QlikView

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About the Tutorial

QlikView is a leading Business Discovery Platform. It is very powerful in visually analyzing the relationships between data. It does in-memory data processing and stores the data in the report itself that it creates. It can read data from numerous sources including files and relational databases.

It is used by businesses to get deeper insight by doing advanced analytics on the data they have. It even does data integration by combining data from various sources into one QlikView analysis document. QlikView is a leading Business Intelligence and Analytics Platform in Gartner Magic Quadrant.

Audience

This tutorial is designed for all those readers who want to create, read, write, and modify Business Intelligence Reports using QlikView. In addition, it will also be quite useful for those readers who would like to become a Data Analyst or Data Scientist.

Prerequisites

Before proceeding with this tutorial, you should have a basic understanding of Computer Programming terminologies. A basic understanding of any of the programming languages will help you in understanding the QlikView programming concepts. Familiarity with SQL will help you learn it very fast.

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1. QlikView – Overview

QlikView is a leading Business Discovery Platform. It is unique in many ways as compared to the traditional BI platforms. As a data analysis tool, it always maintains the relationship between the data and this relationship can be seen visually using colors. It also shows the data that are not related. It provides both direct and indirect searches by using individual searches in the list boxes.

QlikView's core and patented technology has the feature of in-memory data processing, which gives superfast result to the users. It calculates aggregations on the fly and compresses data to 10% of original size. Neither users nor developers of QlikView applications manage the relationship between data. It is managed automatically.

Features of QlikView

QlikView has patented technology, which enables it to have many features that are useful in creating advanced reports from multiple data sources quickly. Following is a list of features that makes QlikView very unique.

- **Data Association is maintained automatically** - QlikView automatically recognizes the relationship between each piece of data that is present in a dataset. Users need not preconfigure the relationship between different data entities.

- **Data is held in memory for multiple users, for a super-fast user experience** - The structure, data and calculations of a report are all held in the memory (RAM) of the server.

- **Aggregations are calculated on the fly as needed** - As the data is held in memory, calculations are done on the fly. No need of storing pre-calculated aggregate values.

- **Data is compressed to 10% of its original size** - QlikView heavily uses data dictionary. Only essential bits of data in memory is required for any analysis. Hence, it compresses the original data to a very small size.

- **Visual relationship using colors** - The relationship between data is not shown by arrow or lines but by colors. Selecting a piece of data gives specific colors to the related data and another color to unrelated data.

- **Direct and Indirect searches** - Instead of giving the direct value a user is looking for, they can input some related data and get the exact result because of the data association. Of course, they can also search for a value directly.

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2. QlikView – Installation

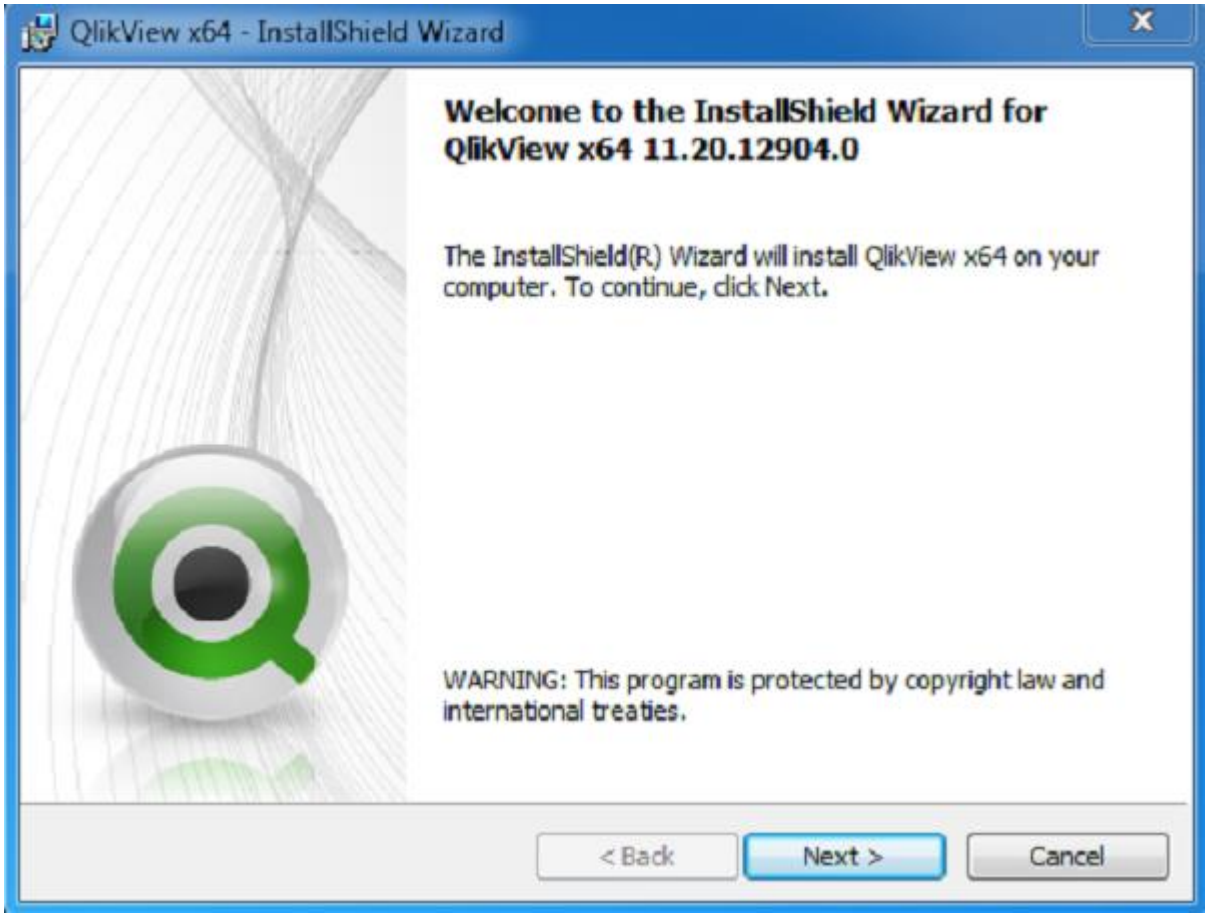
Download QlikView

The Free Personal Edition of QlikView can be downloaded from QlikView Personal Edition. You need to register with your details to be able to download.

After downloading, the installation is a very straightforward process in which you need to accept the license agreement and provide the target folder for installation. The screen shots given below describe the entire setup process.

Start the Installation Wizard

Double clicking the **QlikViewDesktop_x64Setup.exe** will present a screen to select the language of your choice. On selecting English, the following screen is displayed. Then click **Next**.



Accept the License Agreement

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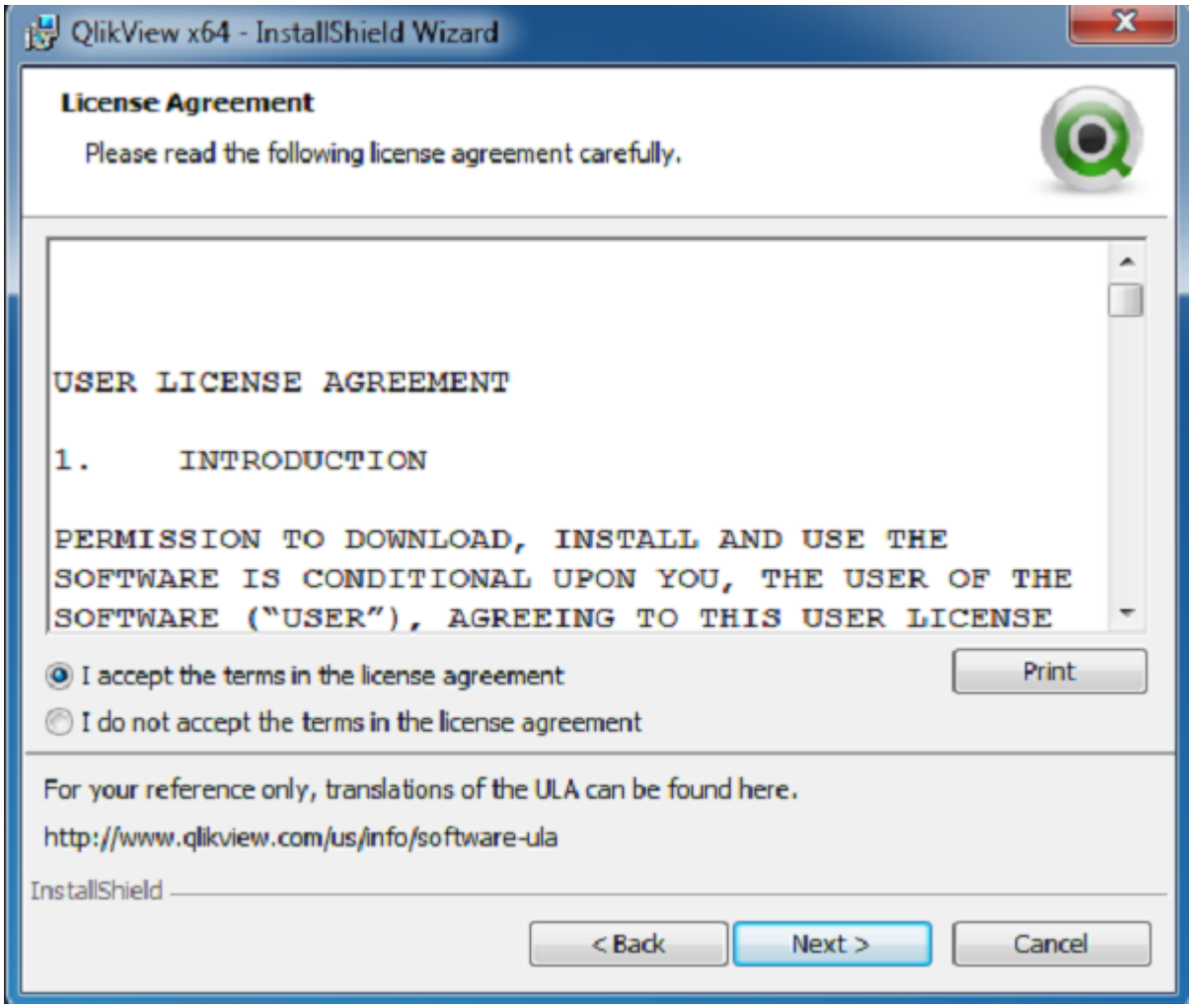
Read the license agreement and if you agree, choose the "I accept the terms in the license agreement" option. Then click "Next".



Provide your Details

Provide your name and organization details. Then Click "Next".

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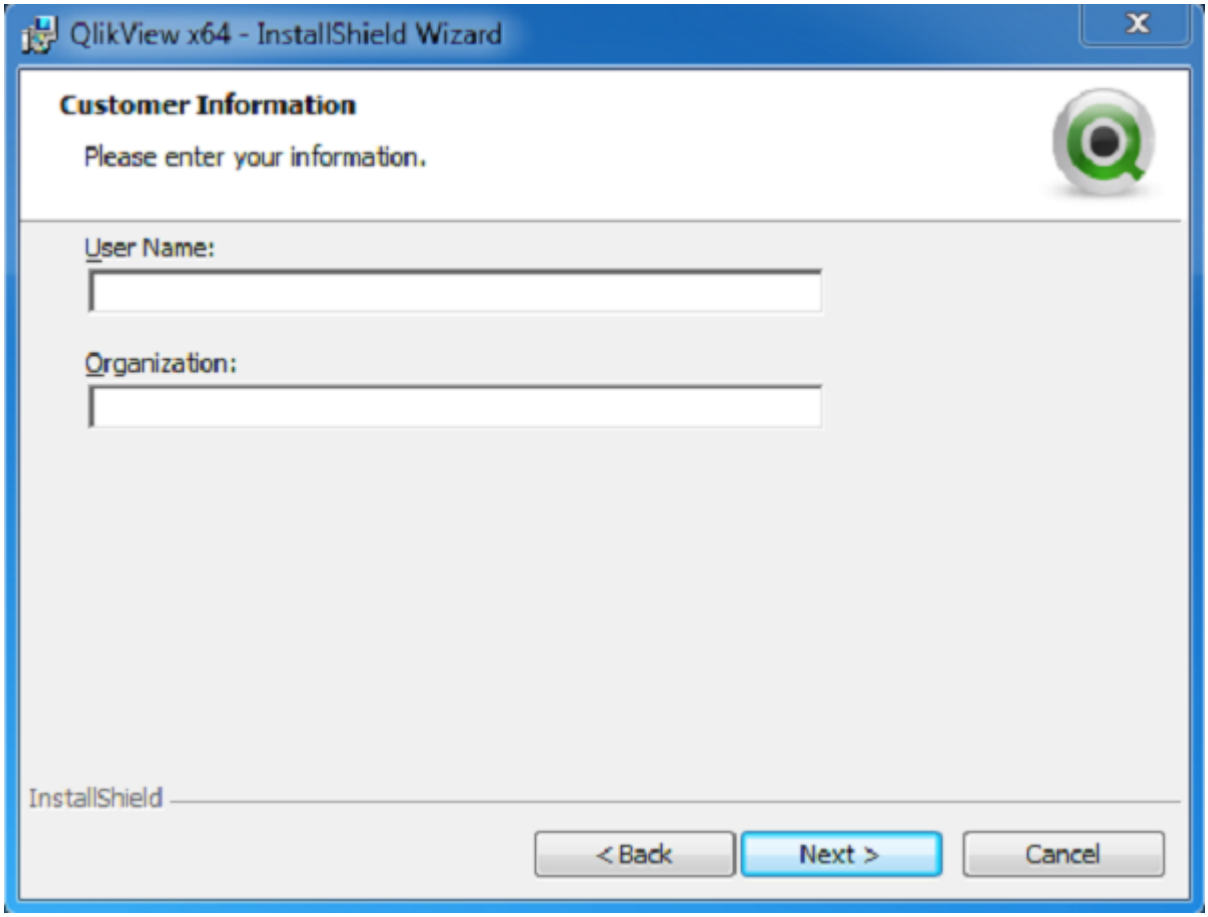

Choose the Destination Folder

You may accept the default destination for installation or alter it. Then click "Next".

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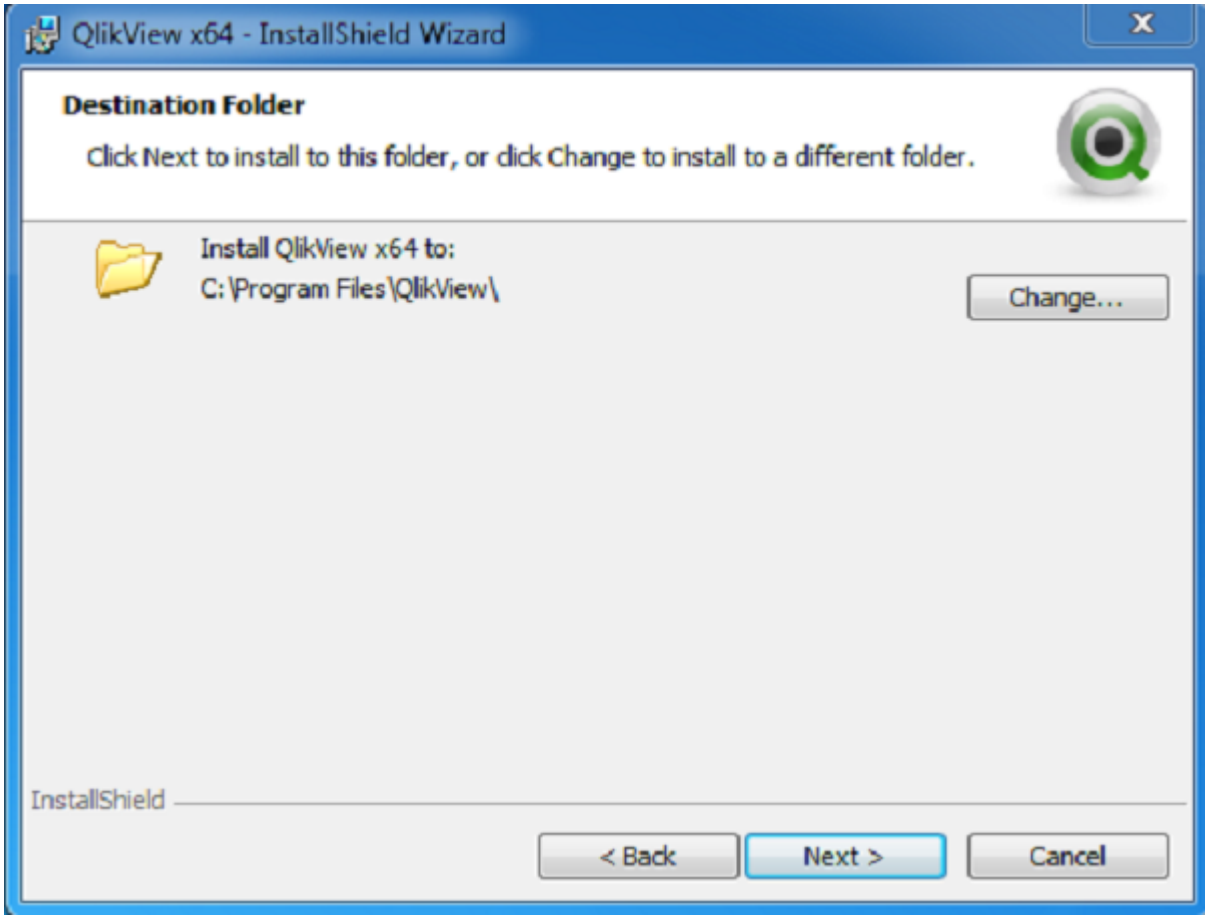

Choose the Setup Type

Choose the setup type as "Complete". Then click "Next".

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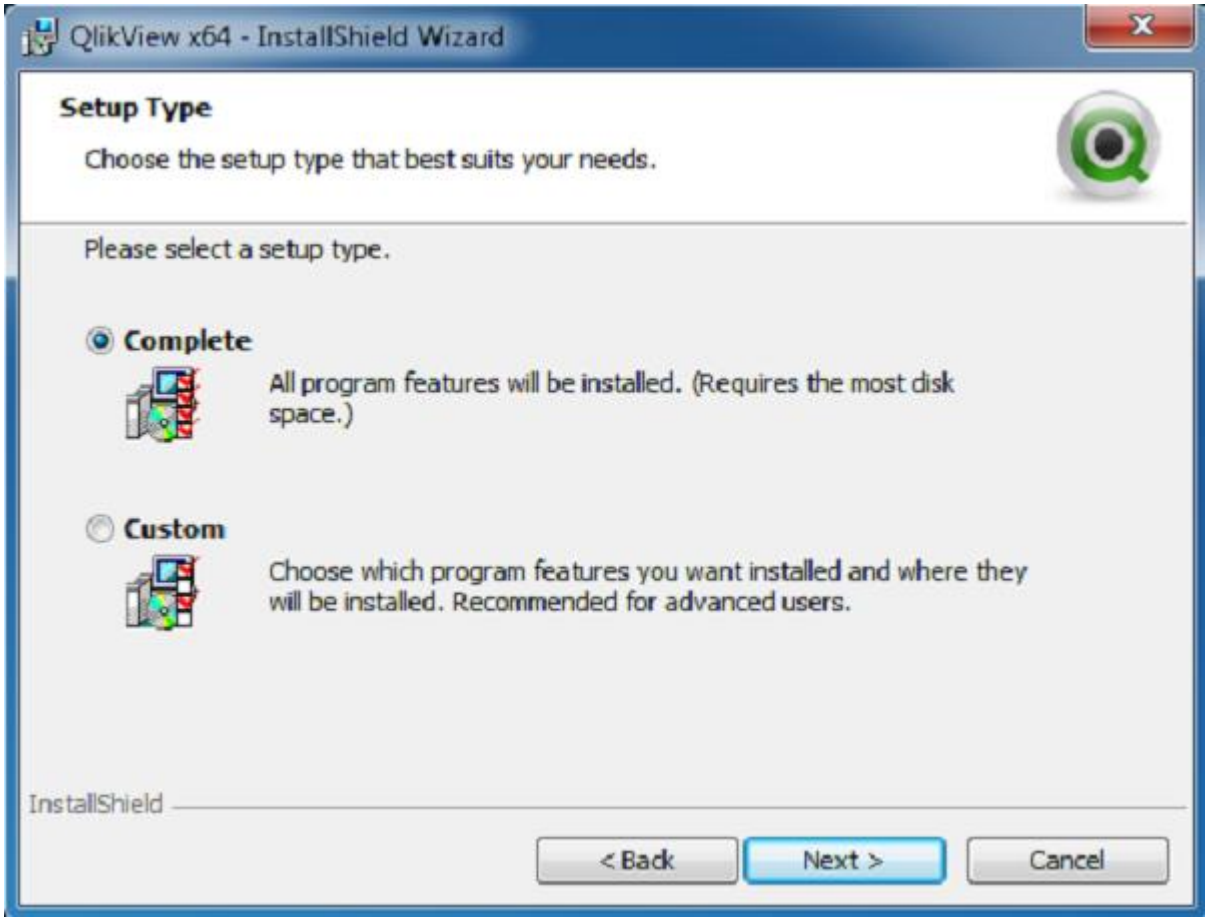

Begin Installation

In this screen, you finally decide to really start the installation. You can still go back and change some options if needed. Assuming you are fine with everything so far, click "Install".

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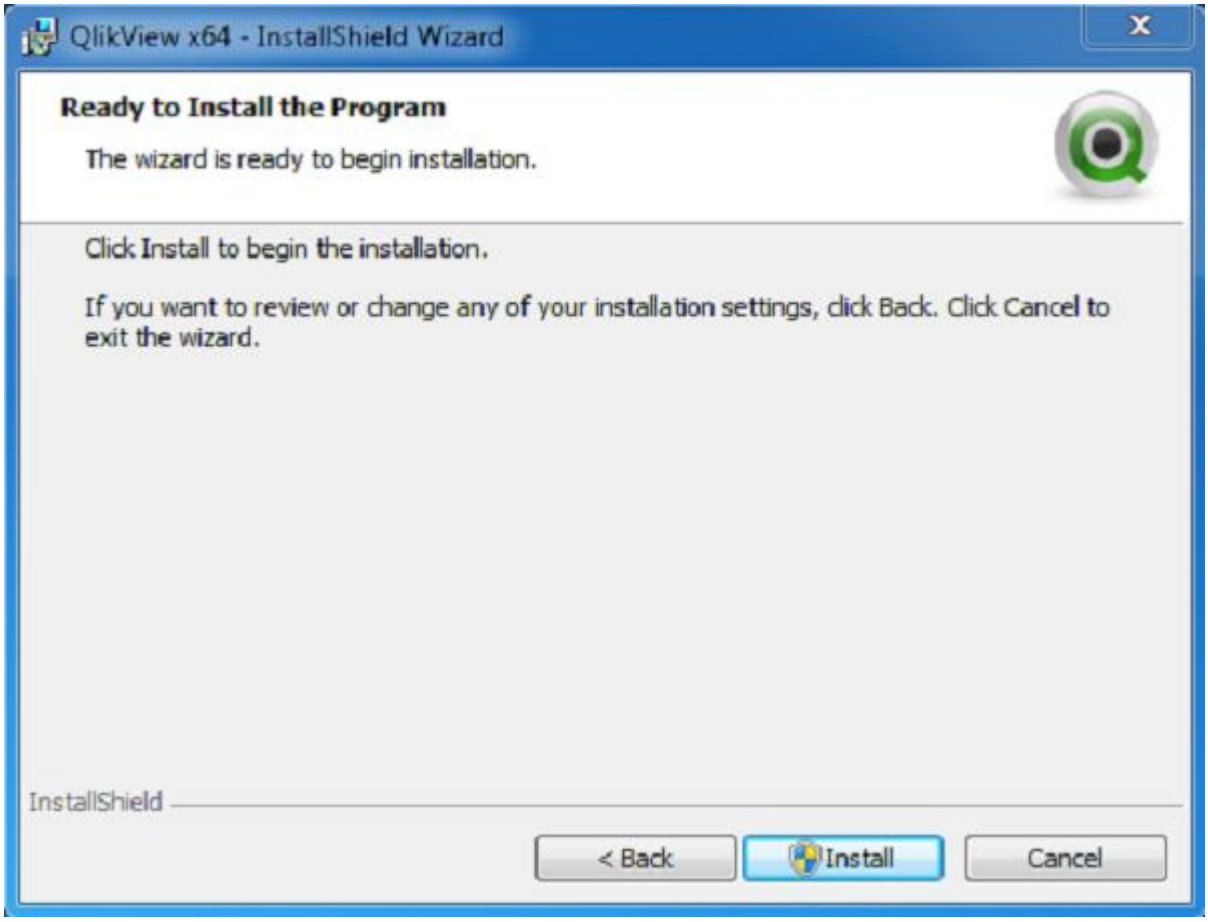
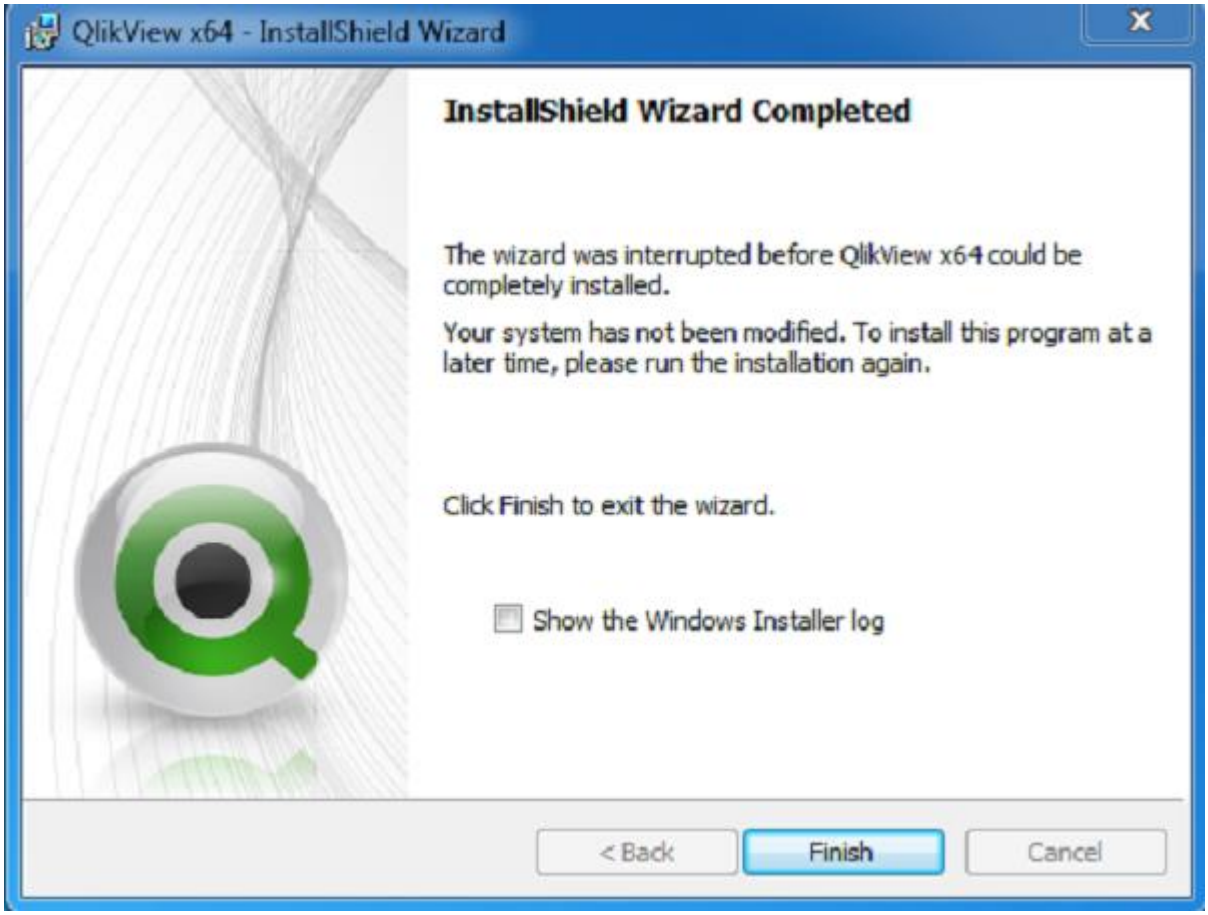


Installation Complete

The installation completion screen appears after successful installation. Click "Finish".



Verify the Installation

You can verify the installation by going to the Windows Start menu and clicking on the QlikView icon. The screen appears as shown below.

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You are now ready to learn QlikView.

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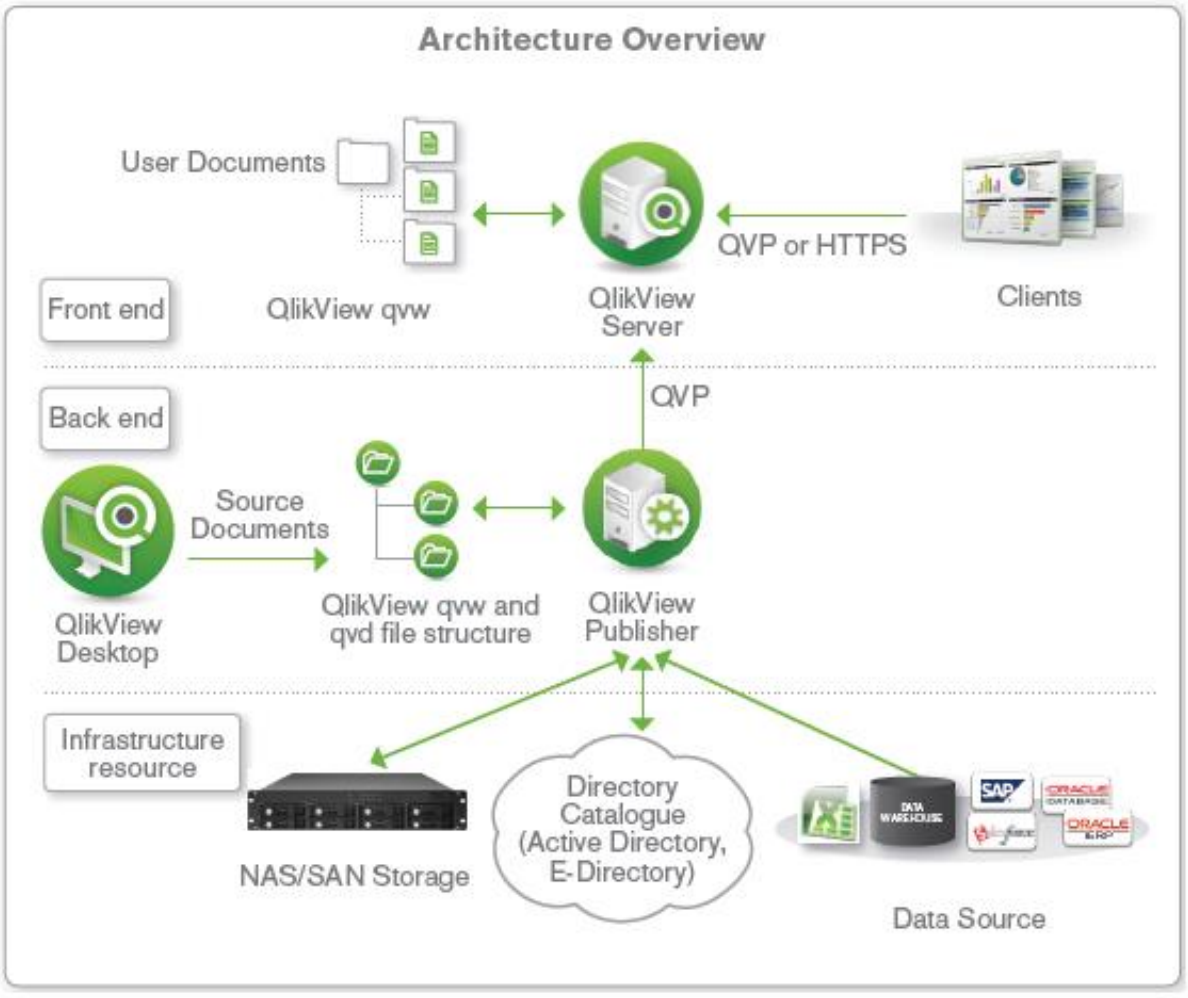
3. QlikView – Architecture

As a leading Business Discovery Platform, QlikView is built with a very different approach to data discovery than other traditional platforms. QlikView does not first build a query and then fetch the result based on the query. Rather, it forms associations between different data objects as soon as it is loaded and prompts the user to explore the data in any way. There is no predefined data drill down paths. The data drill down paths can happen in any direction as long as the data is available and associated.

Of course, a user can also play a role in creating the associations between data elements using data modeling approach available in QlikView.

Architectural Overview

QlikView's architecture consists of a front end to visualize the processed data and a back end to provide the security and publication mechanism for QlikView user documents. The diagram given below depicts the internal working of QlikView. The architecture is discussed in detail below the picture.



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Front End

The Front end in QlikView is a browser-based access point for viewing the QlikView documents. It contains the **QlikView Server,** which is mainly used by the Business users to access the already created BI reports through an internet or intranet URL.

Business users explore and interact with data using this front end and derive conclusions about the data. They also collaborate with other users on a given set of reports by sharing insights and exploring data together, in real time or off-line. These user documents are in the format .qvw, which can also be stored in the windows OS as a standalone document.

The QlikView server in the front end manages the client server communication between the user and QlikView backend system.

Back End

The QlikView backend consists of **QlikView desktop** and **QlikView publisher**.

The **QlikView desktop** is a wizard-driven Windows environment, which has the features to load and transform data from its source. Its drag and drop feature is used to create the GUI layout of the reports that becomes visible in the frontend. The file types, which are created by QlikView desktop are stored with an extension of **.qvw**. These are the files that are passed on to the QlikView server in the front end, which serves the users with these files. Also **.qvw** files can be modified to store the data-inly files, which are known as **.qvd** files. They are binary files, which contain only the data and not the GUI components.

The **QlikView publisher** is used as distribution service to distribute the **.qvw** documents among various QlikView servers and users. It handles the authorization and access privileges. It also does the direct loading of data from data sources by using the connection strings defined in the **.qvw** files.

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4. QlikView – Navigation

In this chapter, we will get acquainted with the screens available to a user for doing various operations. We will learn the basic navigation and know the different functions performed by the icons available in QlikView.

Getting Started Screen

This screen is a gentle introduction to navigate around QlikView. This screen comes up when you start QlikView and keep the **Show start page when launching QlikView** option checked. If you scroll down the examples section in the left, you can click any of the examples like - **Movies Database**, **Data Visualization** etc. to invoke it and see how QlikView works. Feel free to click around! On moving to the right, you notice the **Recent** and **Favourites** link, which show all the recently visited QlikView documents and the documents you want to visit frequently.

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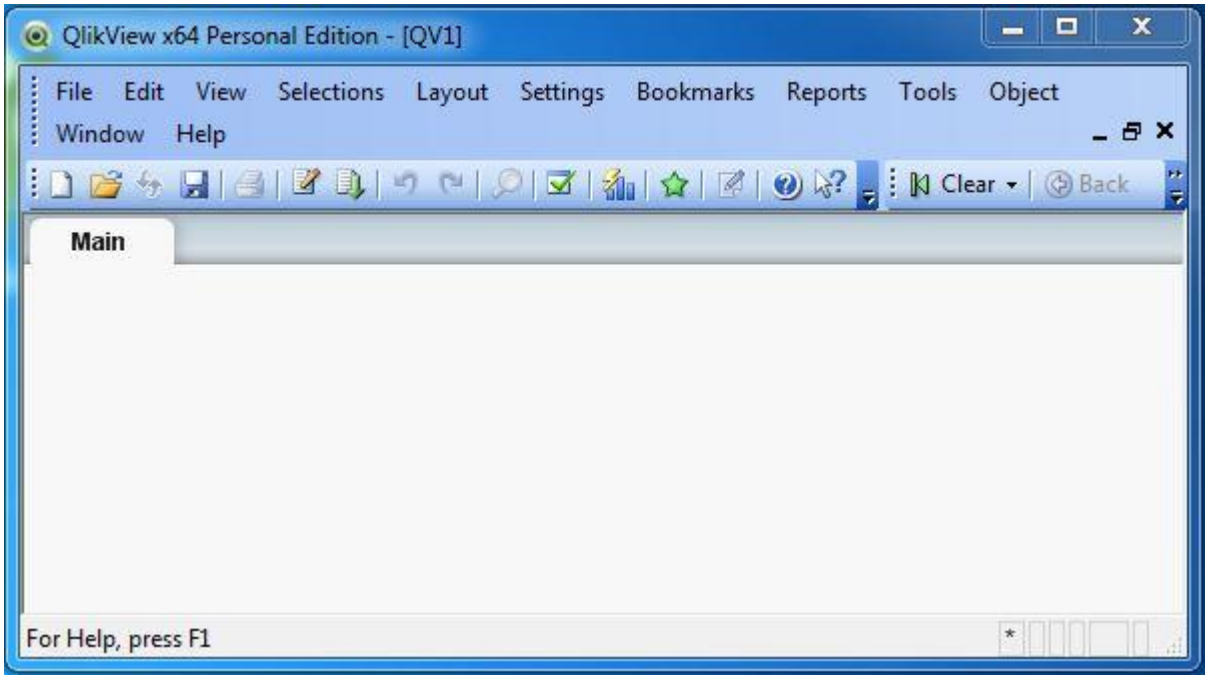
Menu Commands

On closing the 'Getting Started' window, we get the main interface with all the available Menu commands. They represent the entire set of features available in QlikView. Given below is an overview of each section of the Menu Commands.



File Menu

This menu is used to create a new QlikView file and open the existing files from both local system and QlikView server. The important features in this menu are:

- **Mail as attachment** to email the currently open document as an attachment.
- **Reduce Data** to view only the report layout and database structure without any data.
- **Table viewer** option is used to see the structure of the tables, fields and their association in a graphical view.

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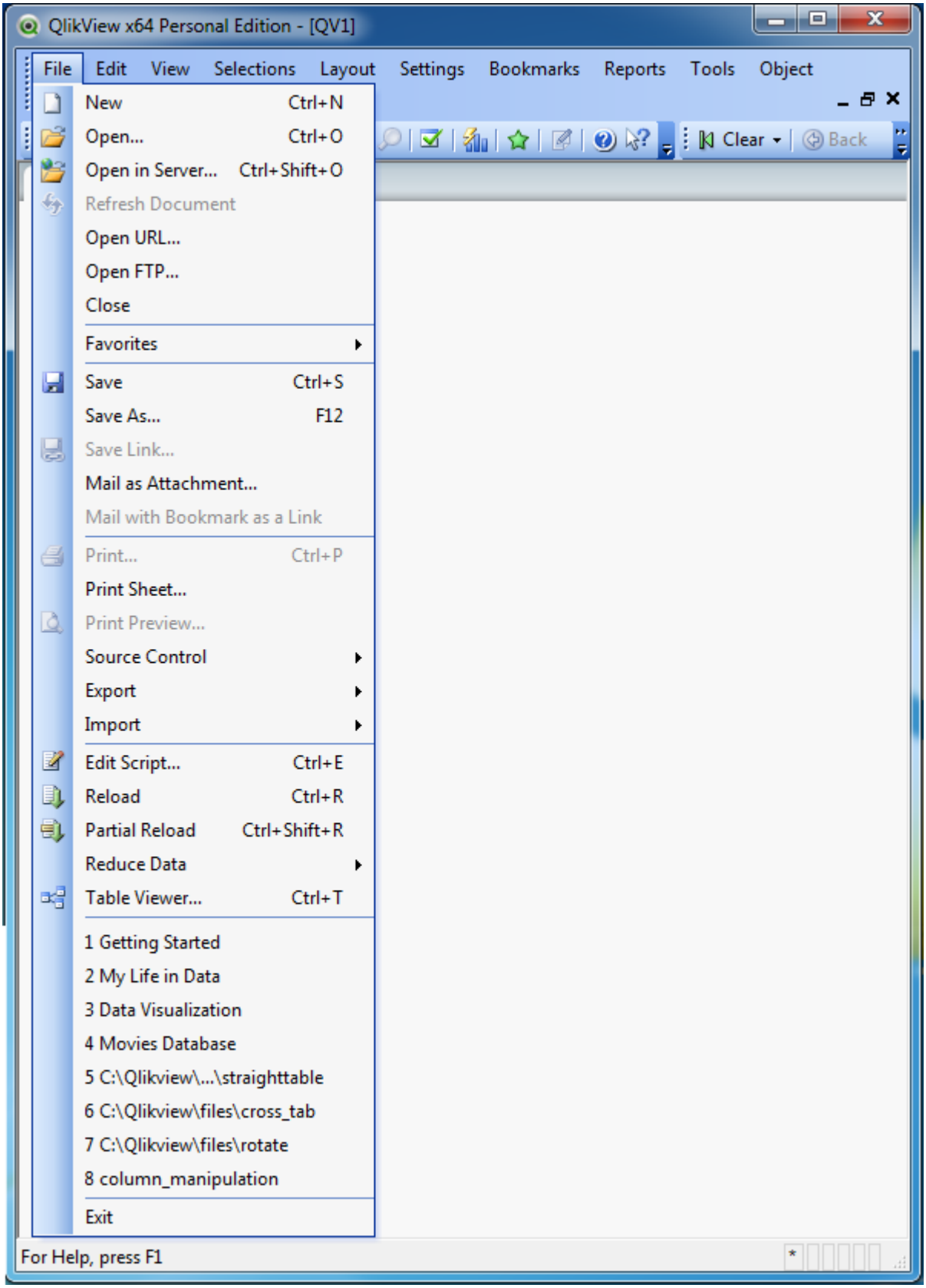

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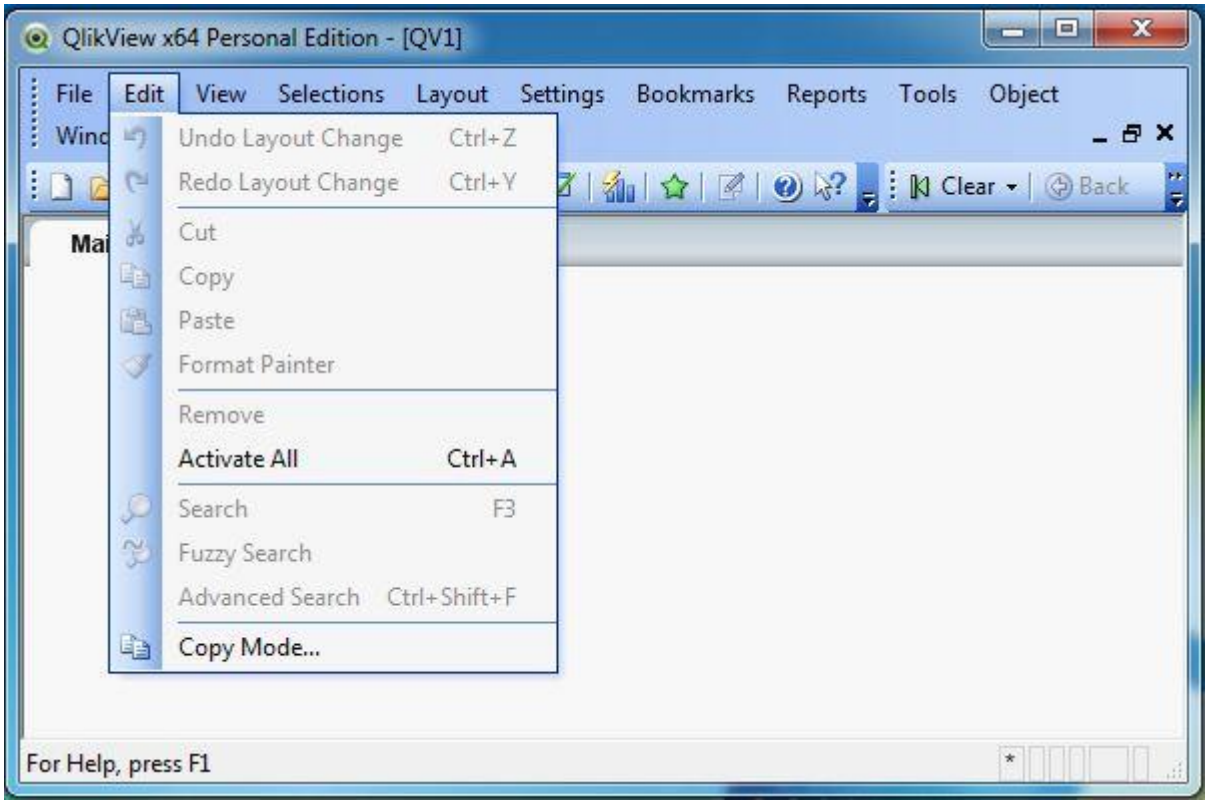
Edit Menu

This menu is used to carry out the editing options like copy, paste, cut and using format painter. The important features in this menu are:

- **Active All** option activates all the sheet objects present in the opened sheet.
- **Remove** to remove a sheet from the active window.
- **Advanced search** option is used to do a search with advanced search expressions using multi box.



View Menu

This menu is used to view the standard toolbars and zoom in/ zoom out features. It also displays all the active sheets as a cascade menu. The important features in this menu are:

- **Turn on/off WebView mode** toggles the WebView mode and local view mode.
- **Current Selections** displays the field name and file values of the selected sheet objects.
- **Design Grid** is used to toggle the sheet object placeholders for active object(s) and snap-to-grid for sizing and moving objects in the layout.

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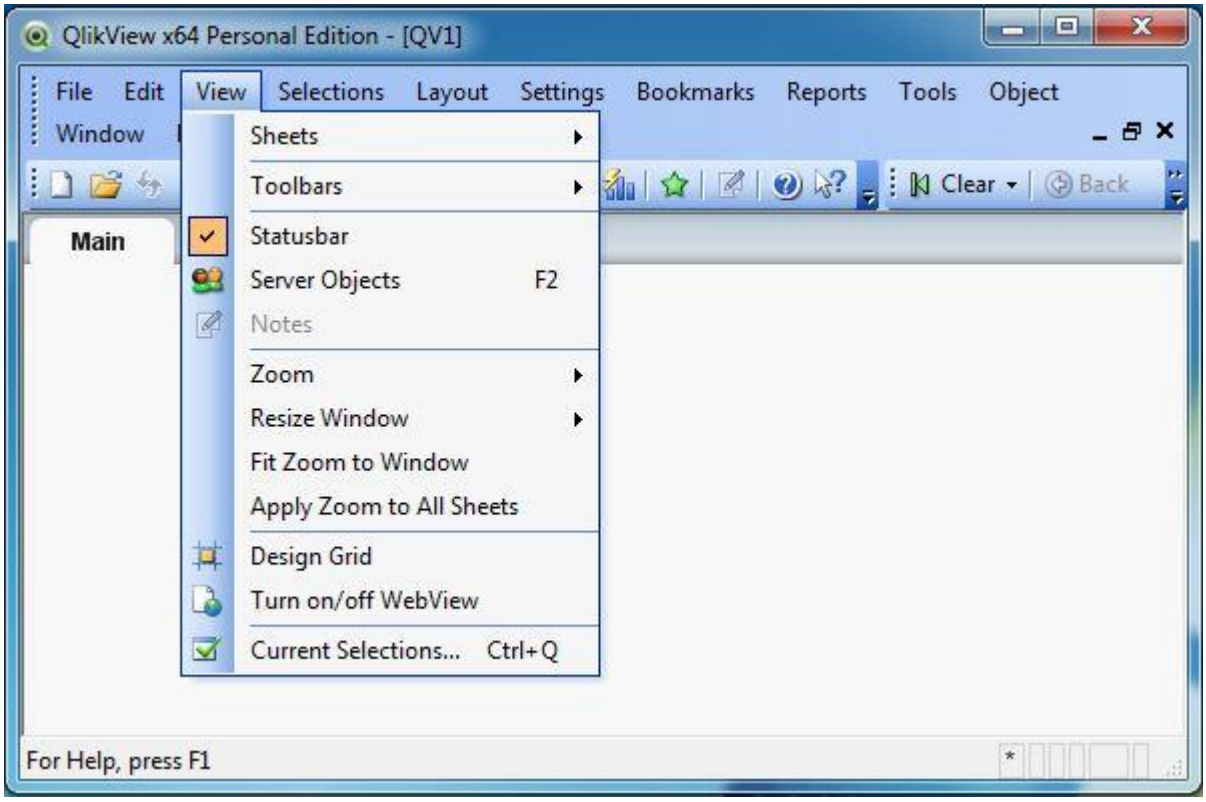

Selection Menu

This menu is used to select and clear the selection of values in the sheet objects. It also provides the feature of going back and forward into different logical statements of the sheet, you are working on. The important features in this menu are:

- **Lock** locks all the values in current selection.
- **Unlock** unlocks all the locked values in the current selection.

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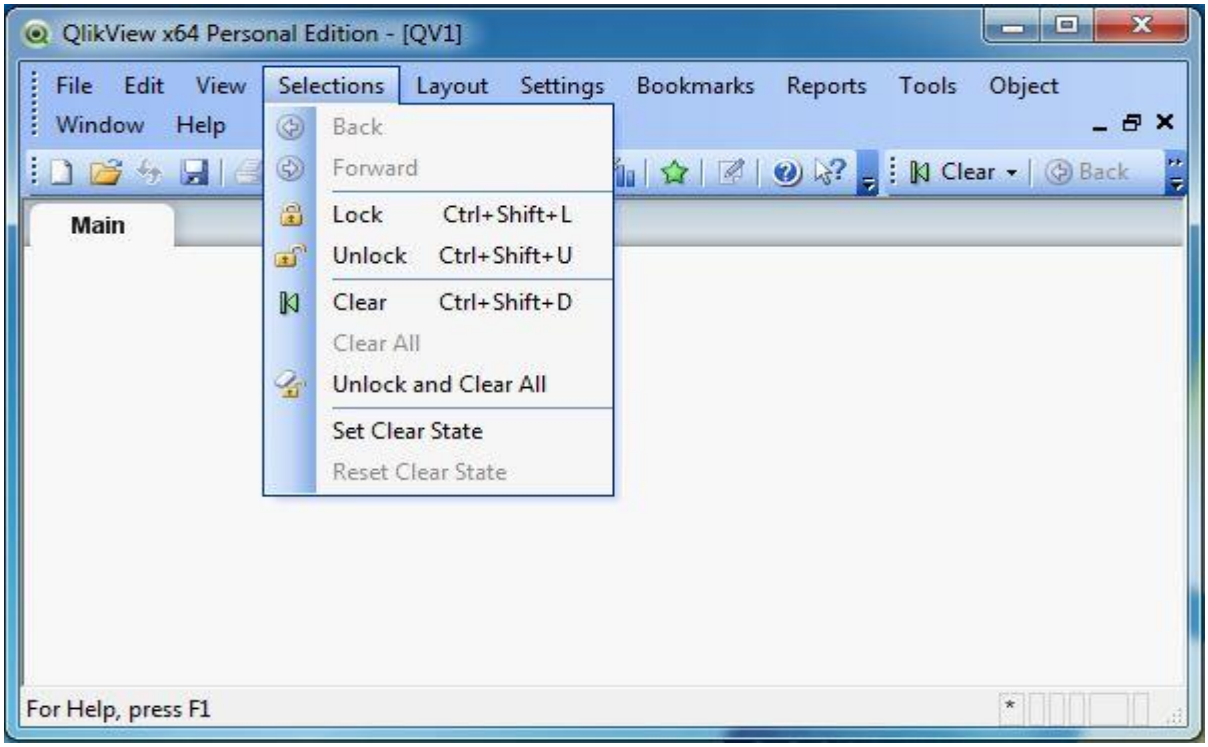
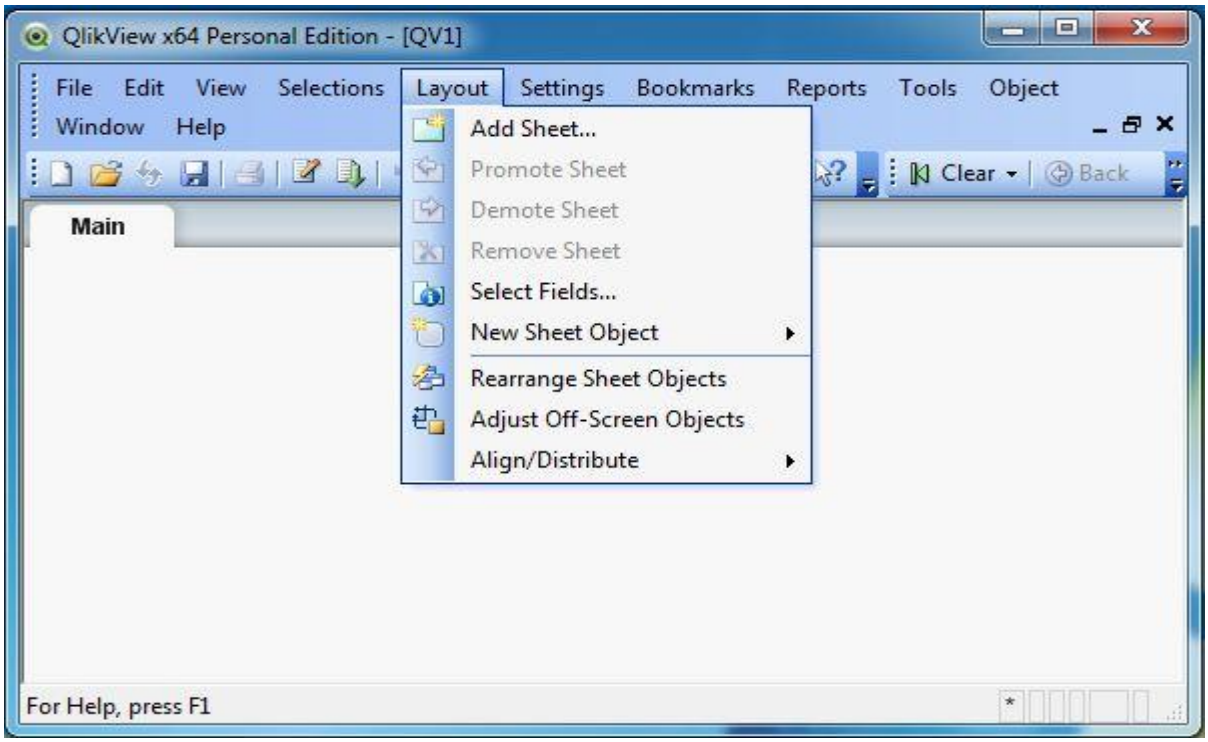


Layout Menu

Layout Menu is used to add tabbed sheets, select different sheets and rearrange sheet objects. The important features in this menu are:

- **Promote sheet** moves the current sheet or tab one step forward.
- **Demote sheet** moves the current sheet or tab one step backward.
- **Delete sheet** deletes the active sheet and everything in it.



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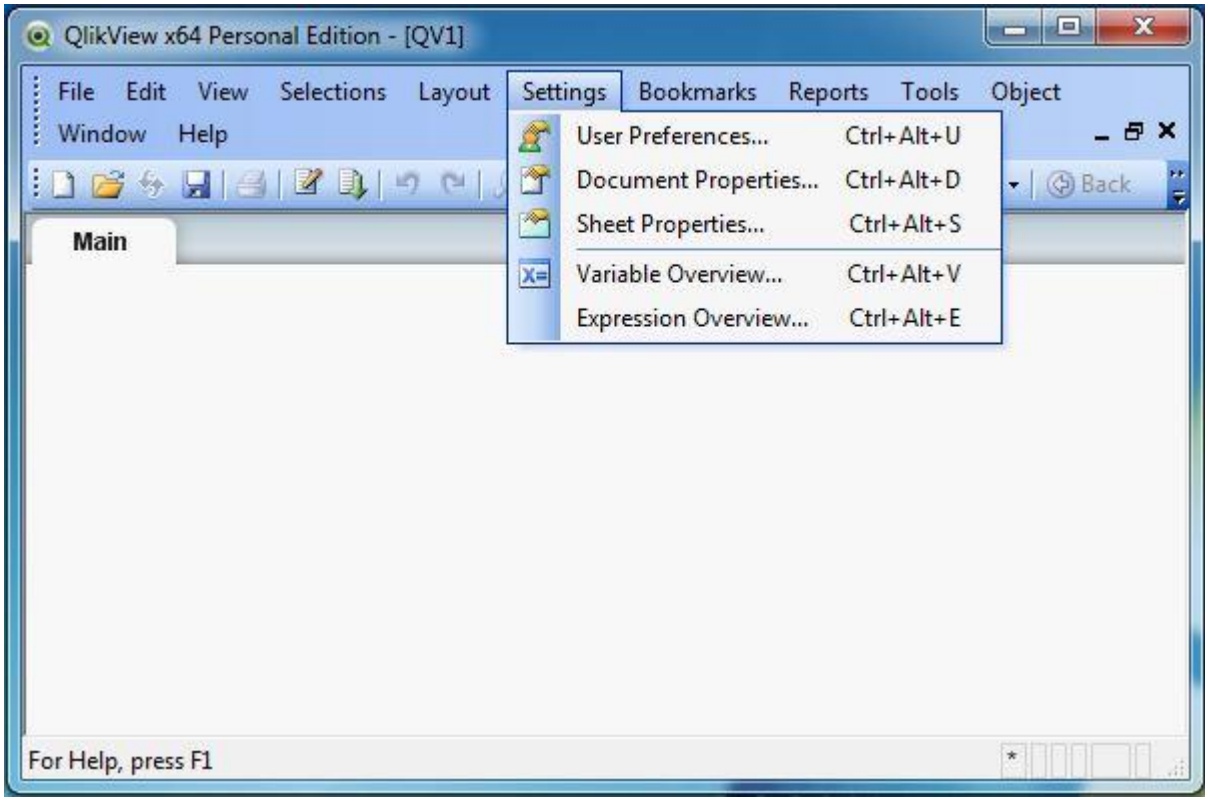
Settings Menu

Settings menu is used to set the user preferences, document properties, and sheet properties. The important features in this menu are:

- **Variable overview** shows all the non-hidden variables and their values in a single list.

- **Expression Overview** shows expressions from the document, sheet and sheet objects as a single list.



Bookmark Menu

This menu is used to create bookmarks to different documents for faster retrieval.

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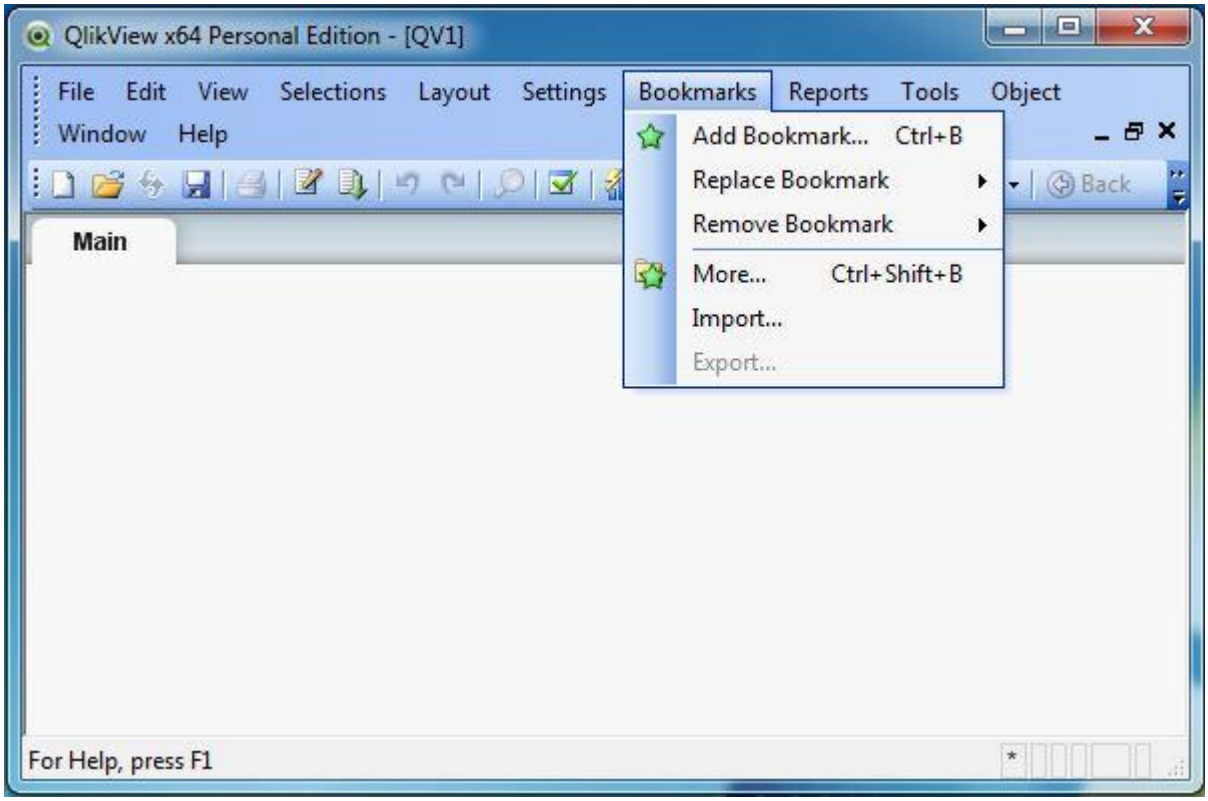
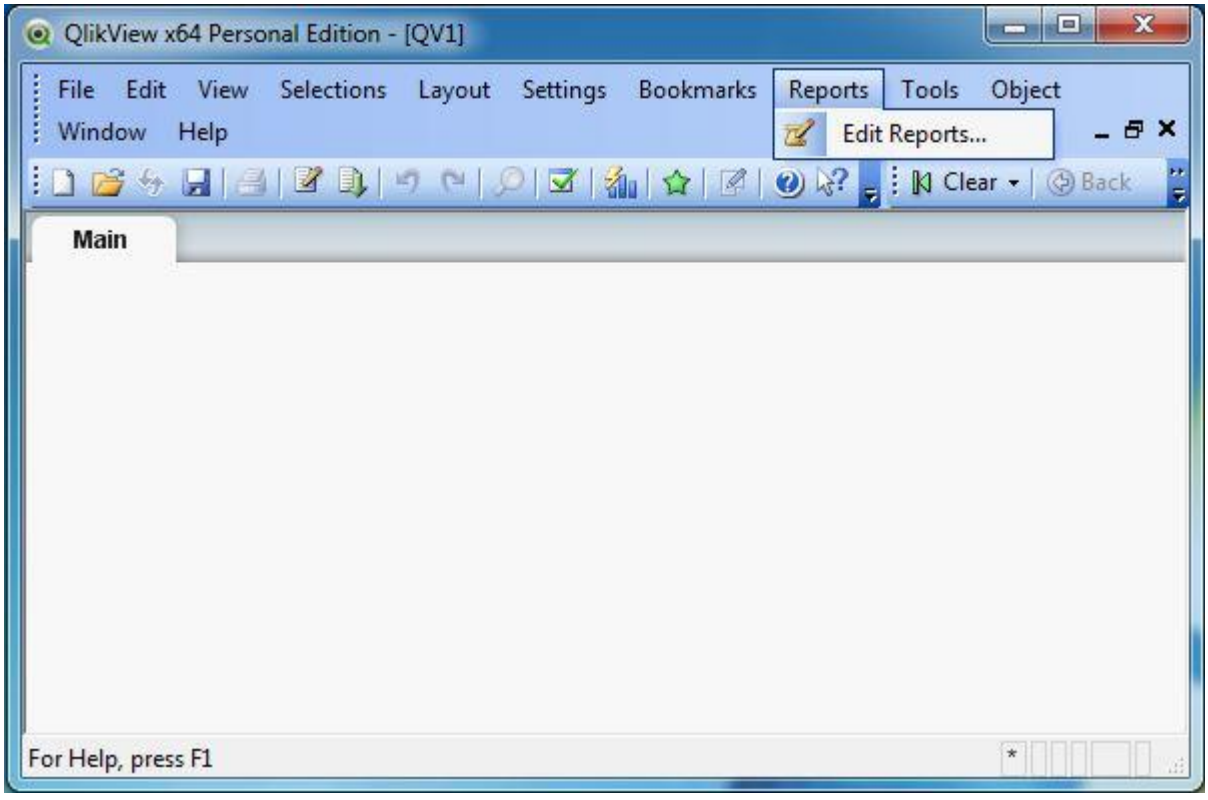


Reports Menu

Reports menu is used to create new reports and edit the existing reports. You can edit the layout, add pages to the report, and also delete reports.



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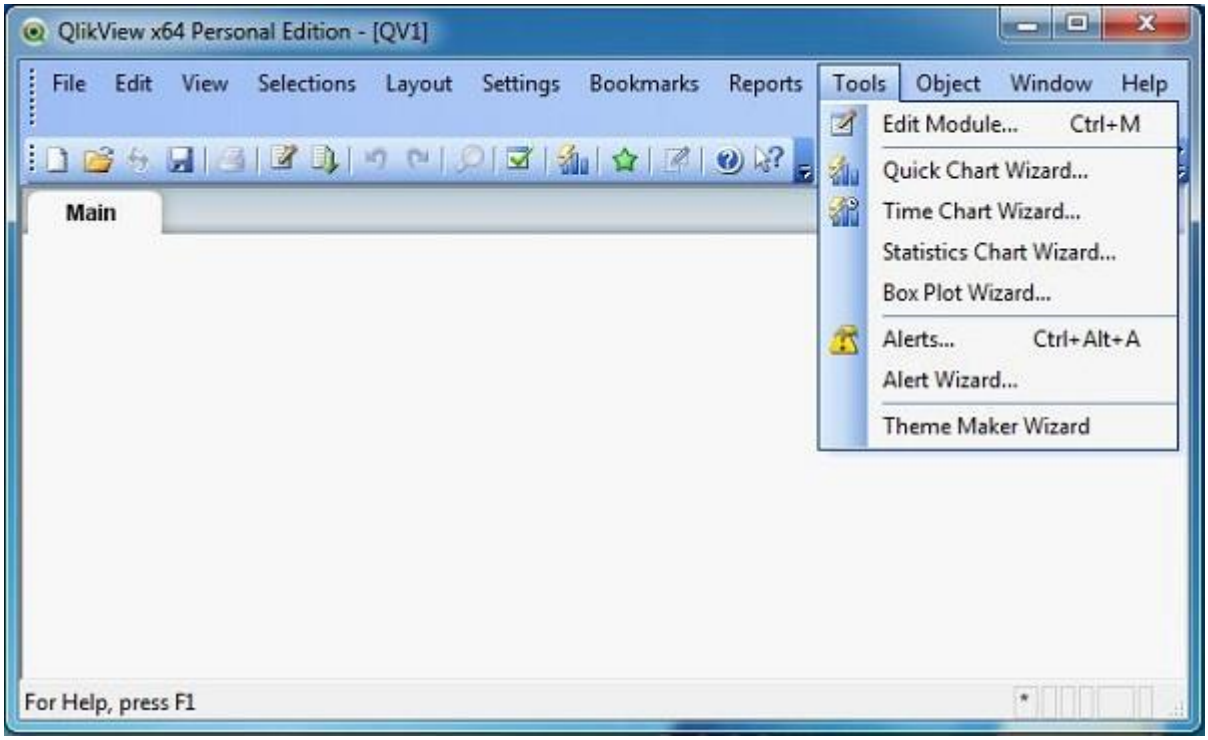
Tools Menu

Tools menu is a very prominent menu, frequently used for creating charts and opening the QlikView management console. The important features in this menu are:

- **Quick Chart Wizard** creates simple charts without using the great number of different settings and options available.
- **Time Chart Wizard** creates time series charts.
- **Statistics Chart Wizard** is used to apply common statistical tests on data.



Object Menu

This menu is used to create new sheet objects and modify the existing ones. The sheet properties option opens the page to set the parameters defining the sheet. The important features in this menu are:

- **Copy Sheet -** Creates a copy of the sheet along with all the sheet objects.
- **Copy Image to Clipboard -** Copies a bitmap picture of the sheet area to Clipboard.
- **Remove -** Completely removes the sheet along with the sheet objects.

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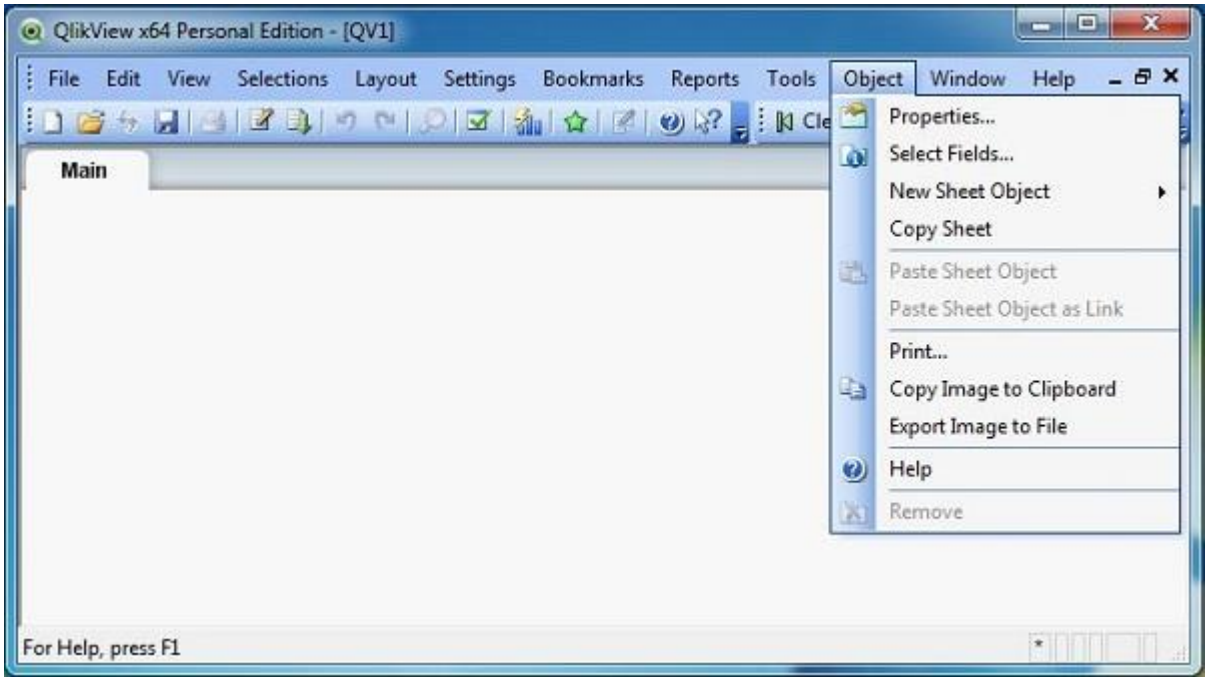

The **Window** and **Help** menus are used to organize the different windows of QlikView application and provide help documentation.

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End of ebook preview

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