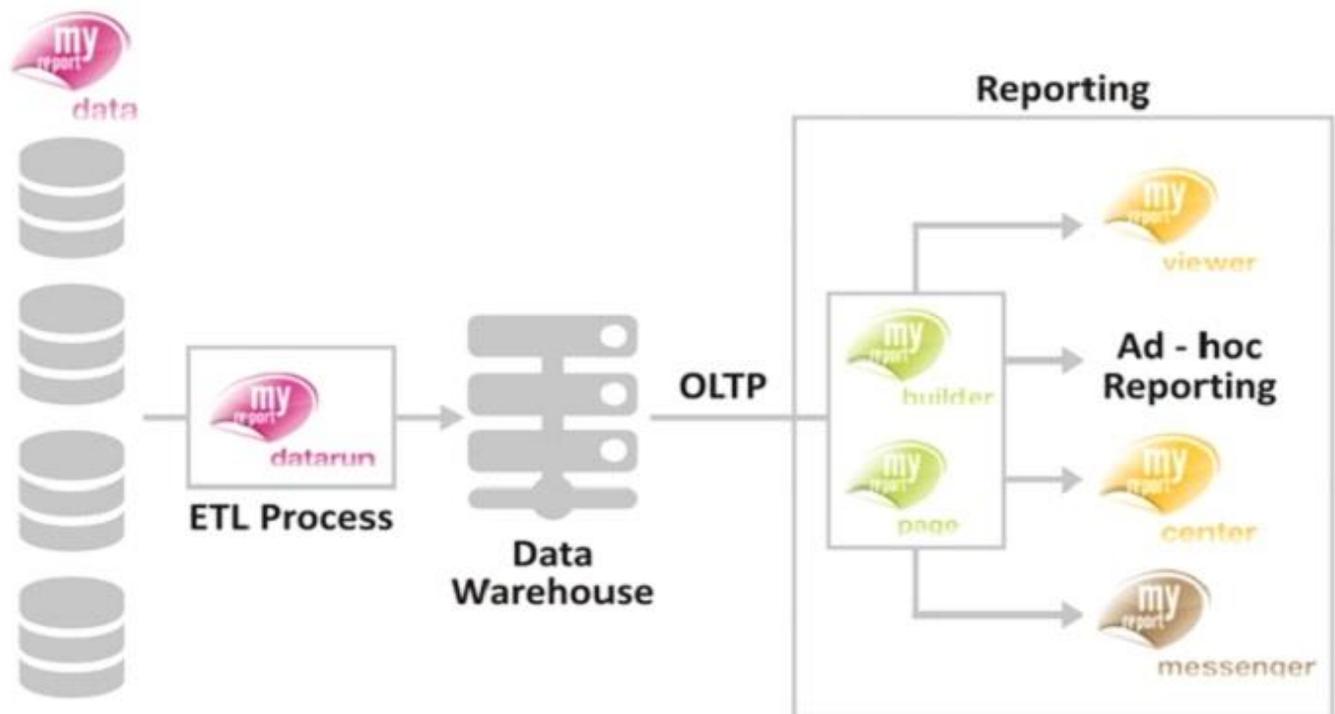




Training Manual

MyReport CData



Getting Started with CData sap ODBC driver

Overview

The CData ODBC Driver for SAP 2015 allows you to access data from SAP using the standard ODBC interfaces. The driver abstracts the underlying data source into tables, views and stored procedures that can be used to retrieve data.

Technical Requirement

- CData SAP ODBC driver Setup
- Application server IP
- One RFC User
- Endian type of SAP server
- Z_CUSTOM_READ_TABLE custom module to be installed on SAP server
- librfc32u.dll

PREREQUISITES

How to know Endian type of SAP Server

you should get your endian type by running the RFC_GET_SYSTEM_INFO function module. The Endian Type will be under the RFCSI_EXPORT structure in column RFCINTTYP. It should display LIT (IntType=0) for Little, and BIG (IntType=1) for big.

To know what logical destination you need to pass here, Open SAP Logon → System → status. The value printed under Host data that says Server Name is what you'll enter for the Destination.

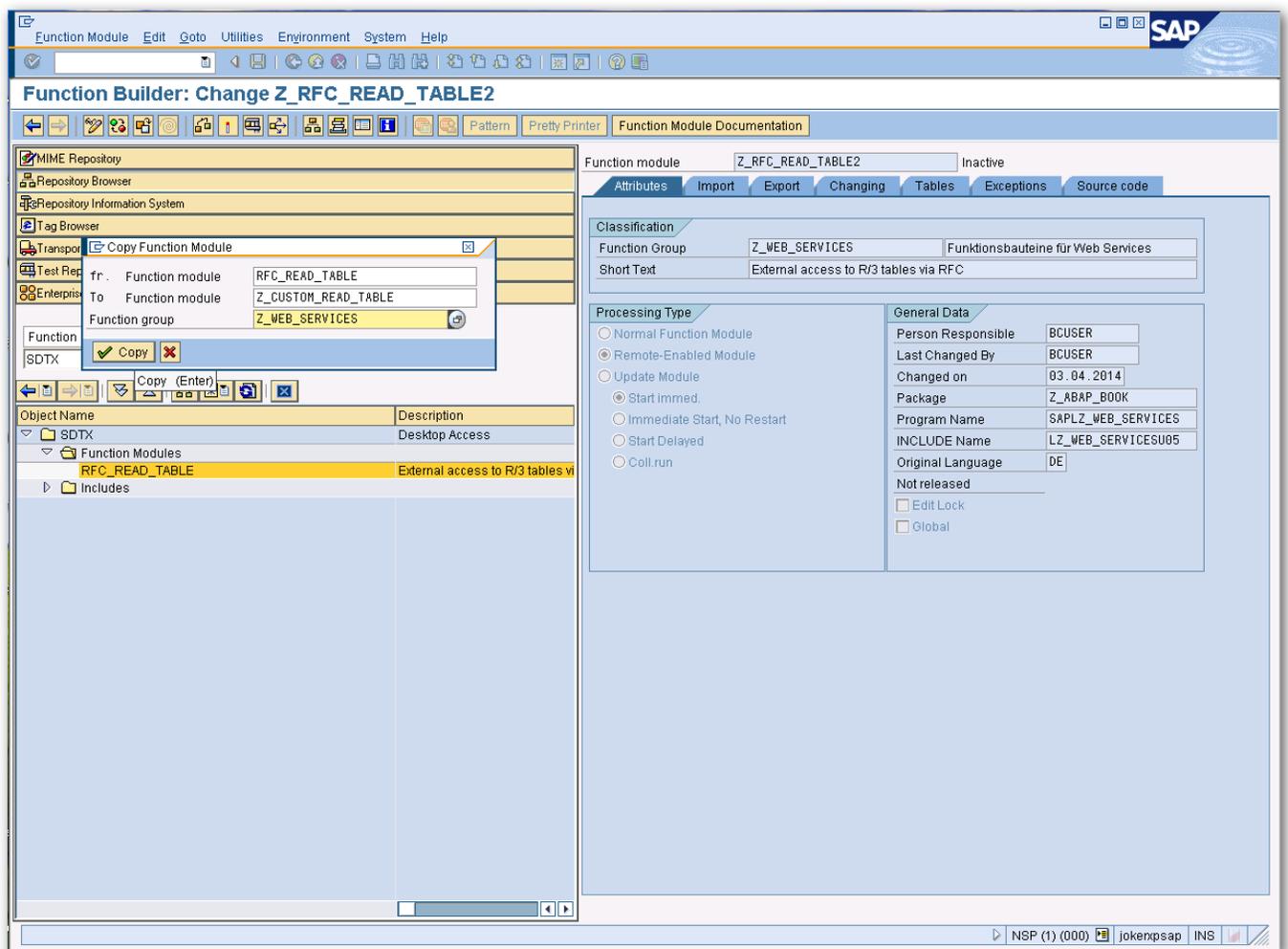
Design a Custom SAP Function Module to Circumvent RFC_READ_TABLE Limitations

The CData SAP Data Providers enable you to use data access standards to retrieve live SAP data. While the SAP SDK provides the RFC_READ_TABLE for accessing data from SAP tables, using it to select data is limited to 512 bytes at a time, so you may not be able to retrieve all columns, at first; you can resolve this limitation by defining a custom function module that will allow you to select any result set you need. You can follow the steps below for any CData driver technology:

Create a Custom Function Module

You can follow the procedure below to create and activate a custom read table function that replaces the data type of the RFC_READ_TABLE function.

1. You can use the RFC_READ_TABLE function as a template for the new function: Select transaction code SE37 and the SDTX Function Group and copy RFC_READ_TABLE to a new function group or your working function group. In this example, RFC_READ_TABLE is copied to "Z_CUSTOM_READ_TABLE".



The screenshot shows the SAP Function Builder interface for creating a custom function module. The main window is titled "Function Builder: Change Z RFC_READ_TABLE2". The left sidebar shows the object browser with the following structure:

- SDTX
 - Function Modules
 - RFC_READ_TABLE (External access to R/3 tables via RFC)
 - Includes

A "Copy Function Module" dialog box is open, showing the following details:

- From: Function module RFC_READ_TABLE
- To: Function module Z_CUSTOM_READ_TABLE
- Function group: Z_WEB_SERVICES

The main window displays the configuration for the function module Z RFC_READ_TABLE2. The "Classification" tab is active, showing:

- Function Group: Z_WEB_SERVICES (Funktionsbausteine für Web Services)
- Short Text: External access to R/3 tables via RFC

The "Processing Type" section shows the following options:

- Normal Function Module
- Remote-Enabled Module
- Update Module
- Start Immed.
- Immediate Start, No Restart
- Start Delayed
- Coll.run

The "General Data" section shows the following information:

- Person Responsible: BCUSER
- Last Changed By: BCUSER
- Changed on: 03.04.2014
- Package: Z_ABAP_BOOK
- Program Name: SAPLZ_WEB_SERVICES
- INCLUDE Name: LZ_WEB_SERVICESU05
- Original Language: DE

The status bar at the bottom indicates the user is logged in as "jokerxpsap" in the "INS" role.

2. On the Attributes tab of the SAP screen, select "Remote Enabled Module".

The screenshot shows the SAP Function Builder interface for the function module Z_CUSTOM_READ_TABLE. The 'Attributes' tab is active, and the 'Remote-Enabled Module' option is selected under the 'Processing Type' section.

Function Builder: Change Z_CUSTOM_READ_TABLE

Function module: Z_CUSTOM_READ_TABLE Inactive

Classification

Function Group	Z_WEB_SERVICES	Funktionsbausteine für Web Services
Short Text	External access to R/3 tables via RFC	

Processing Type

- Normal Function Module
- Remote-Enabled Module
- Update Module
- Start immed.
- Immediate Start, No Restart
- Start Delayed
- Coll.run

General Data

Person Responsible	BCUSER
Last Changed By	BCUSER
Changed on	03.04.2014
Package	Z_ABAP_BOOK
Program Name	SAPLZ_WEB_SERVICES
INCLUDE Name	LZ_WEB_SERVICESU01
Original Language	DE
Not released	
<input type="checkbox"/> Edit Lock	
<input type="checkbox"/> Global	

Object Name: Z_CUSTOM_READ_TABLE Description: External access to R/3 tables via RFC

- On the Tables tab, set the DATA parameter to "CHAR8000" (you may need to right-click and then click "Display <-> Change"):

The screenshot shows the SAP Function Builder interface for the function module `Z_CUSTOM_READ_TABLE`. The 'Tables' tab is active, displaying a table of parameters. The 'DATA' parameter is selected, and its 'Associated Type' is set to 'CHAR8000'.

Parameter Name	Typing	Associated Type	Optional	Short text
OPTIONS	LIKE	RFC_DB_OPT	<input type="checkbox"/>	Selektionsangaben, "WHERE-Klausel"
FIELDS	LIKE	RFC_DB_FLD	<input type="checkbox"/>	Namen (in) und Struktur (out) gelesener Daten
DATA	LIKE	CHAR8000	<input type="checkbox"/>	gelesene Daten (out)

- On the Source Code tab, paste the example source code for the replacement RFC_READ_TABLE function module located in the "db" subfolder of the installation directory. The source code is located in Z_CUSTOM_READ_TABLE.txt. Click Save.

The screenshot shows the SAP Function Builder interface for editing the function module Z_CUSTOM_READ_TABLE. The left pane shows the object selection tree with 'Z_CUSTOM_READ_TABLE' selected under 'Function Module'. The right pane shows the source code in the 'Source code' tab.

```

1 FUNCTION Z_CUSTOM_READ_TABLE.
2
3 ***Local Interface:
4
5 IMPORTING
6 VALUE (QUERY_TABLE) LIKE DD02L-TABNAME
7 VALUE (DELIMITER) LIKE SONV-FLAG DEFAULT SPACE
8 VALUE (NO_DATA) LIKE SONV-FLAG DEFAULT SPACE
9 VALUE (ROWSKIPS) LIKE SOID-ACCNT DEFAULT 0
10 VALUE (ROWCOUNT) LIKE SOID-ACCNT DEFAULT 0
11
12 TABLES
13 OPTIONS STRUCTURE RFC_DB_OPT
14 FIELDS STRUCTURE RFC_DB_FLD
15 DATA STRUCTURE CHAR8000
16
17 EXCEPTIONS
18 TABLE_NOT_AVAILABLE
19 TABLE_WITHOUT_DATA
20 OPTION_NOT_VALID
21 FIELD_NOT_VALID
22 NOT_AUTHORIZED
23 DATA_BUFFER_EXCEEDED
24
25
26 CALL FUNCTION 'VIEW_AUTHORITY_CHECK'
27 EXPORTING
28 VIEW_ACTION = 'S'
29 VIEW_NAME = QUERY_TABLE
30
31 EXCEPTIONS
32 NO_AUTHORITY = 2
33 NO_CLIENTINDEPENDENT_AUTHORITY = 2
34 NO_LINEDDEPENDENT_AUTHORITY = 2
35 OTHERS = 1.
36
37 IF SY-SUBRC = 2.
38 RAISE NOT_AUTHORIZED.
39 ELSEIF SY-SUBRC = 1.
40 RAISE TABLE_NOT_AVAILABLE.

```

5. Active the function module, and you can now select any fields in SAP.

Using librfc32.dll

By default, the Classic RFC SDK provided with the non-Unicode library librfc32.dll will be used. To use it, simply place the assembly in a location where it will be accessible at run time, such as the system32 or bin folder.

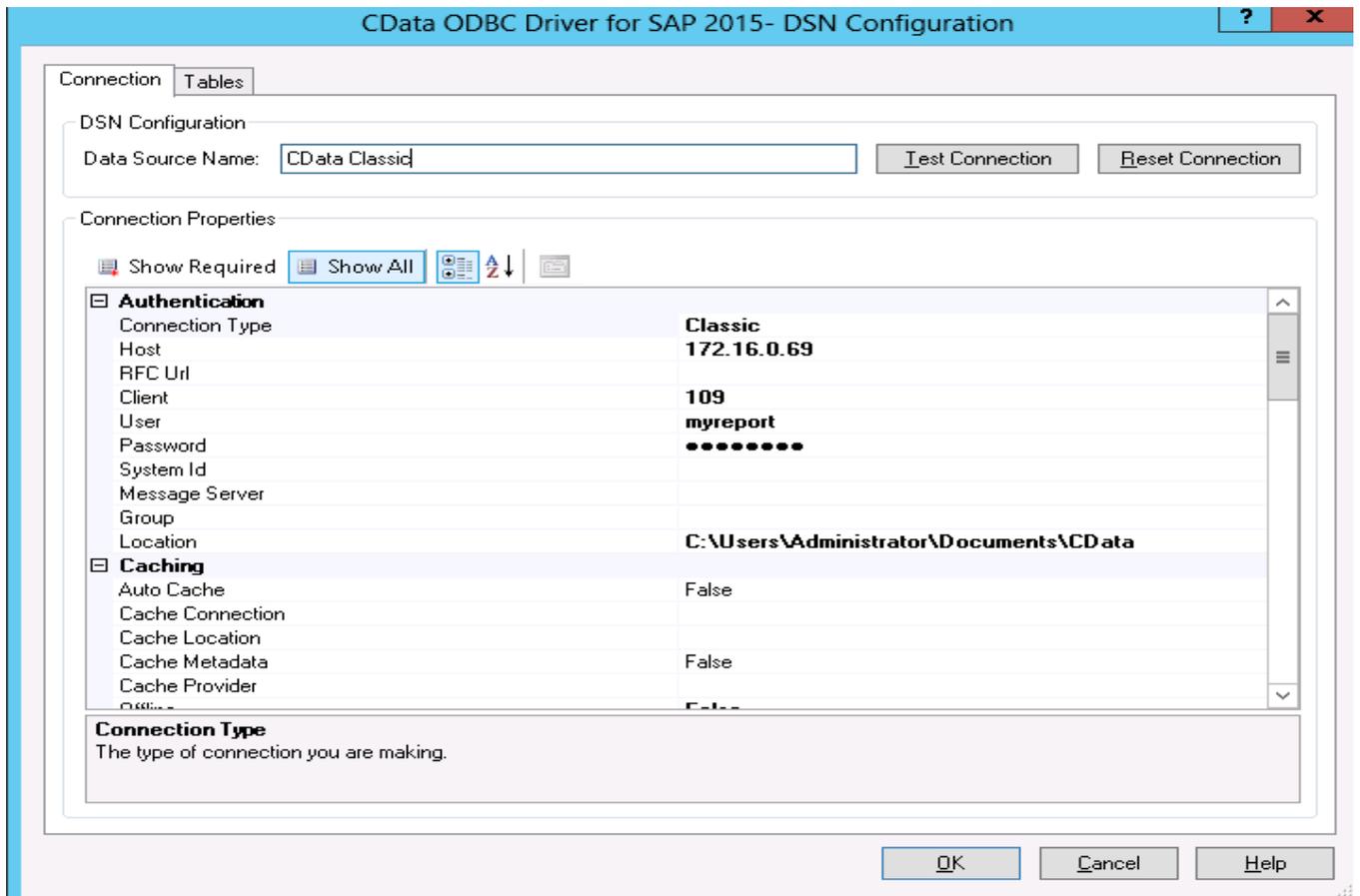
INSTALLTION & CONFIGURATION

Installing CData sap ODBC driver

Run the setup file & click on next → next.

Data Source Name (DSN) Configuration

The CData ODBC Driver for SAP 2015 can be configured using the ODBC Data Source Administrator. Once the driver is installed, you will see the CData SAP and the CData SAP x64 data source names listed under the User DSN tab of the ODBC Data Source Administrator. Select a DSN and click the Configure button to set connection properties in the driver configuration window (shown below).



Setting Connection properties

1. Connection type: Select Classic type as we are using Classic connection.
2. Host: Host name of target system/ IP address
3. Client: Client authentication to sap system
4. User: RFC user name
5. Password: RFC user password
6. Location: A path to the directory that contains the schema files defining tables, views, stored procedures to work with your chosen data source.
7. Log file: A path to the log file.
8. Verbosity: The verbosity level determines the amount of detail included in the log file. Set it to 2.
9. System number: The number by which target system is defined.
10. Endian Type: The endian type of SAP server either Big or Small.
11. Read Table Function: the name of function module you created to read tables i.e. Z_CUSTOM_READ_TABLE.

Click on test connection button to check the connection status.

Defining Table Schemas

The CData ODBC Driver for SAP 2015 comes with a few pre-configured tables you can retrieve data from. However, it is easy to generate additional table schemas for all tables available in your SAP system. This section explains how to generate new table schemas. To create new table schemas, you will need the Location connection string property set to a folder you have read-and-write access permissions to.

Follow the procedure below to generate a new table schema:

1. Click the Tables tab, and then select Table or View -> <Define New Table>. Selecting this option will open the Define New Table window.
2. Enter the name of the table that you want to retrieve data from & click on create button.

That's it, now you are done with CDATA connection. Now use this DSN name in MyReport Data to connect SAP.