QVAUCTOR LTD

QVSCRIPTOR
SCHEMA GENERATED SCRIPTS

White Paper

QVScriptor 2012

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QVScriptor White Paper

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1 EXECUTIVE SUMMARY

QVAuctor is a 3rd party development company to QlikView.

This white paper aims to both educate and inform the reader about the QVScriptor 2012 (**QVS**) product by providing a basic understanding of QlikView and then the various features and functionality of the QVScriptor product.

The QVScriptor product supports the data integration phases of any QlikView implementation and is meant to standardize, improve the quality and speed up the delivery of the QlikView data documents (QVD’s).

QVScriptor provides a visual drag-drop/point-click/wizard driven interface that enables users to:

- Create connections to sources
- Create source mappings (QlikView associations)
- Define complex data rules
- Share QlikView standardized scripts
- Automatically generates QlikView data associative script and
- Publish and manage QVD’s

1.1 Making the complex simple:

The Project driven QVScriptor approach to QlikView data management enables organizations to manage central QVD repositories, standardized and shared QlikView scripts, and data models.

The easy to use and understand, Microsoft Office-like, simple yet powerful interface that enables users to take full advantage of all their data within QlikView, without the need to script a single line as QVScriptor will automatically generate the QlikView load script for you.

QVScriptor enables you to manage all your data connections and selections with a drag/drop-point/click interface, provides wizard driven amendments and transformations to your data, and QVD publication of your data. The QlikView re-engineering feature enables you to utilize your existing QVD's as sources for additional QVD's.

1.2 Connectors and data mapping:

Easily connect to all your standard ODBC and OLEDB data sources. Additionally to the standard connections QVScriptor supports XML connections for web services type integrations. By connecting to a source QVScriptor will automatically bring all tables and views to the mapping interface so that you can drag/drop them into your schema mapping. QVScriptor provides a drag/drop mapping library for various other mappings (QlikView, Excel, Inline, Resident Loads, QVD Load, Delimited file loads, Autogenerate load etc.) that would generally be extremely cumbersome for user to manually generate in a script.

1.3 Data Rules:

QVScriptor enables the user to create standardized re-usable data and business rules as well as expressions directly to the data. This enables the IT/BI teams to standardize any rules on a data level which is then utilized by the business. The comprehensive QlikView integrated ETL functionality enables you to transform and cleans your data before it is loaded into QlikView. By visually applying the ETL functions such as joins, aggregations, lookups and filters to your data enables you to apply and test all your data rules to your QlikView load script before you even load any data.

1.4 Metadata:

QVScriptor enables user to capture metadata on any data and mapping within the data models and writes the metadata to the QVD's thus enabling user to re-use and create their semantic views on QlikView metadata throughout all their QlikView data models. This enables business users to clearly understand the data and various rules as applied to the data.

The native integration between QVScriptor and QlikView enables you to test your scripts and syntax within QlikView (9, 10, 11) without having to load your data first.

2 QLIKVIEW BASICS

2.1 QlikView Introduction

QlikView Business Discovery Platform enables business users to take full advantage of all types of data within the business. The easy to use rapid deployment platform supports the full intelligence maturity cycle of the business and enables business users to define their own requirements for information as well as design their own analysis and reports based on available data.

2.2 QlikView Products

QlikView provides a free personal edition and a licensed version of their products.

QlikView provides many components to its Business Discovery Platform but we will only discuss the development client.

QlikView provides a **server** (central access to all QlikView applications) and **development client** that is utilized to develop QlikView applications (.QVW) format files that contains ETL scripts, Loaded data and Graphical User Interface (GUI) screen objects. The Client interface is thus both utilized to:

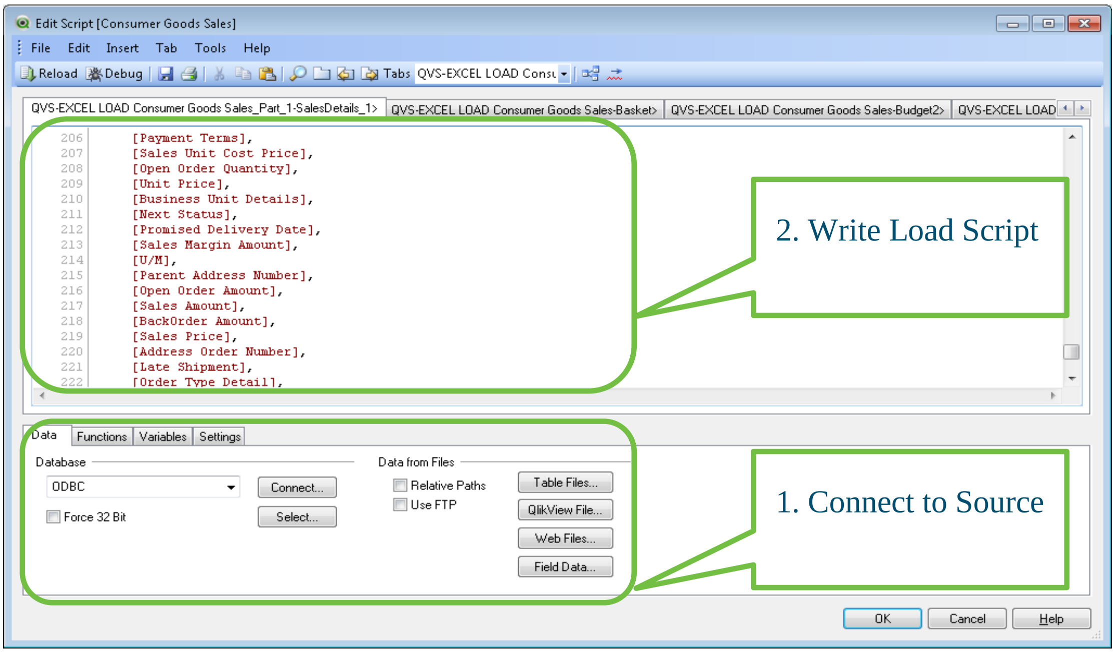
- Write QlikView data association scripts (**Data Integration**)
- Create QlikView views, analysis, reports etc.in QlikView Graphical User Interface (**Application Integration**)

2.3 QlikView Development Process

2.3.1 Create the QlikView Load Script (Data Integration)

This is where QVScriptor is utilized instead of QlikView:

Firstly, when creating a QlikView model, you create a QlikView Data Application (.QVW) by utilizing the QlikView GUI. In order to do this you create a QlikView data association script which, **in QlikView** is done manually by scripting a load script that will associate your data sources (database tables, excel sheets, .csv files et.)



```
[Payment Terms],
[Sales Unit Cost Price],
[Open Order Quantity],
[Unit Price],
[Business Unit Details],
[Next Status],
[Promised Delivery Date],
[Sales Margin Amount],
[U/M],
[Parent Address Number],
[Open Order Amount],
[Sales Amount],
[BackOrder Amount],
[Sales Price],
[Address Order Number],
[Late Shipment],
[Order Type Detail],
```

Database: ODBC
□ Force 32 Bit
□ Relative Paths
□ Use FTP

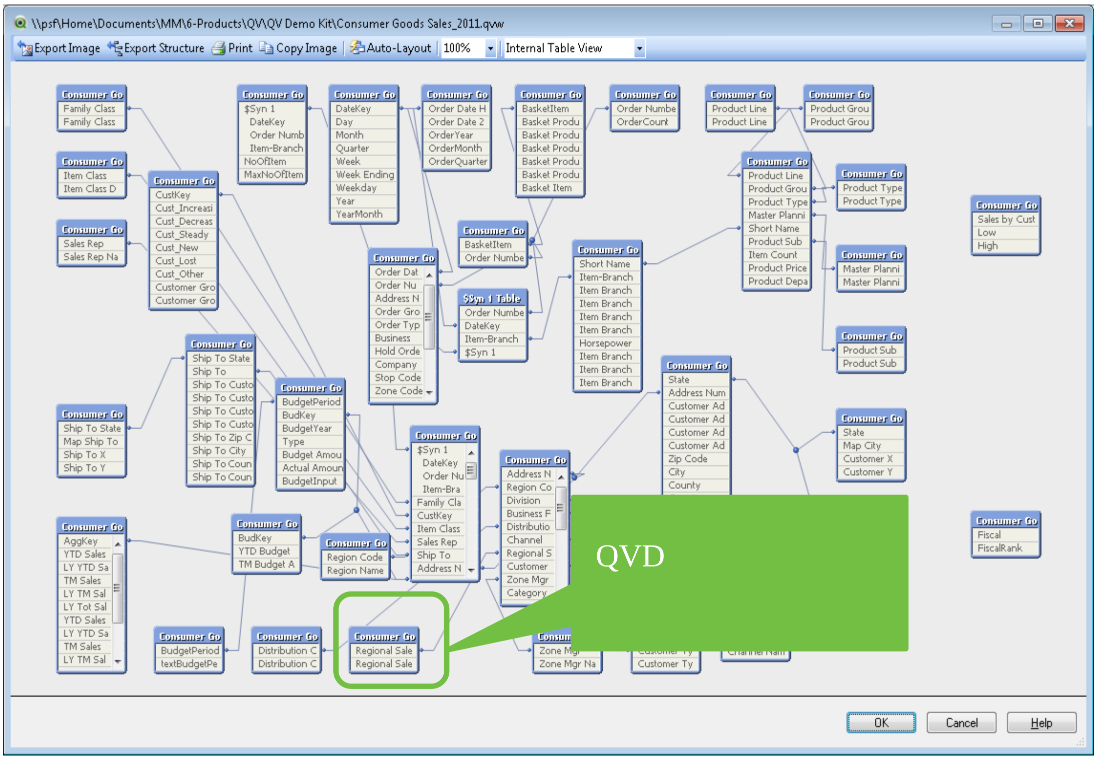
2. Write Load Script

1. Connect to Source

Edit Script [Consumer Goods Sales]
File Edit Insert Tab Tools Help
Reload Debug Tabs QVS-EXCEL LOAD Consu
QVS-EXCEL LOAD Consumer Goods Sales_Part_1-SalesDetails_1>
QVS-EXCEL LOAD Consumer Goods Sales-Basket>
QVS-EXCEL LOAD Consumer Goods Sales-Budget2>
QVS-EXCEL LOAD
Data Functions Variables Settings
Connect...
Select...
Data from Files
Table Files...
QlikView File...
Web Files...
Field Data...
OK Cancel Help

Figure 1: QlikView Load Script

Once the data associative script has been written you can then load the script which will pull the data into various QlikView Data Files (QVD's) into the QlikView model. The mapping of the various QVD's in a model looks something like this:



QVD

\\psf\Home\Documents\MM\6-Products\QV\QV Demo Kit\Consumer Goods Sales_2011.qvw
Export Image Export Structure Print Copy Image Auto-Layout 100% Internal Table View
OK Cancel Help

Figure 2: QlikView Load Script Layout & QVD's

This view represents you data associative mappings as scripted within the QlikView Development Client.

QVScriptor provides a drag-drop/point-click/wizard driven interface to perform all requirements for data association **without the user being able to script a single line**.

2.3.2 Create Views, Analysis, Reports etc.

Once you have created your data association load scripts the data is loaded into the you can utilize the QlikView Graphical User Interface (GUI) to create your QlikView views based on the data QVD's you have created.

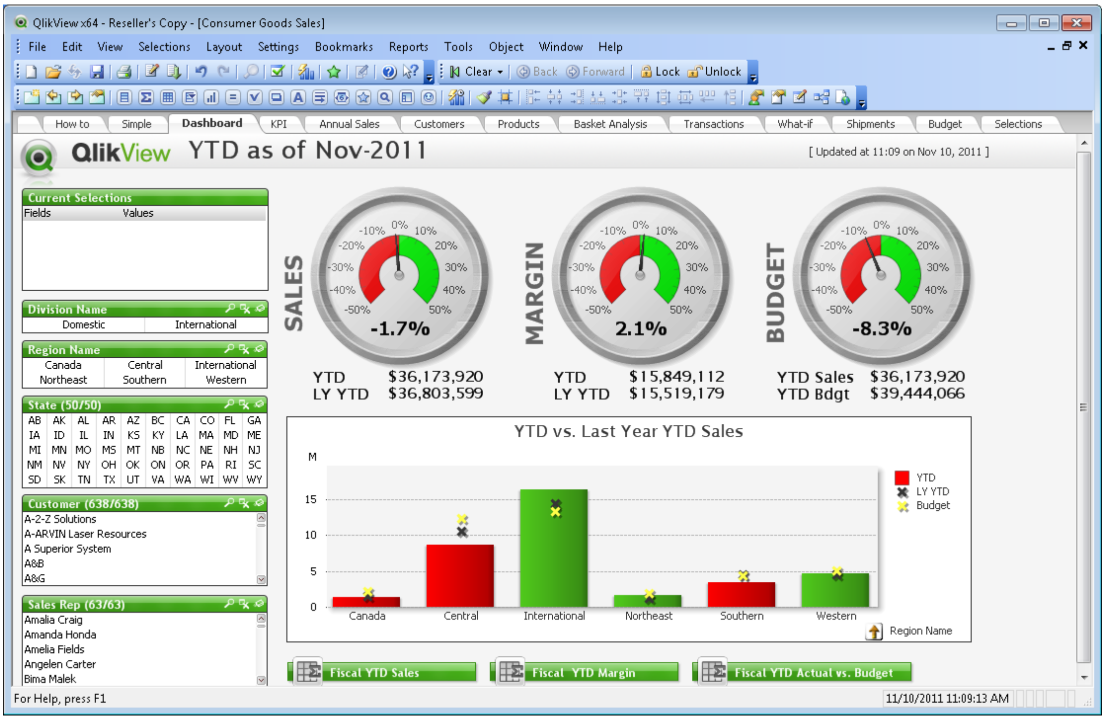

QlikView x64 - Reseller's Copy - [Consumer Goods Sales]
File Edit View Selections Layout Settings Bookmarks Reports Tools Object Window Help
Clear Back Forward Lock Unlock
How to Simple Dashboard KPI Annual Sales Customers Products Basket Analysis Transactions What-if Shipments Budget Selections
QlikView YTD as of Nov-2011
[Updated at 11:09 on Nov 10, 2011]
Current Selections
Fields Values
Division Name
Domestic International
Region Name
Canada Central International
Northeast Southern Western
State (50/50)
AB AK AL AR AZ BC CA CO FL GA
IA ID IL IN KS KY LA MA MD ME
MI MN MO MS MT NB NC NE NH NJ
NM NV NY OH OK ON OR PA RI SC
SD SK TN TX UT VA WA WI WV WY
Customer (638/638)
A-2-Z Solutions
A-ARVIN Laser Resources
A Superior System
A&B
A&G
Sales Rep (63/63)
Amalia Craig
Amanda Honda
Amelia Fields
Angelen Carter
Bima Malek
SALES
-1.7%
YTD $36,173,920
LY YTD $36,803,599
MARGIN
2.1%
YTD $15,849,112
LY YTD $15,519,179
BUDGET
-8.3%
YTD Sales $36,173,920
YTD Bdgt $39,444,066
YTD vs. Last Year YTD Sales
M
15
10
5
0
Canada
Central
International
Northeast
Southern
Western
YTD
LY YTD
Budget
Region Name
Fiscal YTD Sales
Fiscal YTD Margin
Fiscal YTD Actual vs. Budget
For Help, press F1
11/10/2011 11:09:13 AM

Figure 3: QlikView GUI

For more information on QlikView products and components visit: www.qlikview.com

3 QVSCRIPTOR INTRODUCTION

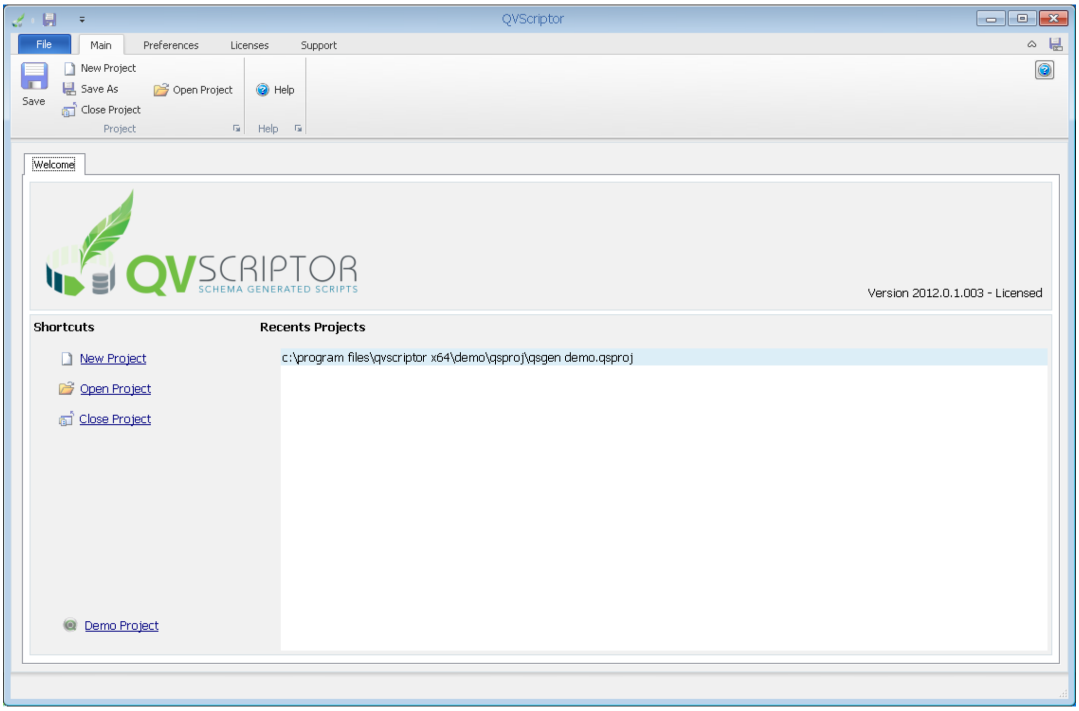
The QVScriptor Graphical User Interface (GUI) provides and easy to use interface where all the QlikView data integration requirements can be performed and QVScriptor will automatically write the QlikView data association scripts into QlikView for you, as well as publish your QVD's.

QVScriptor provides a visual drag-drop/point-click/wizard driven interface that enables users to:

- Create connections to sources
- Create source mappings (QlikView associations)
- Define complex data rules
- Share QlikView standardized scripts
- Automatically generates QlikView data associative scripts

3.1 QVScriptor Projects

QVScriptor enables the user to create and manage multiple QlikView Data Projects which are saved as .qsproj files. The Welcome interface enables you to create a new project, open an existing project or close a project.



Version 2012.0.1.003 - Licensed

c:\program files\qvscriptor x64\demo\qsproj\qsgen demo.qsproj

Figure 4: QVS Welcome Screen

For beginners open the existing **Demo Project** found as a link at the bottom left of the welcome screen.

This will open the Project View where all your project related options are available. The demo model already provides you with a pre-created mapping of some data as seen below:

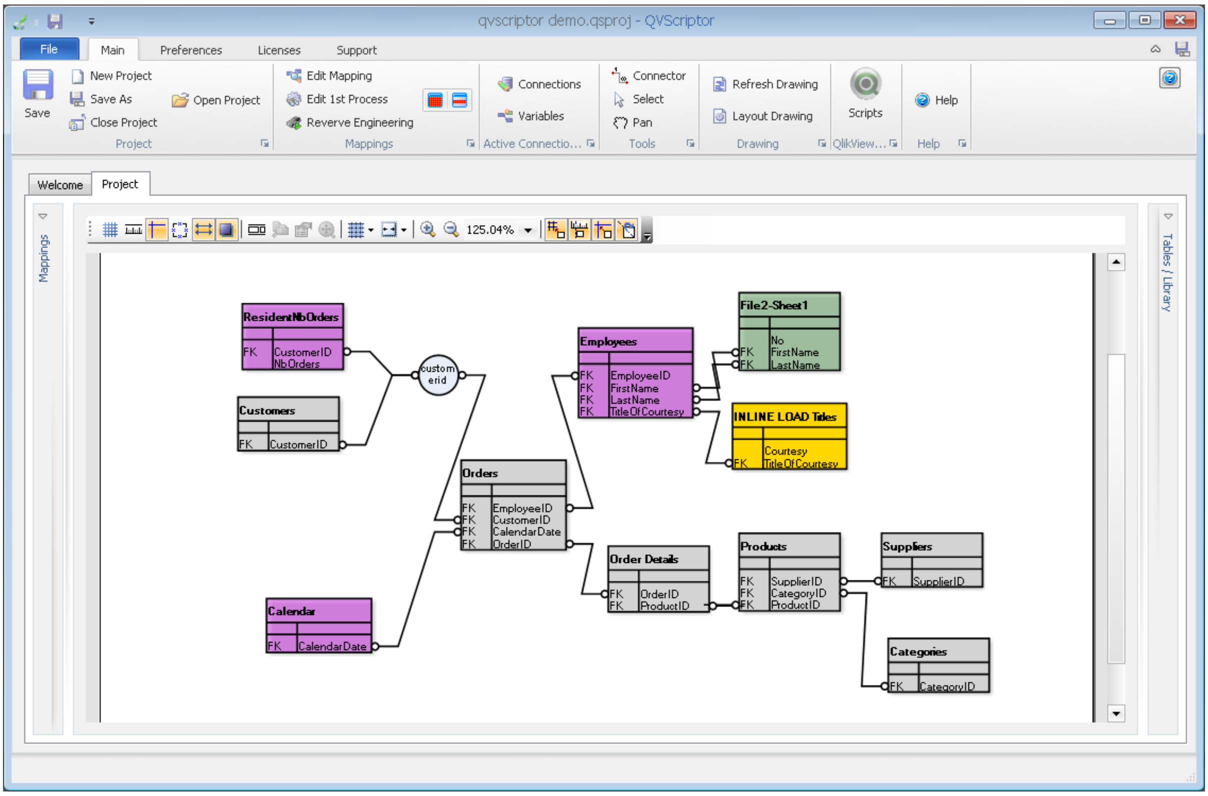
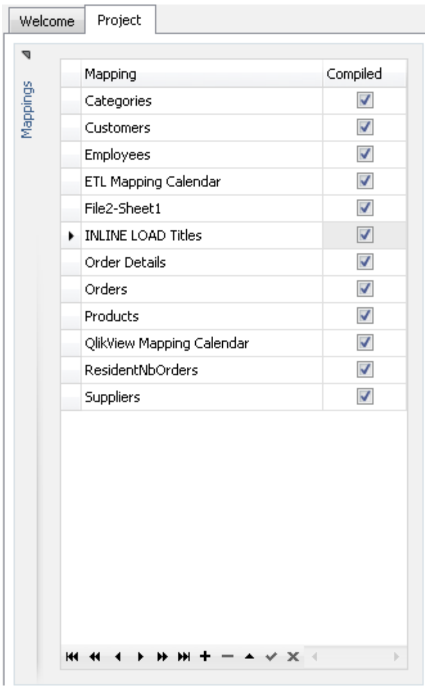


Figure 5: QVS Project Screen

Notice on the left and right of the main pages (mapping page) there are two tool palates that will expand when you click on the arrows:

3.1.1 Mappings

- Referenced to your mapping page of all the mappings which have been compiled within the mapping view.



Mapping	Compiled
Categories	☑
Customers	☑
Employees	☑
ETL Mapping Calendar	☑
File2-Sheet1	☑
INLINE LOAD Titles	☑
Order Details	☑
Orders	☑
Products	☑
QlikView Mapping Calendar	☑
ResidentNbOrders	☑
Suppliers	☑

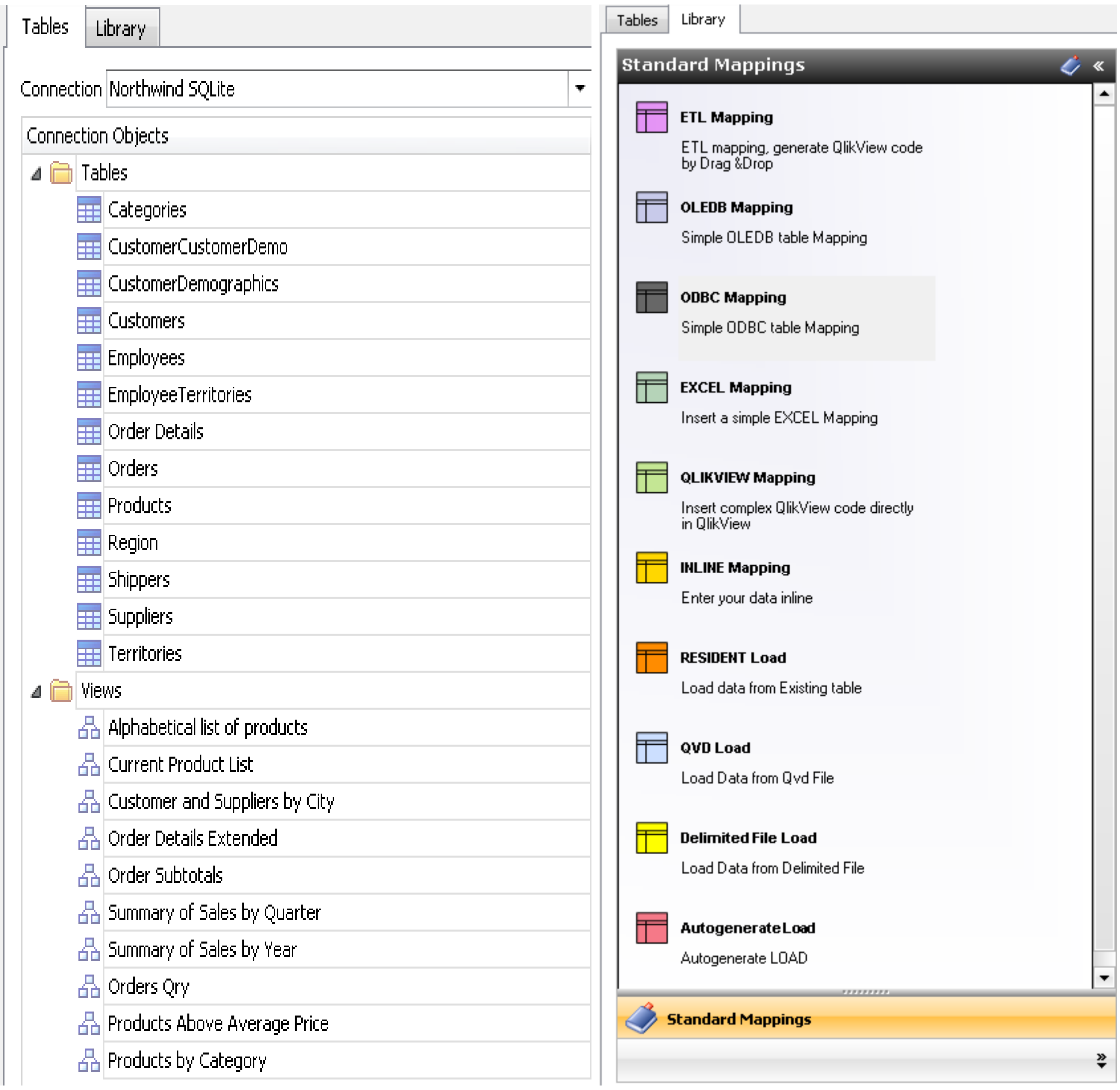
Figure 6: Mapping page

3.1.2 Tables/Library

- Tables tab enables you to select your connections to sources that you have created. In the demo model when clicking on connections you will see the Northwind SQLite, File 1, File 2, Presidents connection options. Once you have connected to your source QVS will automatically bring all your source tables & views, sheets etc. into the tables view. You can now start dragging your source tables into the mapping table to add additional data to your load script.

- **Connections: These are various sources that you can connect to. To add additional connections click on the Connections icon.**

- Library tab provides you with a view of the entire library mapping options for your various data sources. When you drag one of the mapping options to the mapping page the application will automatically request that you create a connection to your data, or select from existing connections should you already have created a connection to your source data.



Tables | Library

Connection: Northwind SQLite

Connection Objects

- Tables
  - Categories
  - CustomerCustomerDemo
  - CustomerDemographics
  - Customers
  - Employees
  - EmployeeTerritories
  - Order Details
  - Orders
  - Products
  - Region
  - Shippers
  - Suppliers
  - Territories
- Views
  - Alphabetical list of products
  - Current Product List
  - Customer and Suppliers by City
  - Order Details Extended
  - Order Subtotals
  - Summary of Sales by Quarter
  - Summary of Sales by Year
  - Orders Qry
  - Products Above Average Price
  - Products by Category

Tables | Library

Standard Mappings

ETL Mapping
ETL mapping, generate QlikView code by Drag &Drop

OLEDB Mapping
Simple OLEDB table Mapping

ODBC Mapping
Simple ODBC table Mapping

EXCEL Mapping
Insert a simple EXCEL Mapping

QLIKVIEW Mapping
Insert complex QlikView code directly in QlikView

INLINE Mapping
Enter your data inline

RESIDENT Load
Load data from Existing table

QVD Load
Load Data from Qvd File

Delimited File Load
Load Data from Delimited File

AutogenerateLoad
Autogenerate LOAD

Standard Mappings

Figure 7: Tables & Library

3.2 Mapping Table

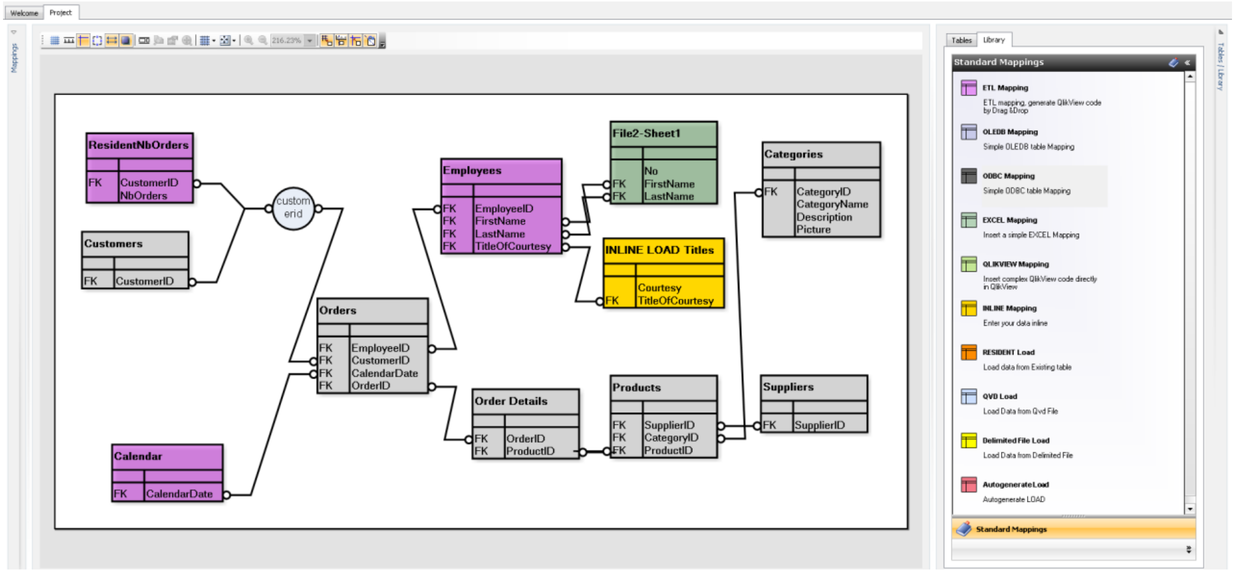


Figure 8: Mapping Table

The mapping table is a representation of your data objects from your various sources. The colour schema of the table reflects the Library colour scheme to help the user to identify the types of mappings on the table.

Note: By double clicking the mapping objects you can minimize them in order to provide more space on your mapping table.

3.3 Adding to your mapping table

Now that you have your sources connected and able to navigate through your connections you are able to start adding data to your mapping table. On the demo model, select the Northwind SQLite connection from the tables view as shown above – take the Categories table and drag it into your view as shown below.

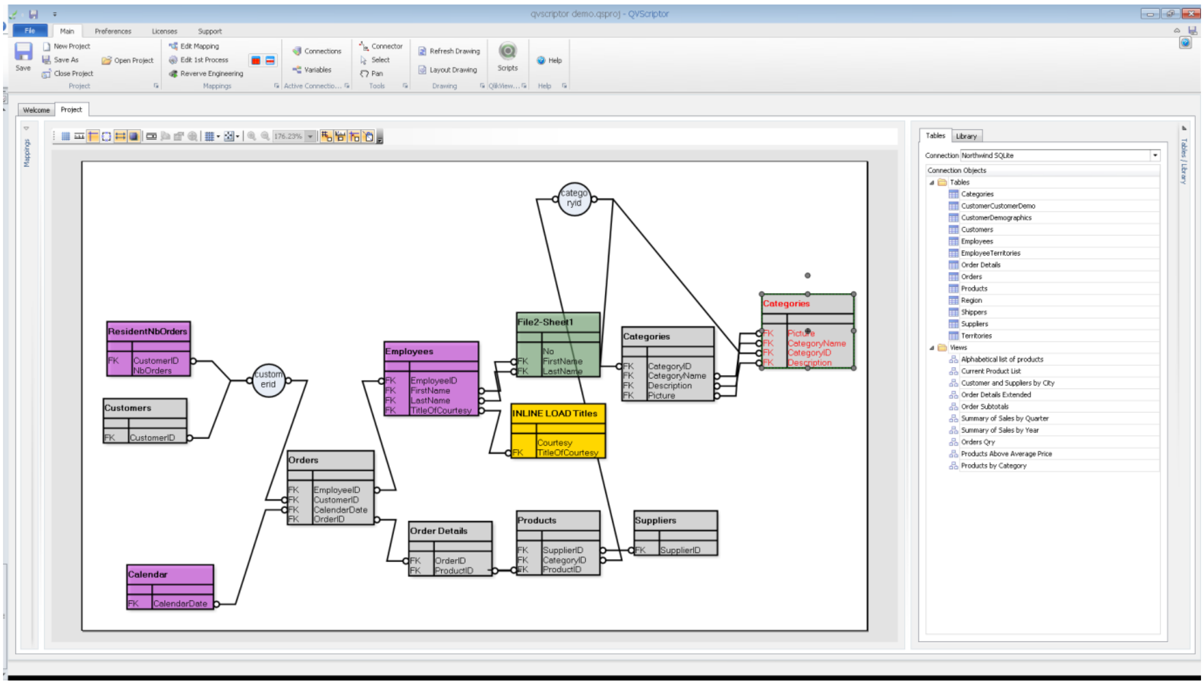


Figure 9: Adding Data to Mapping Table

QVS will automatically create all the possible connectors to your existing mapping table objects as can be seen above. You can also create manual connectors between your objects by utilizing the Connector icon:

Connector

Please Note: It is not advised to have multiple object connectors but rather a one to one object connector as having multiple object connectors will create synckeys which might skew your data. So the objective for novice users are to create one connector between objects.

Go ahead and delete the categories table from the mapping view and refresh the drawing to go back to the original state.

Refresh Drawing

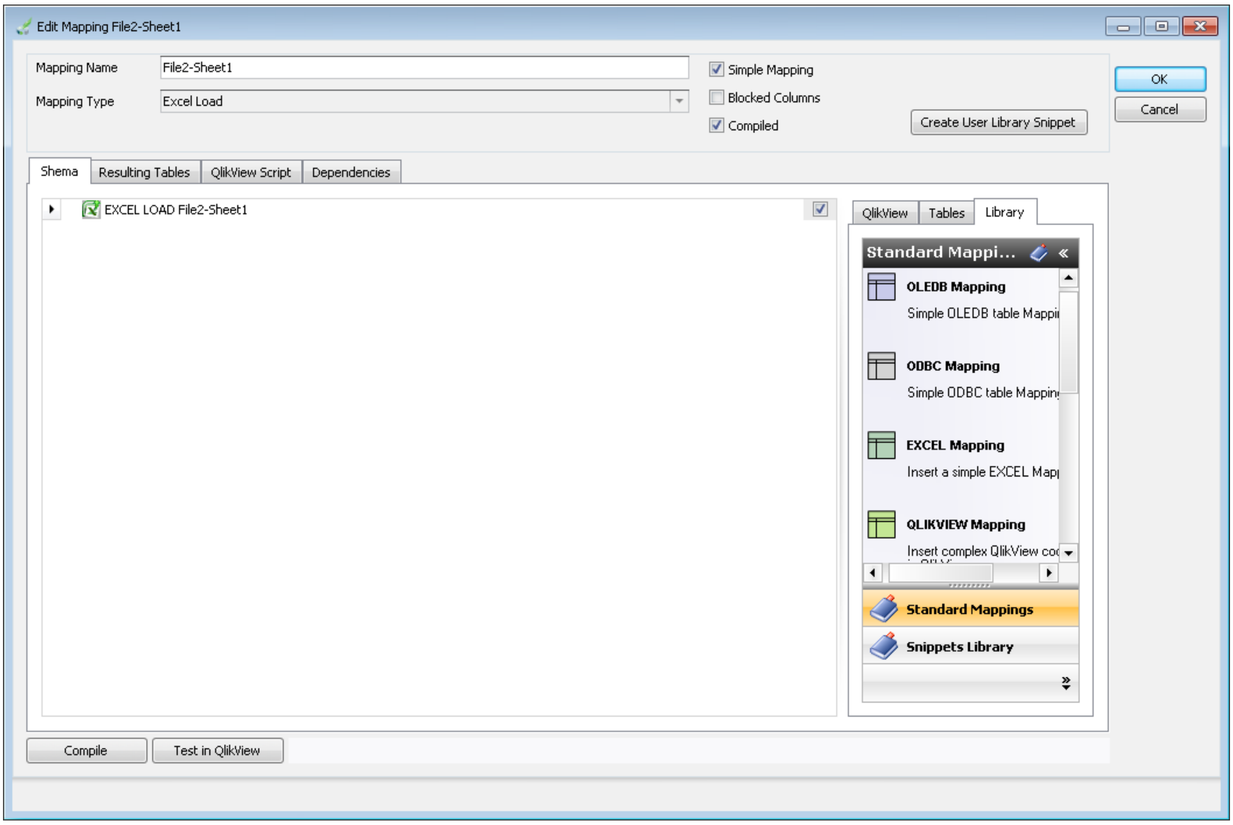
3.4 Edit Mapping & Edit 1st Process

3.4.1 Edit Mapping

QVS enables the user to edit their 1st mapping by selecting the mapping object and clicking on the Edit Mapping tab option or right clicking the object and selecting the Edit Mapping option.

The Edit Mapping option enables you to change any of the properties related to this object:

- Review resulting tables,
- See your QlikView data load script
- Review or add any additional dependencies to your data loads
- Edit ETL mappings
- Create snippets from existing scripts
- Test in QlikView option will validate your scripts without having to load the data which generally takes a lot of development time.



Edit Mapping File2-Sheet1

Mapping Name: File2-Sheet1

Mapping Type: Excel Load

☑ Simple Mapping

□ Blocked Columns

☑ Compiled

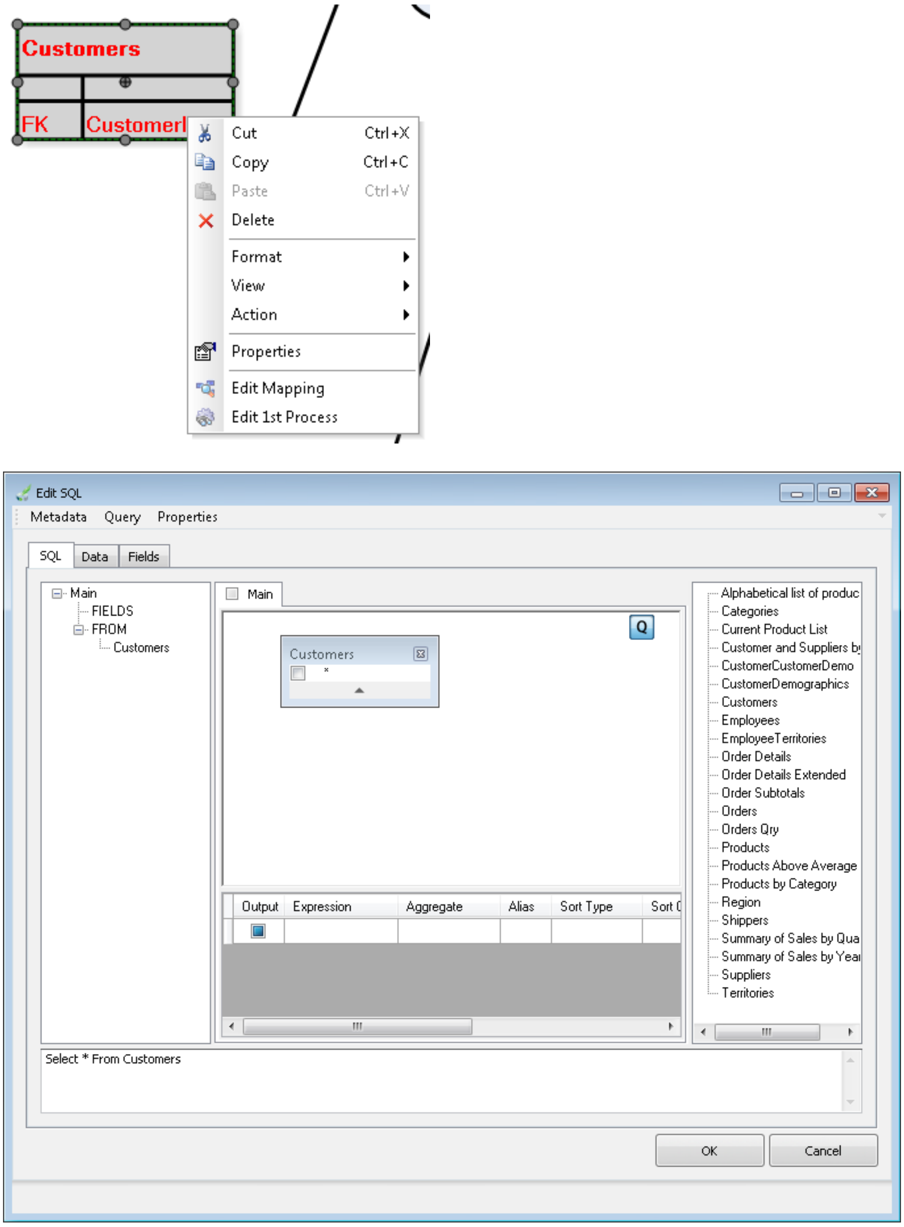
Figure 10: Edit Mapping

3.4.2 1st Process

The edit 1st Process feature enables you to manipulate the initial load of your source table (SQL, QVD, Excel…) and Add new fields / calculated dimension as well as re-move non-essential fields from your mapping table.

3.5 SQL Editor

QVS provides a very powerful SQL editor for more advanced users that wish to perform more complex SQL queries and functions. To access the SQL editor **right-click** on one of your table objects such as the Customers object, take the edit first process option which will open the connection validation wizard, hit the next button and in the Edit SQL window, select Edit SQL.

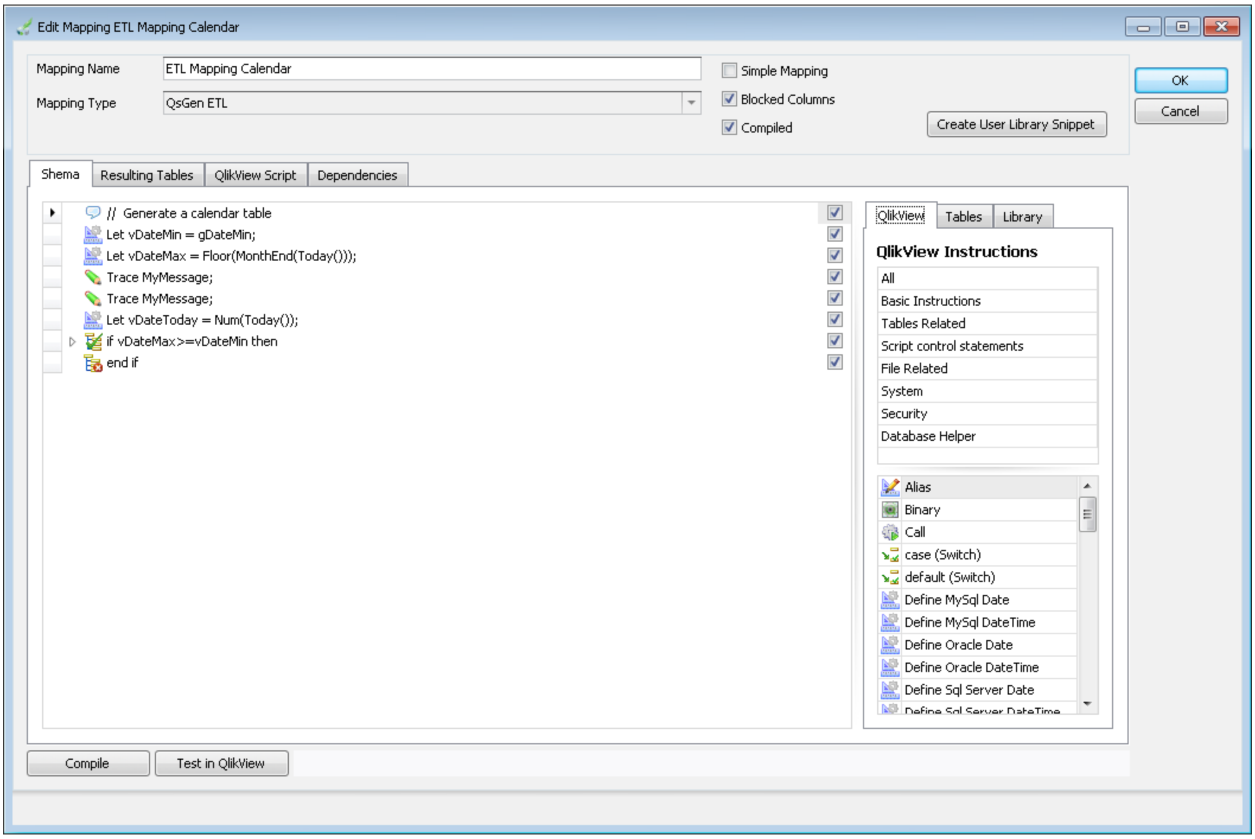


```
Select * From Customers
```

Figure 11: Edit SQL

3.6 ETL Editor

The powerful and easy to use ETL Editor provides advanced users with a comprehensive ETL library function that can be accessed through the Edit Mapping option on existing objects or dragging the ETL Mapping from the Library pane into the mapping table.



Mapping Name: ETL Mapping Calendar

Mapping Type: QsGen ETL

□ Simple Mapping

☑ Blocked Columns

☑ Compiled

```
// Generate a calendar table
Let vDateMin = gDateMin;
Let vDateMax = Floor(MonthEnd(Today()));
Trace MyMessage;
Trace MyMessage;
Let vDateToday = Num(Today());
if vDateMax>=vDateMin then
end if
```

QlikView Instructions

- All
- Basic Instructions
- Tables Related
- Script control statements
- File Related
- System
- Security
- Database Helper

- Alias
- Binary
- Call
- case (Switch)
- default (Switch)
- Define MySql Date
- Define MySql DateTime
- Define Oracle Date
- Define Oracle DateTime
- Define Sql Server Date
- Define Sql Server DateTime

Figure 12: Edit ETL Mapping