Qlik Connector for use with SAP NetWeaver

Installation guide for release 8.0.1

LEAD WITH DATA™ Qlik

Contents

General configuration

The purpose of this document is to guide you through the installation and configuration of the Qlik Connector for use with SAP NetWeaver. For information about how to use the connectors, please consult the online help: <u>SAP NetWeaver Connector</u>.

Installing the connectors

The Qlik Connector for use with SAP NetWeaver is installed with the QlikSAP_x64Setup.exe, which is the 64-bit (x64) installation package for Windows. The package can be installed on Qlik Sense or QlikView systems.

It is also required to import SAP transports. Please see the SAP Transport section for more information.

Prerequisites
See the online help: <u>SAP NetWeaver Connector</u>.

Backwards compatibility

The following table shows the current backwards compatibility of the SAP connectors available in Windows.

Connectors	Windows files	SAP transport (data extraction)
SQL	8.0.1	6.1.2 or later
SAP Query	8.0.1	5.80 SR2 or later
Report	8.0.1	5.80 SR2 or later
Extractor	8.0.1	5.80 SR2 or later
BAPI	8.0.1	5.80 SR2 or later
BW	8.0.1	7.0.6 or later
BEx	8.0.1	7.0.5 or later
InfoProvider	8.0.1	6.5.0 or later

Installation package

Do the following:

1. Download the *QlikSAP_x64Setup.exe* file from the Qlik download site.

The Qlik connectors are obtained from <u>www.qlik.com</u>. Log on with a registered customer or partner account, select Services > Customer Downloads and then select the **Qlik Connectors** tab.

2. Double-click the *QlikSAP_x64Setup.exe*.
   The Qlik Connectors installation wizard starts.

3. Select **I agree**… and then click **Install**.

4. If User Account Control (UAC) is disabled, the installation starts.
   If UAC is enabled, the **User Account Control** dialog is displayed.
   Click **Yes** to start the installation.

5. When the installation has completed, click **Close**.
   A folder structure is created for Qlik Sense and QlikView.
   QlikView: C:\Program Files\Common Files\QlikTech\Custom Data
   Qlik Sense: C:\Program Files\Common Files\Qlik\Custom Data
   The folders contain all files required to use the connectors.

Installing and updating the license

See the online help: <u>Installing and updating the license</u>.

Check the version of the installed release

To check the release version, look at the Details tab on Properties for one of the connector dll or exe files. If the release version is not correct, manually delete all sub folders of `C:\Program Files\Common Files\QlikTech\Custom Data` and `...Qlik\Custom Data`. Uninstall the 'Qlik Connector for SAP x64' from the 'Control panel' in Windows. Then install the connector package again.

SAP Installation

All the connectors except OLAP and DSO use Qlik objects in the SAP system for communicating between the client and the SAP parts of the connectors and for extracting data. The Qlik connector objects are stored in two SAP packages: /QTQVC/QTDEV and /QTQVC/QTDEV_BW (for the BW, Bex, and InfoProvider connectors). All objects are prefixed with the Qlik-reserved namespace at SAP, /QTQVC/. This makes the objects unique for Qlik.

After the objects have been imported into an SAP system, it is possible to import a Qlik deletion transport to remove them (if they should not be used anymore).

Qlik also provides roles that must be assigned to the SAP user ID to authorize it for use with the connectors. The SAP connector roles contain the required authorization objects. Authorization objects may be checked both by the Qlik SAP connector objects and by standard SAP objects called from the Qlik objects. The Qlik roles are not mandatory, and you can copy or modify the Qlik roles if necessary. You can also create your own authorizations.

The Qlik objects and roles are distributed to customers in SAP transports. There are two types of Qlik SAP connector transports. One type contains the Qlik SAP connector objects such as ABAP programs, function modules and dictionary objects (used for data extraction), and the other contains the Qlik SAP connector roles (used for user profile).

The transports are imported into the SAP system with the SAP transport management system.

See: Import transports.

Qlik SAP connectors and SAP user IDs

Creating and maintaining an SAP User ID

Create one or more SAP user IDs that will be used for back-end jobs for Qlik and for administration tasks in the SAP system. These users are not intended as Qlik end-users, so only a limited number of SAP users should be created. Creating multiple users increases traceability and enables you to give them different authorizations.

Do the following:

1. In the SAP system, go to transaction SU01.
2. Click **Create** (**F8**).
3. Give the user a name and a password.
4. On the **Logon data** tab, assign the user to **User Type: Service**.
5. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, update all users assigned to that role:

1. Go to transaction *PFCG*.
2. Enter the role name and click **Change Role**.
3. On the **User** tab, enter the name of the user(s) created above.
4. Click **User comparison**.

5. Click **Complete comparison**.
6. Click **Save**.

After SAP user IDs have been created, each of the Qlik Connectors for SAP can be configured. See chapters for each connector below.

SAP Transports

The SAP transports are found on the <u>Qlik Download site</u>. Press the button 'Value Added' and select the Product 'Qlik Connector for use with SAP NetWeaver®'. Download and extract the file '801.SAP.transports.zip'. The zip file has the following content:

The transports must be imported in the correct order:
1. Data extraction transports
2. Role transports (user profile)

The Data extraction transport is cross-client. It must be imported into the base client (usually 000). The Role transports are client-specific and must be imported into all clients where they will be used.

See: <u>Import transports</u>.

Transports for release 8.0.1

Information about which transports to import can be found in the online help: <u>Installing the SAP transports on Windows</u>.

Import transports

It is recommended that the transports are imported into the SAP system by SAP Basis experts.
There is normally no need to delete the Qlik objects from a previous release before import, because the objects from the latest transport overwrites previous ones.
Depending on SAP Basis, the following options might need to be selected in transaction **STMS** (see example below):

After import, check the transport log like below.

Put the cursor on the transport and press the 'Logs' button.
The log example below illustrates a successful import. Warnings normally do not indicate a problem, but if the log lists errors, they must be corrected.

```
  Log Overview for E66K900289 (HRG)
   └─ ☐   E66K900289              Package /QTQVC/QTDEV release 8.0.1 for basis >= 7.31
      └─ ☐ H6D        System H6D
            ─⊕       Selection for Import                   28.01.2022 09:18:49   (0) Successfully Completed
            ─🔒      Import ABAP Dictionary Objects          28.01.2022 09:19:53   (4) Ended with Warning
            ─🔒      ABAP Dictionary Activation              28.01.2022 09:20:01   (4) Ended with Warning
            ─🔒 000 Import                                    28.01.2022 09:20:38   (4) Ended with Warning
            ─🔒      Check Versions                          28.01.2022 09:20:43   (0) Successfully Completed
            ─🔒 000 Method Execution                          28.01.2022 09:20:46   (0) Successfully Completed
            ─🔒      Generation of Programs and Screens       28.01.2022 09:20:56   (0) Successfully Completed
         └─ ☐ Import steps not specific to transport request
```

Passing through a Message server

If passing through a message server, an entry (for the Message server Port) may have to be added in the 'services' file (located in the folder C:\Windows\System32\drivers\etc). Add sapmsxxx 36nn/tcp, where xxx is the system ID and nn is the system number (of the Message server). If it is the last line in the file, add a new line break after the entry.

As an alternative to updating the 'services' file, you can enter the Message server Port number directly, instead of the System ID, when creating the connector connection. The Port number is of the form 36nn where nn is the system number.

Passing through an SAP Router

Paste a string like this in the 'Host' field when creating the connection:
/H/<Host name or IP number of SAP Router>/S/3299/H/<Fully Qualified Domain Name of target system>
The port which the SAP Router is listening to is always 3299.
If passing through a Message server, please read that section above as well! Note that the 'services file' also must be updated on the SAP Router server. In that case the SAP Router needs to be restarted. For some reason the first try to connect via the SAP Router after a restart may fail. If so, try again!

New Connection String Properties are available to assure that the routing through an SAP router goes the expected way. They are:
SAPRouter (If the connection needs to be made through a firewall via an SAP Router, specify the SAPRouter parameters here in the following format: /H/hostname/S/portnumber)
GatewayHost (The (Fully Qualified) hostname of the gateway at which you want to register (usually the host name of Message server))
GatewayService (The service name (as defined in etc/services) or the port number under which the gateway is listening)
Connection string example:
;SAPRouter=/H/99.99.99.99/S/3299;GatewayHost=SAPMSHOST;GatewayService=9999;

Passing through a Firewall

If there is a firewall between the connector and the SAP system, port $33nn$ must be open (where nn = system number of the SAP system).

Error handling

When a connector error occurs, check the corresponding log file. Note that some connectors create more than one log file for the same job.

The log files are located in the log directories for the individual connectors. The path to the log files for QlikView is:

```
C:\ProgramData\QlikTech\Custom Data\QvxxxConnector\Log
```

For Qlik Sense it is:

```
C:\ProgramData\Qlik\Custom Data\QvxxxConnector\Log
```

The xxx represents the connector-specific name, such as QvBexConnector.

BAPI connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the BAPI connector. Qlik provides roles that contain the necessary authorizations. It is possible to assign different roles to different users dependent of need, or all roles can be assigned to one user. The roles are:
1. QTQVCADMIN: There are some Qlik transactions in the SAP GUI. Most of them require that this role is assigned to the user.
2. QTQVCACCESS: To be used by a connector back-end user for doing extraction jobs from Qlik.

To assign role(s) to a user ID, do the following:
1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired role(s).
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: Creating and maintaining a SAP User ID.

A BAPI might check authorization objects that are not part of the Qlik roles. In that case, they can be added to the role QTQVCACCESS or added to an additional customer developed role that is assigned to the Qlik SAP user.

BEx connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the BEx connector. Qlik provides roles that contain the necessary authorizations. It is possible to assign different roles to different users dependent of need, or all roles can be assigned to one user. The roles are:

1. QTQVCADMIN: There are some Qlik transactions in the SAP GUI. Most of them require that this role is assigned to the user.
2. QTQVCACCESS: To be used by a connector back-end user for doing extraction jobs from Qlik.
3. QTQVCBWACCESS: To be used by the OLAP, DSO/ODS, BEx, InfoProvider, and BW Connectors back-end user for doing extraction jobs on an SAP BI/BW system.

To assign role(s) to a user ID, do the following:

1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: Creating and maintaining a SAP User ID.

BW connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the BW connector. Qlik provides roles that contain the necessary authorizations. It is possible to assign different roles to different users dependent of need, or all roles can be assigned to one user. The roles are:

1. QTQVCADMIN: There are some Qlik transactions in the SAP GUI. Most of them require that this role is assigned to the user.
2. QTQVCACCESS: To be used by a connector back-end user for doing extraction jobs from Qlik.
3. QTQVCBWACCESS: To be used by the OLAP, DSO/ODS, BEx, InfoProvider, and BW Connectors back-end user for doing extraction jobs on an SAP BI/BW system.

To assign role(s) to a user ID, do the following:

1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: Creating and maintaining a SAP User ID.

DSO connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the DSO connector. Qlik provides a role that contain the necessary authorizations. The role is:

1   QTQVCBWACCESS: To be used by OLAP, DSO/ODS, BEx and InfoProvider Connectors back-end user for doing extraction jobs from SAP BI/BW system from Qlik.

To assign role(s) to a user ID, do the following:

1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: Creating and maintaining a SAP User ID.

Extractor connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the Extractor connector. Qlik provides roles that contain the necessary authorizations. It is possible to assign different roles to different users dependent of need, or all roles can be assigned to one user. The roles are:

1. QTQVCEXTRACTOR: To be used by Extractor Connector Back-end user for doing extraction jobs from Qlik.
2. QTQVCEXTRADM: This role is used to activate and generate the extractors in an SAP system. It can also be used to test Extractors in the SAP system and to monitor Extractor jobs.
3. QTQVCEXTRSETUP: This role can be used to create, delete, and verify the setup of the logical system in an SAP system for later use by the Extractor Connector. It can also be used for administration tasks like migrating Extractors and the Extractor Environment.

To assign role(s) to a user ID, do the following:

1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: <u>Creating and maintaining a SAP User ID</u>.

Install Qlik SAP Network Server

A service is required when using the Extractor connector. The main reasons to use a service are to support parallel loads and be able to use Extractors containing many fields (field character sum greater than 1000).

SrvService.exe	2017-05-29 08:54	Application	878 KB
SrvService_Console.bat	2017-05-02 09:40	Windows Batch File	1 KB

These service files are installed in:

`C:\Program Files\Common Files\QlikTech\Custom Data\QvSAPConnector.`

NOTE: The Service setup file is installed in the folder above and **not** in the folder `C:\Program Files\Common Files\Qlik\Custom Data\QvSAPExtractorConnector` (even though only Qlik Sense is used).

Do the following:

1. Start a new command prompt using **Run as administrator** and enter the path to the folder of *SrvService_Console.bat*.
2. At the command prompt, start *SrvService_Console.bat*.
3. Install the service by selecting option 2: *Install Server Service*.
4. Once installed, select option 3: *Start Service*.

The service can optionally be started from the Microsoft Management Console (MMC). In MMC, the service is called Qlik SAP Network Server.

It is only possible to have one service per SAP environment running, to avoid a mismatch. For example, if a customer has different Develop, Test and Production environments, it is recommended that you have one service per environment. However, they cannot be installed on the same server. The servers must have different IP addresses.

The service must be stopped during an upgrade of the connectors, and the file *SrvService.exe* should be replaced with the new version before starting the service again.

NOTE: The Qlik SAP Network Server Service is from release 7.0.0, for security reasons, limiting the connections from incoming client so only localhost clients are allowed by default. However, this restriction can be adjusted be altering the settings file (`C:\ProgramData\QlikTech\Custom Data\QvSAPConnector\settings.config`), see Qlik Online Help or the settings file for details on how to do this.

Extractor configuration in SAP

A series of standard extractors are delivered within SAP for data transfer to the SAP Business Information Warehouse. If BI/BW is not used, proceed as follows to activate a series of processes within SAP:

Do the following:

1. In some cases, the set up must be performed from the customizing side, which is reached through the *SPRO* transaction and the **Activate Business Functions** menu.

2. In the SAP system, go to transaction *SBIW* to transfer and activate the BI/BW DataSources.
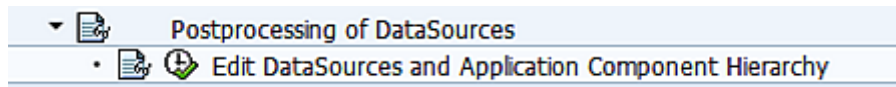
3. Check that the tree hierarchy and data sources are activated.

4. If this is not the case, transfer the Application Component Hierarchy and then the Business Content DataSources.
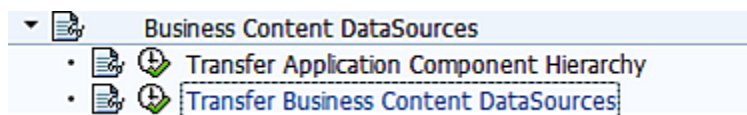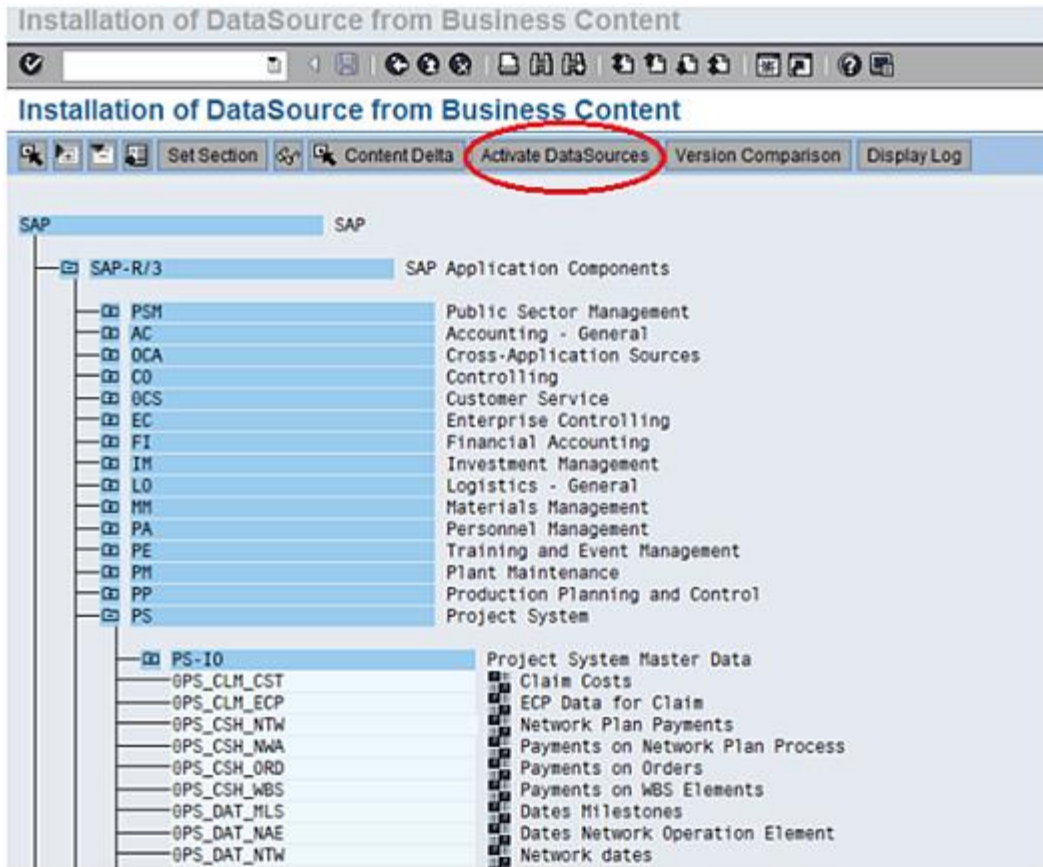

5. Transfer Application Component Hierarchy:
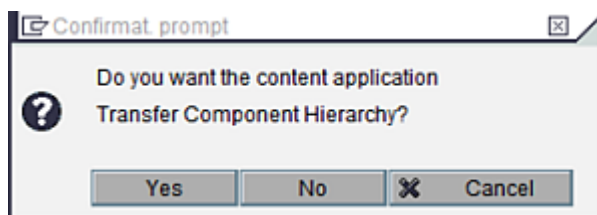
    Click **Yes**.

6. Transfer Business Content DataSources:

Start by activating the tree hierarchy and then activate each data source to be used.

Temporary changes in SAP system configuration

Some changes to the SAP system configuration are necessary to make it possible to create the Extractor Environment (described in the next section). The SAP system configuration can be restored after the Extractor Environment has been created.
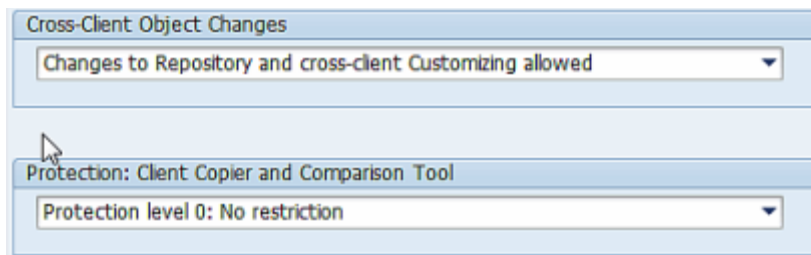
Do the following:

1. In the SAP system, go to transaction *SCC4*.
2. Select **Client**.
3. Change the system to reflect the following options:


Select one of the first two options.

4. Go to transaction *SE03*. Double-click **Set System Change Option** under **Administration**.
5. Check that the following options are set to Modifiable:
   - **Global Setting**
   - **Local Developments** (No Automatic Transport)
   - **Customer Name Range**

Creating the Extractor Environment in the SAP system

The Extractor Environment must be created before the Extractor connector can be used. It is possible to have many Extractor Environments (one per Logical system). In that case, repeat the 'Create' procedure and use a different name in the field 'Logical system of receiver'.

Do the following:

1. In the SAP system, go to transaction */n/QTQVC/EXTRACTOR_ADM* and select the **Create** option.
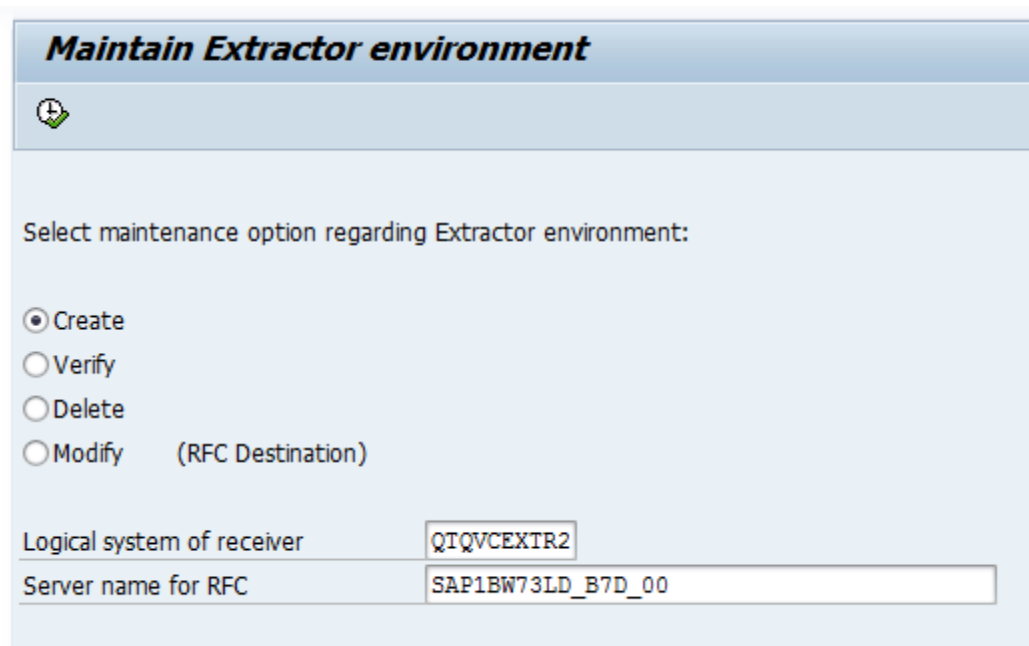
2. Select a Logical system of receiver name.

   When selecting a Logical system name, it must be one word like QTQVCEXTR1 and not QTQVC_EXTR1. To prevent a mismatch, fill the whole field with 10 characters.

3. Select a Server name for RFC.

   Select the server that the Extractor Connector will use for the RFC Communication. The user can look

up possible servers in the SAP system cluster (same as in transaction *SM51*) under Server Name and select one of them to enter in the field Server Name for RFC.

4. Press the 'Execute' button.

5. When finished, restore the SAP configuration changes made in the previous section.

Create
- Creates the logical system of the receiver.
- Creates the RFC connection (same name as the logical system).
- Creates the partner profile of type LS (same name as the logical system).
- Creates the Basic IDoc type for data transfer. The name is hard-coded like "ZSQAQTQVCEXTR1".

Verify
- Verifies that all necessary components of the Extractor environment are configured.
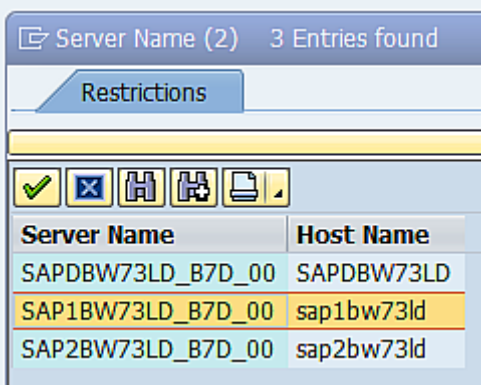
Delete
- Deletes all components in the Extractor environment.

Modify
- Modifies the RFC Destination.

In this transaction, the RFC Destination used for RFC communication is created or modified. The following information is applicable to both the **Create** and **Modify** options.

You must select a server that the Extractor Connector will use for the RFC communication. The user can look up possible servers in the SAP system cluster (same as in transaction *SM51*) under **Server Name**, and select one of them to enter in the field **Server Name for RFC**:

If the Central instance is part of the list, it can also be selected. The selected server should have dialog processes.

In this example the Gateway Host (*SAP1BW73LD.RDLund.qliktech.com*) and Gateway Service (*sapgw00*) of the selected server are used when the RFC Destination is created or modified. Check the result in transaction *SM59* under TCP/IP connections:

RFC Destination QTQVCEXTR2

Connection Test   Unicode Test

RFC Destination	QTQVCEXTR2		
Connection Type	T TCP/IP Connection	Description	tRFC

Description

Description 1	Automatically generated by QlikView - please do not modify.
Description 2	
Description 3	

Administration / Technical Settings / Logon & Security / Unicode / Special Options

Activation Type

- ○ Start on Application Server   ⦿ Registered Server Program
- ○ Start on Explicit Host
- ○ Start on Front-End Work Station

Registered Server Program

Program ID	QTQVCEXTR2

Start Type of External Program

- ⦿ Default Gateway Value
- ○ Remote Execution
- ○ Remote Shell
- ○ Secure Shell

CPI-C Timeout

- ⦿ Default Gateway Value
- ○ Specify Timeout   60   Defined Value in Seconds

Gateway Options

Gateway Host	SAP1BW73LD.RDLund.qliktech.com	Delete
Gateway service	sapgw00	

The Windows part of the connector will always use the Gateway Host and Gateway Service of the selected server when registering the Program ID of the RFC Destination (starting up the 'listener').

It is possible to change to another server anytime. The RFC Destination can easily be updated with the Gateway Host and Gateway Service of the new server and the connector will automatically use the new settings when starting up the 'listener'.

The RFC Destination can be updated in the transaction */n/QTQVC/EXTRACTOR_ADM* by using the option **Modify** or by using the SAP transaction *SM59*.

If connecting through an SAP Router, the RFC Connection in SAP needs to be manually changed in transaction SM59. The 'Gateway Host' needs to be changed to:

/H/addr.to.SAPRouter/H/addr.to.SAPsystem

The 'Gateway service' value can be kept if correctly set in /N/QTQVC/EXTRACTOR_ADM.
If the server is changed in SAP, the Service Qlik *SAP Network Server* must be restarted.

The SAP parameter SAPLOCALHOSTFULL must contain the correct value for each server. Log on directly to each SAP server and check the value in transaction *RZ11*. SAPLOCALHOSTFULL should contain the Fully Qualified Domain Name of the server.
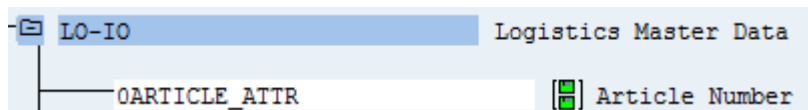
Activating Extractors

The Extractors must be activated in the SAP system before they can be used by the connector.

Note that in a SAP BW system, the Extractor source must be generated as Export DataSource before it can be activated in this transaction.

Finding Extractors:
1. In the SAP system, go to transaction *RSA6*.

2. Select a DataSource/Extractor in the transaction by high-lighting it and copying the technical name (using **Ctrl+Y** on the keyboard). This can also be done manually.

3. Go to transaction ***/n/QTQVC/ACTIVATE***.

Activate / generate Extractor (DataSource)

Logical system of receiver	QTQVCEXTR1	Language	EN	Transfer Method	● tRFC	○ IDoc
Extractor name	0ARTICLE_ATTR			Get Extractor		

Activate Extractor	0ARTICLE_ATTR	Article

FIELDNAME	DESCRIPTION	SELECT	
AEKLK	Stock Transfer Net Change Costing	X	
AENAM	Name of Person Who Changed Object	X	
AESZN	Document change number (without document management system)	X	
ATTYP	Material Category	X	
BEGRU	Authorization Group	X	
BEHVO	Container requirements	X	
BFLME	Generic Material with Logistical Variants	X	
BISMT	Old material number	X	
BLANZ	Number of sheets (without Document Management system)	X	
BLATT	Page number of document (without Document Management system)	X	
BMATN	Number of firm's own (internal) inventory-managed material	X	
BRAND_ID	Brand	X	
BREIT	Width	X	
BRGEW	Gross Weight	X	
BSTME	Purchase Order Unit of Measure	X	
BWSCL	Source of Supply	X	
BWVOR	Procurement rule	X	
CADKZ	CAD Indicator	X	
CARE_CODE	Care Codes (such as Washing Code, Ironing Code, etc.)	X	
CMETH	Quantity Conversion Method	X	
COLOR	Characteristic Value for Colors of Variants	X	

Select all   Deselect all   Timestamp   000000

4. Enter the name of the **Logical system of receiver** or select it from the drop-down menu.

5. Select a **Language**.

6. Paste the selected Extractor name in the **Extractor name** field or select an Extractor from the drop-down menu.

7. Click **Get Extractor**.

8. Select the field(s) to activate (X) or select all fields.

9. Choose transfer method **tRFC** or **IDoc**.

10. Click **Activate Extractor**.

Migrate Extractor Environment

When the Extractor environment has been created, it is possible to migrate it to other SAP systems in the landscape by using the SAP transport management system. This functionality can be used by customers who do not want to change the SAP configuration in production systems. Instead the Extractor environment can be created in a development system and migrated to the production system.

Do the following:

1. Create the Extractor environment in the unlocked source system with the existing transaction */N/QTQVC/EXTRACTOR_ADM*.

2. Then check the database table RSBASIDOC in the source system with transaction *SE16*. Enter the name of the Extractor Environment Logical System and click **Execute**.

3. Then enter the name of the TSPREFIX (Transfer structure prefix), from the source system, in the same table in the target system and click **Execute**.

If a record is found with the same TSPREFIX in the target system, the transport function cannot be used. A workaround is to create a new Extractor environment in the source system to get another TSPREFIX that is not already used in the target system.

4. If the prerequisite above is fulfilled, then execute the transaction */N/QTQVC/MIGRATE_ENV* in the source system to put the Extractor environment into a transport.

5. Migrate and import the transport into the correct client in the Target system.

6. After the import, execute the transaction */N/QTQVC/CONNECT_ENV* in the target system. Enter **Logical system of receiver**, **User name** and **Transfer structure prefix** (found above in the source system) and click **Execute**.

7. Go to transaction *WE21* (under Transactional RFC) in the target system and generate a new port name and save it. The RFC destination should contain the Extractor Environment Logical System name.

8. Go to transaction *WE20* and find the partner profile for the **Partner Type** LS and the Extractor Environment Logical System name.

9. Double-click the **Message Type** *RSINFO*.

10. Assign the port name which was generated for **Receiver port**, click **Enter** and **Save**.

11. Do the same for the **Message Type** *RSSEND*.

12. Finally perform the **Modify** option in the transaction */n/QTQVC/EXTRACTOR_ADM* to update the Gateway Host and Gateway Service of the RFC connection used by the Logical system.

The Extractor environment is ready to use.

Migrate activated Extractors

Use this functionality to migrate activated Extractors within the system landscape by utilizing the SAP transport management system.
In the source system in the SAP system landscape, put the activated Extractors that should be migrated into the database table */QTQVC/EXTRACT*.

Do the following:

1. Use the transaction */QTQVC/MIGRATE_PREP*:

Put activated Extractors into migration table

Logical system of receiver	QTQVCEXTR1	Language	EN	Transfer Method	⦿ tRFC	◯ IDoc

[Get Extractors]   Put selected Extractors into migration table in:
[Foreground]   or   [Background]

EXTRACTOR	DESCRIPTION	SELECT
/QTQVC/VBAK_VBRP	Billing	X
0ARTICLE_ATTR	Article	
0BILL_CAT_TEXT	Billing Category	X
0BILL_TYPE_TEXT	Billing Type	
0COMP_CODE_ATTR	Company code	X
0COMP_CODE_TEXT	Company Code	
0CO_AREA_ATTR	Controlling Area	X
0CO_PC_ACT_02	Ending Inventory Material Valuation Rec.	X
0CO_PC_ACT_05	Material Valuation Record Prices	X
0CURTYPE_TEXT	Currency Type	X
0CUSTOMER_TEXT	Customer	
0CUST_GROUP_TEXT	Customer Group	
0CUST_SALES_TEXT	Customer	X
0DISTR_CHAN_TEXT	Distribution Channel	X
0DIVISION_TEXT	Division	X
0DOC_CATEG_TEXT	Document cat.	X
0EC_PCA_1	Profit Center: Account Transaction Data	
0EC_PCA_3	Profit Center: Actual Line Items	X
0FI_AP_3	Vendors: Line Items	X
0FI_AR_3	Customers: Line Items	X

[Select all]   [Deselect all]

2.   In the same system in the SAP system landscape, create a Transport request containing activated Extractors for the specific Logical system. Perform step 1 in the transaction */QTQVC/MIGRATE_EXTR*:

Migrate Activated Extractors

Step 1. Create Transport Request in first system in landscape. Do not create a new
Transport Request if there already is one which is not migrated.

Logical system of receiver	QTQVCEXTR1
Transport Owner	HRG
Target System	E6V

Create Transport Request   Customizing Request: E6DK900525

Step 2. Migrate Transport Request and import in correct client in next system in landscape.
Step 3. Check that Extractor environment with the Logical system name used in step 1 is
created in this system. In SAP BW systems the Extractor source needs to be generated as
Export DataSource, before activated.
Step 4. Execute this transaction in the same system and press the button below:

Upload and activate Extractors   For Logical system   ☑

Step 5. Repeat step 2 to step 4 for each subsequent system in landscape.

3. Perform step 2 and step 3 described in this transaction dialog.

4. Execute the same transaction */QTQVC/MIGRATE_EXTR* in the SAP system where step 2 and step 3
were performed. Then perform step 4:

Migrate Activated Extractors

Step 1. Create Transport Request in first system in landscape. Do not create a new
    Transport Request if there already is one which is not migrated.

Logical system of receiver	☑
Transport Owner	HRG
Target System	☑

[Create Transport Request]   Customizing Request: [_____]

Step 2. Migrate Transport Request and import in correct client in next system in landscape.
Step 3. Check that Extractor environment with the Logical system name used in step 1 is
    created in this system. In SAP BW systems the Extractor source needs to be generated as
    Export DataSource, before activated.
Step 4. Execute this transaction in the same system and press the button below:

[Upload and activate Extractors]   For Logical system   QTQVCEXTR1

Step 5. Repeat step 2 to step 4 for each subsequent system in landscape.

5.   Then perform step 5 in each system in the SAP system landscape.

General rules

The database table */QTQVC/EXTRACT* will contain the activated extractors from the latest execution of the transaction */QTQVC/MIGRATE_PREP*. That is, the transaction overwrites the previous content in the table for a Logical system. Therefore, it is important to execute the transaction */QTQVC/MIGRATE_PREP* before executing the transaction */QTQVC/MIGRATE_EXTR* which creates the Transport request. When the Transport request is created, it is not allowed to change the content of the database table */QTQVC/EXTRACT* until the Transport request has been migrated. No new Transport request should be created until the last one has been used in all affected systems in the landscape.

However, the database table */QTQVC/EXTRACT* is using Logical system as key, so it is possible to put activated extractors for a different Logical system in the table and to create a separate Transport request in parallel for that Logical system.

When the Extractors are uploaded and activated in the target system in the landscape there is a check that an Extractor is not already activated. If so, there will be a warning in the log file, the activation of the Extractor is skipped and the program continues with the next Extractor from the Transport request. If the user wants to

change the used fields of an activated extractor by using this functionality, the Extractor must be manually deactivated in each system before uploading and activation takes place.

RFC connection error messages that can occur after configuration

ERROR registration of tp <program id> from host <external host> not allowed

An RFC connection fails when an external program / application tries to register a program in the gateway with the error message:

LOCATION SAP-Gateway on host <hostname>/sapgw,nr>
ERROR registration of tp <program id> from host <external host> not allowed

This indicates that the gateway does is not allowing the program identified by <program id> to be registered from the host <external host>.

Cause

There are two possible reasons:

- Parameter "gw/acl_mode = 1" has been set but the "reg_info" file has not been set. This is the default value for NEW INSTALLATIONS for NetWeaver 7.0x since December 2012 (including 7.20) and for NetWeaver 7.3X since August 2012.

- There is a "reg_info" file that does not allow the registration of that external program.

Resolution

Update the "reg_info" file from the SAP gateway that appears in the error message ("SAP-Gateway on host <hostname> / sapgw<nr>") creating a line that allows this registration.
The location of the "reg_info" file is specified by parameter "gw/reg_info" and should contain lines like:

#VERSION=2
 P TP=<program ID> HOST=<external host> CANCEL=internal,<external host> ACCESS=*
 ...
the following lines should be the LAST lines in the reginfo
#
P TP=* HOST=<LIST> CANCEL=<LIST> ACCESS=<LIST>
P TP=* HOST=local

Following recommendations from SAP Note 1408081 :Basic settings for reg_info and sec_info
and settings for ACCESS clausule from SAP Note 1592493 : GW: Problems during reginfo configuration

Then, reload the new settings via transaction SMGW

And try to register the program again.

Illegal parameter value (function=SAP_CMACCPTP /parameter=handle / value=548

For an error message like:

"illegal parameter value (function=SAP_CMACCPTP /parameter=handle / value=548".

Solution:

Add a line to the "reg_info" file (the location of the "reg_info" file is specified by parameter "gw/reg_info"):

P TP=QTQVCEXTR1 HOST=<Servername>,<FQDN Servername> ACCESS=<SAP Servername>,<FQSN SAP Servername>,internal CANCEL=internal

Troubleshooting of the Extractor connector

Some good guidelines for testing the Extractor connector:

1. Start with a clean system. No Extractor jobs should be running (check in transaction SM51). From the connector make sure to remove any active status records (see the online help about how to do this).
2. Restart the Extractor Connector Service.
3. Execute one Extractor job at a time. When an error occurs, check the Extractor connector log (named like QvSAPExtr_20160830_122350.txt) and the service log (named like SrvService_20160614_091022.txt or Server_20160516_111212.txt) and analyze the error.
   The service log is located on the server where the service is running.
4. Also, check the corresponding SAP extraction job log. Prefix the job name from the Extractor connector log with 'BI' like BIREQU_QTQVCEXTR1_20160420125150. Check job log for this job name in transaction SM37.
5. Continue like above and try to resolve one error at a time.

InfoProvider connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the InfoProvider connector. Qlik provides roles that contain the necessary authorizations. It is possible to assign different roles to different users dependent of need, or all roles can be assigned to one user. The roles are:

1   QTQVCADMIN: There are some Qlik transactions in the SAP GUI. Most of them require that this role is assigned to the user.
2   QTQVCACCESS: To be used by a connector back-end user for doing extraction jobs from Qlik.
3   QTQVCBWACCESS: To be used by the OLAP, DSO/ODS, BEx, InfoProvider, and BW Connectors back-end user for doing extraction jobs on an SAP BI/BW system.

To assign role(s) to a user ID, do the following:

1.   In the SAP system, go to transaction *SU01*.
2.   Enter User ID and click **Change** (**Shift + F6**).
3.   On the **Roles** tab, add the desired roles.
4.   Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: Creating and maintaining a SAP User ID.

OLAP connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the OLAP connector. Qlik provides a role that contain the necessary authorizations. The role is:

1 QTQVCBWACCESS: To be used by OLAP, DSO/ODS, BEx and InfoProvider Connectors back-end user for doing extraction jobs from SAP BI/BW system from Qlik.

To assign role(s) to a user ID, do the following:

1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: Creating and maintaining a SAP User ID.

Report connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the Report connector. Qlik provides roles that contain the necessary authorizations. It is possible to assign different roles to different users dependent of need, or all roles can be assigned to one user. The roles are:
1. QTQVCADMIN: There are some Qlik transactions in the SAP GUI. Most of them require that this role is assigned to the user.
2. QTQVCACCESS: To be used by a connector back-end user for doing extraction jobs from Qlik.

To assign role(s) to a user ID, do the following:
1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: <u>Creating and maintaining a SAP User ID</u>.

A Report might check authorization objects that are not part of the Qlik roles. In that case, they can be added to the role *QTQVCACCESS* or added to an additional customer-developed role that is assigned to the Qlik SAP user.

To detect missing authorization, an authorization trace can to be performed on each Report to be used.
Do the following:

1. In the SAP system, go to transaction *ST01*.

2. Start an authorization trace.
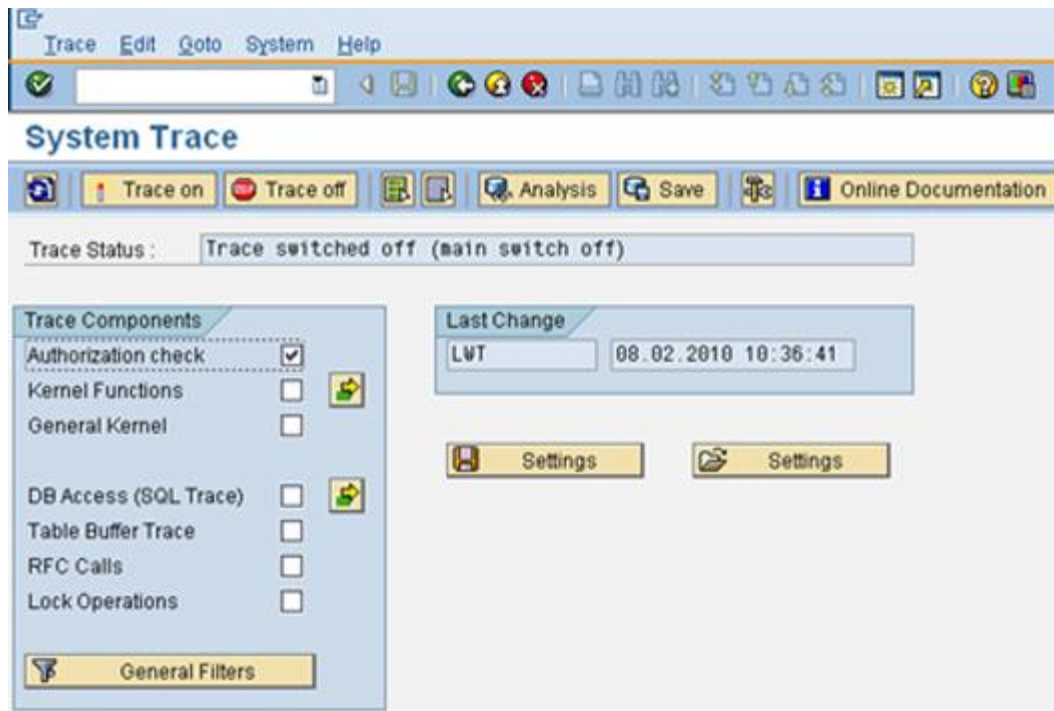
3. Run the report with a user that has sufficient access.
   The results show the authorization objects used.

4. Add the missing authorization objects to one of the roles which are assigned to the Qlik SAP user.

SAP Query configuration

Assign roles to Qlik SAP user

Authorizations are required to use the SAP Query connector. Qlik provides roles that contain the necessary authorizations. It is possible to assign different roles to different users dependent of need, or all roles can be assigned to one user. The roles are:

1. QTQVCADMIN: There are some Qlik transactions in the SAP GUI. Most of them require that this role is assigned to the user.
2. QTQVCACCESS: To be used by a connector back-end user for doing extraction jobs from Qlik.

To assign role(s) to a user ID, do the following:

1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: <u>Creating and maintaining a SAP User ID</u>.

An SAP query might check authorization objects which are not part of the Qlik roles. In that case, they can be added to the role *QTQVCACCESS* or added to an additional customer developed role which is assigned to the Qlik SAP user.

In most cases, the connector log reveals the missing authorization object. If not, the Infoset definition or logical database definition must be checked.

In addition, go to transaction *SQ03* and provide the user with access to the relevant SAP query user groups. All queries in the user groups assigned are available via the SAP query connector.

Do the following:

1. In the SAP system, go to transaction *SQ03*.

2. Enter the user ID in the **User** field.
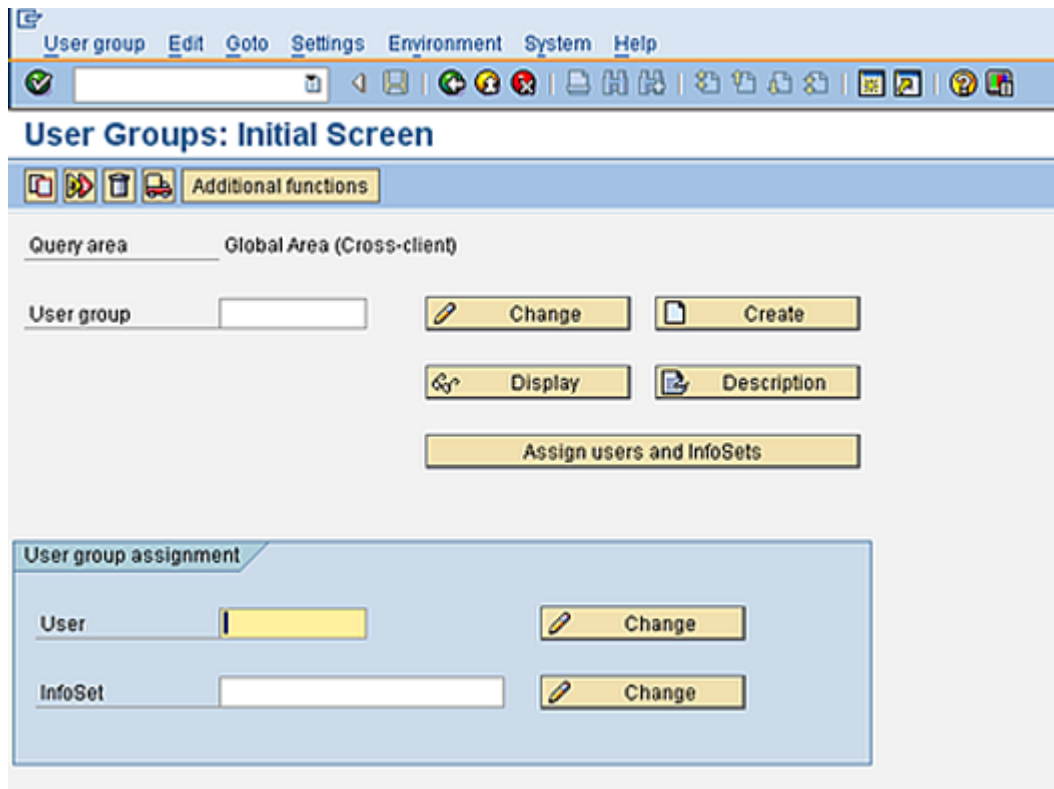
3. Click **Change**.

4. Check all the **User group** boxes that the download user should have access to.
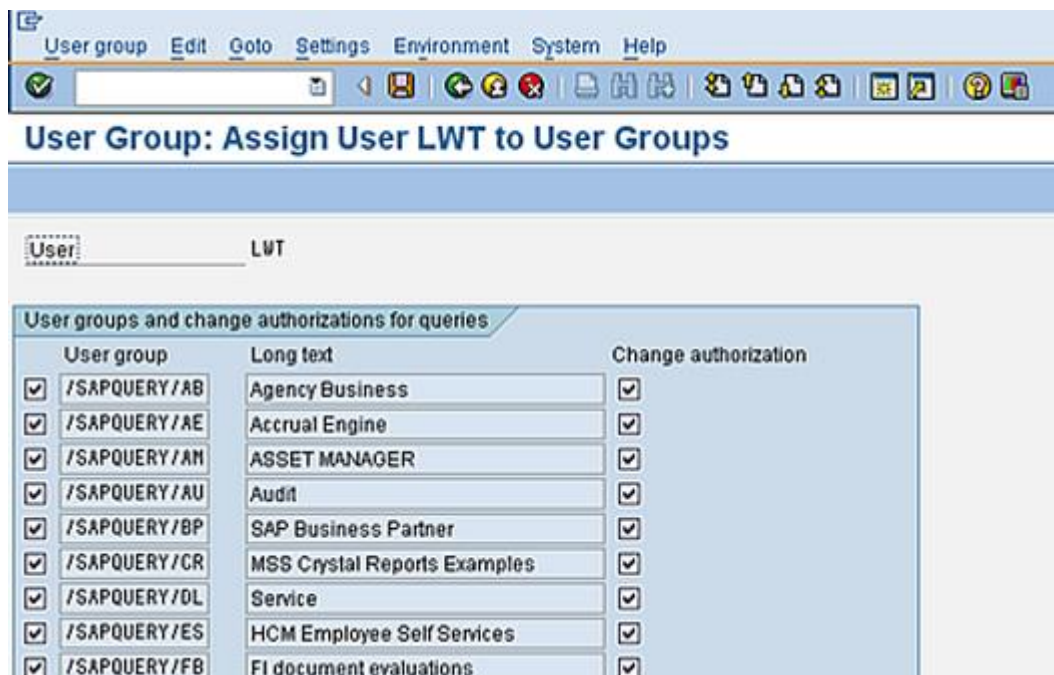
5. Click **Save**.

SQL connector configuration

Assign roles to Qlik SAP user

Authorizations are required to use the SQL connector. Qlik provides roles that contain the necessary authorizations. You can assign different roles to different users, depending on need, or both roles can be assigned to one user. The roles are:

1. QTQVCADMIN: There are some Qlik transactions in the SAP GUI. Most of them require that this role is assigned to the user.
2. QTQVCACCESS: To be used by a connector back-end user for doing extraction jobs from Qlik.

To assign role(s) to a user ID, do the following:
1. In the SAP system, go to transaction *SU01*.
2. Enter User ID and click **Change** (**Shift + F6**).
3. On the **Roles** tab, add the desired roles.
4. Click **Save**.

If the installation is an upgrade from a previous version and any of the Qlik roles have been updated, please see: Creating and maintaining a SAP User ID.

Testing SQL statements

The ***/n/QTQVC/SQL*** transaction allows testing of **SQL SELECT** statements. After installing the transports and creating a user, test that everything has been correctly installed.

Do the following:

1. Log on with Qlik SAP user ID and execute the transaction ***/n/QTQVC/SQL***.

Test of SQL statements

SQL-Statement

Select * from t000		Open Stream
		Fetch Stream
		Close Stream
		all Data

Windows user	HRG
Windows IP number	STARTED FROM SAP
Packet Size	20.000
Wait for Fetch (internal)	30
Number of buffers to fetch	99.999.999
Conversion Routine	0
Buffer Percentage	10
Timeout Batch	600
Target Server	
Job Class	
Check Field Separator	0
Batch Job Name	/QTQVC/READ_DATA

Job Number

Table Name

Replace Null Value   1

Trace   0

2. Enter the **SQL** statement.

3. Click **Open Stream** to start the job. Then either:

    a. Click **Fetch Stream** to display one page of the result. Click the **Back** arrow. Click **Close Stream** to end the job.

       or:

    b. Click **all Data** to execute the complete job and get the run-time statistics.

About Qlik

Qlik is on a mission to create a data-literate world, where everyone can use data to solve their most challenging problems. Only Qlik's end-to-end data management and analytics platform brings together all of an organization's data from any source, enabling people at any skill level to use their curiosity to uncover new insights. Companies use Qlik to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward. Qlik does business in more than 100 countries and serves over 48,000 customers around the world.