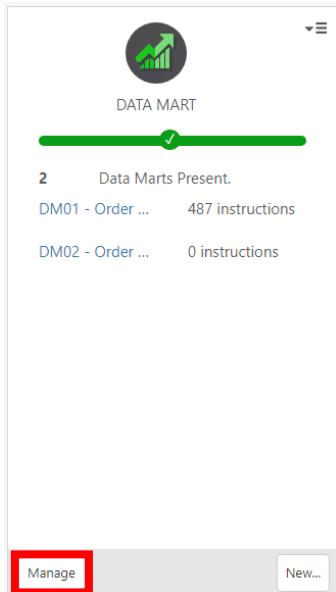
- ② Turn on the [Drop] and [Recreate] check boxes and click [OK] to execute.



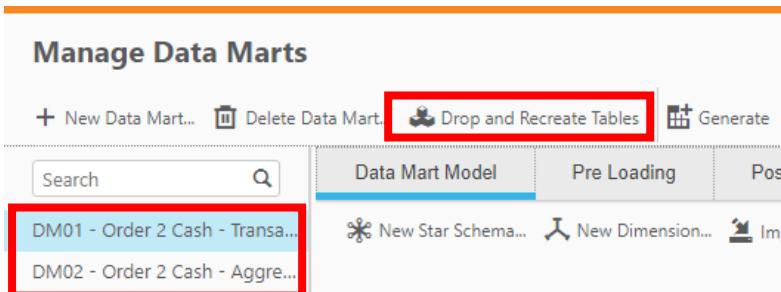
Re-create data mart tables

To recreate only the data mart tables, perform the following steps

- ① Click on [Manage] under [DATA MART].



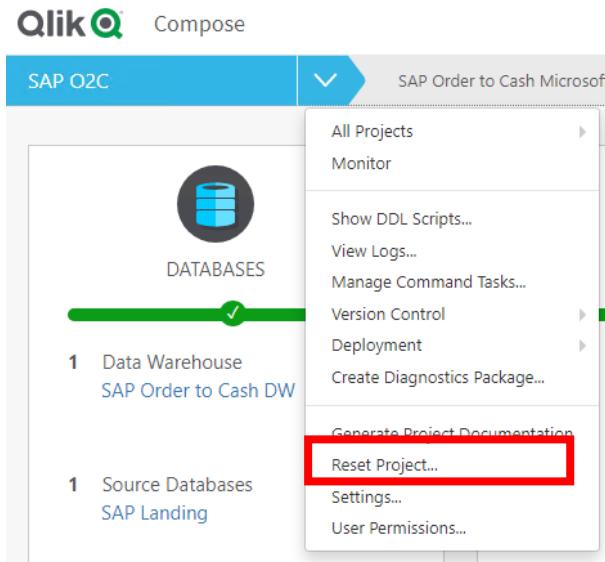
- ② Select the data mart and click [Drop and Recreate Tables].



Reset project

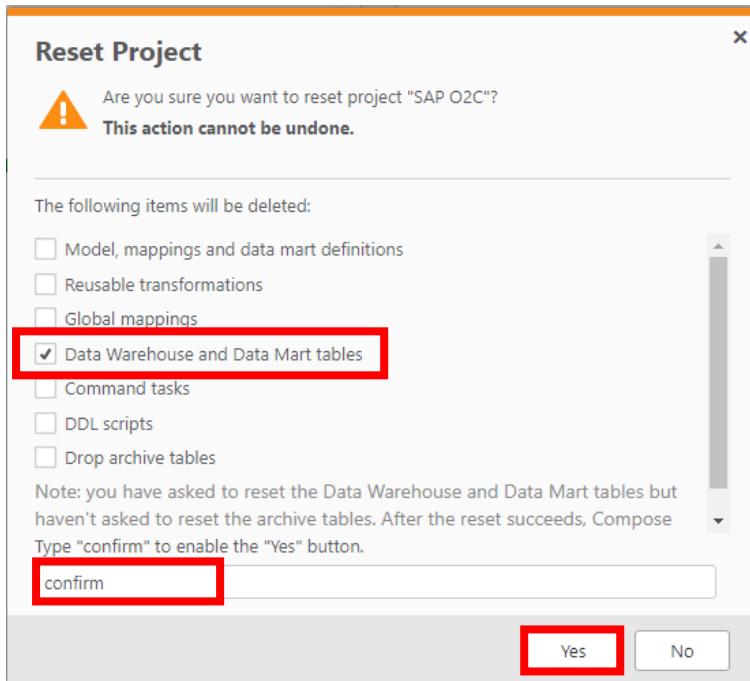
If you want to delete all DWH and Datamart tables, perform a project reset. After resetting, you can again follow the steps of "[12.5 DWH creation and data loading](#)" and "[12.6 Creating Data Marts](#)" to create tables and load data.

- ① Select [Reset Project] from the menu in the upper left corner of the project.



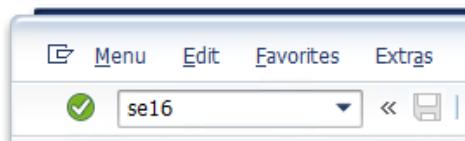
② Turn on only [Data Warehouse and Data Mart tables], enter "confirm" and click [OK].

※ Turning on the other options will result in the loss of project design information, so please check thoroughly before executing.

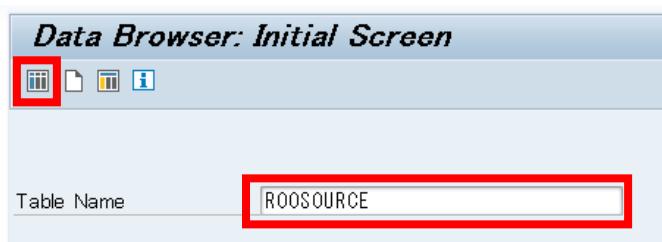


Appendix 7: How to check the delta method

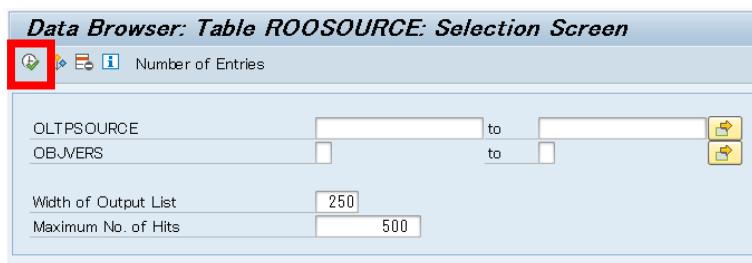
- ① Enter T-code "se16".



- ② Enter "ROOSOURCE" in the [Table Name] field and click the [Table Contents] icon.



- ③ Click [Execute].

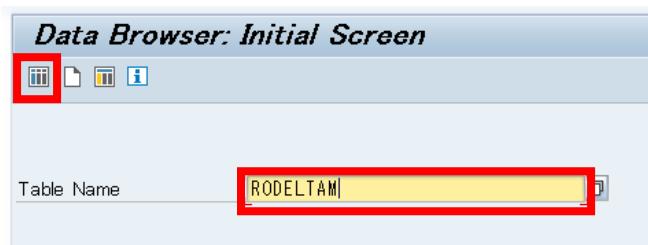


- ④ The DELTA method supported by the data source can be found in the [DELTA] column. Blank columns indicate data sources that do not support DELTA.

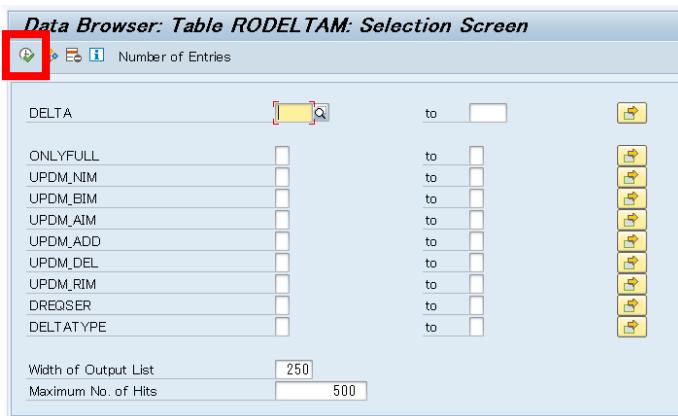
Data Browser: Table ROOSOURCE Select Entries 500

| OLTPSOURCE | OBJVERS | TYPE | APPLNM | BASOSOURCE | DELTA | STOCKUPD | L |
|---------------------------|---------|------|--------|---------------|-------|----------|---|
| /CPD/8AVALTYPET | A | TEXT | DM-IO | | | | |
| /CPD/8PFP_C01 | A | TRAN | DM | /CPD/8PFP_C01 | CUBE | | |
| /CPD/8PFP_R01 | A | TRAN | DM | /CPD/8PFP_R01 | CUBE | | |
| /CPD/PFP_DS_AFVC | A | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_AFVC | D | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_AUFK | A | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_AUFK | D | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_PROJ | A | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_PROJ | D | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_PROJ_TEXT | A | TEXT | PFP | | AIE | | |
| /CPD/PFP_DS_PROJ_TEXT | D | TEXT | PFP | | AIE | | |
| /CPD/PFP_DS_SALES | A | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_SALES | D | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_WBS | A | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_WBS | D | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_WBS_DATE | A | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_WBS_DATE | D | ATTR | PFP | | AIE | | |
| /CPD/PFP_DS_WBS_TEXT | A | TEXT | PFP | | AIE | | |
| /CPD/PFP_DS_WBS_TEXT | D | TEXT | PFP | | AIE | | |
| /CPD/PWS_MP_CONF_FLAG_TXT | A | TEXT | LO-IO | | | | |
| /CPD/PWS_MP_CONF_FLAG_TXT | D | TEXT | LO-IO | | | | |
| /CPD/PWS_MP_COUNTRY_TXT | A | TEXT | LO-IO | | | | |
| /CPD/PWS_MP_COUNTRY_TXT | D | TEXT | LO-IO | | | | |
| /CPD/PWS_MP_CUSTOMER | A | ATTR | LO-IO | | | | |
| /CPD/PWS_MP_CUSTOMER | D | ATTR | LO-IO | | | | |
| /CPD/PWS_MP_FIN_RISK_TXT | A | TEXT | LO-IO | | | | |
| /CPD/PWS_MP_FIN_RISK_TXT | D | TEXT | LO-IO | | | | |
| /CPD/PWS_MP_HDR | A | TRAN | LO-IO | | | | |
| /CPD/PWS_MP_HDR | D | TRAN | LO-IO | | | | |

- ⑤ Return to the full screen, enter "RODELTAM" in the [Table Name] field and click the [Table Contents] icon.



- ⑥ Click on "Execute."

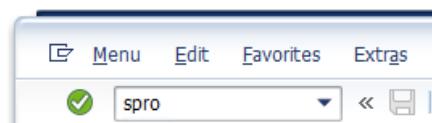


- ⑦ The type of DELTA and its description can be found in the [TXTLG] column.

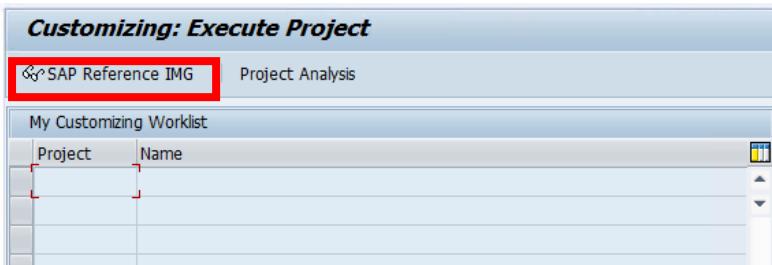
| Data Browser: Table RODELTAM Select Entries 20 | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Table: RODELTAM Displayed Fields: 11 of 11 Fixed Columns: 1 List Width 0250 | | | | | | | | | | |
| DELTA | ONLYFULL | UPDM_NIM | UPDM_BIM | UPDM_AIM | UPDM_ADD | UPDM_DEL | UPDM_RIM | DREQSER | DELTATYPE | TXTLG |
| | X | | | X | | | | 1 | | Delta Only Via Full Upload (ODS or InfoPackage Selection) |
| A | | | | X | | | | 2 | A | ALE Update Pointer (Master Data) |
| ABR | | X | X | X | | | X | 2 | D | Complete Delta with Deletion Flag Via Delta Queue(Cube-Comp) |
| ABR1 | | X | X | X | | | X | 1 | D | Like Method 'ABR' But Serialization Only by Requests |
| ADD | | | | | X | X | | 1 | E | Additive Extraction Via Extracto (e.g. LIS Info Structures) |
| ADDO | | | | | X | X | | 1 | D | Like 'ADD' But Via Delta Queue (Cube-Compatible) |
| AIE | | | | X | | | | 2 | E | After-Images Via Extractor (FI-GL/AP/AR) |
| AIEO | | | | X | | X | | 2 | E | After-Images with Deletion Flag Via Extractor (FI-GL/AP/AR) |
| AIM | | | | X | | | | 2 | D | After-Images Via Delta Queue (e.g. FI-AP/AR) |
| AIMD | | | | X | | X | | 2 | D | After-Images with Deletion Flag Via Delta Queue (e.g. BtB) |
| CUBE | | | | | X | | | 0 | E | InfoCube Extraction |
| D | | | | | | | | 2 | D | Unspecific Delta Via Delta Queue (Not ODS-Compatible) |
| E | | | | | | | | 2 | E | Unspecific Delta Via Extractor (Not ODS-Compatible) |
| FIL0 | | | | X | | | | 2 | F | Delta Via File Import with After-Images |
| FIL1 | | | | | X | | | 2 | F | Delta Via File Import with Delta Images |
| NEW0 | X | | | | | | | 0 | D | Only New Records (Inserts) Via Delta Queue (Cube-Compatible) |
| NEWE | X | | | | | | | 0 | E | Only New Records (Inserts) Via Extractor (Cube-Compatible) |
| O | | | X | X | X | | | 0 | E | ODS Extraction |
| ODS | X | | X | X | X | | X | 1 | E | Delta Unspecified (Do Not Use!) |
| X | | | | | | | | 2 | X | |

Appendix 8: Checking the Chart of Accounts and Financial Statement Versions

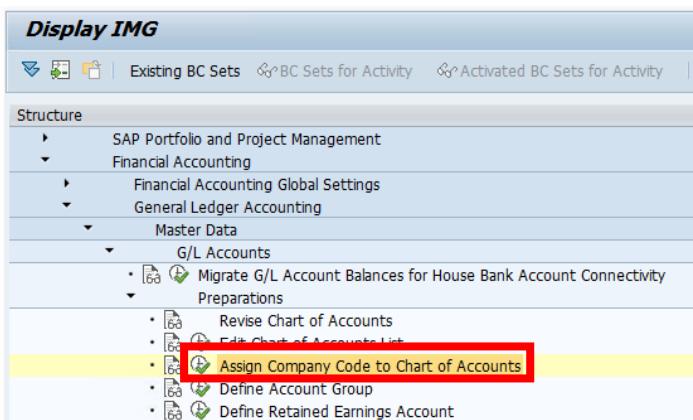
- ① Enter T-code "spro".



- ② Select [SAP Reference IMG].



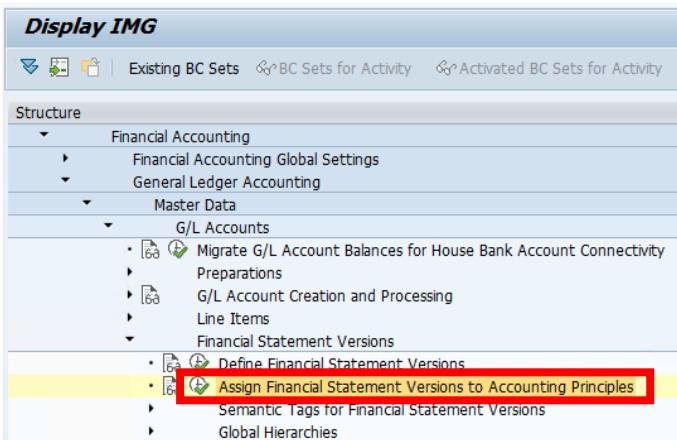
- ③ Click [Financial Accounting] > [General Ledger Accounting] > [Master Data] > [G/L Accounts] > [Preparations] > [Assign Company Code to Chart] > [Assign Company Code to Chart of Accounts].



- ④ Check the Chart of Accounts (Chrt/Accts) assigned to Company Code.

| Change View "Assign Company Code -> Chart Of Accounts": Overview | | | | |
|--|---------------------------|-------------|------------|----------|
| CoCd | Company Name | City | Chrt/Accts | Alt. COA |
| 0001 | SAP A.G. | Walldorf | INT | |
| 0003 | SAP US (IS-HT-SW) | Palo Alto | INT | |
| OMB1 | IS-B Musterbank Deutschl. | Walldorf | OMB1 | |
| 1010 | Company Code 1010 | Walldorf | YCOA | YIKR |
| 1710 | Company Code 1710 | Palo Alto | YCOA | |
| AE01 | Country Template AE | Dubai | INT | |
| AR01 | Country Template AR | Argentinien | INT | |
| ARG1 | Country Template AR | Argentinien | INT | |
| AT01 | Country Template AT | Austria | INT | |
| AU01 | Country Template AU | Australia | INT | |
| BE01 | Country Template BE | Belgium | CABE | |
| BR01 | Country Template BR | Brazil | INT | |
| CA01 | Country Template CA | Canada | CANA | |
| CH01 | Country Template CH | Switzerland | CACH | |
| CL01 | Country Template CL | Chile | INT | |
| CN01 | Country Template CN | China | CACN | |
| CO01 | Country Template CO | Colombia | CACO | |

- ⑤ Click [Financial Accounting] > [General Ledger Accounting] > [Master Data] > [G/L Accounts] > [Financial Statement Version] > [Assign Financial Statement Version to Accounting Principles].



- ⑥ Check the assigned [Financial Statement Version Financials] to [Chart of Accounts] on [Accounting Principle, the financial statement version].

| Change View "Assign Chart of Accounts and Financial Statement Version" | | |
|--|-------------|--|
| | New Entries | |
| Assign Chart of Accounts and Financial Statement Version | | |
| Ac... | Ch... | Financial Statement Version Financials |
| DEAP | YCOA | 1099 |
| USAP | YCOA | 1799 |