**QlikView** Server/Publisher

# Reference Manual

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# PART I: QLIKVIEW SERVER/ PUBLISHER

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# 1   INTRODUCTION

## 1.1   Before You Begin

This documentation provides the necessary steps to complete the installation of the QlikView Server, test your installation, and share your QlikView documents. The documentation also describes how to configure and monitor QlikView Server through the Management Console, how to connect to QlikView Server and its documents through different clients, and how to set up and maintain document management and distribution through Publisher.

### QlikView Server

QlikView Server provides a platform for hosting, and sharing QlikView information over the Internet/Intranet. QlikView Server is tightly integrated with QlikView to deliver a seamless suite of data analysis technology to end users. The server component of QlikView Server is the centerpiece of this technology, supplying a robust, centrally managed, QlikView document community, connecting multiple users, client types, documents, and objects within a secure and safe environment.

### QlikView Publisher

QlikView Publisher is a member of the QlikView product family that manages content and access. By presenting your end-users with up-to-date information and letting you manage your QlikView documents in a powerful way, QlikView Publisher is a valuable addition to the QlikView suite.

QlikView Publisher distributes data stored in QlikView documents to users within and outside the organization. By reducing data, each user can be presented with the information that concerns him/her. The QlikView Publisher service and user interface are now fully integrated into QlikView Server and the QlikView Management Console (QMC).

### QlikView Clients

There are multiple client types available to connect to QlikView Server. There is the installed Windows client - QlikView. There is an ActiveX Internet Explorer plug-in client which can also be implemented as either a full or object based client (Internet Explorer Client – QVA for IE - and QlikX Objects Client) for analysis in an Internet Explorer browser. There is an AJAX Zero-Footprint Client (ZFC) that provides QlikView Objects support in a standard browser without requiring client side installation. Nothing apart from a standard web browser needs to be installed on the client machine.

In addition to the standard clients, QlikView Server 9 will support mobile clients, including iPhone and iTouch, along with support for many popular smart phones utilizing Java Mobile Edition (Java ME).

With the installed QlikView (exe) clients and the QVA for IE ActiveX plug-in client, whole QlikView documents can be shown with complete sheet lay-out and more or less 100% fidelity to how the document would look if opened as a local qvw file in QlikView. All clients, except the mobile clients, can be used to create and maintain new sheet objects that can be shared with other users of the document throught QlikView Server.

The QlikView Objects Clients (QlikX, and AJAX) are based on the concept of placing individual sheet objects from a QlikView document in an HTML environment. This gives the web designer the freedom of placing single objects in arbitrary places on a web site and integrating them with text and other HTML code. The basic HTML code to display these objects in any of the object clients can be automatically generated through QlikView.

# 1.2 QlikTech Support Services

Contact us if you need product support, additional training or consultation concerning application development. Please consult our homepage for current information on how to get in touch with our support services. You will find us at:

> http://www.qlikview.com

## QlikTech International Headquarters

| | |
|---|---|
| QlikTech International | Phone: +1 (888)-828-9768 |
| 150 N. Radnor Chester Road | Fax: 610-975-5987 |
| Suite E220 | |
| Radnor, PA 19087 | |
| USA | |

For other locations please visit our home page (see above).

# 1.3 Conventions

## Style coding

In this documentation all menu commands and dialog options are shown in **Arial bold**. All file names and paths are shown in `Courier Bold`. Sample code is shown in Courier and **Courier Bold**.

# 1.4 About This Manual

This manual describes QlikView Server and QlikView Publisher version 10.0. The content of both the software as well as the manual may change without prior notice.

# 1.5 What's New in QlikView 10

## Ajax client improvements

Apart from the new layout features listed above, a number of Ajax specific features have been added:

### Ajax performance

Several measures have been taken to improve the performance of the Ajax client. Most notably the Ajax client's communication with QlikView Server is now asynchronous, just like it is when using QlikView Desktop or the QlikView Plug-in client. This means that you do not have to wait for the entire layout to be updated after a selection, but can continue clicking e.g. in list boxes while heavy charts are still calculating. The result is a perception of considerable performance increase.

### UI upgrades

A number of graphical upgrades have been added to the Ajax client, e.g. the sheet tab row.

### Extension objects

Via a new simple API it is now possible to write plug-in extension sheet objects for integrated display in QlikView layouts (works in the Ajax client and web view only). The extensions build on a QlikView chart object and may be written in any modern web language, e.g. Flash, Silverlight, JavaScript etc.

### Session disconnect button

A disconnect button has been added in the Ajax client. With this a user can actively disconnect from a session, thereby releasing server resources.

### Session recovery

There is now a setting on QlikView Server enabling intelligent session recovery for Ajax and mobile clients. When this setting is used, the current selection state for each user will be saved when a session is ended and re-applied the next time the same user reconnects to the same document. This feature is currently "all or nothing", meaning that it affects all users and all documents on a server.

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# Server Components

### Management APIs

In order to enable new integration options for enterprise customers and OEM partners, new management APIs for QlikView Server and Publisher have been developed. The long-term ambition is to expose the full management capability. The APIs are exposed via a web service to the new unified management console.

### User Management

A new high-level tab in the enterprise management console provides a unified view of all sett-ings, listed by users across your entire QlikView deployment. From this view it is also possible to change the settings for e.g. user CALs, distributions and documents.

### Document Administrator

A QlikView administrator can now delegate the responsibility for managing tasks to one or more selected users. The QlikView administrator can also set limitations to where the document administrator is allowed to distribute a document. Read more on page 256.

### Section Access Management

The QlikView Enterprise Management Console now provides the functionality to create, manage and store tables that can be used to define authorization in Section Access in QlikView documents. This feature consists of three parts:

The creation, management and storing of the actual tables which are all handled by QEMC.

The created tables are accessed from the QlikView load script using a load statement that loads from an http address. A command in the script editor facilitates the creation of a script snippet containing this load statement.

This feature will require a Publisher license. Learn more on page 263.

### Improved Document Lists

The QlikView Server will only show documents to which the user has NTFS permissions. In QlikView 10 the document lists will be filtered further: If a document has Section Access, the server will now only show the document to users that also are listed in the Section Access.

### Directory Service Provider for Configurable LDAP

A new Directory Service Provider has been added to make it possible to connect to any LDAP directory service. The user is given the

possibility to configure the DSP so that it suits the particular LDAP Directory Service. It is important to know, though, that QlikView only provides the functionality to extract user information from the Directory Service; any authorization needed against it has to be handled separately. Learn more on page 170.

### Directory Service Provider for ODBC

A new Directory Service Provider has been added to make it possible to connect to any database using ODBC instead. Learn more on page 168.

### Multiple Events Trigger

In addition to the existing triggers which operate with OR logic when combined, we have added a new trigger with the possibility to combine the other triggers with AND logic. Read more on page 64 in the QMC and page 115 in the QEMC.

### Copy/Paste Tasks and Import Task

In order to improve the usability when having an enterprise environment we have now implemented the possibility to copy and paste tasks and the possibility to import tasks from another Publisher installation. Read more on page 97 and page 97.

### QlikView Server CPU Throttling

In order to control how much CPU the QlikView Server is using it is possible to set a CPU throttling threshold. If the CPU usage gets above this value the CPU priority is set to lower than normal and when the CPU usage goes back below this value the priority is set to higher than normal. The setting is found on page 146.

### Granular Server Objects Permissions

On a document level it is possible to specify if no, all, or a list of selected users should be allowed to create Server objects. Learn more on page 125.

### Browsable Mount Check Box

The browsable mount check box is now respected in Access Point.

For cases where the Access Point should list the documents, but the "Open in Server" in QlikView Desktop or QlikView Plug-in should not, another check box, "Respect browsable mounts", has been added to the Access Point settings.

### Notification E-mail

It is possible to send a notification e-mail after distribution. Please note that there is not yet any way of optimizing the sending: there will be one mail for each task that has the notifi-cation e-mail option set.

### Audit logging

Selection of values, sheet activation, usage of bookmarks and reports, clearing of a specific object, clear all and downloads for a specific user can now be logged for the QlikView Server. In QlikView Publisher, all changes to tasks and some changes to the settings can be logged. Read more about Server logging on page 224 and Publisher logging on page 255.

### Minor changes

- File modification date is shown in Access Point.

- Possibility to sort files in Access Point on file modification date.

- "Mobile clients" is now treated as one of several possible clients, which gives the possibility to specify that a document should be e.g. visible only to mobile clients, or invisible to mobile clients.

- Possibility to make shared objects visible to anonymous users.

- Possibility to connect to the QlikView Distribution Service and to the Directory Services Connector using a user name.

- PDF distribution to folder.

- Possibility to use bookmarks as reduction rules.

## APIs

Version 10 will provide two new documented APIs in addition to the Core COM API. The documentation of these APIs is still a work in progress and not yet available. Documentation updates including samples are scheduled for the Release Candidate version.

### COM API

This API will continue to be documented within a QlikView Document.

### QlikView Server Management API

The QlikView Server exposes a web service using WSDL. Documentation will be provided in html format.

### QlikView JavaScript API

The new JavaScript API is a client-side API for use with the Workbench or the standard QlikView Ajax client. This API is also for use with the development of QlikView Extension objects. Documentation will be provided in html format.

# 1.6  Migration Considerations

The following considerations apply when migrating QlikView Server from version 9.x to version 10.x, and within 10.x where applicable.

Installation of QlikView Server now requires a reboot of the Operating System for proper operation.

The QlikView AccessPoint is now the default start page for QlikView Server.  The legacy sample pages are still available, but AccessPoint is the recommended portal for all access to QlikView documents.

The old Management Consoles for QlikView Server and Publisher have been completely replaced by the new QlikView Management Console. You must start the QMC in order to register a license for the QVS, unless you already have a valid license on the computer running the QVS.

The AJAX client has undergone major restructuring and extension. AJAX pages no longer need to be pre-generated as in previous versions. This also means that the URLs to invoke a document with the AJAX client have changed.

Anti aliasing on fonts is no longer available

There are no known issues when using a 10.00 server with earlier clients (7.52 and later). When using a 10.00 client against an 8.50 server (or earlier) the usage of the Home feature causes an error. Proper client-server compatibility with versions prior to v7.52 cannot be guaranteed.

QlikView has a common file format for versions 7, 8, 9 and 10.

Windows 2000 is no longer an officially supported host operating system. However, in some cases the QlikView Desktop may still work just fine.

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# 2  SETUP

## 2.1  System Requirements

In order to successfully install and run the QlikView Server/Publisher, the following basic requirements must be met by the system:

### Hardware and Software

*   1 GHz (x86 processor) or 1.4 GHz (x64 processor). 2 GHz or faster, with several cores/processors recommended.

*   QlikView Server will use the color settings of the Windows server where it runs when sending charts and other graphics to the client. For best results, the color palette on the Windows server should be set to at least 65,536 colors (16 bit).

*   a mouse or an equivalent pointing device supported by Microsoft Windows.

*   (optional) a DVD drive for DVD-based install media only.

*   a hard disk with at least 450 MB of free disk space.

*   1 GB RAM minimum on x86 systems and 4GB minimum on X64 systems. The server's capacity to publish QlikView documents and the number of users who concurrently can connect to it are strongly related to the amount of RAM available.

*   An http server for providing AJAX ZFC solutions to end users (e.g. MS Internet Information Services (IIS) or the built-in QVWebServer). Microsoft IIS or the built-in web server is required when using tunneling, external authentication or NT security with the AJAX Zero-Footprint client.

*   TCP/IP Network.

*   Microsoft .NET 3.5.

    Actual requirements will vary, based on system configurations. It is recommended that you work with your local QlikView representative to configure an appropriate hardware platform for your QlikView Server/Publisher requirements.

*   Microsoft Internet Explorer 7 and later, Firefox 3 or Google Chrome to use QlikView Management Console.

### Supported Operating Systems

*   Microsoft® Windows Server 2003 ™ including x64 Edition

- Microsoft® Windows Server 2008 ™ including x64 Edition

- Microsoft® Windows XP™ including x64 Edition*

- Microsoft® Windows Vista™ including x64 Edition*

- Microsoft® Windows 7 including x64 Edition*

*Recommended for development and testing purposes only.

## Database requirements and recommendations for QlikView Publisher

The database in QlikView Publisher can be either a Microsoft SQL Server or an XML repository that requires no preinstalled software.

The supported versions of Microsoft SQL Server are SQL Server 2000, SQL 2005 or SQL 2008. If you have a Microsoft SQL Server already set up we recommend using that. The XML repository is sufficient for most installations when it comes to performance.

If you do not have a Microsoft SQL Server available we recommend that you start with an XML repository installation and upgrade to Microsoft SQL Server if the performance is insufficient. It is possible to migrate all data in the database between XML repository and SQL Server.

## Client requirements for installed exe clients

- See reference manual for QlikView.

## Client requirements for plug-in (QVA for IE)

In addition to the server requirements above, the client must be running a compatible web browser. Client requirements are as follows:

- Microsoft Internet Explorer 6™ or higher.

  and

- Microsoft® Windows Server 2003™; or

- Microsoft® Windows Server 2008™; or

- Microsoft® Windows XP™ ; or

- Microsoft® Windows Vista™

- Microsoft® Windows 7™

## Client requirements for AJAX Zero-Footprint Clients

In addition to the server requirements above, the client must be running a compatible web browser.

Client requirements are as follows:

- Under MS Windows:
  - Microsoft Internet Explorer 7 or later
  - Firefox 2 or 3, Safari 3, Google Chrome 1

- Under Linux (tested on Ubuntu Linux only):
  - Netscape Navigator 7.2 or later
  - Firefox 1.0.6 or later

- Under MacOS X (tested on v. 10.4 "Tiger" only):
  - Netscape Navigator 7.2 or later
  - Firefox 2 or 3, Safari 3

  Other Mozilla-based browsers should work and the QlikView AJAX ZFC will most probably run on many other environments, including various UNIX versions but this has not been verified by QlikTech R&D. As the number of possible combinations of operating system versions and browser versions is very large, QlikTech cannot guarantee correct operation with all possible set-ups. If some specific combination would be found to suffer from problems, we encourage customers to report back, so that better coverage can be achieved in future releases of QlikView.

| Note | Running Ajax Zero-Footprint Client on a mobile device is associated with several limitations. We recommend that you use one of the mobile clients for QlikView instead; BlackBerry, iPhone, Android or Java ME. |
|------|-----------------------------------------------------------------|

## Client Requirements for Mobile Clients

See the QlikView Mobile Clients Reference Manual for details.

## Requirements for QlikView Management Console

When accessing the QlikView Management Console through a web browser, the following minimum requirements apply:
- Microsoft Internet Explorer 7 or later
- Firefox 3

# 2.2  Upgrading QlikView Server

If you are installing QlikView Server for the first time on a server, you may skip this section, and proceed to Installing QlikView Server for installation instruction. If you already have QlikView Server installed on a server, and would like to upgrade to a more current release, then follow the instructions in this section.

Whether you are upgrading QlikView Server to a new release or a new version, it is helpful to be aware of a few basic practices that will help to insure a successful transition to a new level.

- Always be sure to read the ReadMe documentation, if available, prior to installing an upgrade. This will have the most current information available to help you perform a successful migration.

- Be sure you have backup media of the current software.

- QlikView Server must be stopped to perform an upgrade, so it is best to schedule this procedure for an off time.

- Registration (licensing) information and Settings will be saved by default when the QlikView Server program is removed. They will then be applied to any subsequent install of QlikView Server on that system.

Upgrading to a new release of QlikView Server will generally require an uninstall of the old release and install of the new release.

For the uninstall of QlikView Server, be sure to perform the following steps prior to running a Windows Remove Program procedure:

1 Verify that backup media exists for the current release of QlikView Server and backup all current files associated with QlikView Server (HTML pages, QlikView documents, licensing file, QlikView Server .share files, etc.)

2 If you are running version 8 of QlikView Server, use the QlikView Management Console **Users** tab to determine if there are any active users linked to QlikView Server. You may wish to send out a broadcast message to notify users that the service will be stopping.

3 Stop the QVS service.

4 Uninstall the QlikView Server from the Windows **Control Panel**.

For client program updates, if applicable, be sure the client computer has no open QlikView Server sessions before applying the update. If QlikView Publisher is running on the same machine, it must be uninstalled manually before installing QlikView Server.

Now you are ready to install the new release of QlikView Server. Follow the instructions in the next section.

## 2.3  Upgrading QlikView Publisher

A fundamental change regarding tasks and jobs has been made in version 9. The concept of jobs has been removed and replaced by triggers that are added to each task. The jobs you had in version 8.5 that contained more than one task, will be converted to a task chain. The first task in the old job will have a trigger that corresponds to the schedule of the job. The following tasks will have a "on finish of another task" trigger that points to the previous task in the old job. Note that if you in version 8.5 have a disabled task within a job, the task chain will be broken after upgrade if you do not take the appropriate actions during the upgrade process.

One other significant difference in version 9 and 10 is that Active Directory distribution groups no longer are supported as user containers. To add users and groups in QlikView Publisher, you must use Active Directory users or security groups. This change was made to comply with Microsoft's recommendations.

When upgrading you must run the QlikView Publisher Upgrade Tool. This should be done after the installation of QlikView version 10. The upgrade tool does not support upgrades from Publisher Standard Edition. See page 247.

## 2.4  Installing QlikView Server

The QlikView Server installation can be performed off DVD media or from a disk file. To install QlikView Server, insert the DVD in a drive accessible from the target server hardware.

It is recomended to install QlikView Server after the web server software (if you are not using the QlikView Web Server).

| | |
|---|---|
| **Note** | If the required Microsoft .NET 3.5 Framework is not installed, it will be included as part of the QlikView Server installation process and downloaded from the Internet. |

TIP: It is recommended to not move folder locations after QVS installation is complete, since many settings are dependent on their initial file location.  If you wish to change the location of QVS after it is installed, this should be done through an uninstall/install process.

| | |
|---|---|
| **Note** | In order to install the Microsoft IIS support, the IIS Admin Service must be started! |

1    If the DVD does not auto-run, or if you are installing from a differ-
ent media, then execute **QlikViewServer_x86.exe** or
**QlikViewServer_x64** from the installation media. The first dia-
log welcomes you to the installation.Click **Next**.

2    Select the region for the local location of the server. Click **Next** to
continue.

3    Read the license agreement, and continue by selecting **I accept the
terms in the license agreement**, and then click **Next**.

4    Enter the user information for QlikView Server. Click **Next** to con-
tinue.

5    All files will be installed under the specified folder location. If you
would like to change the root folder location of the installed files,
click **Change** to specify the preferred location. Continue by clicking
**Next**.

6    The **Profile** dialog lets you customize your installation (see below).
Select the features you wish to run. To select individual features,
click the **Configure** button, then click **Next** to continue.

7    In the **Logon Information** dialog you set the account that the
QlikView Server/Publisher services will run under. Click **Next**.

**Note**    If you use a local administratior account on Windows XP x64 Sp2 that is not
part of a domain, the installation program will not be able to resolve the
account! You will have to set the account for the services in **Computer
Manager** manually.

8    Click **Install** to start the installation.

9    Once the Installation is complete, click **Finish**.

**Note**    You must restart the operating system in order to enable the functionality of
the QlikView Server.

The QlikView Server is now installed on your computer. In order to activate it, you
need to complete a few further steps.

### Installation Profiles

With the different installation profiles that you can choose from in
the installation, you can choose exactly what you want to run. You
can choose from the following profiles:

**Single Machine Install**

Choose this alternative if you want to run all components on one single computer. This installs the QlikView Server and examples, the QlikView Distribution Service, the Directory Service Connector, the QlikView Web Server and the QlikView Management Server.

**QlikView Server**

This alternative is for use in distributed environments and should be used to install the first QlikView Server. This installs the QlikView Server and examples, as well as the Directory Service Connector.

**Additional QlikView Server**

This alternative is used in clustered environments and only installs a QlikView Server.

**Publisher Engine**

In a distributed environment this alternative is used to install reload functionality for the QlikView Server or install a Publisher engine To run a Publisher Engine you need a Publisher license. This installs the QlikView Distribution Service.

**Management Console**

In a distributed environment this is used to install only the Management Console. This installs the QlikView Management Service.

**Webserver**

In a distributed environment this is used to add web server funtionality. This installs the QlikView Web Server or support for Microsoft IIS.

**Example Configurations**

**Simple QlikView Server Cluster**

Computer 1: main QlikView Server and management server. Install **Single Machine Install**.
Computer 2: QlikView Server. Install **Additional QlikView Server**.

**Distributed QlikView Server Cluster**

Computer 1: management server. Install **Management Console**.
Computer 2: main QlikView Server. Install **QlikView Server** and **Publisher Engine**.

Computer 3: extra QlikView Server. Install **Additional QlikView Server**.

**Distributed Publisher Environment**

Computer 1:management server and QlikView Server. Install **QlikView Server** and **Management Console**.
Computer 2: Publisher engine. Install **Publisher Engine**.

## Logging the Installtion

When **Setup.exe** is run, a log file is written to the **temp** folder. The log file is called **QlikViewServerx86.wil** for the x86 version and **QlikViewServerx64.wil** for the 64-bit version. Each time the installation is run a new file is generated, over writing the old log file.

## Obtaining the MSI package

If you need the msi package for installation you have to extract it from the exe file.

1    Start the installation from the exe file and let the first dialog open.

2    In the **temp** folder in C**:\Documents and Settings\user- name\Local Settings**, or C**:\Users\username\App- Data\Local** depending on you operating system, you will find the msi file under a random name, e.g. **ed34g.msi**.

3    Copy the msi file to a location of your choice.

4    Exit the exe installation.

5    Install using the msi (see below for silent installation). See also Deploying MSI packages with Group policies in Appendix D.

## Silent Installation

To make a silent installation start the msi file, 32-bit or 64-bit, from the command line with the following parameters for the msi package:

```
msiexec /i QvsSetupRedist.msi MYUSERNAME=domain\username
MYPASSWORD=password /l*v log.txt /qn
```

and for the exe file:

```
msiexec /i QvsSetupRedist.exe MYUSERNAME=domain\username
MYPASSWORD=password /l*v log.txt /qn
```

where **domain\username** is the domain and username of the user you wish the QlikView Server/Publisher services to run as, **password** is the password of that user, **/l*v** creates a log for the installation and **/qn** makes the installation silent.

# 2.5 Completing the Installation

After successfully installing QlikView Server/Publisher, you must complete the following steps to activate it:

1 Start Services

2 Register

These steps must be completed after the installation using the QlikView Management Console (found in the **Start** menu, under **Programs**, **QlikView**). The topics in the following explain how to use the Management Console.

## Start Service

Once QlikView Server/Publisher has been installed as Windows services, it can be started. If the QlikView Server is set for automatic startup, rebooting the operating system will start the QlikView Server service. To manually start the service, go to the Windows **Computer Management**, **Services**.

| | |
|---|---|
| **Note** | Running real-time anti-virus protection on a Server will degrade performance of QlikView Server/Publisher. It is recommended that the following directories are excluded in the anti-virus, User documents, Source documents and log directories. Note that only read and write operations should be excepted! |

**I**

# Running Microsoft Internet Information Services

It is possible to use Microsoft IIS as web server for the AccessPoint.
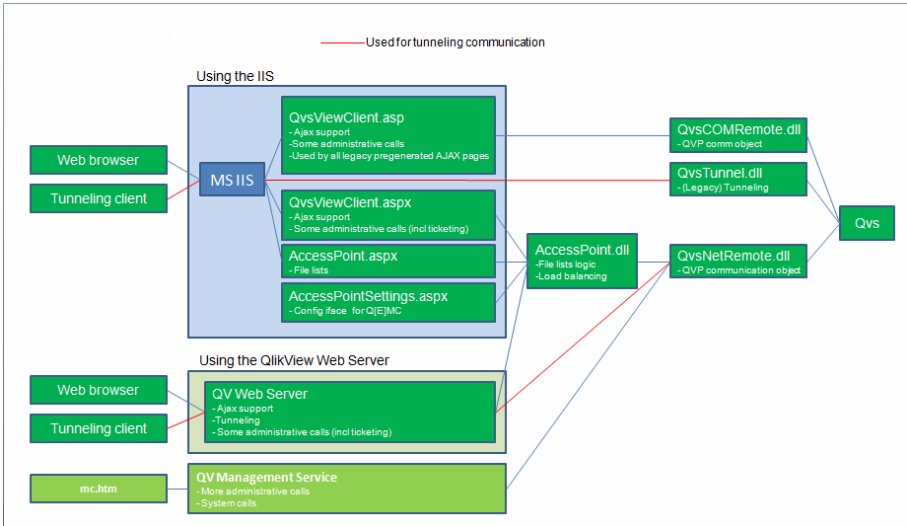


*Figure 1.  QlikView Web Service and Microsoft IIS*

If you are using MS IIS as your web server in a Windows Server 2003 or greater environment, be sure to check the following default security settings to insure proper operation of the QlikView Server sample pages, as well as extended functions (e.g. QVS Tunnel).

- Enable ASP Pages

- Enable ASP.NET

- If your computer is on a domain and you are running IIS 6, you must add the account that is set as **Identity** on the **QlikView IIS** application pool to the IIS_WPG group (Internet Information Service Worker Process Group).

- If you are using Microsoft IIS 6, read the Microsoft knowledge base article 871179 and implement the appropriate resolution.

- Add QVSTunnel.dll as a Web Service Extension if you wish to utilize the QVS Tunnel extension (see page 215 for more information on the QVS Tunnel extension).  You can browse for this file located (default) in: `C:\Program Files\QlikView\Server\QvTunnel`

- Change the path to the file AccessPointSettings.aspx to point to the IIS's virtual folder, **`/QvAjaxZfc/AccessPointSettings.aspx`**, in QEMC under **System** - **Setup** - **QlikView Web Servers** - **Url**.
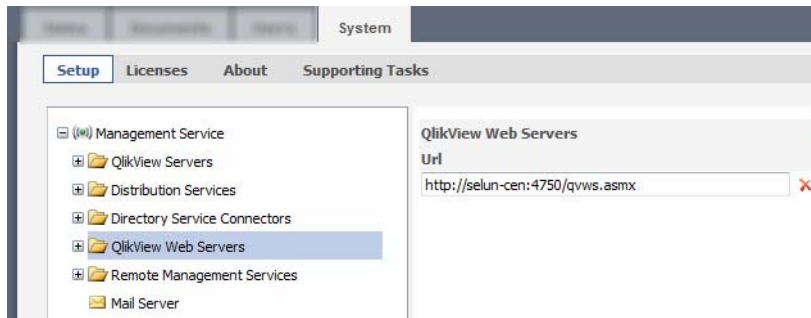


*Figure 2.  Change the URL for the AccessPoint settings file*

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**Note**    To optomize performance when running Microsoft IIS and Ajax Zero-Footprint you should turn compression on in the web server. Read more on Microsoft TechNet. See http://technet.microsoft.com/en-us/library/cc730629%28WS.10%29.aspx for how to configure IIS 7 and http://technet.microsoft.com/en-us/library/cc782942%28WS.10%29.aspx for IIS 6.

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## Register

Registration authenticates your copy of QlikView Server and allows it to run on your computer. In order to register, you must have a valid **Serial Number** and **Control Number** issued by your vendor. If you do not have both a Serial Number and a Control Number, contact your vendor.

In the QlikView Management Console (**Licenses**), enter the **Serial Number** and **Control Number** assigned to your copy of QlikView Server/Publisher. You should also enter your **name** and **organization** in the fields provided..



*Figure 3. The Licenses page for QlikView Management Console*

The License Enabler File (lef.txt) for QlikView Server will be automatically written to `C:\ProgramData\QlikTech` on Windows Vista **and** later, and to `C:\Documents and Settings\All Users\Application Data\QlikTech` in older operating systems. The QlikView Publisher LEF file is saved in `C:\ProgramData\QlikTech\Publisher\CommandCenter\Publisher LEF` on Windows Vista and later, and on earlier operating systems it is found under `C:\Documents and Settings\All Users\Application Data\QlikTech`.

Use the **Update License from Server** to download a new lef file from QlikTech's Lef server. This is primarily used when updating the number of CALs.

If for any reason, the LEF information cannot be accessed through the Internet from your server, you can obtain this information from your vendor, and copy the entire `LEF.txt` file to this location, or paste the LEF data using the corresponding field on the **QlikView Management Console**, **License** tab. Contact your vendor for specific instructions.

# 3 QLIKVIEW WEB SERVER

A new feature as of version 9.0 is that the http service, the AccessPoint Service and the AccessPoint Web site have been merged into one single service called QlikView Web Server, QVWS. The QlikView Web Server is used by default, in an Out-of-the-Box installation, thus removing the dependency on IIS that previously existed. The QVWS service is responsible for not just serving web pages and preparing the file list for the AccessPoint, but also in the load balancing of QlikView Servers.

The QVWS is used by the AccessPoint as a Web Server. The pages for the Access-Point are by default located in the folder **C:\Program Files\QlikView\Web**. The QVWS will also act as the web server for any AJAX pages that the end users access.

The third functionality the QVWS provides is the load balancing of the QVS. Load balancing QlikView Servers is different from load balancing a web server, since the additional work and resource consumption is almost similar for each user, so it does not matter on which server the user ends up.

The default load balancing scheme for a QlikView Web Server is "Random", where a user is sent to a random QVS, whether the document they seek is loaded there or not. You can also set the QVWS to load balance according to "Loaded Document". The logic in the QVWS to load balance is based on communication with the QVS. The first question to all QlikView Servers is: "Do you have this document loaded in RAM?" if only one QVS has that particular document loaded then the user will be directed to that QVS. If more than one QVS, or none of the QlikView Servers has the document loaded the second question is "How much free RAM is available?" based on that answer the user will be sent to a certain QVS. The case of a document being loaded on multiple QlikView Servers at the same time is mainly from Preloading which would load a document in RAM on all servers in a cluster.

The settings for load balancing are configured in config.xml, see page 34.

## 3.1 Qlikview AccessPoint

The AccessPoint is a web portal that lists the documents that each user has access to. It is important to understand that the AccessPoint only links to each document, it does not host the documents themselves, that is done by the Qlikview Server.

On the AccessPoint you can either view the documents you are authorized to see in a detailed list or as thumbnails.
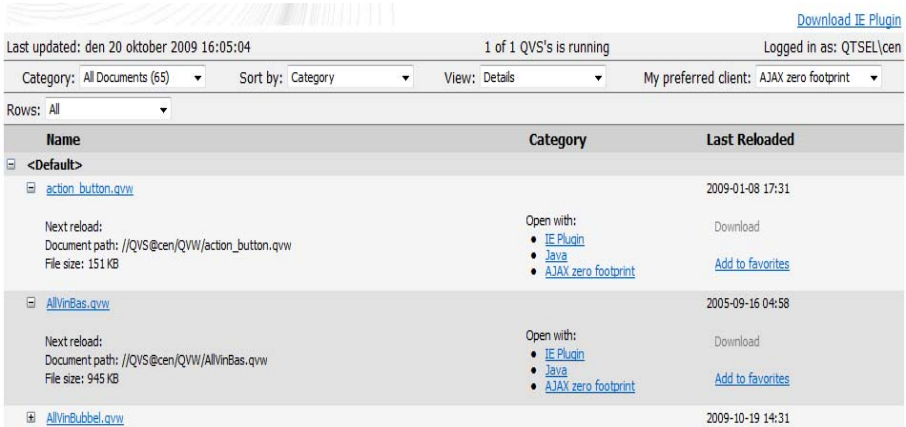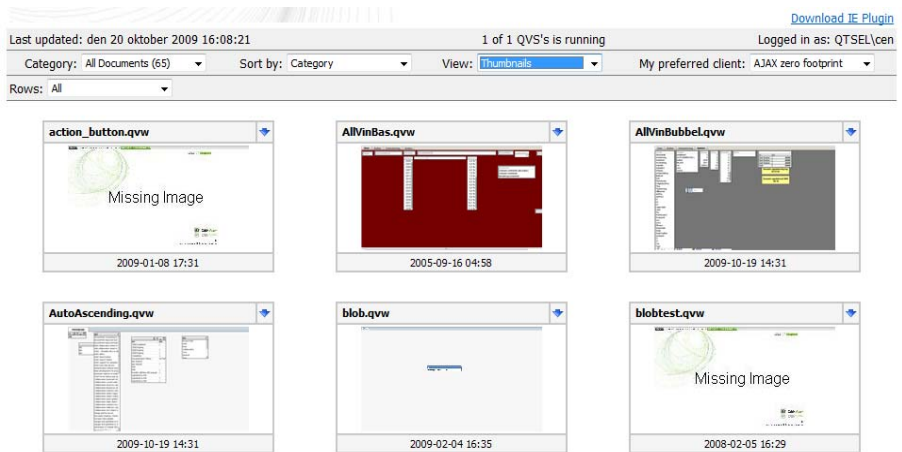


*Figure 4. The Details view of the AccessPoint*



*Figure 5. The Thumbnails view of the AccessPoint*

The AccessPoint has the following settings:

### Category

The category grouping for the document. The document is categorized in the QMC, see page 54, or in the QEMC, see page 110.

**Sort by**

Sort the list according to **Name**, **Category**, **File Size**, **Last Reloaded**, **Document Path** and **Last Modified**.

**View**

Here you set how the documents are displayed, as **Details** or **Thumbnails**.

**My Preferred Client**

Select the client of your choice to have the documents available for that client underlined as links.

Click on the plus sign to the left of the document name in the **Details** view to see more details about the document.

**Next reload**

The Next Update timestamp for the document.

**Document path**

The path to the document.

**File size**

The size of the document.

**Has Image**

If there is an image that can be displayed in the **Thumbnails** view.

**Open with**

Choose which client to open the document with, **IE Plugin**, **AJAX zero footprint** or **Download**. Choose **Download** for offline analysis of the document.

**Add to favorites**

Click this link to add the document to your favorites. You can view your favorite documents by choosing **Category: Favorites** in the AccessPoint.

# 3.2   Starting the QlikView built-in web server

The built-in web server is installed as a Windows service during a default **Complete** installation of QlikView Server. To start the server, use the Windows Services dialog. In the Services dialog, scroll down to find the **QlikViewWebServer** entry and start it.

## 3.3  Configuring the QlikView Web Service

You may configure the web server either through the user interface, see page 177, or by editing the configuration file, **config.xml,** located in the following location:

**C:\ProgramData\QlikTech\QvWebServer**

The `config.xml` file contains a commented out section to simplify the usage of common but non-default options.

```
<Config>
  <DefaultUrl>http://_/</DefaultUrl>
  <DefaultQvs>localhost</DefaultQvs>
  <ConfigUrl>http://_:4750/qvws.asmx</ConfigUrl>
  <TunnelUrl>/scripts/QVSTunnel.dll</TunnelUrl>
  <QvsStatusUrl>/QvAjaxZfc/QvsStatus.aspx</
QvsStatusUrl>
  <LogLevel>Information</LogLevel>
  <UseCompression>True</UseCompression>
  <InstallationPath>C:\Program
Files\QlikView\Server\Web Server</InstallationPath>
  <QvsTimeout>60</QvsTimeout>
  <QvsAuthenticationProt>Negotiate</
QvsAuthenticationProt>
  <QvpPort>-1</QvpPort>
  <AddCluster>
    <Name>localhost</Name>
    <LoadBalancing>Random</LoadBalancing>
    <AddQvs>
      <Machine>localhost</Machine>
      <Port>4747</Port>
      <LinkMachineName>RD-CENTEST1</LinkMachineName>
      <AlwaysTunnel>False</AlwaysTunnel>
      <Weight>1</Weight>
      <Username />
      <Password>Encrypted=DxdCGMWfOwU=</Password>
    </AddQvs>
  </AddCluster>
  <AddDSCCluster>
    <CustomUserPort>4735</CustomUserPort>
    <DirectoryServiceConnectorSettings>
      <ID>17da91ee-c4a6-4cdb-a2fb-ab472ece659f</ID>
      <Url>http://rd-centest1:4730/qtds.asmx</Url>
      <Name>DSC@rd-centest1</Name>
      <Username>DxdCGMWfOwU=</Username>
      <Password>DxdCGMWfOwU=</Password>
      <LogLevel>Normal</LogLevel>
    </DirectoryServiceConnectorSettings>
  </AddDSCCluster>
  <Authentication>
    <AuthenticationLevel>Always</AuthenticationLevel>
    <LoginAddress>qlikview/login.htm</LoginAddress>
    <GetTicket url="/QvAjaxZfc/GetTicket.aspx" />
```

**I**

```xml
    <HttpAuthentication url="https://_/scripts/
GetTicket.asp" scheme="Basic" />
    <HttpAuthentication url="/QvAJAXZfc/
Authenticate.aspx" scheme="Ntlm" />
  </Authentication>
  <AccessPoint>
    <Path>/QvAJAXZfc/AccessPoint.aspx</Path>
    <AjaxClientPath>/QvAJAXZfc/opendoc.htm</
AjaxClientPath>
    <PluginClientPath>/QvPlugin/opendoc.htm</
PluginClientPath>
    <DefaultPreferedClient>Ajax</
DefaultPreferedClient>
    <DefaultView>Thumbnails</DefaultView>
    <DefaultPagesizeDetails>0</DefaultPagesizeDetails>
    <DefaultPagesizeThumbnails>0</
DefaultPagesizeThumbnails>
    <HighlightNotExecutedJobs>False</
HighlightNotExecutedJobs>
    <HighlightThresholdMinutes>60</
HighlightThresholdMinutes>
    <AllowCmdUrl>False</AllowCmdUrl>
    <Target />
    <RespectBrowsable>False</RespectBrowsable>
  </AccessPoint>
  <Ajax>
    <Path>/QvAJAXZfc/QvsViewClient.aspx</Path>
    <Path>/QvAJAXZfc/QvsViewClient.asp</Path>
    <NoCrypto>False</NoCrypto>
    <ProhibitMachineId>False</ProhibitMachineId>
    <Recording>False</Recording>
    <AllowCmdUrl>True</AllowCmdUrl>
  </Ajax>
  <Web>
    <Folders>
      <Folder>
        <Name>QLIKVIEW</Name>
        <Path>C:\Program Files\QlikView\Web</Path>
      </Folder>
      <Folder>
        <Name>QVANALYZER</Name>
        <Path>C:\Program
Files\QlikView\Server\QvClients\QvAnalyzer</Path>
      </Folder>
      <Folder>
        <Name>QVCLIENTS</Name>
```

```
        <Path>C:\Program
Files\QlikView\Server\QvClients</Path>
      </Folder>
      <Folder>
        <Name>QVPLUGIN</Name>
        <Path>C:\Program
Files\QlikView\Server\QvClients\QvPlugin</Path>
      </Folder>
      <Folder>
        <Name>QVJAVA</Name>
        <Path>C:\Program
Files\QlikView\Server\QvClients\QvJava</Path>
      </Folder>
      <Folder>
        <Name>QVAJAXZFC</Name>
        <Path>C:\Program
Files\QlikView\Server\QvClients\QvAjaxZfc</Path>
      </Folder>
      <Folder>
        <Name>QVPRINT</Name>
        <Path>C:\ProgramData\QlikTech\Qvs\QvPrint\</
Path>
      </Folder>
    </Folders>
    <Types>
      <Type>
        <Extension>.CSS</Extension>
        <Content>text/css</Content>
      </Type>
      <Type>
        <Extension>.HTM</Extension>
        <Content>text/html</Content>
      </Type>
      <Type>
        <Extension>.HTML</Extension>
        <Content>text/html</Content>
      </Type>
      <Type>
        <Extension>.JPG</Extension>
        <Content>image/jpg</Content>
      </Type>
      <Type>
        <Extension>.GIF</Extension>
        <Content>image/gif</Content>
      </Type>
      <Type>
```

```
                    <Extension>.JAR</Extension>
                    <Content>application/octet-stream</Content>
                </Type>
                <Type>
                    <Extension>.PNG</Extension>
                    <Content>image/png</Content>
                </Type>
                <Type>
                    <Extension>.EXE</Extension>
                    <Content>application/octet-stream</Content>
                </Type>
                <Type>
                    <Extension>.HTC</Extension>
                    <Content>text/xml</Content>
                </Type>
                <Type>
                    <Extension>.JS</Extension>
                    <Content>text/javascript</Content>
                </Type>
                <Type>
                    <Extension>.XSLT</Extension>
                    <Content>text/xml</Content>
                </Type>
                <Type>
                    <Extension>.XML</Extension>
                    <Content>text/xml</Content>
                </Type>
                <Type>
                    <Extension>.XLS</Extension>
                    <Content>application/vnd.ms-excel</Content>
                </Type>
                <Type>
                    <Extension>.CSV</Extension>
                    <Content>application/octet-stream</Content>
                </Type>
                <Type>
                    <Extension>.PDF</Extension>
                    <Content>application/pdf</Content>
                </Type>
            </Types>
        </Web>
    </Config>
```

The tags that may be configured are explained below:

**DefaultUrl**

The url of the QlikView Web Server.

**DefaultQvs**

The url of the QlikView Server.

**ConfigUrl**

This is the url the QMC and QEMC use to communicate with the QlikView Web Server.

**TunnelUrl**

The url used for tunneling.

**QvsStatusUrl**

The url to the status page for the QlikView Server.

**LogLevel**

Sets the level of logging. Possible settings are **Information** (High), **Warning** (Medium) and **Error** (Low).

**UseCompression**

Set whether the information sent should be compressed.

**InstallationPath**

The path to where the QlikView web server is installed.

**QvsTimeout**

The timeout in secons of the QlikView Server.

**QvsAuthenticationProt**

How the QlikView Server authenticates. Set to **Negotiate**, **Kerberos** or **NTLM**.

**AddCluster - Name**

The name of the cluster.

**AddCluster -** LoadBalancing

How the load balance should be calculated. Possible values are **Random**, where the client is directed to a QVS at random, or **LoadedDocument**, where the client is directed to the QVS where the document the client requests already is loaded.

**AddCluster - AddQvs - Machine**

The name of the computer where the QlikView Server is running.

**AddCluster - AddQvs - Port**

The port the QlikView Server listens to.

**AddCluster - AddQvs - LinkMachineName**

The external name of the QlikView Server, used by the QlikView Plugin clients.

**AddCluster - AddQvs - AlwaysTunnel**

Set to true to alway tunnel the communication to the QlikView Server.

**AddCluster - AddQvs - Weight**

Set a higher value if you wish the QlikView Server to be elected more frequently when using random load balancing.

**AddCluster - AddQvs - Username**

Enter a user name if needed to connect to the QlikView Server.

**AddCluster - AddQvs - Password**

Enter a password if needed to connect to the QlikView Server.

**AddDSCCluster - CustomUserPort**

The port for the custom user DSC.

**AddDSCCluster - DirectoryServiceConnectorSettings - Url**

The location of the Directory Service Connector.

**AddDSCCluster - DirectoryServiceConnectorSettings - Name**

The name of the cluster.

**AddDSCCluster - DirectoryServiceConnectorSettings - Username**

Enter a user name if needed to connect to the Directory Service Connector.

**AddDSCCluster - DirectoryServiceConnectorSettings - Password**

Enter a password if needed to connect to the Directory Service Connector.

**Authentication - AuthenticationLevel**

Sets how the client should access the AccessPoint. Possible values are Always, Login and Never.

**Authentication - LoginAddress**

The path to an alternative login page used for custom users.

**Authentication - GetTicket**

The url and authentication used to get a ticket from the Server for a client.

**Authentication - HttpAuthentication**

The url and authentication used go get a ticket from the Server for a client if using SSL.

**AccessPoint - Path**

The path where the Access Point is installed.

**AccessPoint - AjaxClientPath**

The relative path to the Ajax client.

**AccessPoint - PluginClientPath**

The relative path to the IE plugin client.

**AccessPoint - DefaultPreferredClient**

Sets which client should be set as preferred client for a user's first visit to the AccessPoint for clients.

**AccessPoint - DefaultView**

The default view of documents on the AccessPoint, **details** or **thumbnails**.

**AccessPoint - DefaultPagesizeDetails**

The number of rows on the AccessPoint when using the view **Details**.

**AccessPoint - DefaultPagesizeThumbnails**

The number of rows on the AccessPoint when using the view **Thumbnails**.

**AccessPoint - RespectBrowsable**

When set to True only those mounts in the QVS that are set as **Browsable** will be displayed on the AccessPoint.

**Ajax - Path**

The path to **QvsViewClient.aspx**. The path may be changed, but the file name must remain unchanged for the installation to work.

**Ajax - NoCrypto**

> Prohibit the use of encryption between the QlikView Web Server and the QlikView Server.

**Ajax - ProhibitMachineID**

> Prohibit sending machine ID. This will effectively exclude the usage of anonymous bookmarks.

**Ajax - Recording**

> When set to True, the qvpx calls for the AJAX zero footprint client are logged.

**Web - Folders**

> The path to the different virtual folders in the QlikView Web Server. Change the **name** and **path** if the files are installed to folders other than the default.

**Web - Types**

> Specify what file extensions the clients are allowed to download from the Access Point/QlikView Web Server.

## 3.4 The QlikView Server Status Page

Included in the QlikView Web Server is an aspx page that displays the status of the QlikView Server, **http://servername/QvAjaxZfc/QvsStatus.aspx**. The page displays the status of the Server defined in the config.xml for the QlikView Web Server, but you can also query for a specific Server or the Servers in a cluster by adding the name of the Server or cluster to the URL: **http://servername/QvAjaxZfc/QvsStatus.aspx?server=myserver(or mycluster).** If the Server or the cluster do not exist, the status **NotRegistered** will be returned.

AServer that is down will return the statuscode **HTTP/1.1 503**. If all Servers are up and running the status code **http/1.1 200 OK** is returned.

The status page will also display codes such as **RestartNeeded** and **OffDuty**:

| Name | Host | Status | Reason |
|------|------|--------|--------|
| QVS@selun-mjn | selun-mjn | RestartNeeded | Folders changed |

# PART II: QLIKVIEW MANAGEMENT CONSOLE

# 4 INTRODUCTION

## QlikView Management Console (QMC)

The QlikView Management Console is completely built around modern AJAX technology, it will run in a browser and without reliance on e.g. Microsoft IIS. The number of available settings is reduced, thereby producing a cleaner, more intuitive interface more suited for those content with most default settings.

Even without the Publisher Module, the QMC will feature a page for basic reload scheduling. If the Publisher Module is installed this will be expanded to a wizard style interface for setting up Publisher tasks.

The QMC handles only one instance of QlikView Server and one execution instance of the Publisher.

To open the Management Console go to Windows **Start** menu, **QlikView** and choose **QlikView Management Console** or open a web browser and enter the url **http://servername:4780/qmc/default.htm**.

**II**

## QlikView Enterprise Management Console (QEMC)

The QEMC gives you full access to all possible settings for QlikView Server and the Publisher Module. It also lets you control multiple instances of QlikView Server and multiple Publisher execution instances from a single management console, by means of an integrated tree-control.

Just as the QMC the QEMC is built around AJAX technology and will run in a browser. Also here extensive usability studies have been done prior to implementation.

To open the Enterprise Management Console go to Windows **Start** menu, **QlikView** and choose **QlikView Enterprise Management Console** or open a web browser and enter the url **http://servername:4780/qemc/default.htm**.

## 4.1 Repository

The QlikView Management Console will create an XML repository for Qlikview Publisher located in **C:\ProgramData\QlikTech\Publisher\CommandCenter\QVPR** on Windows Vista and later, and on older operating systems on **C:\Documents and Settings\All Users\Application Data\QlikTech\Publisher\CommandCenter\QVPR**. For use of SQL or change the location of the repository, the QlikView Enterprise Management Console is required.

# 5 STATUS



*Figure 6.  The Status tab in the QMC*

The **Status** tab displays the status of the Server/Publisher, the **User Documents** and the **Source Documents** that have been scheduled with a task are displayed, together with their current status.

The documents are preceded by a symbol showing the status of the task. A task can be Running ▶, Aborting ⚠ or Failed ✖. A task is aborted if you click **stop,** when it is running. Look in the log file (see below) for the task for more information as to why a task has been aborted or has failed.

The different Windows services are displayed with their status and the name of the server on which they run.

At the bottom of the page a part of the lastest log message for the highlighted task is displayed. The complete log is found in `C:\ProgramData\QlikTech\Pub-lisher\Qlikview Distribution Service\1\Log`.

# 6 USER DOCUMENTS
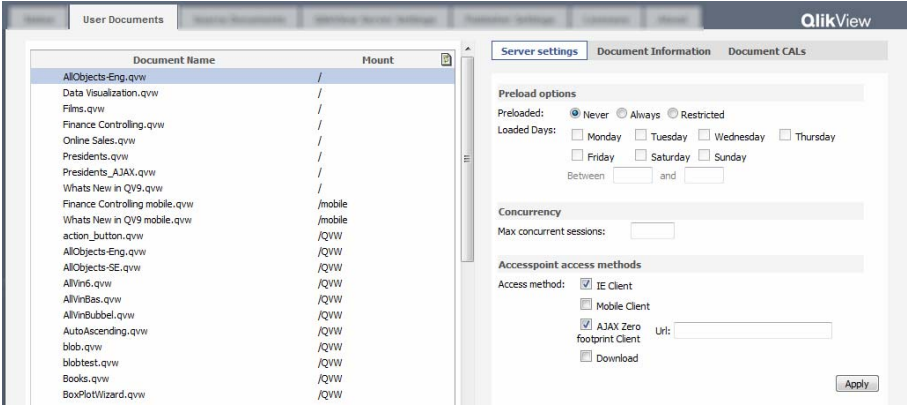


*Figure 7. The User Documents tab in the QMC*

Here all documents that are availabe in the server are displayed. The **Root Folder**, set on the **QlikView Server Settings** tab will be shown as /, any additional folders will be displayed with the **Name** they were given. The menu on the right contains all the possible settings for the selected document.

---

**Note**    All time specifications must be in 24-hour format.

---

# 6.1  Server Settings

Here you specify how the user documents should behave on the Server.



*Figure 8.  The Server Settings page in the QMC*

## Availability limitations

Here you set if the highlighted document should be loaded on the QlikView Server.

This setting is only available if your QlikView Server license limits the number of documents you may load concurrently.

## Preload Options

Here you may set the preload options for the document. A preloaded document is loaded into the server's primary memory to ensure quick access at all times. It will however, use up memory even when no user is accessing the document.

Choose one of the options for **Preloaded** as follows:

### Never

The document will never be loaded automatically. Standard loading techniques, based on user requests and **Document Timeout** settings will apply.

### Always

The document will always be loaded into server memory.

**Restricted**

The document will be loaded automatically, based on specific day of the week and time restrictions.

If **Preloaded** is set to **Restricted** is selected, you may choose specific days of the week to automatically load the document and the times of the day to load and unload. All times are server local times (in 24 hour format). The server time zone is set during installation of the operating system. See the **Windows Control Panel** - **Date and Time** for more details.

## Concurrency

### Max concurrent sessions

Sets the number of concurrent sessions for the document.

## Accesspoint Access Methods

Mark the checkboxes for which flavors of QlikView clients that should be allowed on the AccessPoint.

### Url

Enter a URL if you want to use your own html pages, instead of the default, for displaying the AJAX pages.

**II**
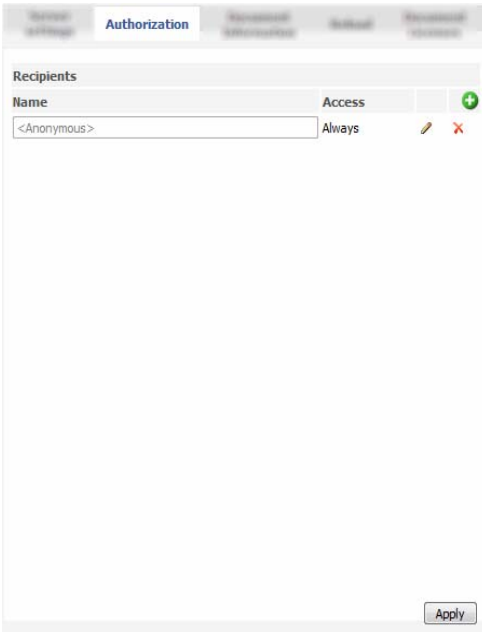
## 6.2 Authorization



*Figure 9.  The Authorization page in the QMC*

This tab is used to configure document authorization settings for the selected QlikView document. This tab is only available if **DMS Authorization** is selected as the authorization method for this server. Only users specified in this configuration will be allowed access to the document once **DMS Authorization** is selected. **DMS Authorization** is set in **QlikView Server Settings**, **Security**, see page 79.

To add an authorized user/group, click on the **Add** button. To remove an existing authorized user/group, click on the X icon. The User/Group can be either **Anonymous** or named. Group names may be used, but access to the QlikView Directory Services Connector (DSC) will be required to resolve the group. Click the properties icon ✎ to set the access restrictions for the user/group.
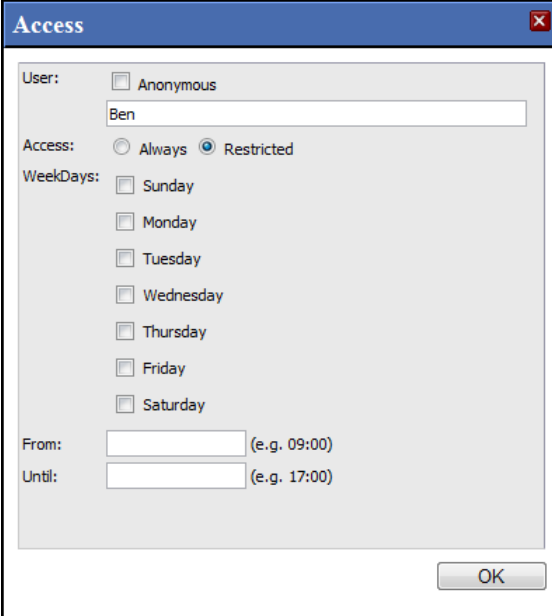


*Figure 10.  The Access dialog in the QMC*

Access can be granted to all users, **Anonymous**, or to named users/groups. You can set the **Access** to **Always** for no time restrictions, or **Restricted** to limit access to this document to specific days of the week as well as times. All times are Server local times (in 24 hour format).

# 6.3 Document Information



*Figure 11. Document Information page in the QMC*

## Category

This setting lets the administrator create, edit and delete categories. A category bundles documents in containers to make categorization easier for the end-user. They are only visible to the end-user on an AccessPoint. Each document can only be part of one category. Clicking in the field will display a popup with previously used categories.

## Source Document

The name of the source document. This setting is only relevant if it is run through a QlikView Publisher task. The name is not changed by a QlikView Server reload.

### Attributes

In this group you may set your own meta data attributes, with names and values, for the document. These attributes can be read from the database. The attributes will not be saved together with the document but in the metadata of the Server.

## 6.4   Reload



*Figure 12.  The Reload page in the QMC*

This tab is available when running only QlikView Server. On this tab the schedule for reloading a document is configured. The schedule can be set to **None**, **Hourly**, **Daily**, **Weekly**, **Monthly**, **Continuously**, **Completion of**, or **External event**.

### On event of another task

Set this if the reload should be set off by another reload of a certain document.

**External event**

Set if an external event should set off the reload. Fill in the **Password** for the external event.

**Timeout seconds**

Set a time limit for the reload. If the document is not reloaded within the timeout the process will be terminated and the old data is kept in the document.

**Dependency**

When a reload that has a dependency is about to be executed, it will check the status of the dependency and if that status is failed, the current reload will not be executed.

**Data Protection**

This setting allows you to select the **username** and **password** the Distribution Service should use when opening this document.

The default configuration is for the QlikView Distribution service to use the Windows credentials that are set for the service itself in the Windows Computer Management Console. Read more about section access on page 263.

# 6.5 Document CALs

In order to connect to a QlikView Server each client needs a Client Access License (CAL). Read more about the different types of CALs and how they work on page 225. This tab is only available if the Server license contain Document CALs.



*Figure 13. The Document CALs page in the QMC*

### Summary

These lines show the number of Document CALs that the license contains, the number of Document CALs that not yet are allocated to any document, the number of Document CALs allocated to this specific document, the number of Document CALs within this document that are assigned to users, and the number of CALS embedded in this document respectively.

### Document CALs

#### Number of CALs allocated to this Document

Enter the number of Document CALs that should be allocated to this document. Initally the number will be zero.

### Allow Dynamic CAL Assignment

Mark this check box if you want the QlikView Server to assigne CALs to any user that opens the document.

## Assigned Named CALs

The current assignment of CALs is displayed. Document CALs can be either automatically assigned or manually assigned to users by clicking on the **Assign CAL** button, if there is a Document CAL. Note that the allocation of a CALs does not imply security.

If the **Allow Dynamic CAL assignment** is checked, a new Document CAL will automatically be granted to a user connecting to this QlikView Server for the first time, as long as there are available Document CALs to assign.

The page has a list showing the names of all users currently holding a Document CAL on the document. You can also see the time of the respective user's last activity on the server. A name can be an authenticated user name or a machine name (including MAC address).

To delete an assigned user, thus freeing a Document CAL, click on the **Delete** button ( ✖ ). If the CAL has not been in use for the last 24 hours, it will be deleted immediately. If the CAL is currently being used or has recently been used, it will be marked for deletion, and not allow new sessions for user access through this CAL, but will still occupy an allocated CAL until the Quarantined until time. During this period, you may undelete by clicking the **Restore** button ( ↺ ). After the quarantine period, you may delete the entry manually (by clicking on the **Delete** button), or restart the QVS service.

# 7 SOURCE DOCUMENTS

On this tab all the registered source documents are displayed. A source document is a QlikView document that contains data that is to be made accessible to end-users in the form of User Documents. This tab requires a QlikView Publisher license.
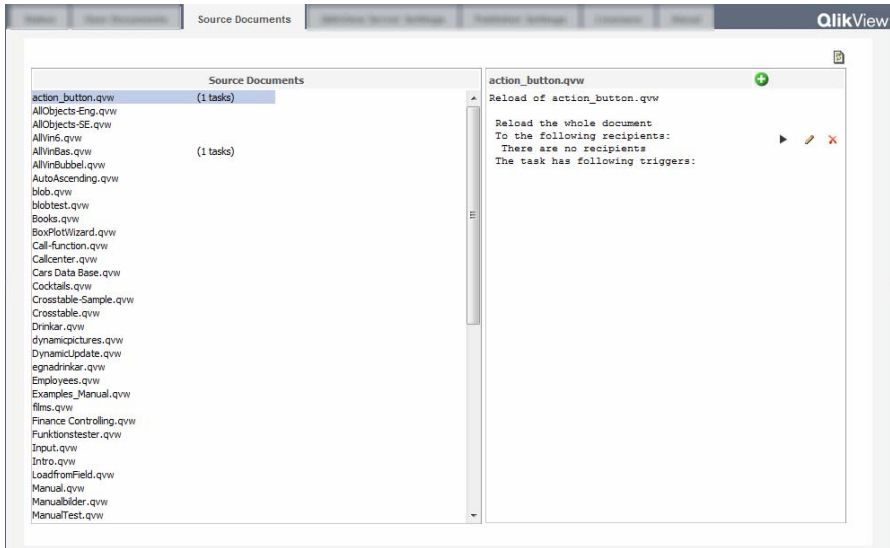


*Figure 14. The Source document tab in the QMC*

Select a document and click on the green plus sign in the upper right corner to start the **Create Task** wizard.

When a task is set up you can see the status of the task, and start and stop a task with the play icon.

You can create task chains, where one task triggers another. For example, Document 1 is reloaded every hour and upon successful execution a distribution task is run for Document 2 and if that is successful a distribution is run for Document 3 and so on.

| **Note** | If you disable a trigger for one of the tasks in the chain, the chain will be broken. If you disable one of the tasks in the chain, the chain will continue, but the disabled task will simply not execute. |
| --- | --- |

| **Note** | The name of a task must be unique in the repository! |
| --- | --- |

# 7.1 Create task
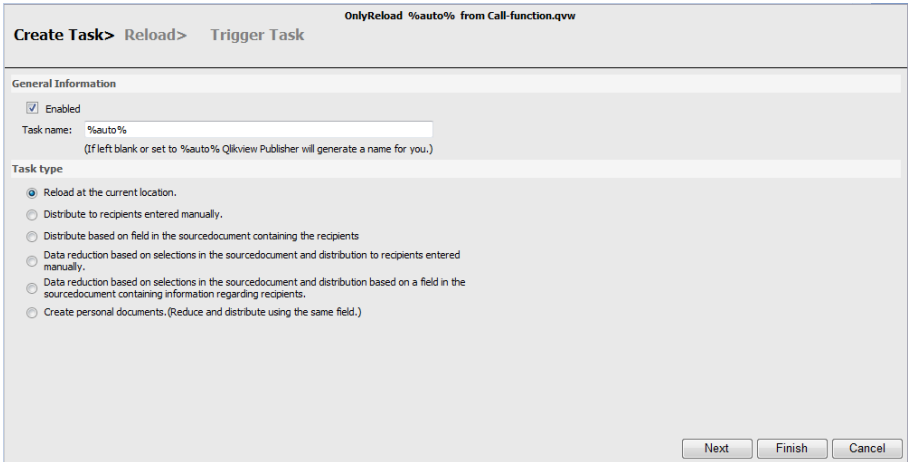


*Figure 15. The Create Task wizard in the QMC*

## Enabled

Mark this check box to enable the task.

## Task name

Enter a name for the task. If the field is left blank or *%auto%* is entered, QlikView Publisher will automatically generate a name for the task.

## Task Type

The following tasks exist:

### Reload

Reloads and refreshes the data in a Source Document.

### Distribution

A **distribution** produces one or many User Document, a distributed version of a Source Document. There are two types of distributions, **Static Distribution** (Distribute to recipients entered manually) and **Dynamic Distribution** (Distribute based on field in the source document containing the recipients**)**.

### Data Reduction

Selected values and all associated fields and values form the content of the User Document. There are two types of Data Reduction, **Static Distribution with Reduction** (Data Reduction based on selections in the source document and distribution to recipients

entered manually) and **Dynamic Distribution with Reduction** (Data Reduction based on selections in the source document and distribution based on a field in the source document containing information regarding recipients).

### Personal Documents

This setting makes it possible to reduce and distribute using the same field.

# 7.2   Reload

Setting up a reload takes you through the following steps, **Reload** and **Trigger Task**.

## Reload



*Figure 16.  Create Task - Reload*

### Section Access

This setting allows you to select the **username** and **password** the Distribution Service should use when opening QlikView documents. The default configuration is for the QlikView Distribution service to use the Windows credentials that are set for the service itself in the Windows Computer Management Console. Read about section access on page 263.

### Partial reload

This allows you to use the partial reload functionality of QlikView.

## Trigger Task

A trigger is what sets off a task. A task can have multiple triggers, creating a workflow of tasks.
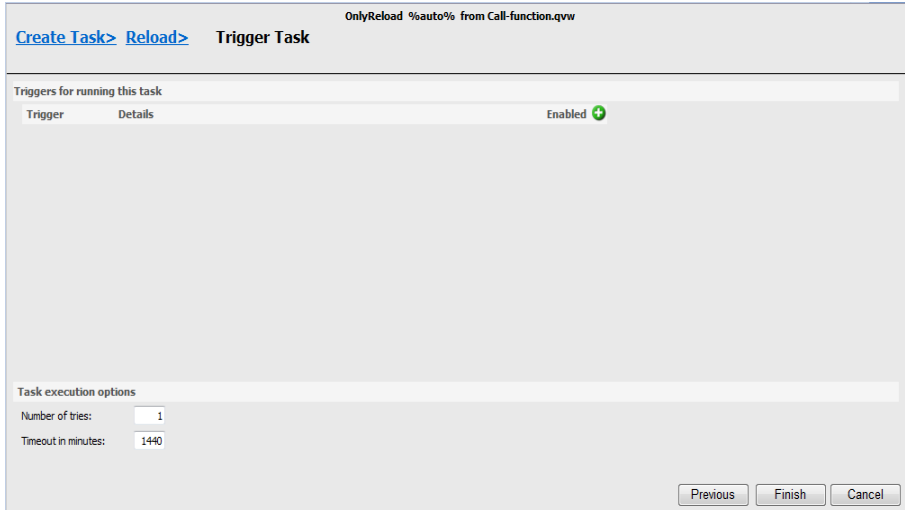


*Figure 17. Create task - Trigger*

All tasks can be triggered by the following:.
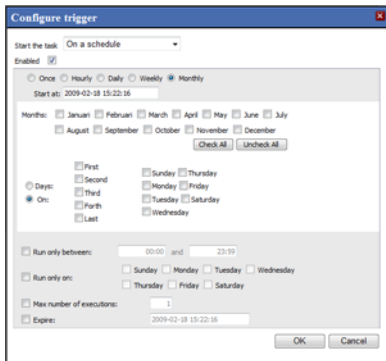


*Figure 18. Configure trigger - On a schedule*

### On a Schedule

Set the schedule for the task. You may set it to run **Once**, **Hourly**, **Daily**, **Weekly** or **Monthly**.

---

**Note** All time specifications must be in 24-hour format.

---

### Enabled
Mark this check box to enable the schedule.

### Start at
Set the date and time for the first execution of the task.

### Run Only Between
Set what times the task is allowed to run between.

### Run Only on
Restrict what days the task is allowed to run on.

### Max Number of Executions
Set how many times the task is allowed to run.

### Expire
Mark this check box and enter a date and time in the field to the right to set how long the task schedule is valid.

**II**
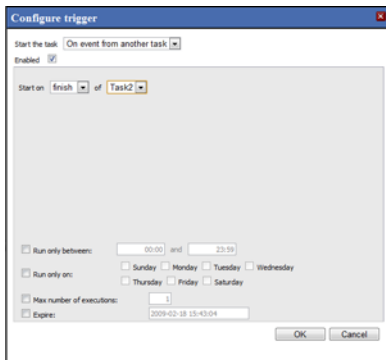


*Figure 19. Configure trigger - On event from another task*

### On Event from another task

#### Enabled
Mark this check box to enable the trigger.

### Start on

Set if the task should start on the successful or failed completion of another task.
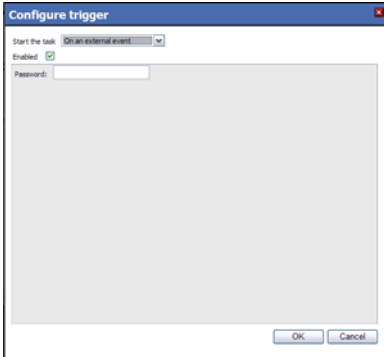


*Figure 20.  Configure trigger - On an external event*

### On an External Event

This allows an outside component to make a http call (post) and trigger the task. You may enter a password if needed for the external event.

#### Enabled

Mark this check box to enable the trigger.
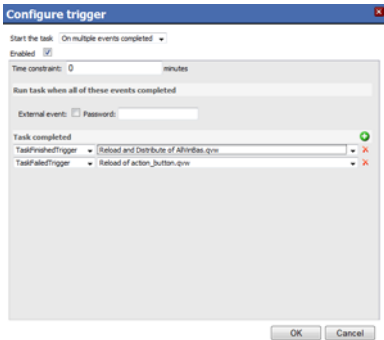


*Figure 21.  Configure trigger - On multiple events completed*

### On Multiple Events Completed

This type of trigger will only be executed if all other events have been completed within a certain time.

### Enabled

Mark this check box to enable the trigger.

### Time Constraint

Set the time limit for all events to complete. Default value is ten hours. The time is set in minutes.

### Run task when all of these events completed

Here you add all the tasks and events that must be completed before the current task is run. You can include both external events and several other tasks.

## Task Execution Options

### Number of Tries

Set how many times QlikView Publisher should try to execute the task before failing, the default is 1.

### Timeout in minutes

Set how many minutes QlikView Publisher should wait before giving up trying to execute the task.

**II**

# 7.3 Static Distribution

To set up a static distribution you go through the following steps, **Reload**, **Distribute**, **Document Information** and **Trigger Task**.

## Reload

Fill in the **Reload** page as describe on page 61 above.

# Distribute



*Figure 22. Create task - Static Distribution*

### Destination

Set how the document should be distributed to the recipients, via **QlikView Server**, **e-mail** or to a **Folder**. Pressing **Add** opens the **Setup Recipients** dialog.



*Figure 23. The Setup Recipents page in the QMC*

Type the search critera in the topmost field, then select where to search for the user and press **Add** to add the highlighted recipients. The names will be resolved by the Directory Service Connector.

### Output Document Type

Set if the distribution should result in a QlikView document or in a PDF report. In order to choose a report as basis for the PDF report you must click **Open Document**.

### Server Settings

#### Access

Mark the check boxes for the type of clients that should be able to connect to the QlikView Server and open the document. Enter a URL if you want to use your own html pages for displaying the AJAX pages.

#### Maximum number of concurrent sessions

Set the number of user that may access the distributed document simultaneously. This setting is not related to CALs.

#### Preload document in server memory

Set how the document should be preloaded in QlikView Server.
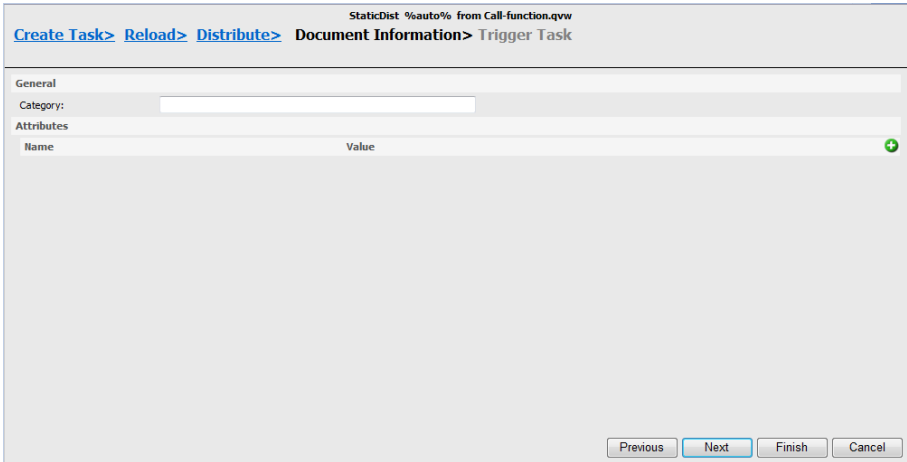
**II**

## Document Information



*Figure 24.  Create task - Document Information*

### Category

This setting lets the administrator create, edit and delete categories. A category bundles documents in containers to make categorization easier for the end-user. They are only visible to the end-user on an AccessPoint. Each document can only be part of one category.

### Attributes

Enter a **name** and **value** for meta data attributes that can later be read from the database. These attributes are not saved in the document, but in the meta file. See page 235 for more information.

## Trigger Task

Set up triggers for the task as described on page 62 above.

# 7.4   Dynamic Distribution

To set up a dynamic distribution, a distribution that is based on a field in the source document containing the recipients, you must go through the following steps, **Reload**, **Distribute**, **Document Information** and **Trigger Task**.

## Reload

Fill in the **Reload** page as describe on page 61 above.

# Distribute



*Figure 25.  Create task - Dynamic Distribution*

### Loop and Distribute

#### Open Document

Click this button to have QlikView Publisher open the document you wish to distribute. Opening the document will allow you to select a field that contains information about the recipients in **Field containing recipient information** and the type of **Check user identity on.** Possible values are the following Active Directory attributes, **SecurityIdentifier, DisplayName, SAMAccountName, E-mailAddress** and **UserPrincipalName**.

### Destination

#### Target Type

Set how the document should be distributed, via **QlikView Server**, **e-mail** or to a **Folder**.

### Output Document Type

Set if the distribution should result in a QlikView document or in a PDF report. In order to choose a report as basis for the PDF report you must click **Open Document**.

**Server Settings**

### Access Method
Mark the check boxes for the type of clients that should be able to connect to the QlikView Server and open the document.

### Maximum Number of Concurrent Sessions
Set the number of user that may access the document simultaneously.

### Preload Document in Server Memory
Set the restrictions for preloading the document.

## Document Information
Categorize the document as described on page 68 above.

## Trigger Task
Set up triggers for the task as described on page 62 above.

# 7.5 Static Distribution with Reduction

To set up a static distribution with reduction you must go through the following steps, **Reload**, **Reduce**, **Distribute**, **Document Information** and **Trigger Task**.

## Reload
Fill in the **Reload** page as describe on page 61 above.

# Reduce



*Figure 26. Reduce task - reduce page*

**II**

### Reduce by Field Value

Reduces the document by the field value(s) selected in the **Fields** and **Values** boxes.

### Reduce by Bookmark

Reduces the document by the bookmark chosen in the drop down.

### Open Document

Click this button to populate the **Fields** and **Values** boxes for a **Simple Reduce**. Then choose what fields and values should be part of the reduced document.

## Reduce by Field Value

Click **Open document** to populate the **Fields** and **Values** boxes. Then choose what fields and values should be part of the distributed document.

## Reduce by Bookmark

Click **Open document** and then choose the bookmark you want the document to be reduced by in the drop down.

## Loop and Reduce

Choose **Field** or **Bookmark** in this group if you want each value to become a document unto it self.

### Distribute

Fill in the page as described on page 66 above.

### Document Information

Categorize the document as described on page 68 above.

### Trigger Task

Create triggers for the task as described on page 62 above.

# 7.6   Dynamic Distribution with Reduction

To set up a dynamic distribution with reduction you must go through the following steps, **Reload**, **Reduce**, **Distribute**, **Document Information** and **Trigger Task**.

### Reload

Fill in the **Reload** page as describe on page 61 above.

### Reduce

Fill in the **Reduce** page as described under page 71 above.

### Distribute

Fill in the **Distribute** page as described under page 69 above**.**

### Document Information

Categorize the document as described on page 68 above.

### Trigger Task

Create triggers for the task as described on page 62 above.

# 7.7   Personal documents

To set up personal documents, you must go through the following steps, **Reload**, **Reduce** and **Distribute**, **Document Information** and **Trigger Task**.

### Reload

Fill in the **Reload** page as describe on page 61 above.

## Reduce and Distribute



*Figure 27.  Create task - Personal documents*

### Loop and Distribute

#### Open Document

Create a separate document for each value by selecting a field that contains information about the recipients in **Field containing recipient information** and the type of **Check user identity on.** Possible values are the Active Directory attributes **SecurityIdentifier, DisplayName, SAMAccount-Name, E-mailAddress** and **UserPrincipalName**.

### Destination

#### Target Type

Choose distribution mode, **QlikView Server**, **E-mail** or **Folder**.

### Output Document type

Set if the distribution should result in a QlikView document or in a PDF report. In order to choose a report as basis for the PDF report you must click **Open Document**.

### Server Settings

#### Access Method

Mark the check boxes for the type of clients that should be able to connect to the QlikView Server and open the document.

### Maximum Number of Concurrent Sessions

Set the number of user that may access the distributed document simultaneously.

### Preload Document in Server Memory

Set the restrictions for preloading the document.

## Document Information

Categorize the document as described on page 68 above.

## Trigger Task

Create triggers for the task as described on page 62 above.

# 8   QLIKVIEW SERVER SETTINGS
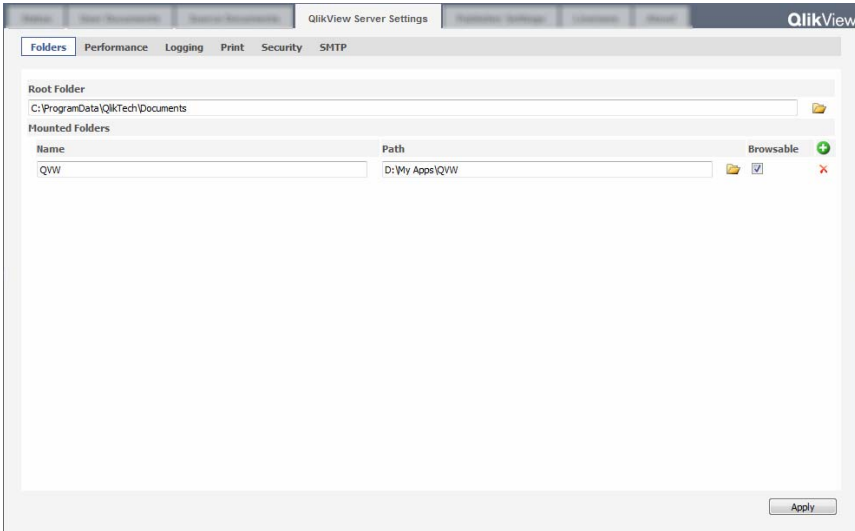
## 8.1   Folders



*Figure 28.  The Folders tab*

### Root Folder

Enter the path to the QlikView documents that are to be accessed via the Server. This path will typically reflect the default document location. Documents may also reside in subfolders to this folder. Windows file security applies for all access by a client to document folders and files, unless DMS Authorization mode is used. Read more about DMS on page 235. The default location of the Document folder may differ depending on operating system. Windows Vista and later will install the document folder to `C:\ProgramData\QlikTech\Documents`, while older Windows operating systems, such as Windows XP, install to `C:\Documents and Settings\All Users\Application Data\QlikTech\Documents` as default.

It is also possible to specify other mounted folders. A folder set here may contain subfolders to any level. Click the green plus sign to add other folders.

## Mounted Folders

### Name

Logical name of the mounted folder as seen from QlikView Server. The name set here will be part of the path shown in the **User Documents** tab.

### Path

The path to the folder.

### Browsable

Mark this check box if the mounted folder and its contents should be browsable from the **Open in Server** dialog in QlikView. This setting has no bearing on files shown to a user on the Access Point.
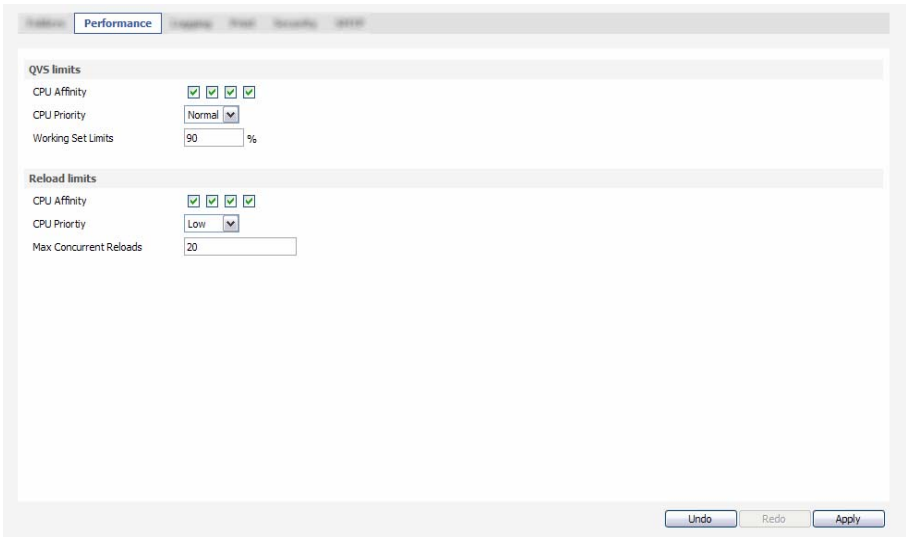
# 8.2 Performance



*Figure 29. The Performance tab*

## QVS limits

### CPU Affinity

You may deselect the use of specific processors on the computer running QlikView Server. QlikView Server will automatically select the processors to use and this setting needs to be changed only when you wish to override that choice.

### Working Set Limits

This control sets the maximum of the physical amount of RAM that can be used by an application. This way it is possible to control if an application can be swapped out of physical memory or not. However, there are no guarantees that the operating system can serve the process with the amount of memory set here.

Using too high settings will degrade the performance of other processes on the computer, this may however be desirable if the computer is dedicated for QlikView Server.

## Reload limits

### CPU Affinity

You may deselect the use of specific processors on the computer running QlikView Server. The reload process will normally automatically select the processors to use and this setting needs to be changed only when you wish to override that choice.

### CPU Priority

Sets the priority of the reload process for the kernel. Processes with a higher priority execute more quickly than processes with lower priority. The priority can be set to **High**, **Normal** or **Low**. Low priority is the default. Use caution when changing this setting. Read more about setting CPU priority on `http://msdn.micro-soft.com`.

### Max Concurrent Reloads

Sets how many documents may be reloaded at any one time. Be careful not to set too many reloads simultaneously as it may degrade overall performance of the computer.
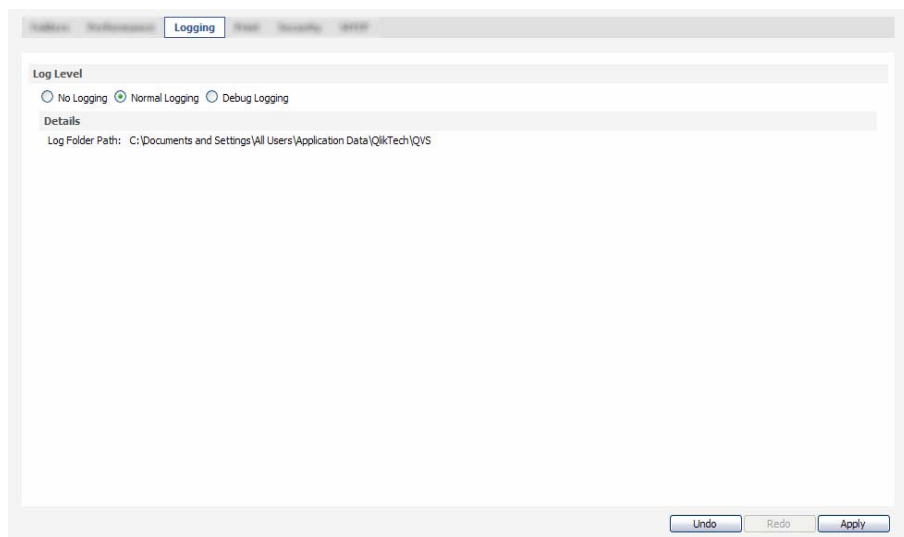
**II**

# 8.3 Logging



*Figure 30.  The Logging tab*

Set the level of logging to **No Logging**, **Normal Logging** och **Debug Logging.**
Choose **Normal Logging** or **Debug Logging** to view the log path. The path can only
be changed using QEMC.

# 8.4   Security

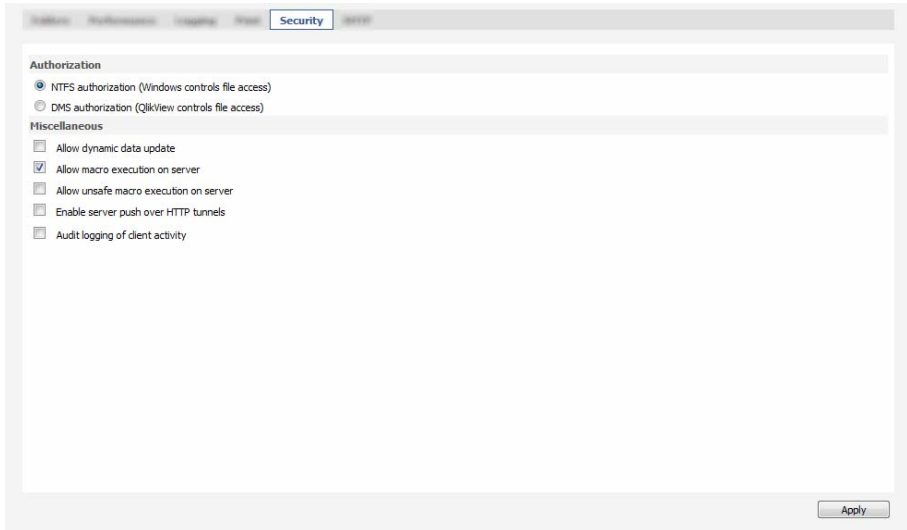On this tab you can make settings concerning the security of the QlikView Server.



*Figure 31.  The Security tab*

## Authorization

### NTFS Authorization

Windows controls the file access for all users. Security is set in the operating system.

### DMS Authorization

DMS is used to enable QlikView Server authentication. Read more about DMS on page 235.

## Miscellaneous

### Allow Dynamic Data Update

Mark the check box if the Server should allow dynamic updates in a document. This setting is by default off. This setting requires a special license.

### Allow Macro Execution on Server

Mark this check box if macros should be allowed to execute on the Server. This setting is by default on.

### Allow Unsafe Macro Execution on Server

Mark this check box if unsafe macros should be allowed to execute on the Server. This setting is by default off.

### Enable Server Push over HTTP Tunnels

Mark this check box to allow graceful document refresh over HTTP tunnels. This setting is by default off.

### Audit Logging of Client Activity

This setting enables logging of user selection. Read more about the audit logs on page 224.

# 8.5  SMTP

On this tab the settings for e-mail alerts are set. An e-mail is sent to the entered addresses if a reload fails.



*Figure 32.  The SMTP tab*

## Server Settings

### E-mail Server

The IP address or the fully qualified domain name of the e-mail server. If you use another port than the default, which is port 25, you must specify this, e. g. smtp.mydomain.com:1124.

**Authentication**

Set how the user should authenticate itself when sending an e-mail, **Anonymous** or **Use Distribution Service Account**.

**From Address**

The e-mail address the error messages should come from.

**Send Timeout**

How long QlikView Server should try to send the message before giving up if the SMTP server does not respond.

**Send Test E-mail to**

Enter an e-mail address and click the button to test your settings.

**Alert E-mail Recipients (separated by semicolon)**

Enter the e-mail addresses for those who should receive alert e-mails from the QDS, use semicolon as separator.

**II**

# 9 QLIKVIEW PUBLISHER SETTINGS

This tab is only available with a QlikView Publisher license.



*Figure 33. The QlikView Publisher Settings tab*

## Resources

The QlikView Management Console sets up a number of resources, that are then used by the QlikView Publisher to prepare and distribute the QlikView documents. Change the addresses of the different resources if they are installed on different computers.

### Distribution Service

Default address is `http://localhost:4720/qtxs.asmx`.

### Directory Service Connector

Default address: `http://localhost:4730/qtds.asmx`.

### QlikView Server

The address to the QlikView Server that is managed by this console.

### Active Directory Server

The active directory, usually a domain controller, contains the users and computers of the domain. The address to the domain controller, e.g. `LDAP://company.com`.

### Computer for Local Users

If the documents should be distributed to a specific computer and use the local accounts of that computer you must enter the computer name here.

### E-mail Server

This is used for both distributing QlikView files to users and sending alert e-mails.

### Authentication

Set how the user should authenticate itself when sending an e-mail, **Anonymous**, or **Use Distribution Service Account**.

### From Address

Set the e-mail address that should be used as sender.

### Sent Timeout

Set the timeout in seconds for how long the service should try to sent the message.

### Send Test E-mail to

Enter an address and click the button to test your settings.

### Alert e-mail recepients (Separated by semicolon)

Enter the e-mail addresses for those who should receive alert e-mails from the QDS, use semicolon as separator.

## Source Document Folders

Source Documents are QlikView documents that contain data that is to be made accessible to end-users in the form of User Documents. The default path to the source documents are in Windows Vista and later `C:\ProgramData\QlikTech\Publisher\Sourcedocuments`, on older operating systmes the path is `C:\Documents and Settings\All Users\Application Data\QlikTech\Publisher\Sourcedocuments.` Click the green plus sign to add Source Document Folders. The documents in that folder are made available to the Publisher.

# 10 LICENSES

See page 29 for details about the **QlikView Server & Publisher** page.

## Client Access Licenses (CALs)

### Identification

In the **Identify user by** group you decide whether named users should be identified via identified **User Name** or via **Machine Name** (actually machine name + MAC address). It is possible to change this setting at any time but it is strongly recommended to use one mode consistently with a given QlikView Server. If changed during operation, the same user can take up two CALs, one based on user name and one on machine name.

The usage by type of CAL and number of CALs defined in the LEF is displayed. Read more about CALs on page 225.

Usage CALs are allocated in full upon license initiation. Then, 1/28th of your total number of usage CALs are replenished daily up to the amount of the total licensed usage CALs available. For example, if you license 56 usage CALs, you should see 2 additional usage CALs allocated daily, minus any used, not exceeding 56.

### Allow License Lease (Named User CALs)

Mark this check box if you want users to be able to "borrow" a license for use off-line for a period of 30 days.

### Allow Dynamic CAL Assignment (Named User CALs)

Mark this check box if you wish to add CALs dynamically. In the **Identify by** group you decide whether named users should be identified via identified **User Name** or via **Machine Name** (actually machine name + MAC address). It is possible to change this setting at any time but it is strongly recommended to use one mode consistently with a given QlikView Server. If changed during operation, the same user can take up two CALs, one based on user name and one on machine name.

### License Lease History

This section lists current information about leased license activity. A leased license is used by clients who connect to QlikView Server

and are allowed to borrow a license to open the downloaded server document for 30 days.

### Assigned Users

The current assignment of CALs is displayed. Document CALs can be either automatically assigned or manually assigned to users by clicking on the **Assign CAL** button, if there is a Document CAL. Note that the allocation of a CALs does not imply security

If the **Allow Dynamic CAL assignment** is checked,  a new Document CAL will automatically be granted to a user connecting to this QlikView Server for the first time, as long as there are available Document CALs to assign.

The page has a list showing the names of all users currently holding a Document CAL on the document. You can also see the time of the respective user's last activity on the server. A name can be an authenticated user name or a machine name (including MAC address).

To delete an assigned user, thus freeing a Document CAL, click on

the **Delete** button ( ✖ ). If the CAL has not been in use for the last 24 hours, it will be deleted immediately. If the CAL is currently being used or has recently been used, it will be marked for deletion, and not allow new sessions for user access through this CAL, but will still occupy an allocated CAL until the Quarantined until time. During this period, you may undelete by clicking the **Restore** but-

ton ( ↩ ). After the quarantine period, you may delete the entry manually (by clicking on the **Delete** button), or restart the QVS service.

---

**Note**   Maintenance of Named CALs does not require a restart of the QlikView Server service.

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# PART III: QLIKVIEW ENTERPRISE MANAGEMENT CONSOLE

III

# 11 INTRODUCTION

## QlikView Enterprise Management Console (QEMC)

The QlikView Management Console is completely built around modern AJAX technology, it will run in a browser and without reliance on e.g. Microsoft IIS. Extensive usability studies have been done prior to implementation.

The QEMC gives you full access to all possible settings for QlikView Server and the Publisher Module. It also lets you control multiple instances of QlikView Server and multiple Publisher execution instances from a single management console, by means of an integrated tree-control.

To open the Enterprise Management Console go to Windows **Start** menu, **QlikView** and choose **QlikView Enterprise Management Console** or open a web browser and enter the url `http://servername:4780/qemc/default.htm`.

## QlikView Management Console (QMC)

Just as the QEMC the QMC is built around AJAX technology and will run in a browser. The number of available settings is reduced, thereby producing a cleaner, more intuitive interface more suited for those content with most default settings.

Even without the Publisher Module, the QMC will feature a page for basic reload scheduling. If the Publisher Module is installed this will be expanded to a wizard style interface for setting up Publisher tasks.

The QMC handles only one instance of QlikView Server and one execution instance of the Publisher.

To open the Management Console go to Windows **Start** menu, **QlikView** and choose **QlikView Management Console** or open a web browser and enter the url `http://servername:4780/qmc/default.htm`. See page 45 for details.

**III**

# 12 STATUS

The Status tab contains the **Tasks**, **Services** and **QVS Statistics** pages.
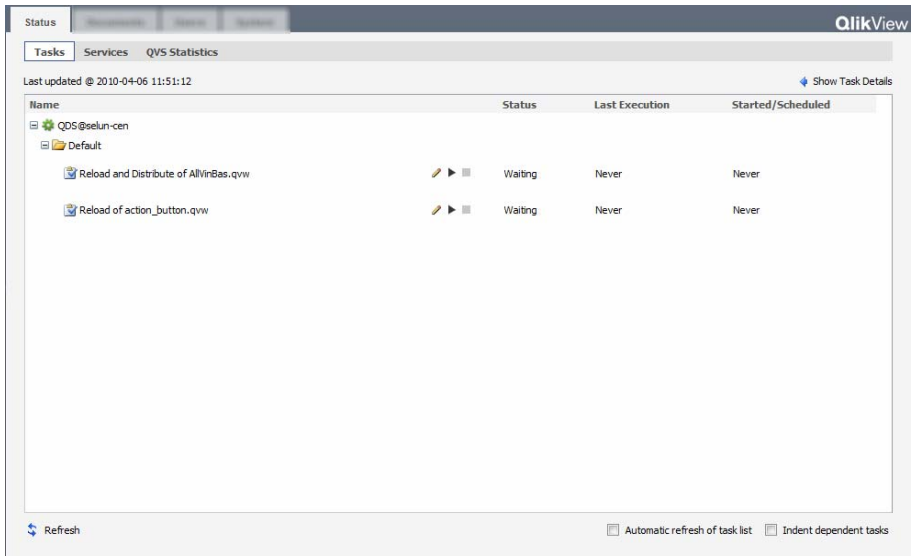
## 12.1 Tasks



*Figure 34. The Tasks page*

The **Tasks** page gives you an overview of scheduled tasks. The tasks are presented in a tree view, with the tasks sorted according to QlikView Servers and document categories. If no category has been set in the **Category** field when configuring the task, the documents are put in the **Default** folder.

Press the **Play** icon to run the task immediately and the **Stop** icon to stop a running task. Here you also see the **Status**, the **Last Execution** and when the task was **Started/Scheduled**. The **Status** of a task can be **Waiting**, **Running**, **Failed** or **Aborting**. Click on **Show Task Details** to view the log file for the task.

The page has an automatic refresh of the task list. Unmark the check box if you wish to refresh it manually. In order to make your change of the refresh state persistent, you must allow cookies in your browser.

Enable **Indent Dependent Tasks** to have the tasks that are dependent on others displayed with an indent.

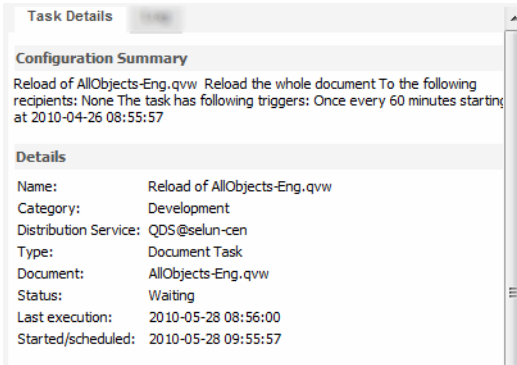# Show Task Details

### Task Details



*Figure 35. The Task Details tab*

On this tab you see a **Configuration Summary** of the task and the details of its execution. A task with a multiple event trigger lists all events that must be completed.

## Log



*Figure 36. The Log tab*

On this tab you can view the log files for the task. The drop-down menu at the top contains the 50 latest logs.

# 12.2 Services



*Figure 37. The Services tab*

The different Windows services are displayed with their status and the name of the server on which they run. Highlight a service to display status messages.

When running a QlikView Server only the following services will be displayed, QMC (QlikView Management Service), DSC, (Directory Service Connector), QDS (Distribution Server), QVS(QlikView Server) and QVWS (QlikView Web Server).

## 12.3 QVS Statistics

On these pages you can see statistics on all the QlikView Servers that are managed by this QEMC. There are several pages:
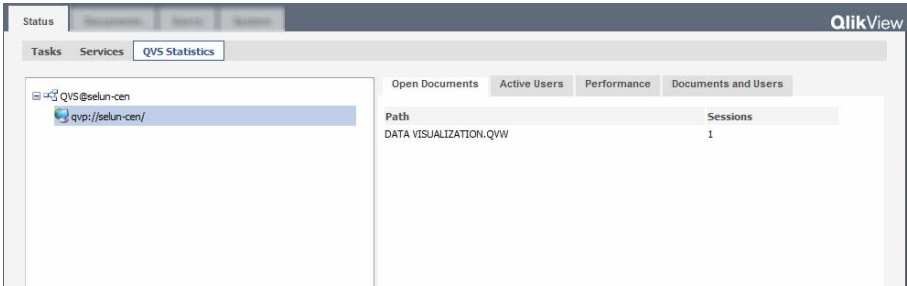
## Open Documents



*Figure 38. The Open Documents tab of QVS Statistics*

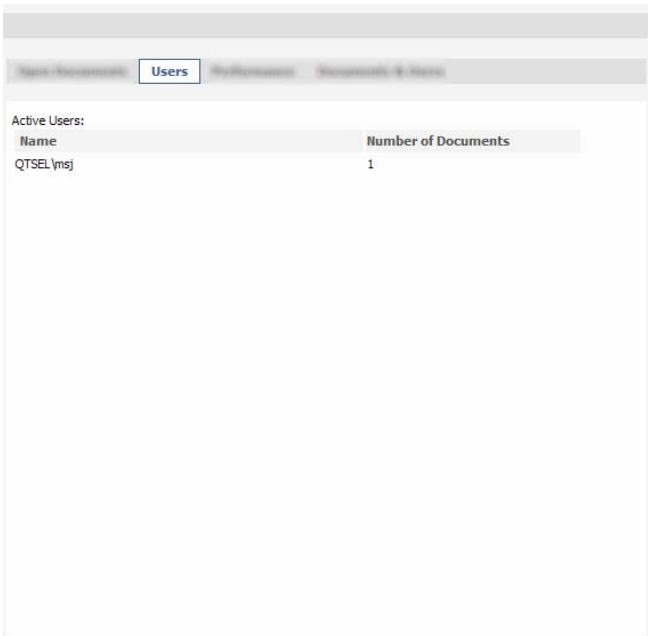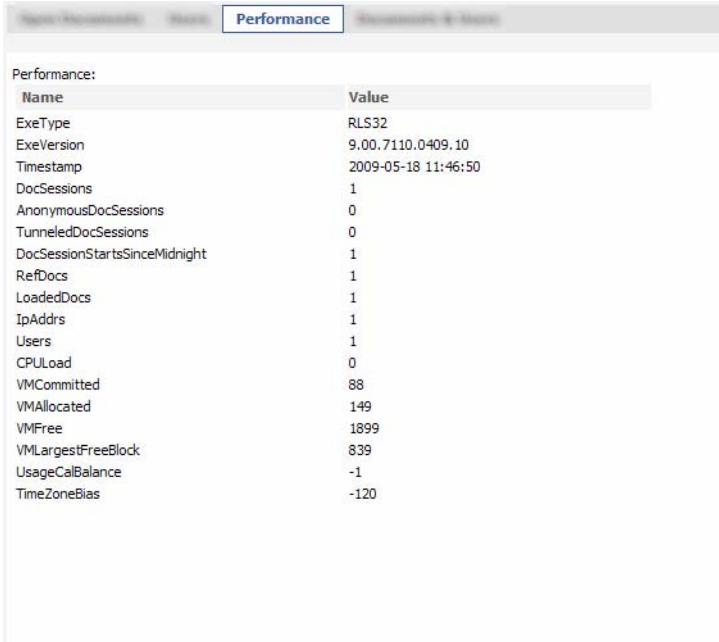The **Open Documents** page displays the documents and the number of session that are open.



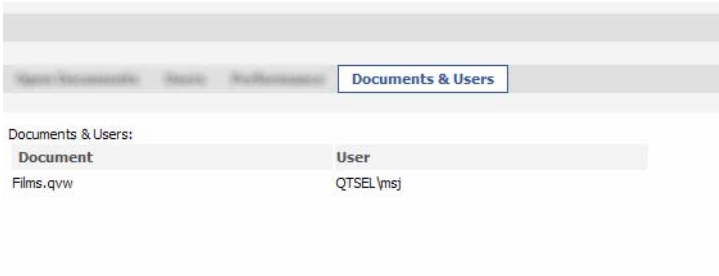*Figure 39. The Users tab of QVS Statistics*

This page displays the active users and the number of documents they have open.



Figure 40. The Performance tab of the QVS Statistics tab

The **Performance** page displays information about the Server's performance.



Figure 41. The Documents and Users page of the QVS Statistics tab

The page displays the documents and the users that are using them.

# 13 DOCUMENTS

On this tab you can manipulate your tasks for your **Source Documents** and your **User Documents**.

You can create task chains, where one task triggers another. For example, Document 1 is reloaded every hour and upon successful execution a distribution task is run for Document 2 and if that is successful a distribution is run for Document 3 and so on.

**Note**    If you disable a trigger for one of the tasks in the chain, the chain will be broken. If you disable one of the tasks in the chain, the chain will continue, but the disabled task will simply not execute.

## 13.1 Source Documents

This tab is only available if you have a QlikView Publisher license.
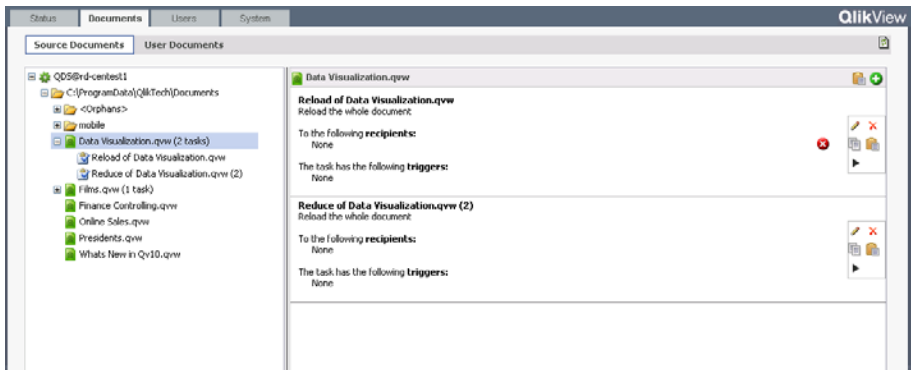


*Figure 42.   The Source Document page*

This page lists all your source documents and the tasks they have been assigned in a tree view to the left, and to the right you have the settings for the tasks. Click the green plus sign to the right to add a task or click on the task in the list to the left to reconfigure it. Right-click on a task to view the context menu, from which you can manipulate your tasks.

When a task is set up you can see the status of the task, copy the task to the clipboard using the 🔝 icon or by right-clicking on the task in the tree view to the left and select **Copy**, start and stop a task with the play icon, edit the task by clicking on the ✏

icon and delete the task with the ✕ icon. To paste a copied task to a specific docu-
ment, you either right-click on the document you want to paste the task to and select
**Paste**, or you can highlight the document and in the pane to the right click the paste
icon 📋. When you paste the task, you may choose what parts of the task to paste into
the document.
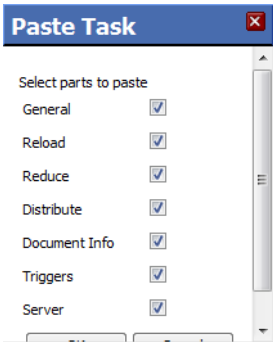


*Figure 43. The Paste Task dialog*

Select which components of the task you want to duplicate to the document and click
**OK**. Pasting a task will create a new task.

The command **Paste Special** will merge the task from the copied task with the task it
is pasted into. You can merge a copied task with several tasks simultaneously by
multi-selecting all the tasks you with to merge it with in the tree view.

Right-click a document and select **Import Task**, if you want to import a task from another installation (see page 181 for how to set up the remote system). This will bring up the remote system and you can choose which task you want to import. If you already have a task in that document with the same name, a new name will be generated.
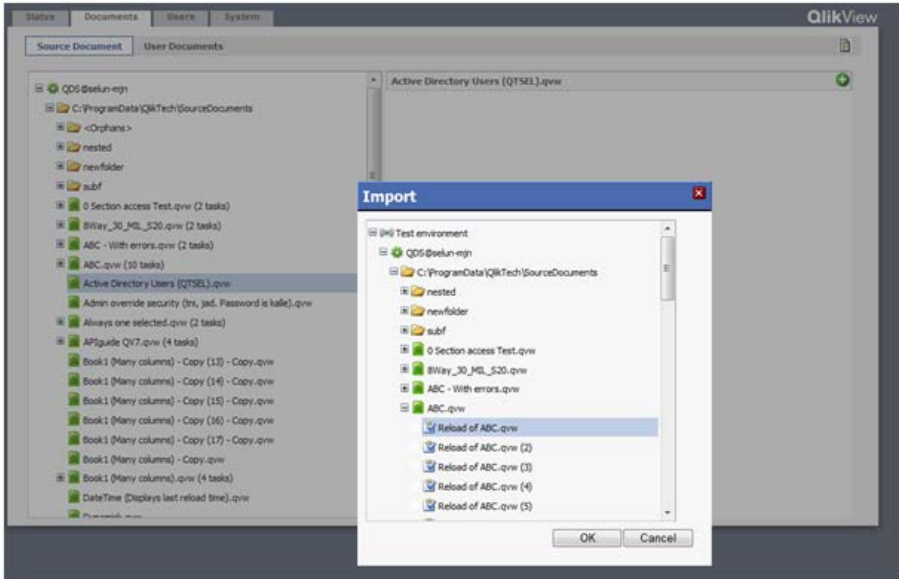


*Figure 44. Importing tasks*

To import all tasks from a remote system, you right-click the **Distribution Service** and choose **Import Tasks**. The **Import** dialog opens and you can choose a **Distribution Service** from a remote system.

## General
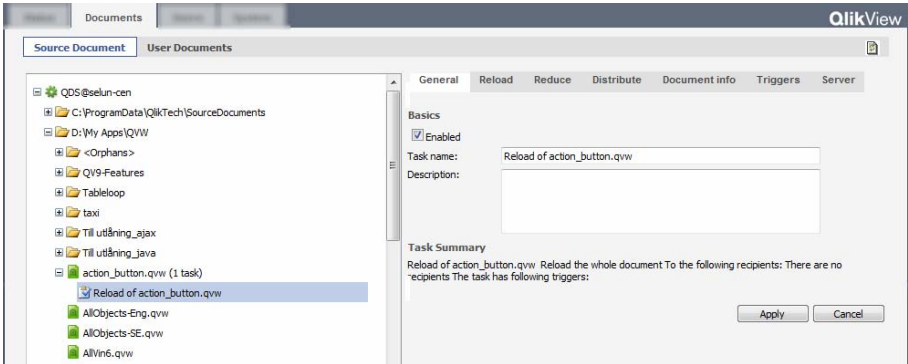


*Figure 45. The General tab*

### Basics

#### Enabled

Mark this check box to activate the task.

#### Task Name

Set the name of the task.

#### Description

The description written here will be visible in the summary of the task.

---

**Note** The **Task Name** must be unique within the repository!

---

### Task Summary

A short summary of the task(s) set for the document, including recipients and schedule.

# Reload



*Figure 46. The Reload tab*

### Perform Reload

Mark the check box if the document should be reloaded.

### Data Protection

#### Section Access

Mark the check box if other credentials than the default should be used. This setting allows you to select the **username** and **password** the Distribution Service should use when opening QlikView documents. The default configuration is for the service to use the Windows credentials that are set for the service itself in the Windows Computer Management Console.

### Script Setup

#### Partial Reload

Mark the check box to use the partial reload functionality of QlikView.

### Script Parameters

This replaces the function of the repeat task in previous versions.

#### Parameter Name

The variable created in the QlikView script that will be used in the script execution of the document.

#### Parameter Value

The values that will be assigned to the variable. This value or values will be used to create the document. Enter a list of values separated by semicolons (;) or use dash (-) to enter a sequence of data. A separate document will be created for each value.

#### Or

In this field you can select a field in the document and a separate document will be created for each value in that field. Those values present at the start of the execution will be used. If field values change during the execution the change is not reflected.

# Reduce



*Figure 47. The Reduce tab*

### Open Document

Click this button to populate the **Fields** and **Values** boxes for a **Simple Reduce**. Then choose what fields and values should be part of the reduced document.

### Reduce by Field Value

Reduces the document by the field value(s) selected in the **Fields** and **Values** boxes.

### Reduce by Bookmark

Reduces the document by the bookmark chosen in the drop down.

## Reduced Document Name

### Save the Reduced Document with the Following Name

Enter a name for the user document. Click the icon on the right to open a dialog for creating a name template for reduced documents.
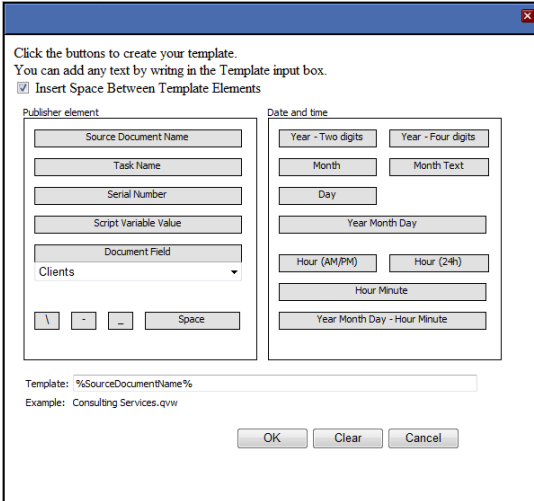
*Figure 48. Create a document name template*

Click on the buttons to insert the different Publisher elements and date and time in the template for the document. You can enter any text in the **Template** field.

**Simple Reduce**

Click **Open document** to populate the **Fields** and **Values** boxes. Then choose what fields and values should be part of the distributed document.

**Reduce by Bookmark**

Click **Open document** and then choose which bookmark the document should be reduced by in the drop down.

**Loop and Reduce**

Choose **By Field** or **By Bookmark** in this group if you want each value to be a document unto it self. All data not included in the selection will be removed.

## Distribute

### Manually



*Figure 49. The Distribute tab (manually)*

Set how the document should be distributed to the recipients, via **QlikView Server**, **e-mail** or to a **Folder**. Press the add users icon to add recipients on that resource. The names will be resolved by the Directory Service Connector.

**Add Recipients**
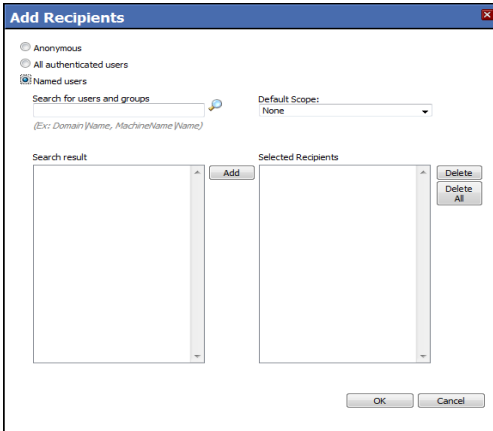


*Figure 50. The QlikView Server Add Recipents dialog*

Add the users from the QlikView Server, either **Anony-mous**, **All authenticated users** or **Named users**.
Choose **Named users** to search for users and groups in the domain or on a computer to add as recipents.

### Loop Field in Document



*Figure 51. The Distribute tab (loop and distribute)*

### Loop and Distribute

#### Open Document

Opens the document and populates the **Field containing recipient information** drop down**.**

Create a separate document for each value by selecting a field that contains information about the recipients in **Field containing recipient information** and the type of **Check user identity on.** Possible values are the following Active Directory attributes, **SecurityIdentifier, DisplayName, SAMAccountName, E-mailAddress** and **UserPrincipalName**.

#### Destination

Choose how to distribute the document(s): on a **QlikView Server**, via **E-mail** or via a **Folder**.

**File type**
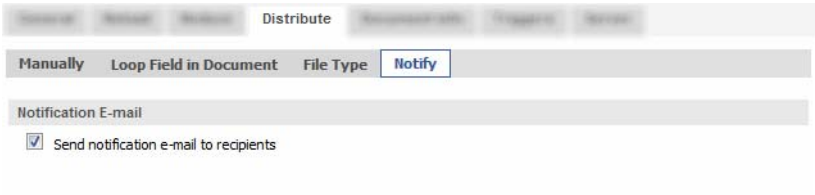


*Figure 52. The File type tab*

### Output Document Type

Distribute the document as a **QlikView document** or choose a QlikView report in the drop-down menu to distribute it as a **PDF-report from source document**. In order to choose a report as basis for the PDF report you must click **Open Document**. To distribute the document as PDF requires a special license.

### Notify



*Figure 53. The Notify tab*

### Send notification email to recipients

> With this option checked, all recipents that are part of the distribution will receive a notification email. Recipients that are part of email distribution will however not receive an email.

**III**
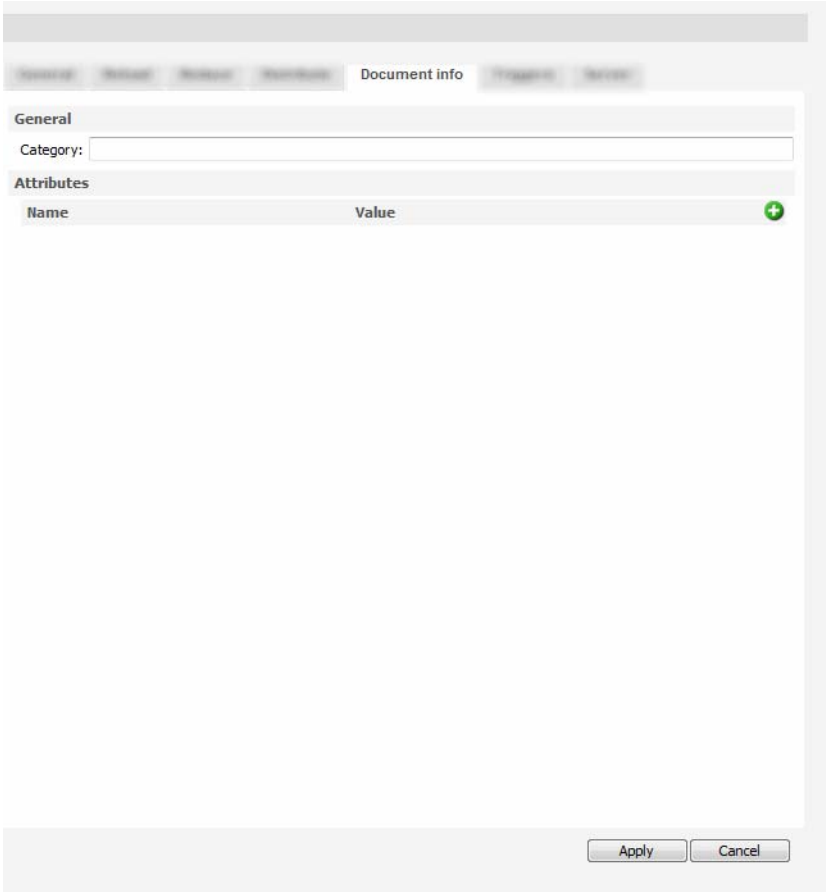
# Document Info



*Figure 54. The Document Info tab*

### General

#### Category

This setting lets the administrator create, edit and delete categories. A category bundles documents in containers to make categorization easier for the end-user. They are only visible to the end-user on an AccessPoint. Each document can only be part of one category. Clicking in the field will display a popup with previously used categories.

**Attributes**

Enter **Name** and **Value** for meta data attributes that can later be read from the database. These attributes are not saved in the document, but in the meta file. A third party application can then extract the attributes using the qvpx protocol.

## Triggers

A trigger is what sets of a task. A task can have multiple triggers, creating a workflow of tasks



*Figure 55. The Triggers tab*

### Current Triggers

Click the green plus sign to add a trigger. All tasks can be triggered by a **schedule**, by the **event of another task**, by an **external event** or by **multiple events**.
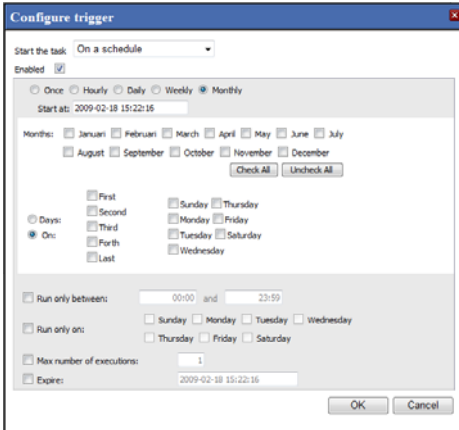


*Figure 56.  Configure trigger - On a schedule*

#### On a Schedule

Set the schedule for the task. You may set it to run **Once**, **Hourly**, **Daily**, **Weekly** or **Monthly**.

---

**Note**    All time specifications must be in 24-hour format.

---

#### Enabled

Mark this check box to enable the schedule.

#### Start at

Set the date and time for the first execution of the task.

#### Run Only Between

Set what times the task is allowed to run between.

#### Run Only on

Restrict what days the task is allowed to run on.

#### Max Number of Executions

Set how many times the task is allowed to run.

**Expire**

Mark this check box and enter a date and time in the field to the right to set how long the task is valid.



*Figure 57. Configure trigger - On event from another task*

### On Event from another task

#### Enabled

Mark this check box to enable the trigger.

#### Start on

Set if the task should start on the successful or failed completion of another task.

#### Run Only Between

Set what times the task is allowed to run between.

#### Run Only on

Restrict what days the task is allowed to run on.

#### Max Number of Executions

Set how many times the task is allowed to run.

### Expire

Mark this check box and enter a date and time in the field to the right to set how long the task is valid
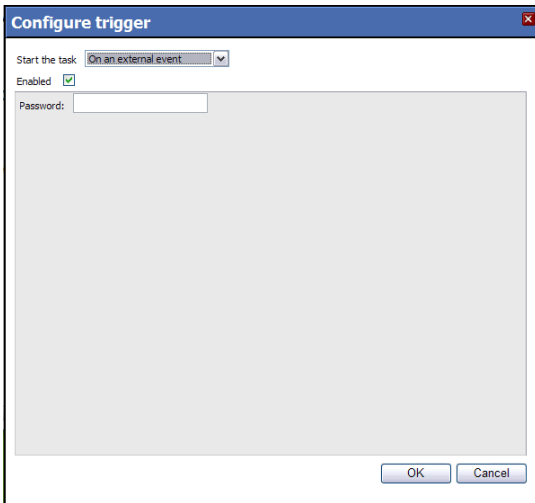


*Figure 58. Configure trigger - On an external event*

### On an External Event

This allows an outside component to make a http call (post) and trigger the task.

### Enabled

Mark this check box to enable the trigger.

*Figure 59. Configure trigger - On multiple events completed*

### On Multiple Events Completed

This type of trigger will only be executed if all other events have been completed within a certain time.

### Enabled

Mark this check box to enable the trigger.

### Time Constraint

Set the time limit for all events to complete. Default value is ten hours. The time is set in minutes.

### Run task when all of these events completed

Here you add all the tasks and events that must be completed before the current task is run. You can include both external events and several other tasks.

### Task Dependencies

Click on the green plus sign to add dependencies for the current task. Task dependency is a way of making sure that your task only runs if other tasks have finished their last execution successfully.

### Task Execution Options

Set the **Number of Tries** for the task and how the **Timeout in Minutes** should be.

## Server

### Preload and Access

Here you specify how the user documents should behave on the Server.



*Figure 60. The Server tab - Preload and Access*

### Preload Document in Server Memory

Here you may set the preload options for the document. A preloaded document is loaded into the server's primary memory to ensure quick access at all times. It will however, use up memory even when no user is accessing the document.

Choose one of the options for **Preloaded** as follows:

**Never**

>>The document will never be loaded automatically. Standard loading techniques, based on user requests and **Document Timeout** settings will apply.

**Always**

>>The document will always be loaded into server memory.

**Restricted**

>>The document will be loaded automatically, based on specific day of the week and time restrictions. If this option is selected, additional settings will become visible.

If **Preloaded** is set to **Restricted**, you may choose specific days of the week to automatically load the document and the times of the day to load and unload. All times are Server local times (in 24 hour format). The server time is set during installation of the operating system. See the **Windows Control Panel** - **Date and Time** for more details.

**III**

### Access

**Access Method**

>>Mark the checkboxes for which flavors of QlikView clients that should be allowed on the AccessPoint.

**Url**
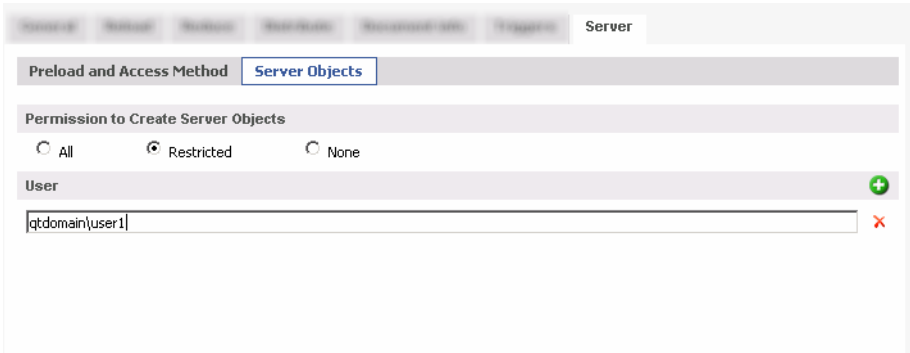
>>Enter a URL if you want to use your own html pages, instead of the default, for displaying the AJAX pages.

**Max Concurrent Sessions**

>>Sets the number of concurrent sessions for the document.

**Collaboration**



*Figure 61. The Server tab - Server Objects*

**Permission to Create Server Objects**

Here you can specify who should be able to create Server objects in this document.

**All**

Everyone may create a Server object in this document.

**List**

Add users in the list below that may create Server objects in this document.

**None**

No one is allowed to create Server objects in this document.

# 13.2 User Documents

Here all documents that are available on the Server are displayed. The settings here should not be changed if you have set up Publisher to distribute documents. These settings will be overridden by the settings for the Publisher.
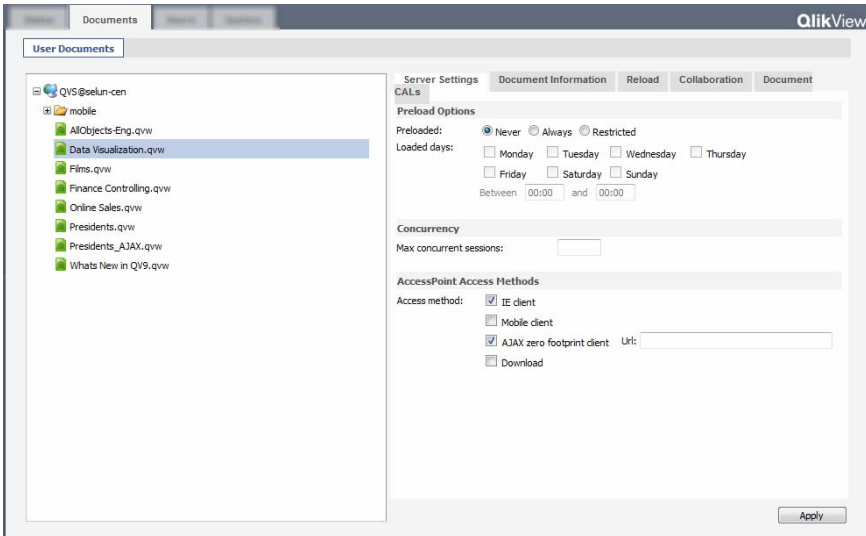


*Figure 62. The User Documents page in the QEMC*

## Server Settings

### Availability Limitations

Here you set if the highlighted document should be loaded on the QlikView Server.

This setting is only available if your QlikView Server license limits the number of documents you may load concurrently.

### Preload Options

Here you may set the preload options for the document. A preloaded document is loaded into the server's primary memory to ensure quick access at all times. It will however, use up memory even when no user is accessing the document.

Choose one of the options for **Preloaded** as follows:

### Never

The document will never be loaded automatically. Standard loading techniques, based on user requests and **Document Timeout** settings will apply.

**Always**

>> The document will always be loaded into server memory.

**Restricted**

>> The document will be loaded automatically, based on specific day of the week and time restrictions.

>> If **Preloaded** is set to **Restricted**, you may choose specific days of the week to automatically load the document and the times of the day to load and unload. All times are Server local times (in 24 hour format). The server time is set during installation of the operating system. See the **Windows Control Panel** - **Date and Time** for more details.

## Concurrency

### Max Concurrent Sessions

>> Sets the number of concurrent sessions for the document.

## Accesspoint Access Methods

### Access Method

>> Mark the check boxes for which flavors of QlikView clients that should be allowed on the AccessPoint.

## Authorization
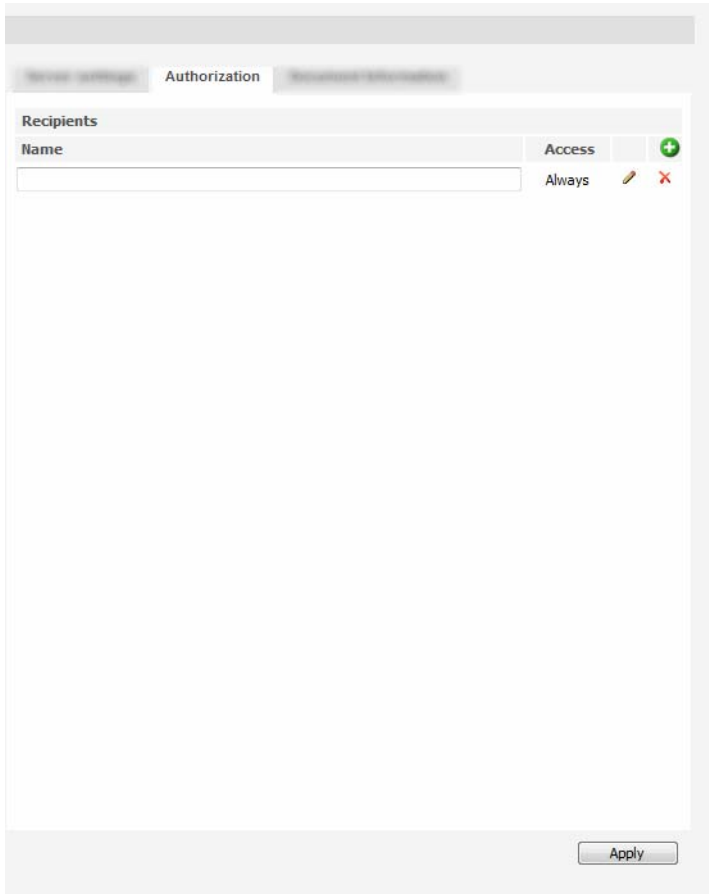


*Figure 63. The Authorization tab of the QEMC*

This tab is used to configure document authorization settings for the selected QlikView document. This tab is only available if **DMS Authorization** is selected as the authorization method for this server. Only users specified in this configuration will be allowed access to the document once **DMS Authorization** is selected. **DMS Authorization** is set in **QlikView Server Settings**, **Security**. Read more on page 235.

To add an authorized user/group, click on the **Add** button. To remove an existing authorized user/group, click on the X icon. The User/Group can be either Anonymous or named. Group names may be used, but access to the QlikView Directory Services Connector (DSC) will be required to resolve the Group. Click the properties

icon to set the access restrictions for the user/group.
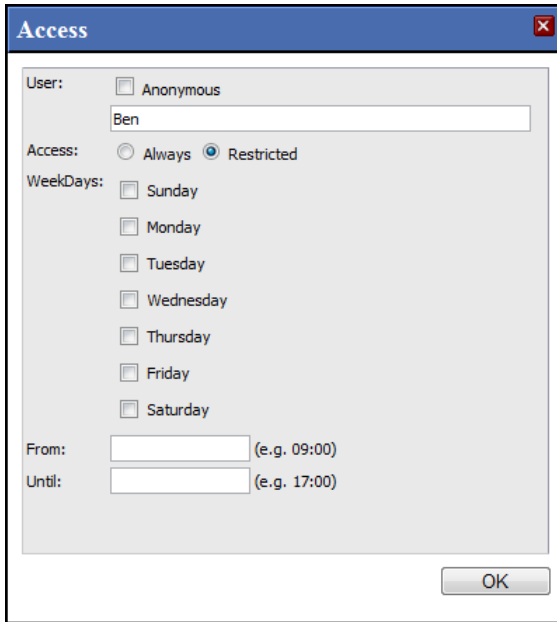


*Figure 64. The Access dialog*

Access can be granted to all users, **Anonymous**, or to named users/groups. You can set the **Access** to **Always** for no time restrictions, or **Restricted** to limit access to this document to specific days of the week as well as times. All times are Server local times (in 24 hour format).

# Document Information



*Figure 65. The Document Information tab*

### General

#### Category

This setting lets the administrator create, edit and delete categories. A category bundles documents in containers to make categorization easier for the end-user. They are only visible to the end-user on an AccessPoint. Each document can only be part of one category.

### Source Document

The name of the source document. This setting is only relevant if it is run through a QlikView Publisher task. The name is not changed by a QlikView Server reload.

## Attributes

In this group you may set your own meta data attributes, with names and values, for the document. These attributes can be read from the database. The attributes will not be saved together with the document but in the metadata of the Server. See page 235 for more information.

# Reload

This tab is available when running only QlikView Server.

### Reload Schedule

On this tab the schedule for reloading a document is configured.

#### Enabled

Check the box to enable the schedule below.

The schedule can be set to **None**, **Hourly**, **Daily**, **Weekly**, **Monthly**, **Continuously**, **Completion of**, or **External event**.

#### On event of another task

Set this if the reload should be set off by another reload of a certain document.

#### External event

Set if an external event should set off the reload. Fill in the **Password** for the external event.

#### Timeout seconds

Set a time limit for the reload. If the document is not reloaded within the timeout the process will be terminated and the old data is kept in the document.

#### Dependency

When a reload that has a dependency is about to be executed, it will check the status of the dependency and if that status is failed, the current reload will not be executed.

#### Data Protection

This setting allows you to select the **username** and **password** the Distribution Service should use when opening this document.

The default configuration is for the QlikView Distribution service to use the Windows credentials that are set for the service itself in the Windows Computer Management Console. Read more
about section access on page 263.

## Server Objects
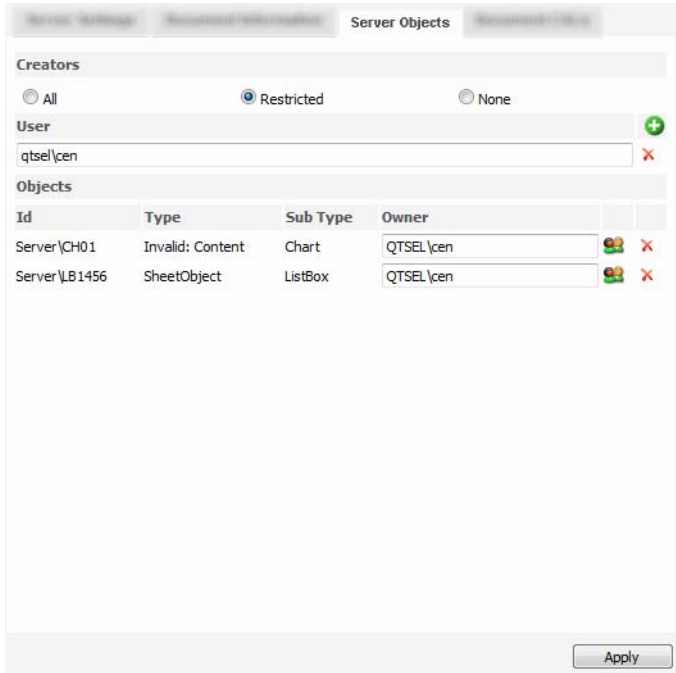


*Figure 66. The Server objects tab*

### Creators

Here you can specify who should be able to create Server objects in this document.

#### All

Everyone may create a Server object in this document.

#### Restricted

Add users in the list below that may create Server objects in this document.

#### None

No one is allowed to create Server objects in this document.

### Objects

Here all the Server objects within the document are listed with **ID**, **Type**, **Subtype** and **Owner**. Click on the icon next to the **Owner** field to take ownership of the objekt. Clicking the red x-icon removes the shared object.

## Document CALs



*Figure 67. The Document CALs tab*

### Summary

These lines show the number of Document CALs that the license contains, the number of Document CALs that not yet are allocated to any document, the number of Document CALs allocated to this specific document, the number of Document CALs within this document that are assigned to users and the number of Document CALs that are already embedded in the Document.

### Document CALs

#### Number of CALs allocated to this Document

Enter the number of Document CALs that should be allocated to this document. Initally the number will be zero.

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### Allow Dynamic CAL Assignment

Mark this check box if you want the QlikView Server to assign CALs to any user that opens the document.

## Assigned Named CALs

The current assignment of CALs is displayed. Document CALs can be either automatically assigned or manually assigned to users by clicking on the **Assign CAL** button, if there is a Document CAL. Note that the allocation of a CAL does not imply security

If the **Allow Dynamic CAL assignment** is checked, a new Document CAL will automatically be granted to a user connecting to this QlikView Server for the first time, as long as there are available Document CALs to assign.

The page has a list showing the names of all users currently holding a Document CAL on the document. You can also see the time of the respective user's last activity on the server. A name can be an authenticated user name or a machine name (including MAC address).

To delete an assigned user, thus freeing a Document CAL, click on

the **Delete** button ( ✗ ). If the CAL has not been in use for the last 24 hours, it will be deleted immediately. If the CAL is currently being used or has recently been used, it will be marked for deletion, and not allow new sessions for user access through this CAL, but will still occupy an allocated CAL until the Quarantined until time. During this period, you may undelete by clicking the **Restore** but-

ton ( ↩ ). After the quarantine period, you may delete the entry manually (by clicking on the **Delete** button), or restart the QVS service.

**III**

# 14 USERS

On these tabs the administrator can manage all objects of a certain user and set up section access.

## 14.1 User Management

In this dialog you can keep track of the users in the QlikView Server/Publisher system, all in one place. The following objects can be controlled: CALs, recipients, Server objects, groups and documents.

### User

Enter the name of the user you wish to view or change settings for.
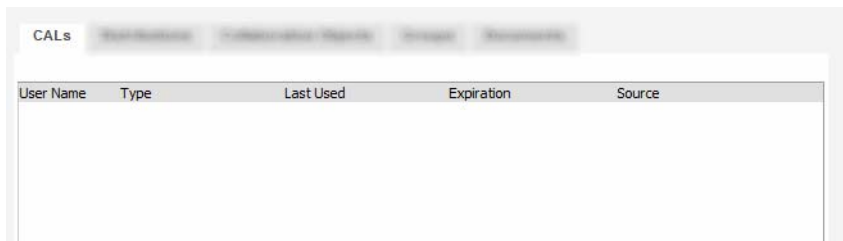
### Search in

Select the directory in which you want to search for the user.

The search results are displayed with both the name and the location of the user.

### CALs

The list displays all the CALs the user is assigned. As administrator you can click on the delete icon to delete the CAL for the user. Note that the CAL will not be available for 24 hours!



*Figure 68.  The User CALs tab of User Management*

## Distributions

This page displays all the distributions where the highlighted user is a recipient. Click on the task name to edit the task. Click on the red X to remove the task.
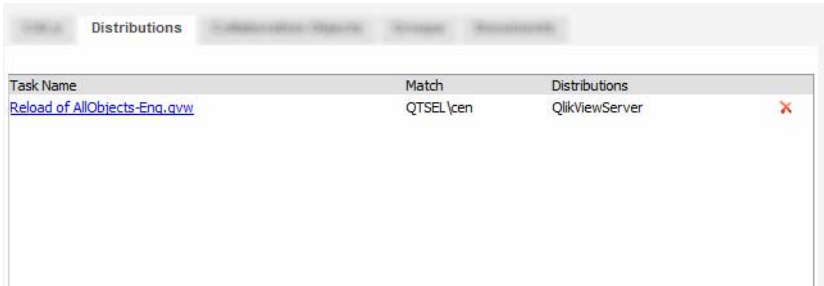


*Figure 69. The Distributions tab of User Management*

## Server Objects

On this page all the Server objects that are owned by the users are displayed. The administrator can change the ownership of them or delete them. Click on the 👥 icon to open the **Select Owner** dialog.
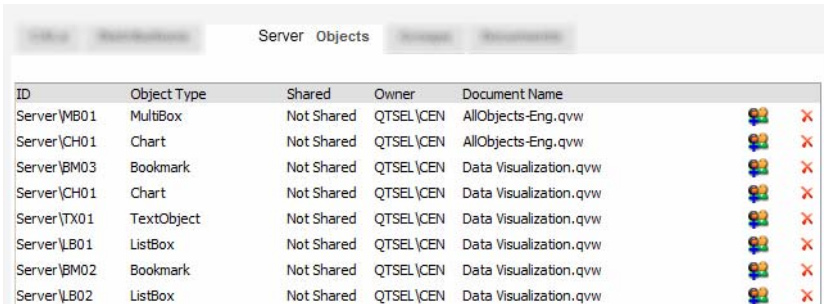


*Figure 70. The Server Objects tab of User Management*

Here you can search for the user you want to assign the ownership.
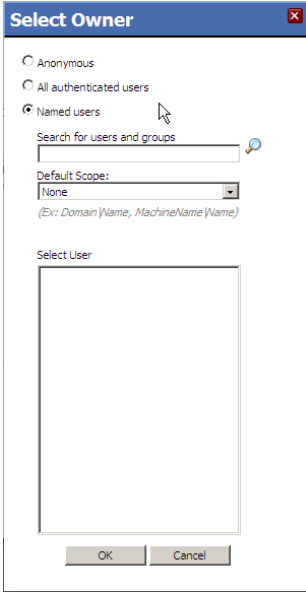


*Figure 71. The Select Owner dialog in User Management*

**III**

## Groups

This page shows all the groups the user is memeber of. The check boxes on the right displays any QlikView Publisher role(s) the user may have.
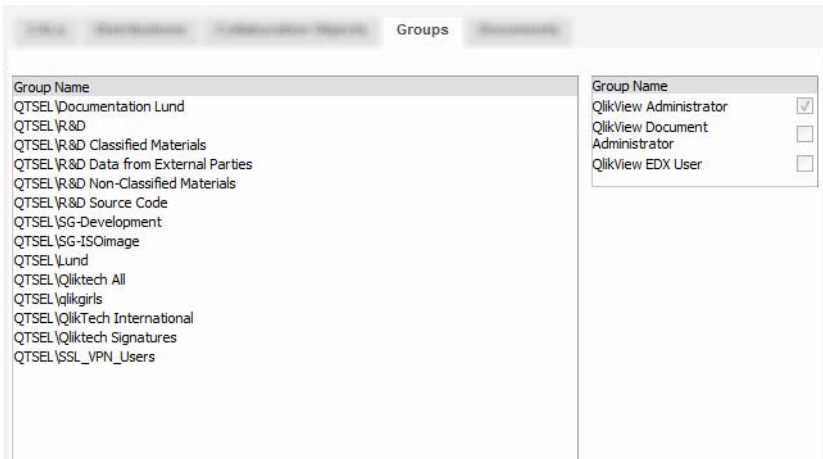


*Figure 72. The Group tab of User Management*

## Documents

Here you see the user and source documents that the user has access to.
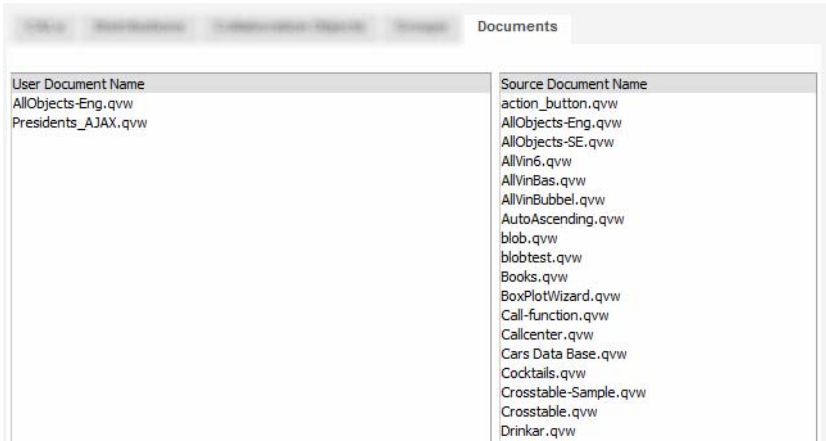


*Figure 73. The Document tab of User Management*


# 14.2 Section Access Management

## Section Access Tables

In the tree view all the section access tables available are displayed.
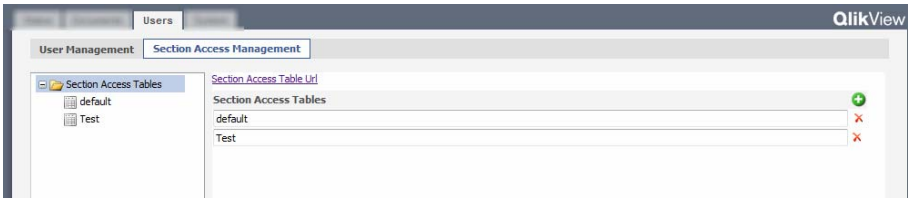


*Figure 74. The Section Access Management dialog*


### Section Access Table Url

Click on this link to see the path to and the contents of the different section access tables. Add this url to your load script in QlikView's **Script Editor** in order to use the tables you define here.

### Section Access Tables

Click the 🟢 icon to add a new table and the ✖ icon to remove an existing table.

Clicking on one of the section access tables in the tree view on the left will display the settings for that table.
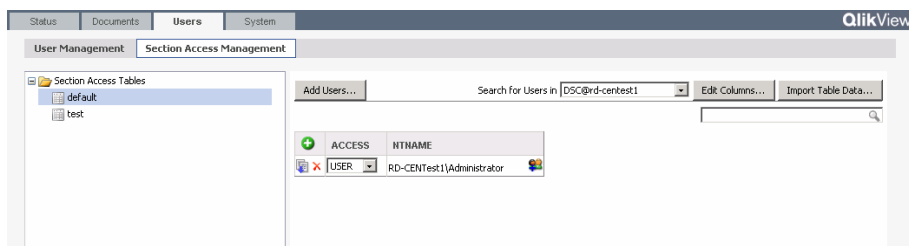


*Figure 75. The Section Access Management dialog - a table*

In the Section Access table, click the  ×  icon to remove a row and the  ⊞ icon to add a new row in the table.

**Add Users**

Here you can add the users that can use this section access table in the script editor in QlikView Desktop.

**Search for Users in**

Set the directory in which to search for users.

**III**

### Edit Columns...

Opens the **Edit Table Columns** dialog
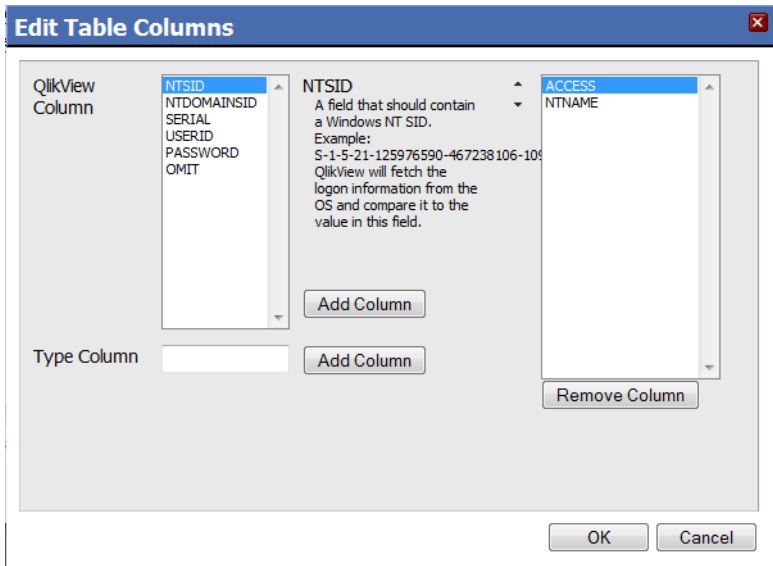


*Figure 76. The Edit Table Columns dialog*

In this dialog you can add or remove columns from the section access table.

#### QlikView Column

The list contains all the possible reserved columns in a QlikView Section Access. Highlight the column you wish to add and click **Add Column**. When a column is highlighted an explanation will be displayed between the available columns and the chosen columns. Click **Remove Column** to remove a column from the table.

#### Type Column

Here you can type a name for your own custom column. Click **Add Column** to add it to the list of chosen columns.

**Import Table Data...**

Opens the **Import** dialog, where you can paste the contents of a tab separated file.
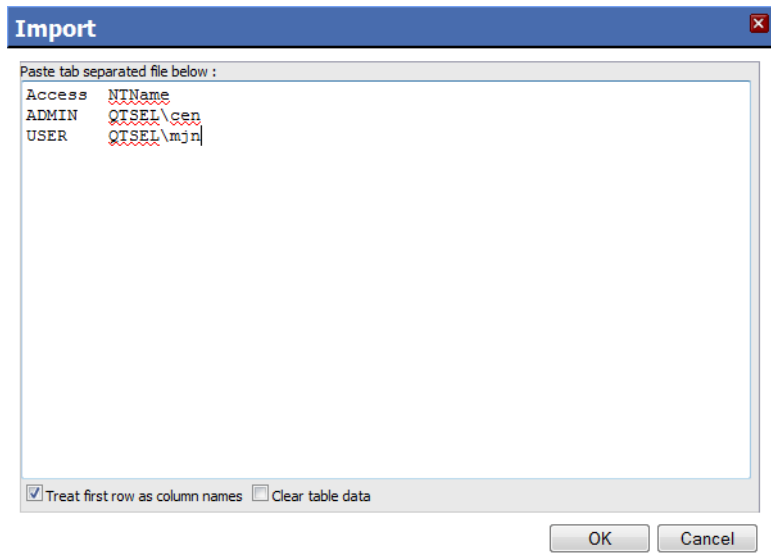


*Figure 77.  The Import dialog in Section Access Management*

**Treat first row as column names**

The first row in the file are made up of column names.

**Clear table data**

The previously existing data in the table is deleted when the file's content is imported.

Read more about section access on page 263 and in QlikView Reference Manual.

# 15 SYSTEM

The **System** tab contains all the settings for the different services in QlikView Server and Publisher.
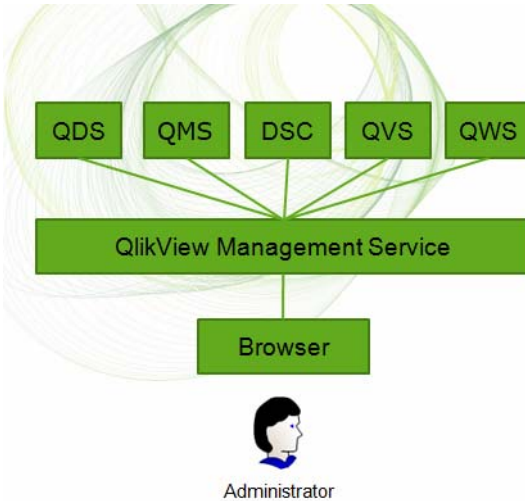


*Figure 78. Overview of infrastructure*

## QMS - QlikView Management Service
Communicates with all services and hosts the management console graphical user interface.

## QDS - QlikView Distribution Service
Prepares and Distributes files.

## DSC - Directory Service Connector
Keeps track of the users.

## QVS - QlikView Server
Hosts the files for the end user.

## QVWS - QlikView Web Server
Acts as web server for AJAX pages, hosts the AccessPoint and load balances the QVS.

# 15.1 Setup

## Management Service

The Management Service is the central coordinating component in QlikView Publisher. It is responsible for maintaining the QlikView Publisher Repository (QVPR) and keeping track of the different components. A QlikView Publisher installation has only one Management Service. The **Summary** page displays the address of the Management Service.
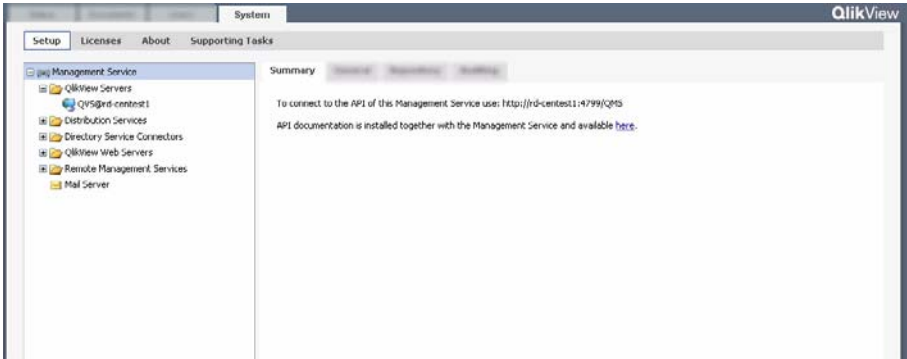


*Figure 79. The Summary page for the Management Service*

Here you also have a link for the API documentation. The help is in CHM format, which means you must download it and open it from disk in order to bypas Microsoft CHM file security.

### General
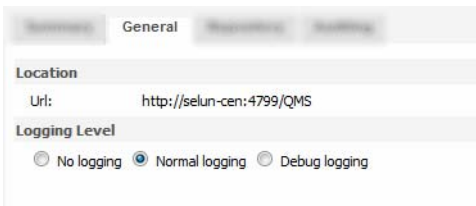


*Figure 80. The General tab for the Management Service*

#### Location

Set the **Hostname** and the **Port** for the Management Service.

### Logging Level

Set the level of logging, **No Logging**, **Normal Logging** or **Debug Logging**.

## Repository

The repository, QVPR, is the database containing the information about every QlikView Publisher task. The repository can be either xml based or stored on a Microsoft SQL Server.

**Note**    The **Repository** tab is only available if you have a QlikView Publisher license!

### XML Repository

*Figure 81.  Settings for XML Repository*

### Database Name

Enter the name of your repository.

### Optional Base Path

The path to the folder where the XML repository should be created. Default path is `C:\Program-Data\QlikTech\Publisher\CommandCen-ter` in Windows Vista and later and `C:\Documents and Settings\All Users\Application Data\QlikTech\Pub-lisher\CommandCenter\QVPR` for older operating systems.

---

**Note**    Note that if the path contains a database with the same name the data will be overwritten.

---

### Migrate Data

Mark this check box if you want to migrate data from the current QVPR repository to a new path. When creating a new database, this allows you to move the data from your company database to the new one.

### Backup Settings

Here you can configure backup of the repository. The backup is saved as a zip file and uses the time-stamp of its creation as name. Change the path to the zip file by entering a path in **Optional Backup Path**. Per default the zip file is saved to the same path as the repository. Click **Backup Now** to create a backup immediately.

**Microsoft SQL Server**



*Figure 82. Settings for Microsoft SQL repository*

**Server**

Click the **Get Servers** button to choose a server from a list of Microsoft SQL Servers that are available on the network.

**Port**

Set the port for the communication.

**Connection Model**

Select the protocol that should be used for the communication with the Microsoft SQL Server.

**Connect Using**

Select the authentication method, **Commandcenter User (Windows Authentication)**, that is the currently logged on user in Windows, or **SQL Server Authentication**.

### Database

The name of the database on the SQL Server. If a database with the same name already exists it will be overwritten.

### Migrate Data

Mark this check box if you want to migrate the data to a new location. When creating a new database, this allows you to move the data from your company database to the new one.

## Auditing

Read more about auditing on page 255. Auditing must be turned on in **QVManagementService.exe.config**. The configuration file is found in **C:\Program Files\QlikView\Management Service..**
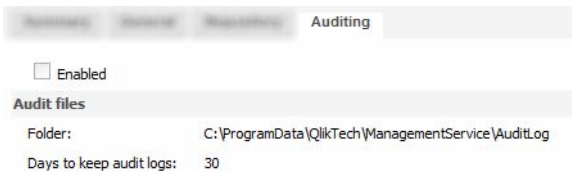


*Figure 83. The Auditlog tab of the QEMC*

### Enable

Shows if audit logging is enabled. This setting is enabled in the file **QVManagementService.exe.config**.

### Folder

Displays the path for the logs.

### Days to keep audit logs

The number of days the logs are saved. Logs older than the number set here are overwritten by new logs.

## QlikView Servers

**QlikView Servers**
**Url**

qvp://cen/                                              ✕

*Figure 84.  Overview of QlikView Servers*

Highlight QlikView Servers to look at the Servers that are managed by this console. You can also add more Servers by clicking the green plus sign on the right. Highlight one of the Servers to configure it.

### General

General

**Name**

QVS@selun-cen
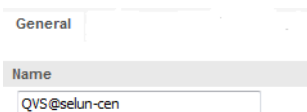
*Figure 85.  The General tab of a QlikView Server*

#### Name

The name of the QlikView Server.

### Folders

Folders

**Root Folder**

C:\ProgramData\QlikTech\Documents                            📂

**Mounted Folders**

| Name | Path | Browsable ➕ |
|------|------|------------|
| Extra | D:\My Apps | 📂 ☑ ✕ |
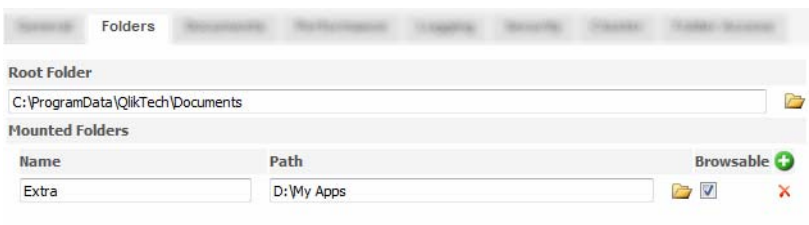
*Figure 86.  The Folders tab of a QlikView Server*

#### Root Folder

Enter the path to the QlikView documents that are to be accessed via the Server. This path will typically reflect the default document location. Documents may also reside in subfolders to this folder. Windows file security applies for all access by a client to document folders and files, unless DMS Authorization mode is used. Read more about DMS on page 235. The default location of the Document folder may differ depending on operating system. Windows Vista and later will install the document folder to **C:\Program-**

**Data\QlikTech\Documents**, while older Windows operating systems, such as Windows XP, install to **C:\Documents and Settings\All Users\Application Data\QlikTech\Documents** as default.

It is also possible to specify **Mounted Folders**. A folder set here may contain subfolders to any level. Click the green plus sign to add other folders.

Enable **Browsable** if you want the folder and its contents to be browsable from the **Open in Server** dialog in QlikView.

### Documents



*Figure 87.  The Documents tab of a QlikView Server*

### Server

#### Document Timeout

The **Document Timeout** value allows you to control for how long a document will be allowed to be unused before the QlikView Server closes the document and reclaims the resources.

A document is a QVW file opened by the QlikView Server. Open documents take up valuable system resources (i.e. RAM) and should not be allowed to remain open when not in use. However, if documents are closed too quickly, the user

may see longer delay times when accessing the document while the server reopens it.

### Allow Only One Copy of Document in Memory

Mark this check box to allow only one version of the document in memory. If there are changes to the document, a reload or a layout change, a session update might be forced. Allowing only one version of a document will conserve memory resources on the Server.

### Allow Server Objects

QlikView Server objects for Bookmarks, Objects and Reports allows sharing of objects between users. Make sure this setting is checked if you want to allow sharing of objects. This setting requires that the QlikView Server objects settings **Allow Server Bookmarks**, **Allow Server Objects** and **Allow Server Reports** located on the **Server** tab in the **QlikView Document Properties** dialog is marked.

### Allow Anonymous Server Bookmarks

If this setting is checked, anonymous users will be allowed to create bookmarks. The machine ID of the client will be used for ownership. The client must allow persistent cookies to be created.

### Allow Document Upload

If checked, this setting will allow new or updated documents to be uploaded to QlikView Server through the Publisher QDS. QlikView Server must be defined as a resource in Publisher. This setting must be turned on if you use Publisher.

### Allow Document Download

If checked, this setting will allow documents to be downloaded through the Publisher Access Point.

### Allow Extensions

If checked, this setting will allow QlikView Extensions on the Server documents. Read more about QlikView Extensions in the QlikView API Reference Manual.

**III**

### Objects

#### Default Label for "Total"

Here you can specify a default label for Totals in bar charts, pivot tables and straight tables.

#### Default Label for "Others"

Here you can specify a default label for Others in bar charts and pie charts.

## Performance



*Figure 88. The Performance tab of a QlikView Server*

### CPU

#### CPU Affinity

You may deselect the use of specific processors on the computer running QlikView Server. QlikView Server will automatically select the processors to use and this setting needs to be changed only when you wish to override that choice.

#### CPU Throttle

Setting a threshold value here will increase or decrease the priority of the QVS process depending on how much CPU capacity the process is utilizing. This will free the CPU for other

applications, improving overall performance of the server. 0 % means no throttling. This setting should not be changed if the server is a dedicated QlikView Server server.

**Note**    If you notice that the CPU utilization for the QVS process exceeds the limit you have set here, it is most likely because Windows has considers more resouces available.

### Reload Limits

#### CPU Affinity

You may deselect the use of specific processors on the computer running QlikView Server. QlikView Server will automatically select the processors to use and this setting needs to be changed only when you wish to override that choice.

#### CPU Priority

Sets the priority of QlikView Server for the kernel. Processes with a higher priority execute more quickly than processes with lower priority. The priority can be set to **High**, **Normal** or **Low**. Low priority is the default. Use caution when changing this setting. Read more about setting CPU priority on **http://msdn.microsoft.com**.

#### Max Concurrent Reloads

Sets how many documents may be reloaded at any one time. Be careful not to set too many reloads simultaneously as it may degrade overall performance of the computer.

### Sessions

#### Maximum Number of Concurrent Sessions

Sets the maximum number of user sessions allowed on the QlikView Server at one time. A new user session is generated for each document that a user opens on the Server. This setting is unrelated to CAL specifications.

**III**

### Possible Session Timeout (seconds)

When the session has had no activity for the specified number of seconds, it is eligible to be closed if a new user requests to start a session

### Maximum Inactive Session Time (seconds)

If this setting is non-zero, and the session has had no activity for the specified number of seconds, it will automatically be terminated by QlikView Server.

### Maximum Total Session Time (seconds)

If this setting is non-zero, all sessions will be limited to the maximum number of seconds as specified. Once the time limit is reached, the session will automatically be terminated by QlikView

## Working Set

This control sets the minimum and maximum of the physical amount of RAM that can be used by an application. This way it is possible to control if an application can be swapped out of physical memory or not. However, there are no guarantees that the operating system can serve the process with the amount of memory set here.

Using too high settings will degrade the performance of other processes on the computer, this may however be desirable if the computer is dedicated for QlikView Server. Do not change these settings unless you are well acquainted with Windows Virtual Memory Manager! Read more about working sets in the Microsoft Windows documentation. The settings are:

### Low

Sets the minimum amount of memory, in percentage, to be allocated to the application/process. If the use of RAM goes above this limit, Windows is allowed to swap the memory QlikView Server is using to disk.

### High

Sets the maximum amount of memory, in percentage, to be allocated to the application/process. If the use of RAM goes above this limit Windows

should swap the memory QlikView Server is using to disk.

**Note**    QlikView Server assumes that it has reserved physical memory up to the **Low** limit.

### Document

#### Object Calculation Time Limit

The **Object Calculation Time Limit** setting specifies the maximum amount of time the QlikView Server will attempt to calculate a chart object. The time is set in seconds of total CPU time. Note that total CPU time is not same as elapsed real time on a computer with parallel processing technology.

#### Max Symbol in Charts

Here you can specify a maximum number of symbols to plot in one chart.

**III**

#### Allow Document Auto Load

Check this box to enable automated document loading and unloading.

## Logging



*Figure 89. The Logging tab of a QlikView Server*

### Log Level

#### Enable Session Logging

Mark this check box to enable detailed session logging from QlikView Server. The file will be called Session-Stats.log.

#### Enable Performance Logging Every Minutes

Mark this check box to enable performance logging from QlikView Server. The file will be called Performance.log. The logging interval can be set between one minute and 24 hours (1440 minutes).

#### Enable Event Logging

Mark this check box to enable mirroring to a log file of entries from QlikView Server to the Windows event log. The file will be called Events.log. width network.

#### Enable audit logging of client activity

Enable this setting to log user activity to disk. Read more about audit logging on page 224.

### Log Folder

Here you may specify the folder in which
QlikView server will create log files. The default is
`C:\ProgramData\QlikTech\QVS` on Windows
Vista and later, `C:\Documents and Set-`
`tings\All Users\Application Data\Qlik-`
`Tech\QVS` on older operating systems.

### Verbosity

Use this setting to control how much information will be
written to the log files.

### Split Files

Set how often you wish to split the log files in order to
avoid having enormous files.

## Security



*Figure 90. The Security tab of a QlikView Server*

### Authentication

#### Clients

In this group you select whether the QlikView
server should use Windows authentication when
possible. It is possible to force anonymous com-
munication (**Always Anonymous**), force authenti-
cation (**Prohibit Anonymous**) or to use

authentication whenever possible (**Allow Anony-mous**). **Allow Anonymous** is the default.

Make sure that this setting is consistent with any security settings that may be specified in the web server virtual directories (e.g. if IIS allows Anonymous, but QlikView Server does not, the client user will get an error message when trying to open the application through the virtual directory).

### Anonymous Account

Select whether the anonymous account should be from **on local computer** or **on the domain**. Read more on page 203.

## Authorization

Choose one of the options in this section to determine the authorization mode that QlikView Server will use when authorizing access to documents. Traditionally, QlikView Server has utilized **NTFS Authorization**, where the Windows Operating System controls access to files for users and groups through NTFS security settings. This is the default authorization mode for QlikView Server.

Choose **DMS Authorization** to utilize the QlikView Server DMS facility to authorize access to documents for users and groups. The QlikView Publisher Directory Services Connector (DSC) must be accessible in order to resolve Group membership. Read more abour DMS on page 235.

Choose what **Directory Service Connector** to use in the drop-down menu.

## Miscellaneous

### Allow Dynamic Data Update

Mark the check box if the Server should allow dynamic updates in a document. This setting is by default off. This setting requires a special license.

### Allow Macro Execution on Server

Mark this check box if macros should be allowed to execute on the Server. This setting is by default on.

### Allow Unsafe Macro Execution on Server

Mark this check box if unsafe macros should be allowed to execute on the Server. This setting is by default off.

### Allow Admin Using Name and Password

This setting is used by Publisher if it is running in a separate Active Directory so that name and password can be used to connect to the QVS service. The account must be part ot the QlikView Administrators group.

### Enable Server Push over HTTP Tunnels

Mark this check box to allow graceful document refresh over HTTP tunnels. This setting is by default on.

### Compress Network Traffic

Mark this check box if large packages should be compressed in communication between client and server. It is recommended to uncheck this setting in high bandwidth environments, since the compression routines could require more resource than sending large packages of data over a high band

### AlternateBuildNumber

This setting is used when upgrading clustered QlikView Servers. Newer and older Servers will not cluster, but both can use the same cluster license.

Enter the build number for the upgraded QlikView Server in order for it to use the license for the cluster. On the Server that is upgraded you must enter the build number of the older Servers. Read more about clustering on page 239.

### AlternateDocumentRoot

Enter the document root for the QlikView Server with the alternate build number. This must be different from the clustered Servers.

**III**

### Cluster



*Figure 91. The Cluster tab of a QlikView Server*

### Serial and Control

#### Serial Number

Here you see the Serial Number of you QlikView Server copy.

#### Control

When you set up a QlikView Server cluster you must enter your control number for your second QlikView Server here.

#### URL

When setting up a cluster you must enter the path to your second QlikView Server here.

#### Link Machine Name

If your QlikView Server cluster is not exposed outward with the same name as is used internally, you must enter your external name here in order for the QlikView Plug-in and the QlikView Java clients to work.

If left empty, the name exposed for the clients will be the computer name of the QlikView Server.

To mimic the behavior of version 8.5, you can enter **(FromRequest)** here. The name exposed outward will then be the same as the url the client uses to connect to the AccessPoint, that is the setting is taken from the request coming from the client.

### Folder Access

On this tab you can add supervision accounts and document administrators.
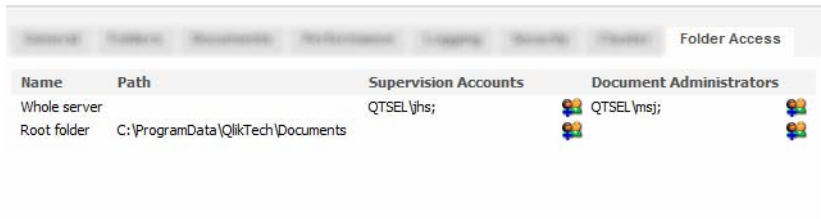


*Figure 92. The Folder Access tab of a QlikView Server*

Click on the respective **Add users** symbol to add users and groups as either **Supervision Accounts** ( see page 210) or as **Document Administrators** (see page 256). Give the user access to either the root folder, meaning all folders on the Server, or to a specific folder.

### Login



*Figure 93. The Login tab of a QlikView Server*

### Server Login

If you wish to manage a QlikView Server installed on a different computer, enter the **Username** and **Password** of a user that is member of the **QlikView Administrators** group on that machine here.

## Distribution Services

The Distribution Service is the component that is responsible for performing the preparation and delivery of the QlikView files. A QlikView Publisher installation can contain many Distribution services located on different

machines.


Distribution Services

Url

http://selun-cen:4720/qtxs.asmx
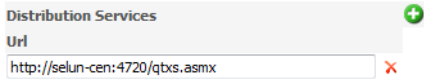
*Figure 94.  Distribution Services*

Highlight **Distribution Services** to look at the services that are managed by this console. You can also add more by clicking the green plus sign on the right. Highlight one of the services to configure it.

**Summary**

Contains the address to the Distribution Service

**General**



*Figure 95. The General tab for the Distribution Service*

**Location**

> **Url**
>
>> The url to the computer where the Distribution Service is running.

**Directory Services**

> Choose what **Directory Service Connector** to connect to.

**Application Data Folder**

> The path to the folder where data for the Distribution Service are saved. You will need to change this setting if you are clustering your distribution services. This setting may also be changed through a command line parameter. See see "Reloading a file from the command line" on page 251. Use the **datapath** parameter.

### Logging Level

Set the log level for the service to **No Logging**, **Normal Logging** or **Debug Logging**.

### Source Folders

#### Disable Task Triggers for Document Administrators

With this setting enabled your document administrators will not be able to activate any triggers when creating or editing tasks and triggers.

#### Path

Enter the path to the Source Documents. These are QlikView documents that contain data that is to be made accessible to end-users in the form of Distributed Documents. The default path to the source documents are in Windows Vista and later `C:\ProgramData\QlikTech\Publisher\Sourcedocuments`, on older operating systmes the path is `C:\Documents and Settings\All Users\Application Data\QlikTech\Publisher\sourcedocuments`. Click the green plus sign to add more **Source Folders**.

Add document administrators to your mounts by clicking the  icon. Read more about document administrators on page 256.

### Alert E-mail



*Figure 96. The Alert e-mail tab for the Distribution Service*

Enter the e-mail addresses for those who should receive alert e-mails from the QDS, use semicolon as separator.

**III**

## E-mail Templates



*Figure 97. The E-mail Template tab for the Distribution Service.*

On this page you can create e-mail templates for the different messages that can be sent from QlikView Publisher. The different messages include: **Attachment** (html and plain text), **Notify** (html and plain text) and **Alert** (html and plain text). You can edit the contents of the templates usin html.

The following variables can be used (the variable must be inside square brackets):

[DocTitle] - The title of the QlikView document

[DateTime] - The current date and time

[Location] - The QlikView Server/folder to which the document has been distributed

[ResourceName] - The Publisher resource to which the document has been distributed

[TaskName] also [JobName] - The name of the task

[Log] - The log of the task.

### Advanced



*Figure 98.  The Advanced tab for the Distribution Service*

Set how the QDS should handle the QlikView engine (QVB.exe).

### QlikView Engine

#### Max Seconds at Zero CPU Usage

When a QVB process has zero cpu usage it could be hung, but it can also be in a state where it has passed a query to the data source and the answer has not yet come back. Use this to set how long the QDS will wait with a QVB at zero cpu usage before deciding it is a hung process and kill it, thus ending the task it was currently assigned to. This event is logged in the log file.

#### Max Number of Simultaneous QlikView Engines for Distribution

Set the number of QVBs that the QDS can send tasks to simultaneously.

#### Max Number of Simultaneous QlikView Engines for Administration

Set how many simultaneous QVBs the QDS can use for the management of tasks in QMC/QEMC.

### Section Access

This setting allows you to select what **username** and **password** the Distribution Service will use when opening QlikView documents. The default value is that the service will use the Windows credentials that are set for the service

itself in Windows computer management console. Read more about section access on page 263.

### Workorder

Click **Send Workorder** to send a workorder to the designated Distribution Service.

### Login



*Figure 99. The Login tab for the Distribution Service*

### Server Login

If you wish to manage a Distribution Service installed on a different computer, enter the **Username** and **Password** of a user that is member of the **QlikView Administrators** group on that machine here.

## Directory Service Connector

The Directory Service Connector is responsible for communicating with the Directory Service that keeps track of all the users and groups in your environment.



*Figure 100. Directory Service Connectors managed by this QEMC*

Highlight **Directory Service Connectors** to look at the connectors that are managed by this console. You can also add more by clicking the green plus sign on the right. Highlight one of the connectors to configure it.

The **Summary** page gives the address of the Directory Service Connector.

### General



*Figure 101. The General tab for the Directory Service Connector*

### Location

Set the location of the Directory Service Connector using the **Host Name** and **Port** fields.

### Logging Level

Set the log level to **No Logging**, **Normal Logging** or **Debug Logging**.

### Clustering

#### Cluster url

When setting up a cluster you must enter the path to your other Directory Service Connectors here.

### Login



*Figure 102. The Login tab of the Directory Service Connector*

### Server Login

If you wish to manage a Directory Service Connector installed on a different computer, enter the **Username** and **Password** of a user that is member of the **QlikView Administrators** group on that machine here.

### Active Directory

#### General



*Figure 103.  The General tab for the Active Directory*

Set the **Path** to the active directory service and enter the **Username** and **Password** used for accessing it.

Click the settings icon ( ✏ ) to open the settings dialog:



*Figure 104.  The Directory Service Provider settings dialog for Active Directory*

#### Cache Expiry in Minutes

Set how long the queries to Active Directory should be cached.

#### Service Timeout in Seconds

Set the time-out for the service's connection to the Active Directory.

### Custom Directory

No Custom Directory is installed as default. In order to use Custom users you must first add a Directory Service Provider for custom users.

**General**



*Figure 105. The General tab for the Custom Directory*

### Path

The path to the directory service. Press the 🖳icon to use the default path or click on the green add icon to add a new directory service.

Enter the **Username** and **Password** used for accessing the directory service if needed.

Click the settings icon ( ✎ ) to open the settings dialog:



*The Directory Service Provider settings dialog for custom users*

### Domain Name

Enter the name of the domain for your custom users.

### Custom Directory Port

The port for the custom directory.

**Users**



*Figure 106.  The Users tab of the Custom Directory*

Click the green plus sign to add **Custom Users** and **Groups**.

### Add Custom Users



*Figure 107. The Add Custer Users dialog*

### Account Information

#### User Name
Enter the user name.

#### Password
Set a password for the user.

#### Enabled
Mark this check box to enable the user.

### User Information

#### Full Name
Enter the full name of the user.

#### E-mail
Enter the e-mail address of the user.

#### Groups
Mark the check boxes for the groups that the user should belong to.

### Create Custom User Groups



**Create custom user groups**

| Group information | |
|---|---|
| Group name: | |

| Users | |
|---|---|
| Member type: | Users |
| User name: | |
| Full name: | |

Search

| Search result | | | | Members in group | | | |
|---|---|---|---|---|---|---|---|
| User name | Full name | Add | | Name | Type | Full name/Members | Remove |

Apply    Cancel

*Figure 108. The Create custom user groups dialog*

### Group Information

#### Group Name

Enter the name of the new group.

### Users

#### Member Type

Choose to add **Users** or **Groups** to the new group.

Use the fields below to search for users or groups to add to the new group.

The information about custom users and groups is saved in `C:\ProgramData\QlikTech\DirectoryServiceConnector\CustomDataDirectory.xml`.

## Configurable ODBC

Read more about configuring the ODBC database on page 301 in the Appendix.

### General



*Figure 109. The General tab of the Configurable ODBC settings*

#### Path

> The path to the directory service. Press the ⬛icon to use the default path or click on the green add icon to add a new directory service.

Enter the **Username** and **Password** used for accessing the directory service.

Click the settings icon ( ✎ ) to open the settings dialog:

**III**



*Figure 110. The Directory Service Provider settings dialog for configurable ODBC*

#### Cache Expiry in Minutes

> Set how long the queries to ODBC database should be cached.

**Connection Database Name**

> The name of the ODBC database you wish to connect to.

**Data Source Name**

> The name of the ODBC driver.

**Directory Label**

> The label of the directory service you are connecting to.

**Entity Name**

> The name of the entity.

**Entity Table Database Name**

> The name of the entities table.

**Groups Table Database Name**

> The name of the groups table.

**Override Connection String**

> The string entered here will be used and the settings in **Connection Database Name**, **Data Source Name**, **Username** and **Password** will be ignored.

**Service Timeout in Seconds**

> Set the time-out for the service's connection to the ODBC.

### Configurable LDAP

> This directory service provider can connect to any generic LDAP.

#### General
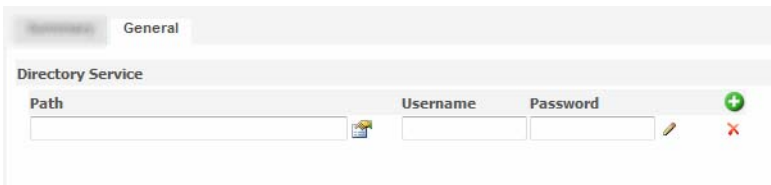


*Figure 111. The General tab of the Configurable LDAP settings*

**Path**

> The path to the directory service. Press the ⊞icon to use the default path or click on the green add icon to add a new directory service.

Enter the **Username** and **Password** used for accessing the directory service.

Click the settings icon ( ✏ ) to open the settings dialog:

| DSP Settings | |
|---|---|
| **Setting** | **Value** |
| Account name property name | sAMAccountName |
| Cache expiry in minutes | 60 |
| Display name property name | name |
| Domain name | |
| Domain name attribute | |
| Domain name node | |
| E mail property name | mail |
| Group member property name | |
| Group object class value | group |
| I d property name | sAMAccountName |
| L d a p filter | (&(!(objectclass=comput |
| Service timeout in seconds | 30 |
| User member of property name | memberof |
| User object class value | user |

[ Confirm ]  [ Cancel ]

*The Directory Service Provider settings dialog for configurable LDAP*

### Account name property name

The property containing the account name of the node.

### Cache expiry in minutes

How long the queries to the LDAP are cached.

### Display name property name

The property containing the display name of the node.

### Directory Label

The unique name of the Directory Service Provider instance.

### E-mail property name

The property containing the e-mail of the node.

### Group member property name

The property that identifies the users in a group.

**Group object class value**

> The class value for the LDAP group object.

**ID property name**

> The property containing ID of a node.

**Ldap filter**

> The LDAP filter to use when searching user objects.

**Service timeout in seconds**

> The time-out for the service's connection to the LDAP server.

**User member of property name**

> The property value that specifies what group(s) the user is member of.

**User object class value**

> The class value for the LDAP user object.

### Local Directory

#### General
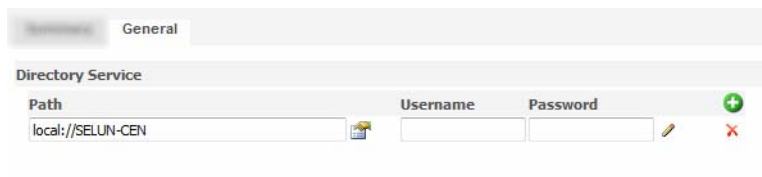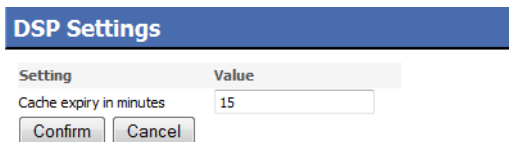


*Figure 112. The General tab of the Local Directory settings*

**Path**

> The path to the directory service. Press the 🖳 icon to use the default path or click on the green add icon to add a new directory service.

Enter the **Username** and **Password** used for accessing the directory service.

Click the settings icon ( ✏ ) to open the settings dialog:

**DSP Settings**

| Setting | Value |
|---|---|
| Cache expiry in minutes | 15 |

[ Confirm ]  [ Cancel ]
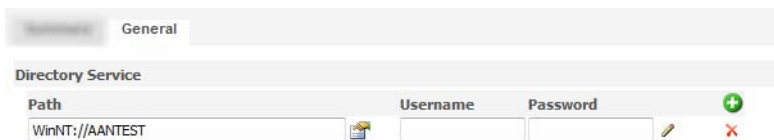
*Figure 113. The Directory Service Provider settings dialog for local directory*

### Cache Expiry in Minutes

Set how long the queries to local directory should be cached.

## Windows NT

### General

**III**

| General |
|---|

**Directory Service**

| Path | | Username | Password | ➕ |
|---|---|---|---|---|
| WinNT://AANTEST | 📁 | | | ✏ ✖ |
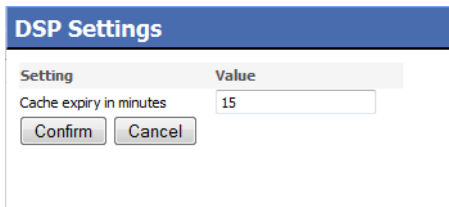
*Figure 114. The General tab of the Windows NT settings*

### Path

The path to the directory service. Press the 📁 icon to use the default path or click on the green add icon to add a new directory service.

Enter the **Username** and **Password** used for accessing the directory service.

Click the settings icon ( ✏ ) to open the settings dialog:

**DSP Settings**

| Setting | Value |
|---|---|
| Cache expiry in minutes | 15 |

[ Confirm ]  [ Cancel ]
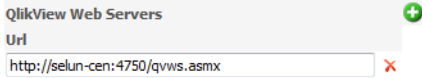
*Figure 115. The Directory Service Provider settings dialog for Windows NT*

### Cache Expiry in Minutes

How long the queries to Windows NT directory are cached.

## QlikView Web Services

The QlikView Web services are responsible for the AccessPoint, load balancing, AJAX pages and the QlikView Web Server.

| QlikView Web Servers | |
|---|---|
| **Url** | ⊕ |
| http://selun-cen:4750/qvws.asmx | ✗ |
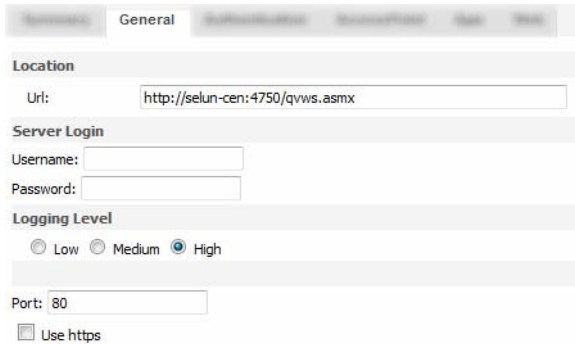
*Figure 116. The QlikView Web Server managed by this QEMC*

The **Summary** page contains the address of the service.

### General

| | General | | | | |
|---|---|---|---|---|---|

**Location**

Url: | http://selun-cen:4750/qvws.asmx |

**Server Login**

Username: [ ]

Password: [ ]

**Logging Level**

◯ Low  ◯ Medium  ◉ High

Port: 80

☐ Use https

*Figure 117. The General tab for QlikView Web Server*

Set the location of the Directory Service Connector using the **Hostname** and **Port** fields.

### Logging Level

Set the log level to **No Logging**, **Normal Logging** or **Debug Logging**.

### Port

The port number that the web server will use.

### Use https

Enable this check box if all communication should go through secure http.

### Directory Service Connectors

Enter the URL address for the QlikView Publisher Directory Service Connector (DSC). This must contain a valid address for the active DSC in order to resolve Group membership when using DMS Authorization.

## Authentication



*Figure 118.  The Authentication tab*

### Authentication

Sets how the client should access the AccessPoint.

#### Always

The client must log in to the AccessPoint.

#### Login

The client can login, but can access the AccessPoint even without login in.

#### Never

The AccessPoint only accepts anonymous users.

### Type

Choose the what type of authentication to use:

#### Ntlm

Uses the Microsoft authentication protocol.

#### Header

Uses a http header specified under **Parameters**.

### Custom User

Uses the custom user Directory Service Provider.

## Parameters

### Header Name

Available only if **Header** is selected in the **Authentication** group. If you use a customized login system, you must specify the http header here in order for the AccessPoint to understand the login process.

### Prefix

Available only if **Header** is selected in the **Authentication** group. Enter the prefix used for the header.

### Prefix

Available only if **Custom User** is selected in the **Authentication** group. Enter the prefix used for custom users.

## Login Address

If using custom users, you must specify an address to your login page.

### Default Login Page (browser authentication)

Uses the web browsers login prompt.

### Alternate Login Page (web form)

A web page is used for login.

### AccessPoint



*Figure 119. The AccessPoint tab*

### Paths

#### Path

Add the path to the AccessPoint.

### Open Document Options

#### Reuse New Window

Opens the QlikView document in a new browser window. The next QlikView document that is opened will use the same window.

#### Same Window

Opens the QlikView document in the same browser window as the AccessPoint.

#### New Window

Opens each QlikView document in a new browser window.

#### Default Preferred Client

Set which client should be set as preferred client for a user's first visit to the AccessPoint for clients.

**Client Paths**

Enter the paths to where the different client files are located for the **IE Plugin** and **Ajax zero footprint** clients.

**Plugin Download**

Mark the **Show Link** check box if you want the link for downloading the plugin to be visible on the AccessPoint.

**Server Connections**

**Respect blowsable flag on mount**

With this setting enabled, only those mounts in the QVS that are set as **Browsable** will be displayed on the AccessPoint.

**Name**

Choose which QlikView Server to view in the drop-down menu.

**Ajax**



*Figure 120.  The Ajax tab*

**Paths**

**Path**

The path to **QvsViewClient.aspx**. The path may be changed, but the file names must remain unchanged for the installation to work.

**Host**

The default QlikView Server that the client will connect to.

### Prohibit Authentication

Prohibit any authentication through the QlikView Web Service.

### Prohibit Machine ID

Prohibit sending machine id. This will effectively exclude the usage of anonymous bookmarks.

### Recording

Logging of qvpx calls for the AJAX zero footprint client.

**III**

**Web**
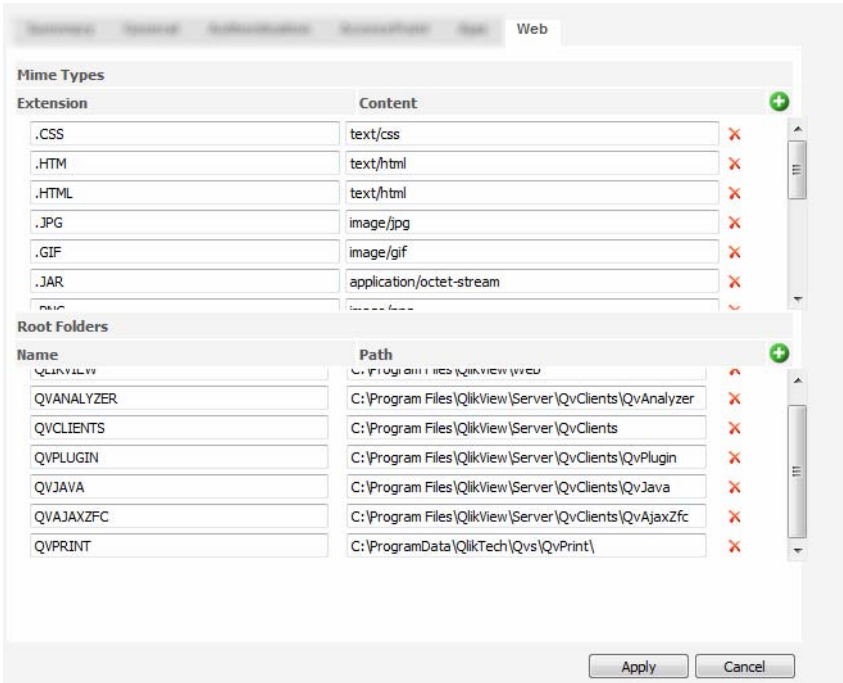


*Figure 121. The Web tab*

**MimeTypes**

Specify what file extensions QlikView Web Server should allow.

**RootFolders**

The path to the different virtual folders in the QlikView Web Server.

### Login



*Figure 122.  The Login tab of the QlikView Web Service*

#### Server Login

If you wish to manage a QliView Web Server installed on a different computer, enter the **Username** and **Password** of a user that is member of the **QlikView Administrators** group on that machine here.

## Remote Management Services

Add the remote Servers from which you want to import tasks by entering the **Url** to the Servers' management services. The connection is made as the user you are currently logged in as.

### General



*Figure 123.  The General tab of Remote Management Services*

#### Name

##### Name

The name of the remote connection.

**Location**

**Url**

The path to the QlikView Management Services on the remote host.

**Import Options**

**Disable Tasks on Import**

Mark this check box to have all the tasks that are imported disabled. This is the default setting.

**Source Folders**
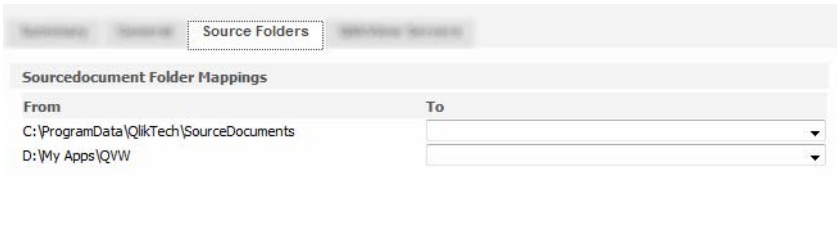


*Figure 124. The Source Folders tab of Remote Management Services*

**Source Document Folder Mappings**

In the **From** and **To** fields you set up the mappings for the souce and target document folders of the different management services.

**QlikView Servers**



*Figure 125. The QlikView Servers tab of Remote Management Services*

**QlikView Server Mappings**

In the **From** and **To** fields you set up the mappings for the source and target QlikView Servers.

# E-mail Server

## General



*Figure 126. The General tab of E-mail Server*

### Location

#### Host Name
Set the address to the SMTP server.

#### Port
Set the port for the SMTP server.

### Misc

#### E-mail Format
Send the e-mail as either **Plain** text och **HTML** message.

#### SMTP Server Timeout
Set how long the service should wait for a response from the server.

#### From Address
Set the address of the sender.

### Authentication Method

Set how the user should authenticate itself when sending an e-mail, **Anonymous**, **Use Distribution Service Account** or enter **Username** and **Password**.

### Override E-mail

#### Send All E-mails to

Enter an address that should receive all e-mails sent by QlikView Publisher. Only for test purposes.

#### Send Test E-mail

Enter an address and click the button to test your settings.

### Folder Access

On this tab you add the names of the document administrators that are allowed to distribute via e-mail.

## Licenses
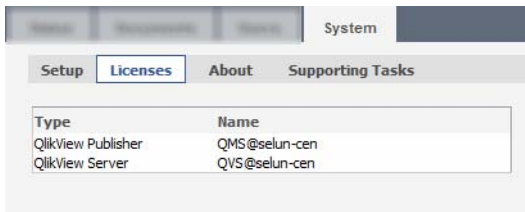


*Figure 127. The Licenses page*

Highlight the product for which you wish to enter a license.

### QlikView Server



*Figure 128. The QlikView Server License tab*

### QlikView Server License

Enter the **Serial Number** and **Control Number** assigned to your copy of QlikView Server. You should also enter your **name** and **organization** in the fields provided.

Use the **Update License from Server** to download a new lef file from QlikTech's Lef server. This is primarily used when updating the number of CALs.

The License Enabler File (lef.txt) for QlikView Server will be automatically written to `C:\ProgramData\QlikTech` on Windows Vista and later, and to `C:\Documents and Settings\All Users\Application Data\QlikTech` in older operating systems. If for any reason, the LEF information cannot be accessed through the Internet from your server, you can obtain this information from your vendor, and copy the entire `LEF.txt` file to this

location, or paste the LEF data using the corresponding field on this page.  Contact your vendor for specific instructions

### Client Access Licenses

These pages display information about the client access licenses that are available on the server.

#### General



*Figure 129.  The Client Access License: General tab*

#### Identification

In the **Identify by** group you decide whether named users should be identified via identified **User Name** or via **Machine Name** (actually machine name + MAC address). It is possible to change this setting at any time but it is strongly recommended to use one mode consistently with a given QlikView Server. If changed during operation, the same user can take up two CALs, one based on user name and one on machine name.

The usage by type of CAL and number of CALs defined in the LEF is displayed.

Usage CALs are allocated in full upon license initiation. Then, 1/28th of your total number of usage CALs are replenished daily up to the amount of the total licensed usage CALs available. For example, if you license 56 usage CALs, you should see 2 additional usage CALs allocated daily, minus any used, not exceeding 56.

### Allow License Lease (Named User CALs)

Mark this check box if you want users to be able to "borrow" a license for use off-line for a period of 30 days.

### Allow Dynamic CAL Assignment (Named User CALs)

Mark this check box if you wish to add CALs dynamically.

### Allow Dynamic CAL Assignment

### Assigned Cals



*Figure 130. The Client Access License Assigned Cals tab*

### Assigned Users

The current assignment of CALs is displayed. Document CALs can be either automatically assigned or manually assigned to users by clicking on the **Assign CAL** button, if there is a Document CAL. Note that the allocation of a CAL does not imply security.

If the **Allow Dynamic CAL assignment** is checked, a new Document CAL will automatically be granted to a user connecting to this QlikView Server for the first time, as long as there are available Document CALs to assign.

The page has a list showing the names of all users currently holding a Document CAL on the document. You can also see the time of the respective user's last activity on the server. A name can be an authenticated user name or a machine name (including MAC address).

To delete an assigned user, thus freeing a Document CAL, click on the **Delete** button ( ✕ ). If the CAL has not been in use for the last 24 hours, it will be deleted immediately. If the CAL is currently being used or has recently been used, it will be marked for deletion, and not allow new sessions for user access through this CAL, but will still occupy an allocated CAL until the Quarantined until time. During this period, you may undelete by clicking the **Restore** button ( ↺ ). After the quarantine period, you may delete the entry manually (by clicking on the **Delete** button), or restart the QVS service.

| Note | Maintenance of Named CALs does not require a restart of the QlikView Server service. |
|------|--------------------------------------------------------------------------------------|

### History
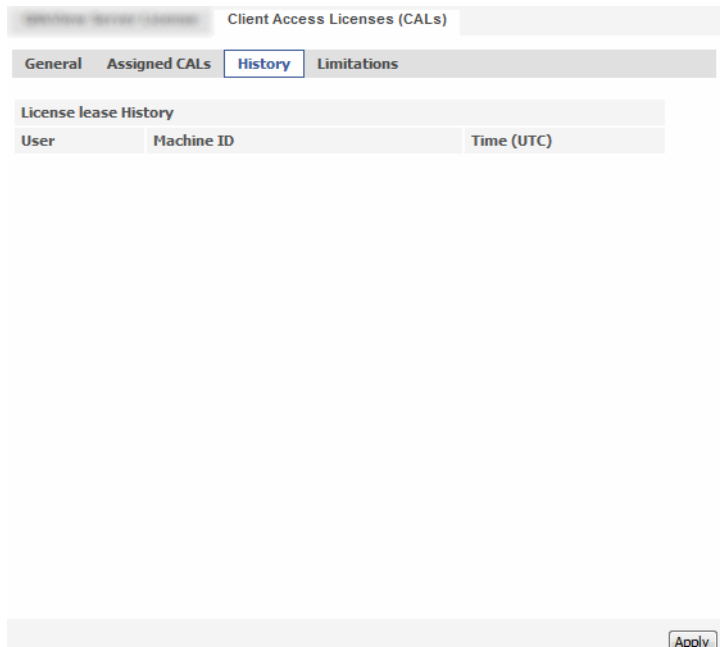


*Figure 131.  The Client Access License History tab*

### License Lease History

This section lists current information about leased license activity. A leased license is used by clients who connect to QlikView Server and are allowed to borrow a license to open the downloaded server document for 30 days.

**Limitations**



*Figure 132.  The Client Access License Limitations tab*

On this page you can limit the number of CALs that may be in use at one time.

## QlikView Publisher



*Figure 133. The Qlikview Publisher license tab*

Enter the **Serial Number** and **Control Number** assigned to your copy of QlikView Publisher. You should also enter your **name** and **organization** in the fields provided.

The QlikView Publisher LEF file is saved in `c:\ProgramData\QlikTech\Publisher\CommandCenter\Publisher LEF` on Windows Vista and later, and on older operating systems it is found under `c:\Documents and Settings\All Users\Application Data\QlikTech`. If for any reason, the LEF information cannot be accessed through the Internet from your server, you can obtain this information from your vendor, and copy the entire `LEF.txt` file to this location, or paste the LEF data using the corresponding field on this page. Contact your vendor for specific instructions

# About
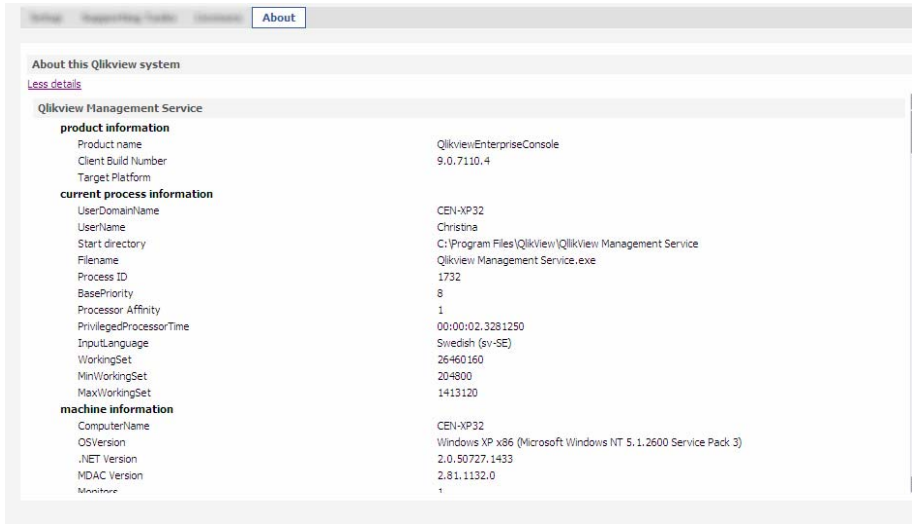


*Figure 134. The About tab in System*

This page displays information about the different services and the computer they run on.

## Supporting Tasks
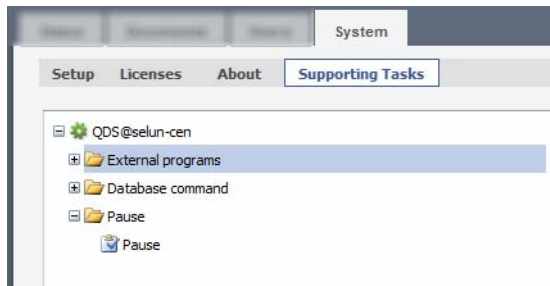


*Figure 135. The Supporting Tasks page*

### External Programs

#### General



*Figure 136. The General tab in External Programs*

III

#### Enabled

Set the task to be disabled to block it from running without deleting it.

#### Task Name

The name of the task. All names must be unique within the installation.

#### Category

Enter a category for the task. A category bundles documents in containers to make categorization

easier for the end-user. They are only visible to the end-user on an AccessPoint. Each document can only be part of one category.

### Description

Enter a description of the task.

### Command Line Statement

The command line statement that will be executed. Please note that you must use quotation marks around your path if it contains a space.

## Triggers

See page 111 for information about **Current Triggers** and **Task Dependencies**.

## Database Command



*Figure 137. The General tab in Database Command*

A Database Command task allows you to run any command against a database

### Basics

#### Enabled

Set the task to be disabled to block it from running without deleting it.

#### Task Name

The name of the task. All names must be unique within the installation.

### Category

Enter a category for the task. A category bundles documents in containers to make categorization easier for the end-user. They are only visible to the end-user on an AccessPoint. Each document can only be part of one category.

### Description

Enter a description of the task.

## Parameters

### Connection String

The connection string that will be used for connecting to the database.

### Database Command

The statement that will be executed. This can be any command that the database will recognize (stored procedures or SQL statements).

**III**

## Triggers

See page 111 for information about **Current Triggers** and **Task Dependencies**.

**Pause**



*Figure 138. The General tab*

**Basics**

**Enabled**

Set the task to be disabled to block it from running
without deleting it.

**Task Name**

The name of the task. All names must be unique
within the installation.

**Category**

Enter a category for the task. A category bundles
documents in containers to make categorization
easier for the end-user. They are only visible to the
end-user on an AccessPoint. Each document can
only be part of one category.

**Description**

Enter a description of the task.

**Parameters**

**Delay Seconds**

This will pause for *n* seconds.

### Delay Until

This will pause until the specified time

## Triggers

See page 111 for information about **Current Triggers** and **Task Dependencies**.

**III**

# PART IV: QLIKVIEW SERVER

# 16 SECURITY SET-UP

## 16.1 Communication Encryption

All communication between QlikView Server and Windows based clients is encrypted. QlikView Server will attempt to establish 128-bit encryption based on the RSA algorithm when a client connects. The level of encryption may however be lowered if the operating system of the client computer does not support this strength of encryption.

Communication with the AJAX client can be secured using Secure Socket Layer (SSL) and HTTPS protocol between the web browser and the web server (IIS or the QVS built in http server - QVWS). This requires an additional certificate. Communication between the QVWS and QVS is, by default encrypted starting with 8.5. If IIS is used, encryption is not possible between QVWS and QVS.

Secure communication between QlikView Server and the AJAX client depends on http or https. Between the web browser and QVS, it depends on IIS or the QvWeb Server.

If you require a secure channel (using SSL) for communication with the server, these settings must be made on the web server, either by using the built-in web server or in IIS. For IIS, set this on **Web Site Properties**, **Directory Security**, **Secure Communications**.

For the QlikView Web Server read more in see "How to Activate SSL for Services in Windows" on page 307.

**IV**

## 16.2 File System Security on Server

If **DMS Authorization** is not set on the **Security** page in the QMC or QEMC, QlikView Server will only make qvw documents available to a connecting client if the client has an identity with operating system file access rights to that document. The account that the QlikView Server service is running as must have read and execute permissions on both file and directory. See below for details regarding anonymous clients.

Document and folder permissions are set on the **Security** page of the **Properties** dialog for documents and folders respectively. These settings are made entirely in the operating system and not from QlikView or QlikView Server.

TIP: Make sure to review the effective permissions after changing permission settings on a file or folder level. In complex environments it is not uncommon that conflicting permission settings cause access to be more or less restricted than intended.

For DMS Authorization mode information and settings, refer to the sections titled Document Metadata Service (DMS) and the **Security** page description for the QMC and QEMC.

## Setting up IIS for Windows Authentication with QlikView for IE and QV AJAX ZFC

In order for the QlikView for IE plug-in to be able to work with Windows authentication when the client computer is not on the same domain as the QVS, the following steps have to be performed:

1      Under **Administrative Tools** in the Windows Control Panel open **Internet Information Server**. Then expand your web site in the tree control.
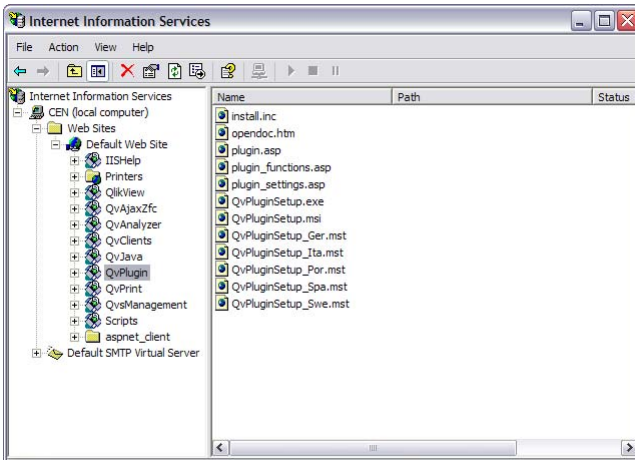
2        Right-click on **QVPlugin** and select **Properties**. Navigate to the **Directory Security** tab and click on **Edit**.
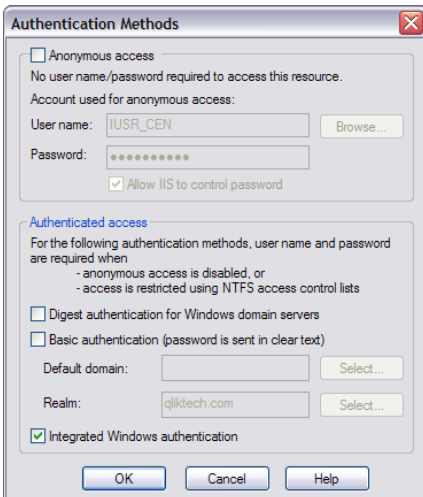


3        Make sure that **Anonymous Access** is deselected and that at least one of the check boxes under **Authenticated Access** is selected.

## Setting up IIS for Windows Authentication with QlikView AJAX ZFC

In order for the QlikView AJAX ZFC to be able to work with Windows authentication you must perform the same procedure as the one described for QVA for IE above, but set properties for **QvAjaxZfc** instead. This step is required if only named CALs are licensed.

While it is not a requirement, you may also want to set the virtual directory subfolder `QlikView\QvAjaxZfc` to Windows authentication as well to set the access rights to the html pages.

## The Anonymous User Account

When the QlikView Server is started for the first time on a machine an account will be created for anonymous users. The account will be named IQVS_name where name is the name of the machine in the local network.

If the machine in question is a domain server, the anonymous account will be created as a domain account or it will be a local machine account.

Each folder and file that should be available from anonymous clients must be given read privileges to the anonymous account.

## Connection Pseudo-URLs

When connecting to QlikView Server from Windows clients, either via the **Open in
Server** dialog or via link files, the identity to be used is specified via the pseudo-URL
document address.

The syntax is:

```
qvp://[[username]@]servername [:(port | protocol)] /
[documentname.qvw] [?paramname=paramvalue{&param-
name=paramvalue}]
```

where

**username** is a Windows user ID

**servername** is the name of a server running QlikView Server

**documentname** is the name of the QlikView document (excluding qvw
extension)

**port** (e.g. 4749) can be used to specify a specific port used by the server

**protocol** (e.g. http) can be used to specify tunneling protocol

**paramname** := (USERID | XUSERID | PASSWORD | XPASSWORD |
MACRO |

IIS_AUTHENTICATE )

USERID denotes a section access userID in clear text

XUSERID denotes a scrambled section access userID

PASSWORD denotes a section access password in clear text

XPASSWORD denotes a scrambled section access password

MACRO denotes the name of a macro to be run when the document
is opened

(only one macro allowed)

IIS_AUTHENTICATE denotes a single-use key (40 hex characters)
for IIS integrated authentication.

**paramvalue** is a valid value for each parameter.

@ without **username** denotes anonymous identity.

If user identity is omitted altogether, the logged in Windows identity is assumed.

**Examples:**

`qvp://www.qliktech.com/AcmeStores.qvw`

`qvp://@www.qliktech.com/AcmeStores.qvw`

`qvp://john.doe@www.qliktech.com/AcmeStores.qvw`

`qvp://www.qliktech.com:http/AcmeStores.qvw`

`qvp://www.qliktech.com/AcmeStores.qvw?USERID=JOHN&PASS-WORD=ABC123`

`qvp://www.qliktech.com/AcmeStores.qvw?MACRO=Mymacro`

TIP: Internet Explorer 7 and 8 do not support @ or : in the URL in order to prevent spoofing of URLs. To specify these characters in the URL, you need to URL-encode them.

Use %3A for: and %40 for @.

# 16.3 File System Security vs. QlikView Section Access Security

NTFS Authorization or DMS Authorization mode file system security only controls which documents a client is allowed to see in the file tree and attempt to open. The documents may of course contain a script section access which further prevents or limits the client's access to the content of the document once opened.

The QlikView Windows clients will prompt the user for section access USERID and PASSWORD when required. When using section access with QlikView USERID and PASSWORD in connection with QlikView AJAX ZFC it is necessary to make your own provisions for entering them and then pass them to the QlikView AJAX ZFC by means of URL parameters (see special sub-section titled "Using section access with QlikView AJAX ZFC" for details).

# 16.4 Security Configurations

There are, of course, many configuration choices available for a QlikView Server implementation. This section will attempt to describe some options as examples of possible configurations.

**IV**

# Authentication vs. Authorization

### Authentication: "Who is this user?"

The main way of authenticating a user should be

- an Operating System logon (Windows, Novell, etc), or

- any Web logon using a Directory Service.

Either way, it is made by non-QlikTech software.

An additional authentication can be made by QlikView through the fields USER, PASSWORD or SERIAL in a Section Access of the load script.

### Authorization: "What data is this user allowed to see?"

1    If the QlikView Server runs in **DMS Authorization** mode, the authorization is handled through the DMS thread on the QlikView Server.

2    If the QlikView Server runs in **NTFS Authorization** mode (legacy mode), the authorization is handled by the Windows NTFS file system. This requires that the authentication is made through Windows.

3    In both modes, an additional access limitation can be defined in the Section Access of the script using e.g. NTNAME. This is handled by QlikView.

## Client Side Authentication

The QlikView Server is within the same Domain as the client, and a Windows Directory Service is available.
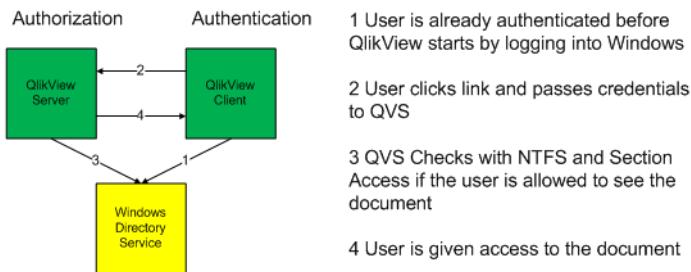
The user is already authenticated when the QlikView client is started. As the client clicks on a QlikView link, a request is sent to the QVS with the user credentials. The QlikView Server uses NTFS and Section Access to see if the user is allowed to see the document.

## Server Side Authentication – Using AccessPoint

The QlikView Server will issue a ticket for authenticating a user through **QvsComRemote.dll**. If the user presents a valid ticket when requesting a session, the access is granted based on the user's authorization to open a document.



Ticket authentication using AccessPoint Version 9 with Windows Users
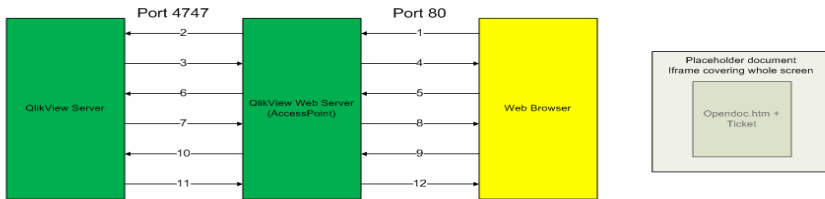
| 1 | The client browses to the AccessPoint |
| 2 | The AccessPoint requests the file list from the QlikView Server |
| 3 | The QVS sends the file list |
| 4 | The AP shows the available documents |
| 5 | The client selects which file to open |
| 6 | The AP requests ticket from the QVS |
| 7 | The QVS sends the ticket |
| 8 | The AP sends a placeholder document with the ticket |
| 9 | The client requests the right file with the ticket from the AP |
| 10 | The AP requests the file with the ticket from the QVS |
| 11 | The QVS opens a connection to the file |
| 12 | The AP shows the client the file |

## Server Side Authentication – Non Windows Web Server

The QlikView Server will issue a ticket for authenticating a user through the QlikView web server. If the user presents a valid ticket when requesting a session, the access is granted based on the user's authorization to open a document.
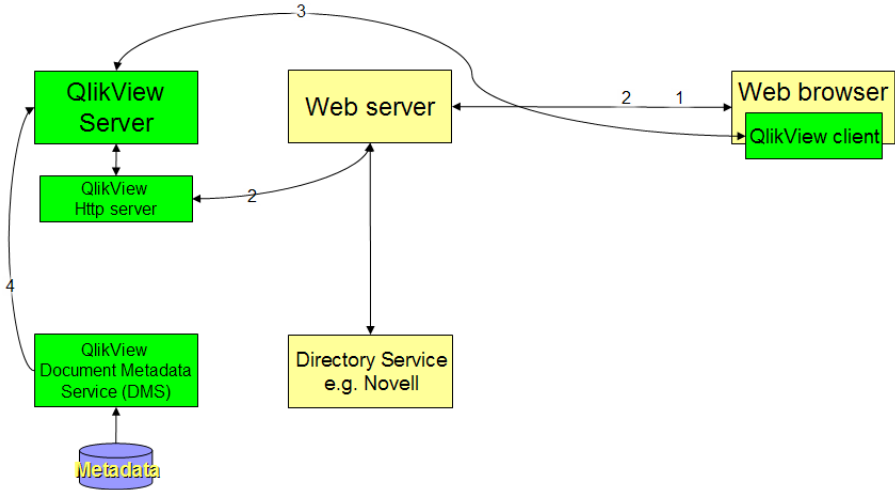


1   The client makes a call to a web server. The web server must already have an authentication system in place. Either background authentication or a log-on screen.

2   As the client clicks on a QlikView link, the web server makes a web service call to the QlikView Http server with a request to the QVS with the user name and gets a ticket in return.

3   The client launches a QlikView client that sends a request including the ticket to the QVS.

4   The QVS trusts the web server and thus "knows" who the user is. QVS checks with the DMS if the user is allowed to see the document.

## Server Side Authentication – Get Ticket Process

QlikView Server does not authenticate the user; it authenticates the process asking for a connection. There are two methods that can be used for authentication, Negotiated Authentication and Ticket Authentication. Once the connection is established QVS make no distinction between how the authentication was done.

Authenticated Names are required for any task where a user name is required, other than CAL assignments, which use a simple, best guess procedure.

**Negotiated Authentication**: This authentication will be used as the authenticated user if:

- The connection is marked as admin.

  Or if all the below apply:

- The server is not set to 'Always anonymous'

- The connection is not done by ticket

- The authenticated user isn't considered as equal to anonymous (e.g. USR_...)

  Negotiated Authentication will attempt to use Kerberos, but if that is unsuccessful, NTLM will be used.

**Ticket Authentication**: The alternate method to get an authenticated user is through ticket. See examples below for additional information.

- QVS is passed a username from a trusted source (in QVS Admin Group) and QVS trusts that authentication has happened elsewhere.

- Or, Tickets can also be obtained 'For Me' i.e. for the actual user of the asking process

**Client Usage:**

- The Windows client can use tickets (via QVP url) or negotiate authentication

- The AJAX client must use the ticket parameter, e.g. **http://localhost/salesdemo/AJAXzfc/?ticket=510EA55C2DB723DC04C16C6FB3CDAB24F3390792**

### Get Ticket examples:

There are two ways of requesting a ticket from QlikView Server, to be used in different Single Sign On (SSO) scenarios:

**GetTicketForMe** This will require that you are an authenticated Windows user and will generate a ticket only valid for yourself. The function takes no parameters.

To try it out type the following in a web-browser:
**http://webhost/qvajaxzfc/qvsviewclient.aspx?cmd=<Global%20method='GetTicketForMe'%20/>**

In programming (ASP/VBScript), use the following:

```
set ntsecurity = Server.CreateObject("QVSRemote.Client")
ntsecurity.AdminConnect "localhost"
ticket = ntsecurity.execute("<Global method='GetTicket-
ForMe'/>
```

The response will be an XML-document in the following format:

```
<Global>
<_retval_>
40 char hex
</_retval_>
</Global>
```

**GetTicket** This function will generate a ticket for any UserId submitted to the function.

---

**Note**   Only members of the local QlikView Administrators group can retrieve a ticket. If not part of the group the function will return **<Error />**. See below for other options

---

In programming (ASP/VBScript), try the following:

```
set ntsecurity = CreateObject ("QVSRemote.Client")
ntsecurity.AdminConnect "localhost"
ticket = ntsecurity.Execute("<Global method='Get-
Ticket'><UserId>User</UserId></Global>")
msgbox ticket
```

The UserID is retrieved from any other trusted authentication source.

If QVS and IIS is installed on different machines, replace "localhost" with the IP/DNS name for the QlikView Server.

# 16.5 Supervision Accounts

These accounts always have the right to open documents on the Server through one of the QlikView clients, for example, through **Open in Server** in QlikView Desktop.

Add the users to the mounts in QEMC, see page 156.

# 17 FUNCTIONAL ARCHITECTURE

## 17.1 QlikView Server – Client Communication

The QlikView Server – Client communication architecture requires three primary processes, which must be able to communicate with each other in a consistent and secure manner. This interaction can potentially involve multiple computers and multiple network connections, as well as other subordinate processes.
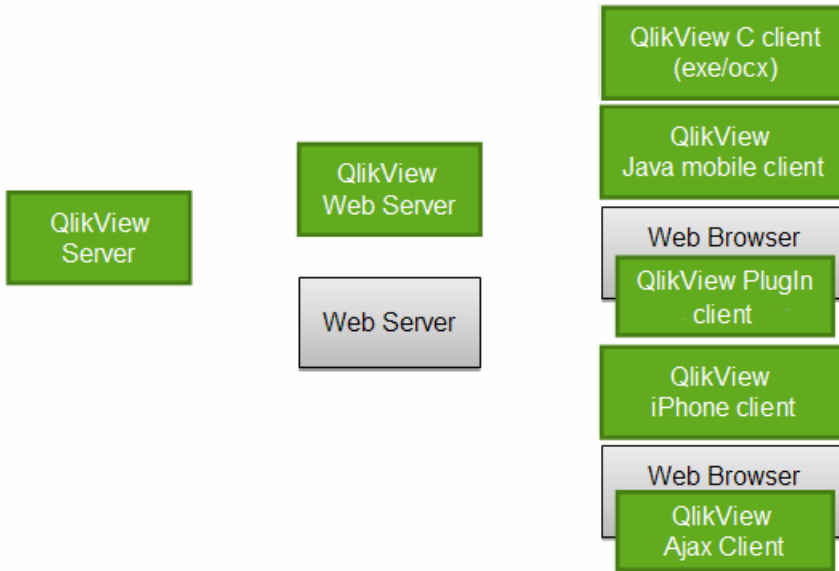


The three primary processes are:

1      The **QlikView Server (QVS)**, which provides QlikView functionality to the client. The machine that is hosting this service must be running in a Microsoft Windows Operating System (refer to System Requirements section at the beginning of this document).

2      The **Client**, running in a web browser or an application shell that provides a container for the client code. The client communicates with QlikView Server either directly or through the Web Server to provide the QlikView interface and functionality to the end user.

3      The **Web Server**, running an HTTP server, which can be used to serve up the HTML web page to the client, assist with authentication of the user, and enable communication between the client and QlikView Server.

In the simplest scenario, all three processes can be running on a single machine, with a single user. The complexity of this relationship can increase quickly, however, as separate machines, Internet connections, multiple firewalls, and multiple Web Servers are introduced. Finally, multiple users who require security authentication and authorization from a myriad of Directory Services are added, and a QlikView Server – Client communication architecture can become quite involved.

There are, of course, a large number of possible network configurations that QlikView Server can participate in, but there are a few considerations to keep in mind regardless of the final configuration:

- QlikView Server runs as a Windows Service only

- At least one network communication path must exist between the QlikView Server and the Client

- The authentication of the Client user must be performed either through Windows Authentication, QlikView Authentication (section access), or any third party system that can authenticate the user.

---

**Note**    QlikView Server will cache group membership lookups for 15 minutes. This applies for Servers running in both NTFS and DMS mode.

---

## QlikView Server Functional Description

There will be one QlikView Server process per logical computer, which must be running a Windows Operating System. QlikView Server can run as a 32-bit or 64-bit process (OS and hardware dependent). The QlikView Server process can be identified as qvs.exe.

### Client Access License (CAL)

All client access to QlikView Server must be licensed. This is accomplished through the use of Client Access Licenses (CALs) linked to the specific instance of the QlikView Server through the LEF file. In this context, it is important to understand the definitions of anonymous user and authenticated user.

Anonymous user – an unidentified or unknown user (any user). There is no authentication for anonymous users, they can be anyone.

Authenticated user – an identified user whose identity can be verified.

Authenticated Windows OS user (e.g. NTNAME, NT User, NTDO-MAINSID)

Authenticated non-Windows user

Authenticated QlikView user (e.g. section access: USERID, PASS-WORD)

Authenticated third party (build partner) user

The type of CAL will affect how users are allowed to connect to QlikView Server, based on the Client type and Authentication settings in the Web Server and/or QlikView Server. Read more about the different CALs on page 225.

## Client Functional Description

QlikView Server can support the following categories of Clients:

1     **Windows Clients** – this is the QlikView Desktop. This category also includes the Internet Explorer plug-in ActiveX client running as a full window or object only (QlikX). All Windows Clients require installation with Administrator level rights. QlikView Desktop requires licensing on the client machine in addition to the QlikView Server CAL.

2     **AJAX (ZFC) Clients** – this includes the AJAX Client, which supports HTML objects only. No Client side installation or licensing is required.

3     **Mobile Client** – this includes the iPhone client and the Java based mobile clients (for BlackBerry and others). An App Download to the mobile device and installation is required. Settings are available to configure the server from the download site as well as on the client device. No Client side licensing is required.

### Client Communication to QlikView Server

There are multiple protocols defined for client communication with QlikView Server (QVS).

- QVP: Encrypted, binary, communicates directly with the QVS on port 4747

- QVPJ: Not encrypted, binary, communicates directly with the QVS on port 4747

- QVPX: Not encrypted, xml, communicates with the QVS using http/https through a web server.

Windows clients (exe/ocx) communicate directly with QlikView Server, using QVP (QlikView Protocol) on port 4747. These clients

do not require a Web Server to establish and maintain a connection with QlikView Server.

The Mobile (Java) client communicates directly with QlikView Server, using QVPJ on port 4747. These clients do not require a Web Server to establish and maintain a connection with QlikView Server.

AJAX (ZFC) Clients can never communicate directly with QlikView Server. They must establish and maintain a connection using the QVPX protocol through a Web Server (e.g. QVWS or IIS). This is typically accomplished through port 80 (http).

The iPhone client must establish and maintain a connection using the QVPX protocol through a Web Server (e.g. QVWS or IIS). This is typically accomplished through port 80 (http).

| | |
|---|---|
| | qvp: → QlikView C client (exe/ocx) |
| | qvpj: → QlikView Java client (stand-alone) |
| | qvpj: → QlikView Java mobile client |
| QlikView Server — 4747 | Web Browser / QlikView PlugIn or Java client |
| → QvsNetRemote.dll → QlikView Web Server — 80 | qvpx: → QlikView iPhone client |
| → QvsComRemote.dll → Windows web Server — 80 | qvpx: → Web Browser / QlikView Ajax Client |
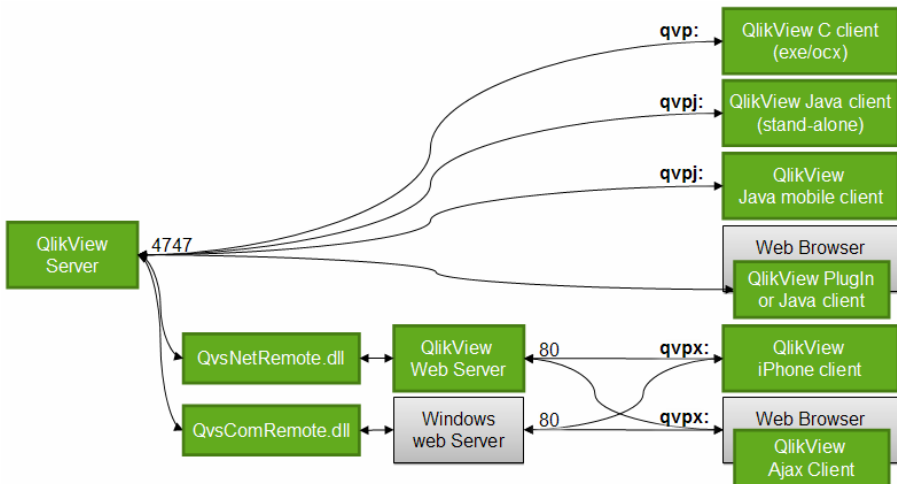
The default installation settings for QlikView Server will use the QlikView Web Server and not the IIS. The QlikView Web Server will share port 80 with IIS on Vista, 2003 Server and 2008 Server. On Windows XP, only one of the two web servers (IIS and QVWS) can be used on port 80. If both are configured to run, they must be assigned different ports.

All clients will communicate through a web server using http or https when tunnel is required. AJAX and Mobile clients require connection to a web server when authentication is necessary. An http or https connection to the QlikView Server is used to get a ticket.

## Web Server Functional Description

Traditionally, the standard web server in a QlikView Server configuration has been Microsoft Internet Information Services (IIS). QlikView offers an alternative solution that is included with the QlikView Server installation. This is the QlikView Web Server. This web server can act as a stand alone service, but is cannot handle asp pages.

Other web servers can be utilized in a QlikView Server environment, but there are some restrictions. If the other web server is able to direct traffic to the QlikView web server (running on the same machine as QlikView Server), the possibilities are many, including the configuration with the other web server running under a non-Windows operating system. If the other web server must utilize a local QlikView Server dll (`QvComRemote.dll`) to communicate with QlikView Server (e.g. for tunneling), then the other web server must be running under a Windows operating system.

## Web Server on Separate Machine from QlikView Server

If the Microsoft IIS or QlikView Web Server is running on a separate machine from the QlikView Server, you will need to configure the location of the QlikView Server, and optionally, the port, to allow the web server to locate the QlikView Server. The configuration requirement will vary, based on which web server you are using.

### IIS web server

Edit the file `QvClients\settings.js` to point to the QlikView Server, and optionally, the port. Change the variables `QvsHost` and `QvsPort` to match your environment, and remove the comments. The `QvsViewClient.aspx` is configured to include the `settings.js` code, but you will need to remove the comment tags.

### QlikView Web Server

Edit the file `C:\Program Files\QlikView\Server\QvWeb-Server\config.xml` to point to the QlikView Server. Change the tags `QvsHost` and `QvsTunnel` to match your environment.

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# 17.2 QlikView Server Tunnel

If the standard communication port to QlikView Server (4747) is blocked in any way (typically by a firewall limitation), the Windows Clients will attempt to re-route their connection through port 80 (http). This connection path must then include the QVWS so that the QlikView Tunnel communication can be established. All communication through the QVS Tunnel must include the secure communication packet, so this will significantly increase the network traffic (along with response times) required

between the QlikView Server and the client. The infrastructure might also interfere, for example, if the traffic is routed through proxy servers. This is especially true if tunneling using HTTPS. It is recommended to set up rules to bypass proxy servers when tunneling using HTTPS.

The QlikView Tunnel is installed into the Web Server process and allows the QlikView Client to be tunneled over the HTTP protocol to the HTTP process and then forwarded onwards to the QVS process.

When there is a requirement for the HTTP process to run on a third machine (perhaps since it is not a Microsoft Windows server) but communication between the Client and the HTTP machine is restricted, then the setup is similar. The HTTP machine having a Tunnel installed to redirect the QlikView Client protocol on the QVS machine. Communications between the QVS and HTTP cannot be restricted in any way.

Finally, if the HTTP process must run on a third machine and communication between the Client and HTTP machine is not restricted in any way, then another process can come into play. This is a TCP/IP Redirector (or Redirect) that runs on the HTTP machine. It is required because (in the case of Java) the Client applet can only connect to the machine that served the web page containing the applet. The redirect process accepts the connection from the applet for the QlikView Client protocol and forwards it onto the actual QVS machine. The Redirect process may be a separate program, part of the operating system of the HTTP machine or even a function of the firewall/proxy system in use between the HTTP machine and the Client machine. All that matters is that both the machine name and the IP address of the Redirect is the same as the HTTP machine.

## For Tunneling on a Windows Server using IIS

The tunnel dll-file is copied to the following directory during installation:

`C:\Program Files\QlikView\Server\QvTunnel`

A virtual directory is set in IIS.

### Scripts
If the client cannot connect via the default TCP connection, the client will by default try to connect via http (Port 80).

Two entries are required in the registry:

[`HKEY_LOCAL_MACHINE\SOFTWARE\QlikTech\QlikTunnel`]

"QVSPort"=dword:000012a6

"QVSServer"="QvsHost"

The QVSPort entry should already exist, but the QVSServer must be added manually.

| **Note** | These registry entries are only relevant when the Microsoft IIS and the QVS are on different machines. |

| **Note** | The tunnel.dll file is only needed when using Microsoft IIS and tunneling traffic. |

## For Tunneling using QlikView Web Server:

Edit the Config.xml file to specify the location of the <QvsHost> and <TunnelHost>. <QvsHost> is used in all non-tunnel-cases and <TunnelHost> when tunnelling is requested. It is thus possible to have one Qvs handling all non-tunneling and another handling tunnelling. Note that if you omit <TunnelHost> the QlikView Web Server will NOT support QVS tunnel.

```
<Config>
      <QvsHost>HIC-HP</QvsHost>
      <TunnelHost>HIC-HP</TunnelHost>
```

## Tunneling from Windows clients

Tunneling from Windows clients is achieved by adding http as protocol in the pseudo-URL describing the server or document address. For Internet Explorer 7 and 8, the QVP syntax requires ";" in place of ":" in order to prevent spoofing of URLs. For example, qvp://host;http/test.qvw.

## QlikView Tunnel Test Procedure

You can test the QlikView Tunnel by entering the following URL from a Client browser window if you are running Microsoft IIS:

```
http://Server/scripts/qvstunnel.dll?testtunnel
```

Where

Server is the Web Server name or address

If the QlikView Tunnel is set up correctly, the webpage should return with a message saying that tunneling is available and the version number of QlikView Server.

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# 18 LOGGING

## 18.1 Logging from QlikView Server

Alerts from QlikView Server will appear in the Windows event log.

More detailed logs for sessions can be found in the logging directory specified on the **QlikView Server Settings**, **Logging** tab of QMC and on the **System**, **QlikView Server**, **Logging** in QEMC. The default location is `C:\Documents and Settings\All Users\Application Data\QlikTech\QVS`, Windows Vista and later uses `C:\ProgramData\QlikTech\QVS`.

Log files can be set to split (create new) daily, weekly, monthly, yearly or never. Performance log intervals can be set from 1 minute and higher.

A QlikView document designed to load data from the log files and support analysis is provided on the default installation of QlikView Server. This file is named `QvServerPerformance.qvw` and is located in the QvsDocuments folder.

## 18.2 The Session log

The session log is updated each time a session ends. A session is defined as a single user connected to a single document. The file name of the session log is `Sessions*.log`, where * reflects the server name and the split interval. Each entry of the session log will contain the following fields.

| Session Log filed | Explanation |
|---|---|
| Exe Type | Type of QlikView Server build<br><br>Example: 'RLS32' = 32-bit release build |
| Exe Version | Full version number of QlikView Server. Example: '8.0.4366.0409.10' |
| Timestamp | Date and Time when log entry was created |
| Document | QlikView document accessed |
| Document Timestamp | File timestamp of document accessed |
| QlikView User | QlikView section access UserID (if used) |

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| Session Log filed | Explanation |
|---|---|
| Exit Reason | Reason for session termination: |
| | 'Socket closed'= client induced termination. |
| | 'LRU'=terminated as Least Recently Used in favor of new user |
| | 'Shutdown'=server induced termination for other causes |
| | Additional values exist, but should normally not occurr. |
| Session Start | Time when session was started |
| Session Duration | Duration of session in hours:minutes:seconds |
| CPU Spent (s) | CPU-seconds spent by session |
| Bytes Received | Bytes received by server during session |
| Bytes Sent | Bytes sent by server during session |
| Calls | Number of QlikView calls during session (bidirectional) |
| Selections | Number of QlikView selections made during session |
| Authenticated user | Authenticated Windows NT UserID (if it exists) |
| Identifying user | User identification for client |
| Client machine identification | Machine identification for client |
| Serial number | Serial number of QlikView client (QVA+, QVP or QVE installed client only) |
| Client Type | Type of client used |
| | 'Windows exe'=Windows client |
| | 'Java'=Java client |
| | 'iPhone'=iPhone client |
| Secure Protocol | 'On' when encrypted communication is used (typically Windows clients=. |
| | 'Off' when non-encrypted communication is used |
| Tunnel Protocol | 'Tunnel' when QVS tunnel communication is used. |
| Server Port | Port used by server. |
| Client Address | Client IP number |
| Client Port | Client port |

| Session Log filed | Explanation |
|---|---|
| Experienced Performance | A measure indicating how large portion of the CPU power that could theoretically be utilized by the session's needs that was actually available to it. The closer you get to the (theoretical and unachievable) maximum value of 100 the less the session had to wait for other sessions, server overhead etc. The value will vary between different types of documents. If you get consistent low readings in this column or if you get low readings for a specific document at certain times of the day, you should consider expanding server capacity. |
| Cal Type | Type of Client Access License used  'User'=Named CAL  'Session'=Session CAL  'Usage'=Usage CAL |
| Cal Usage Count | Count of Usage CALs |

# 18.3 The Performance log

The performance log is updated at an interval set on the **Logging** page of the QlikView Enterprise Management Console. The default interval is 5 minutes. Additional entries are made whenever the server is started or stopped. The file name of the session log is **Performance\*.log**, where * reflects the server name and the split interval. Each entry of the log will contain the following fields.

| Performance Log field | Explanation |
|---|---|
| Exe Type | Type of QlikView Server build  Example: 'RLS32' = 32-bit release build |
| Exe Version | Full version number of QlikView Server  Example: '8.0.4366.0409.10' |
| Timestamp | Date and Time when log entry was created |
| EntryType | Type of entry. 'Server starting' denotes startup. 'Normal' denotes normal interval log entry. 'Server shutting down' denotes shutdown |
| ActiveDocSessions | Number of document sessions* that have shown activity during the interval and still exist at the end of the interval |
| DocSessions | Total number of document sessions* that exist at the end of the interval |

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| Performance Log field | Explanation |
|---|---|
| ActiveAnonymousDocSessions | Number of document sessions* with anonymous user that have shown activity during the interval and still exist at the end of the interval |
| AnonymousDocSessions | Total number of document sessions* with anonymous user that exist at the end of the interval |
| ActiveTunneledDocSessions | Number of document sessions* with tunneled connection that have shown activity during the interval and still exist at the end of the interval |
| TunneledDocSessions | Total number of document sessions* with tunneled connection that exist at the end of the interval |
| DocSessionStarts | Number of document sessions* that have been initiated during the interval |
| ActiveDocs | Number of documents loaded at the end of the interval in which there has been user activity during the interval |
| RefDocs | Number of documents loaded at the end of the interval for which there is a session at the end of the interval |
| LoadedDocs | Total number of documents loaded at the end of the interval |
| DocLoads | Number of new documents loaded during the interval |
| DocLoadFails | Number of documents that have failed to load during the interval |
| Calls | Total number of calls to QlikView Server during interval |
| Selections | Number of selection calls during interval |
| ActiveIpAddrs | Number of distinct IP-addresses that have been active during the interval and still exist at the end of the interval. Note that tunneled sessions and multiple users originating from the same IP cannot be distinguished |
| IpAddrs | Total number of distinct IP-addresses connected at the end of the interval. Note that tunneled sessions and multiple users originating from the same IP cannot be distinguished |
| ActiveUsers | Number of distinct NT users that have been active during the interval and still exist at the end of the interval. Note that anonymous users cannot be distinguished here |

| Performance Log field | Explanation |
|---|---|
| Users | Total number of distinct NT users connected at the end of the interval. Note that anonymous users cannot be distinguished here |
| CPULoad | Average CPU load from QlikView Server during interval |
| VMAllocated(MB) | Size in MB of virtual memory allocated by QlikView Server at the end of the interval ** |
| VMCommitted(MB) | Size in MB of virtual memory actually used by QlikView Server at the end of the interval. This number is part of VMAllocated(MB) and should not exceed the size of the physical memory in order to avoid unacceptable response times |
| VMFree(MB) | Size in MB of unallocated virtual memory available to QlikView Server ** |
| VMLargestFreeBlock(MB) | Size in MB of the largest contiguous block of unallocated virtual memory available to QlikView Server. This number is part of VMFree(MB) |
| UsageCalBalance | '-1.00' denotes no Usage CALs exist |

* one user + one document = one document session

**VMAllocated(MB)+ VMFree(MB) = total maximum virtual memory space available to the QlikView Server process.

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# 18.4 The Event log

The event log is updated each time a log entry is made to the Windows event log from QlikView Server. The information stored is a mirror of the information written to the Windows event log. The file name of the event log is Events*.log, where * reflects the server name and the split interval. Each entry of the log will contain the following fields.

| Event Log field | Explanation |
|---|---|
| Timestamp | Date and Time when log entry was created |
| SeverityID | Unique ID of severity level<br><br>1 = Error<br><br>2 = Warning<br><br>4 = Information |
| EventID | Unique ID for the type of event |

| Event Log field | Explanation |
| --- | --- |
| Severity | Severity level of event<br><br>Error \| Information \| Warning |
| Message | Description of the event |

# 18.5 The Audit Log

This setting logs user selections, including clear selections, sheet activation, the application of bookmarks, report access. A log file called AUDIT_<machinename> is saved to **C:\Documents and Settings\All Users\Application Data\QlikTech\QVS**, Windows Vista and later uses **C:\ProgramData\QlikTech\QVS**.

**Note** The logging of user selections in QlikView Server is based how the current selections object works and therefore larger selections are not logged in detail.

| Audit log field | Explanation |
| --- | --- |
| Server started | The date and time the QlikView Server was started. |
| Timestamp | Date and time the log entry was created. |
| Document | The path and the name of the document that was accessed. |
| Type | The type of selection that was made, for example Selection and Bookmark. |
| User | The name of the user. |
| Message | Information about the type of selection or the application of bookmark that was made in the document. Example: Apply Server\BM15. |

# 19 LICENSING

## 19.1 Client Access Licenses (CALs)

In order to connect to a QlikView Server each client needs a Client Access License (CAL). The CALs are purchased with QlikView Server and tied to the QlikView Server serial number. A CAL is never transferred to a client, but a client uses a CAL when connecting to a specific QlikView Server, CAL. CALs are thus not transferable between different instances of QlikView Server. If a user is required to work with documents residing on several instances of QlikView Server, a separate CAL is needed at each of the QlikView Servers.

## 19.2 Types of CALs

There are four different types of CALs available:

- Named CAL (an identified user on a server) – Access is based on user identity and valid for all documents on the server, that is any number of concurrent sessions from one user on one machine at a time is allowed.

- Document CAL (an identified user within a given document) – Just as above, the access is based on user identity, but the CAL is valid only for one document. If the same user connects to two documents using this licensing method, he will hence consume two Document CALs.

- Session CAL – Each Session CAL allows one user on one computer to access QlikView documents, that is any number of concurrent sessions from one user on one machine at a time is allowed. Anonymous users are allowed, no identification of the client user is necessary.

- Usage CAL – Each Usage CAL gives the right to initiate one session (single document) per running 28-day period. The session may last a maximum of one hour. Any activity after the first hour has expired will count as a new session (albeit without visible interruption). No identification of the client user is necessary.

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| Note | CALs are used for purposes of licensing only and they have nothing to do with user authentication for data access purposes. |
|---|---|

## Identification

In order to utilize a Named CAL or a Document CAL, the client user must be identified either via an authenticated user name (Windows Active Directory or through a ticket exchange between the web server and the QlikView Server) or with a unique machine ID. An IP address is not a valid form of identification for a Named CAL. The two methods of identification cannot be mixed on the same instance of QlikView Server. Note that the user name identification requires Windows authentication on Ajax clients, since machine name identification is not possible from these clients.

## Document restrictions

The purpose of the Document CAL is to provide a mechanism by which licensees can license the use of a single document. To prevent the combination of many data models into a single document, there are restrictions in the documents which can be used with the Document CAL. The Named CAL, the Session CAL and the Usage CAL can however be used to open any functional QlikView document. The Document CAL, however, can only be used with documents which have a single contiguous data model and do not contain any chasm traps between tables.

Most common data models used in QlikView documents can be used for Document CALs. For instance, proper star schemas and snowflake schemas typically have the field with the highest cardinality in the fact table and the keys in dimensional tables have a lower cardinality. For snowflake schemas, the cardinality decreases further as you move away from the fact table. Documents containing such models typically fulfill the above demands and are well suited for Document CALs.

But documents with multiple logical islands are normally not allowed. Multiple logical islands are only allowed if the additional tables are unconnected and contain only few records or one single column.

Further, the document may not contain any loosely coupled tables.

Finally, the cardinality (number of distinct values) of the key fields must decrease as you move away from the fact table.

# 19.3 Combining different types of CALs

A given instance of QlikView Server can carry any combination of the CAL types listed above. When different CAL types are combined on the same server, the order of priority in the CAL assignment will be made as follows:

1      If there is a dedicated Named CAL for the connecting client, it will be used.

2      If there is a dedicated Document CAL for the connecting client, it will be used.

3      If it is possible to assign a new Named CAL for the connecting client, it will be used.

4      If it is possible to assign a new Document CAL for the connecting client, it will be used.

5      If there is an available session CAL, it will be used.

6      If there is an available usage CAL, it will be used.

7      If none of the above, access will be denied.

# 19.4 License Lease

A QlikView client, that does not have a registered license, is allowed to connect to a QlikView Server and "borrow" a license so that the user can work off-line for a period 30 days. The QlikView client must then make an authenticated log on (not anonymous) and obtain a Named CAL. Each time QlikView is started, QlikView tries to contact the QlikView Server and renew the license lease. If the client cannot reach the Server after 30 days, the license lease expires.

A license lease is only possible using the QlikView Desktop or the QlikView Plug-In for Internet Explorer. It is hence not possible to obtain a license lease using the Ajax clients.

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# 19.5 Cluster Licensing

A special type of license is available to allow multiple QlikView Server installations to share the same license serial number, and support shared CALs. These servers are automatically considered as clustered. Note that this configuration will affect networks where unauthorized license sharing between test and production environments has been configured.

# 19.6 Test License

A special license type has been created for use with QlikView Server for test purposes. A QVS running with such a license will have the full feature set

and performance, but the word "Test" will be superimposed on all charts and added to all object captions.
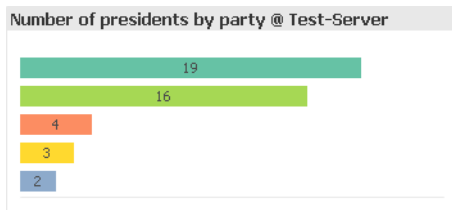


*Figure 139.  A bar chart from a test Server*

# 19.7 Editions of QlikView Server

QlikView Server currently comes in the following different editions with different capabilities designed for different organizations and different purposes. Upgrading is done through the license key.

## Enterprise Edition (EE)

QlikView Server Enterprise Edition (EE) is available for customer looking to support large number of users and integrate into enterprise environments. Offering features such as unlimited documents, server based collaboration, integration with third party security systems and server clustering.

## Small Business Edition

QlikView Server Small Business Edition (SBE) is available for customers looking for a QlikView Server specifically designed to support a smaller organization.

## Information Access Server

Information Access Server (IAS) is available for customers looking for a QlikView Server with a limited number of documents and large number of anonymous users.

Below is a table of the features and limitations of the different editions.

|  | EE | SBE | IAS |
|---|---|---|---|
| **Licensing** | | | |
| Named CAL | ✓ | Max 25 | ✗ |
| Session CAL | ✓ | ✗ | ✓ |
| Document CAL | ✓ | Max 100 | ✗ |
| Usage CAL | ✓ | ✗ | ✗ |
| **Clients** | | | |

| | EE | SBE | IAS |
|---|---|---|---|
| AJAX | ✓ | ✓ | ✓ |
| Workbench | Optional | ✕ | ✓ |
| IE Plugin | ✓ | ✓ | ✓ |
| Mobile | ✓ | ✓ | ✓ |
| Desktop Client | ✓ | ✓ | ✓ |
| **Scaleability** | | | |
| Can be clustered | ✓ | ✕ | ✓ |
| Unlimited Documents | ✓ | ✓ | ✕ |
| **Integration** | | | |
| 3rd party security integration | ✓ | ✕ | ✕ |
| Dynamic Update (additional license fee required) | ✓ | ✕ | ✓ |
| **Features** | | | |
| License leasing | ✓ | ✓ | ✕ |
| Server Objects | ✓ | ✕ | ✓ |
| Can use Publisher | ✓ | ✓ | ✓ |
| Can use SAP Connector | ✓ | ✓ | ✓ |
| Test Server available | ✓ | ✕ | ✓ |
| **Security** | | | |
| Section Access | ✓ | ✓ | ✕ |
| DMS | ✓ | ✕ | ✕ |
| AD/NTFS | ✓ | ✓ | ✕ |
| Anonymous | Possible | No | Required |

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# 20 REPOSITORY FOR SHARED OBJECTS

## 20.1 Types of Objects Available for Sharing

There are multiple objects available for user collaboration and sharing through QlikView Server.

• Bookmarks

• Sheet objects, including Charts

• Reports

Each of these objects may be defined as a user object, available to the authenticated user, regardless of access method or location, or a shared object, available to all users of the document through QlikView Server.

## 20.2 Settings Required for Server Objects

Client based bookmark, object and report creation is limited as follows:

• Server and client are QlikView version 8 or later

• All clients except Mobile

• User authentication is required for Reports and Objects

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In order for QlikView document objects to be enabled for sharing, the document must be set to allow Server objects on each of the object types. This is the default setting for documents in QlikView10.
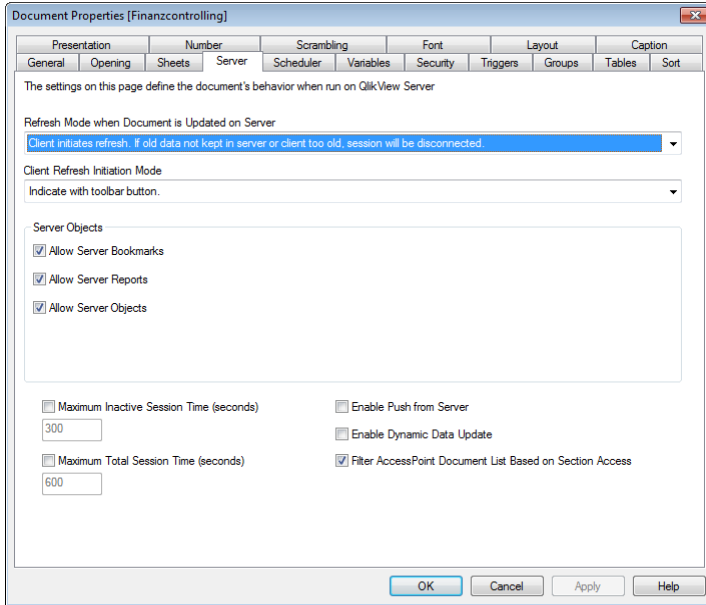


*Figure 140. The **Server** page of the QlikView Document Properties dialog.*

### Allow Server Bookmarks

This check box must be enabled, if remote clients are to be allowed to create and share bookmarks with this document on the QlikView Server.

### Allow Server Objects

This check box must be enabled, if remote clients are to be allowed to create and share sheet objects with this document on the QlikView Server.

### Allow Server Reports

This check box must be enabled, if remote clients are to be allowed to create and share reports with this document on the QlikView Server

TIP: For more information on Server objects settings in QlikView, please consult the QlikView Reference Manual.

In addition, QlikView Server must be set to **Allow Server objects**. Set this on the **System** tab, **Setup** page, **QlikView Servers**, **Documents** tab of the QlikView Enterprise Management Console, the setting is not available in the QlikView Management Console. If the Server is set to **disallow**, this setting will override the Document settings for all documents on that server.

Once QlikView Server is enabled for collaboration, and any of the QlikView Server object settings are checked, and the document is opened in QlikView Server, a special database file will be created and maintained in the same location as the QlikView document. The file will have the same name as the QlikView document, but will have a file extension of .Shared.

For example:

QlikView document: `Presidents.qvw`

QlikView Server share file: `PRESIDENTS.QVW.Shared`

If the name of the QlikView document is changed for any reason, you will have to manually rename the .Shared file to match before opening the newly named QlikView document in QlikView Server. This will preserve the shared objects attached to the document.

When updatong a Server object, report, bookmark och input field data the file is exclusively locked, but making a selection or simply activating the object does not lock the file and any number of Servers can read the file at the same time. A partial lock is implemented so different sections of the file may be updated simultaneously by different Servers in the cluster.

The file is read once when the Server opens the document, but it is not read again unless there are changes. All sessions share the same internal copy of the shared file, that is, opening a session will generally not require the file to be read from disk.

You can manage the Server objects in **QEMC** on the tab **Documents**, **User Documents** and **Server Objects**. The **Take** icon enables you to take ownership of an object. You can then open a QlikView client and make changes to the object.

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| **Note** | Once you have taken ownership of an object you cannot give it back to the original owner. |

# 21 DOCUMENT METADATA SERVICE (DMS)

Document Metadata Service (DMS) is part of the QlikView Server. It has two separate functions. The first is to set Autoload and restricted access for documents, this feature is always available no matter what mode the QVS is running in. The second feature is to control access to documents hosted by the QVS, this feature is only available when the QVS is running in the DMS Authorization mode. The DMS is a running as a separate thread in the QVS Process.

DMS Authorization mode can be used with any Directory Service that is supported out of the box, like AD, but it can also be used by other non-Windows Directory Services. .
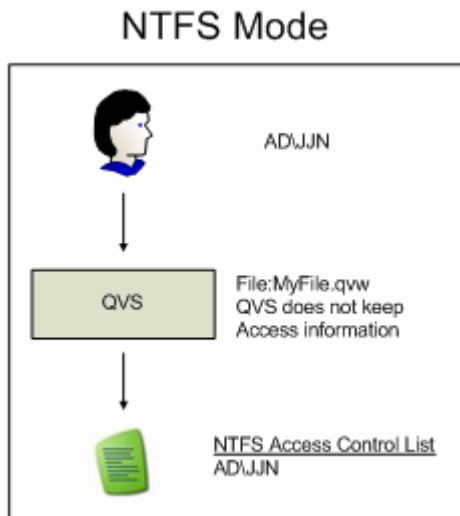


In NTFS Authorization mode it is up to Windows to decide who has access to each file. This is done in NTFS by the Access Control List (ACL) that keeps a number of Access Control Entries (ACE). Each ACE is identifying a single user or a security group know to the windows based Directory Service. However the ACE is limited to

what Windows can identify, so putting another user type, like a user stored in for example Novell, is not possible. To get around this DMS Authorization was developed.

## DMS Mode

Novell://JJN

QVS

File: MyFile.qvw
Novell://JJN

NTFS Access Control List
Windows Account running QVS
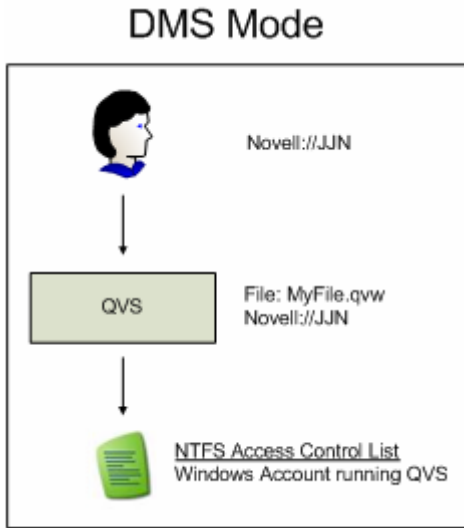
DMS Authorization means that it the QVS that will decide who gets access to a file, not Windows. The DMS keeps a list of users who has access to each particular document. This list can be populated in three different ways. The first way is through QlikView Publisher sending a file to a QVS running in DMS Authorization mode. The second way is through the QMC or QEMC, Please note that if you do changes to a User Document that is delivered by Publisher your changes will be overwritten by Publisher each time a new document is published, it is recommended that you instead do the change in the Publisher distribution task. The third way you can populate the DMS access list is through an API where you can programmatically add and remove access.

The DMS will grant access to a user who's credentials match a name in the list of users having access. The match is a string match so in the picture the user Novell://JJN would be granted access to the file MyFile.qvw. However if a group has been given access to the file rather than one single user the DMS must use the DSC to do a lookup to verify group membership. A call will then be made to the DSC and the specific DSP including the username and group. If the DSP and Directory Service verify the membership then the user will get access to the file.

When DMS is used the QVW file on disk is only available to the account running the QVS and not to any of the users located in the DMS access list.

The metadata is stored in a file next to the QVW file with the extension .meta so the file presidents.qvw would have a metadata file called presidents.qvw.meta.

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# 22 LOAD SHARING (CLUSTERING)

All clustering requires the QlikView Enterprise Management Console. QlikView
Server will support load sharing of documents across multiple physical or logical
computers. This sharing includes the ability to share in real time, information about
Server objects, automated document loading and unloading (through DMS), and user
license CALs. Special licensing is available to enable multiple server instances to
share the same license number.
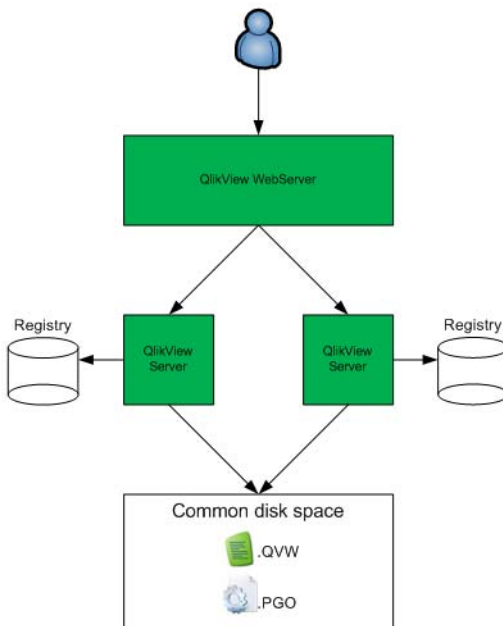


In order to utilize load sharing between multiple QlikView Servers, all document and
support files must be shared between the servers. In other words, all servers should
point to the same physical location for the files. In addition to the file types described
in the diagram above, QlikView Server will create and maintain additional files to
store load sharing data. These files will have a file type extension of .pgo (Persistent
Group Object), and they will be located in the same folder as the QlikView docu-

ments. These files are locked while the QlikView Server is running. The different pgo files contain information about borrowed CALs, CALs in use, Server settings and ticket data.

Operating System Load Balance or Failover configurations are external to the QlikView Server load sharing configuration, and QlikView Server has no control over those systems.

Server configuration settings are shared between all clustered QVS, and can be maintained through the QlikView Enterprise Management Console connected to any of the clustered QVS. Performance of a particular QVS system can be monitored through the Management Console by connecting to that system. How the load balancing is made, that is which QlikView Server the client should be directed to, is set in the QlikView Web Server's configuration file, see page 34.

Since DMS data is shared among the QV Servers, any automated document load/ unload procedures are performed on all Servers. DMS Authorization is, of course, also shared among all clustered QVS.

# 22.1 Setting up a Cluster

1　　Install the first, "master"; QlikView Server, QlikView Distribution Service and QlikView Management Services of the cluster and license the installation. The account running the Management Service must be a member of the **QlikView Administrators** group and a member of the local **Administrators** group on each "slave" QlikView Server computers in order to restart all QlikView Servers from the QEMC.

2　　Set the path for the User Document **Root Folder** and **Mounted Folders** under **System**, **Setup**, **QlikView Servers**, your QVS, **Folders**, to a disk area that can be read by all Servers in the cluster, preferably a NAS.
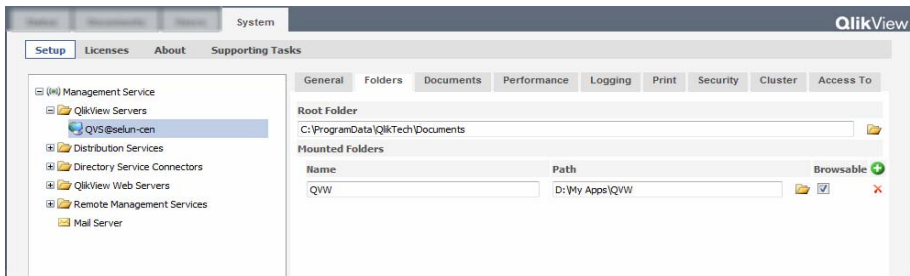


*Figure 141. Setting the path to the shared disk area*

3    To make it easier to recognize your cluster you can change the name of the QVS in the field **Name** on **System**, **Setup**, **QlikView Servers**, your server, **General**.
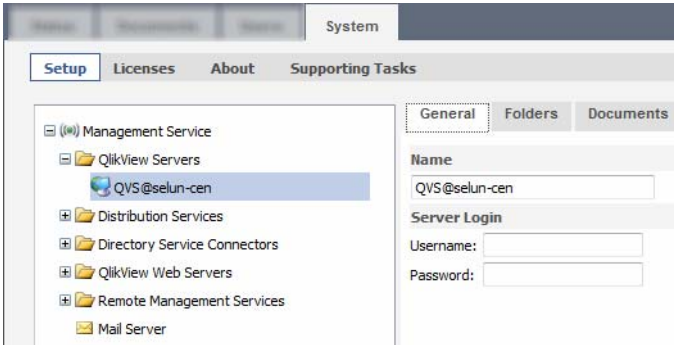


*Figure 142.  Change the name of the cluster*

4    Install the second QlikView Server, installing QVS and Management Services.

5    Open the QEMC on the "master " QVS and on the **Cluster** tab under **System**, **Setup**, **QlikView Servers**, your first QVS, enter the **Control Number** and **URL** for the second QVS in the cluster.
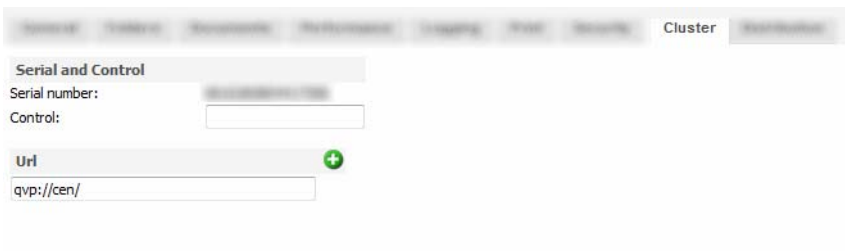


*Figure 143.  The Cluster tab*

6    Repeat steps 3 and 4 for any other Servers that should be part of the cluster.

7    Make sure that your cluster is selected on the **AccessPoint** tab in **System**, **Setup**, **QlikView Web Servers**, your QVWS.
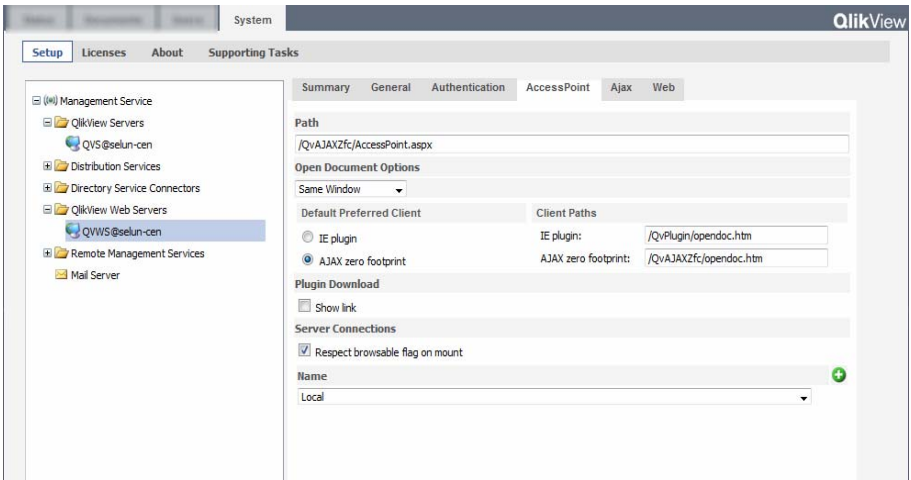


*Figure 144.  The Server Connections field for the AccessPoint*

# PART V: QLIKVIEW PUBLISHER

- **Post Installation Settings**

- **Publisher Upgrade Tool**

- **Load Sharing**

- **Detailed Technical View**

- **Section Access**

- **SSL on QlikView Publisher**

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# 23 POST INSTALLATION SETTINGS

## 23.1 Installation on a Single Machine

If all components of QlikView Publisher are installed on the same machine you do not need to modify any settings and the only action you need to take before running QlikView Publisher is to start the services. The following services are part of the QlikView Publisher installation and are all found in the Windows Management Console Services; QlikView DirectoryServiceConnector, QlikView Web Service, QlikView Publisher CommandCenterService and QlikView Publisher DistributionService.

## 23.2 Installation on Multiple Machines

There are many possible installation combinations for QlikView Publisher. Here we will go through the settings you need to modify in order to install different components on different machines. These combinations are only possible when running QlikView Enterprise Management Console.

### Distribution Service

The QlikView Distribution Service (QDS) needs to know which Directory Service Connector (DSC) it will communicate with. This is set in the file `C:\Program Files\QlikView\Publisher\Distribution Service\QlikViewDistributionService.exe.config`.

If you use any other value than the default, which is `http://localhost:4730/qtds.asmx`, you modify the key:

`<add key="DSCAddress" value=""/>`

### Directory Service Connector

The DSC has no settings that need to be modified if you install on different machines.

## 23.3 Installation Overview

The components that will be installed are:

- The QlikView Management Service is a set of html based web pages that are used to configure what the QlikView Publisher will do. It is also the central coordinating component in QlikView Publisher. It is responsible for maintaining the QlikView Publisher Repository (QVPR) and keeping track of the different components.

- The Distribution Service is the component that is responsible for performing the preparation and delivery of the QlikView files. A QlikView Publisher installation can contain many Distribution services located on different machines.

- The Directory Service Connector is responsible for communicating with the Directory Service that keeps track of all the users and groups in your environment. You need to have one Directory Service per Directory Service Provider (DSP). A DSP is a connection to a specific Directory Service. The included DSPs allows you to connect to Active Directory, NT4 domains, Local Users and Custom Users. Custom Users are users that only exist inside QlikView Publisher and have no matching Windows user attached to them.

# 24 PUBLISHER UPGRADE TOOL

The QlikView Publisher Upgrade Tool must be run in order to update an older Publisher database to version 10.

As of version 9 the repeat task is obsolete, but the functionality has been retained in the new distribution task. The upgrade tool will convert the more simple repeat tasks to corresponding tasks in Publisher 10. More complex repeat tasks will, however, need to be restructured after the upgrade. See page 97 for more information on what tasks are supported in version 10.

If a job is disabled in version 8.5, the trigger will be disabled in later versions and if a task is disabled in version 8.5, the task will be disabled in version 10 as well.

| | |
|---|---|
| **Note** | The upgrade tool does not support upgrades from Publisher Standard Edition! |

| | |
|---|---|
| **Note** | Before running the upgrade tool, stop the Command Center Service and make sure the Directory Service Connector Service is running. |

| | |
|---|---|
| **Note** | Back-up your database before running the upgrade tool! |

## 24.1 Upgrading

The upgrade tool is installed together with QlikView Server/Publisher and is found in the folder **C:\Program Files\QlikView\Publisher\Support Tools\**. Run **PubUpgrade.exe** to start the upgrade. The program creates a txt logfile in **C:\ProgramData\QlikTech\Publisher\Support Tools\Upgrade**.

1    The first dialog will inform you of the current database version. If the upgrade cannot be carried out, the first dialog may display one of the following messages instead:

• The Current database is up to date

• Permission to current database is denied

• The current database is too old and cannot be upgraded using this tool

- The upgrade cannot be run because the Command Center Service is running. Please stop the service and restart the upgrade tool.
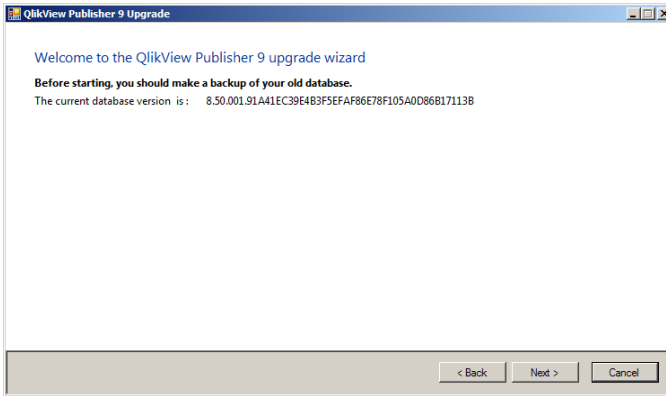


*Figure 145. Upgrading the XML repository*

2    You enter the location of the Directory Service Connector for each distribution service. The upgrade tool looks for the directory service locally only. Edit the path to the `qtds.amx` in the right pane if the path is incorrect.
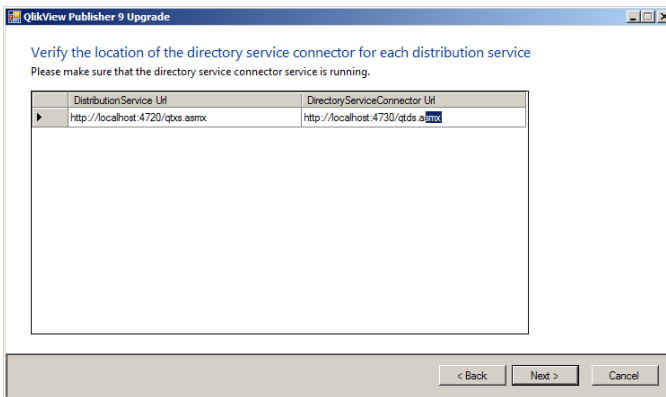


*Figure 146. Enter the path to the Directory Service Connector*

3    QlikView Publisher version 10 can only handle users and security groups as recipients. This means that recipients of the type containers, organizational units and the likes will not be upgraded. If a recipient name does not correspond with a user or a security group

present in the directory service database, you can enter a **New Recipient ID**. The the recipient should be in the format domain\user. If no **New Recipient ID** is entered, the recipient is removed.
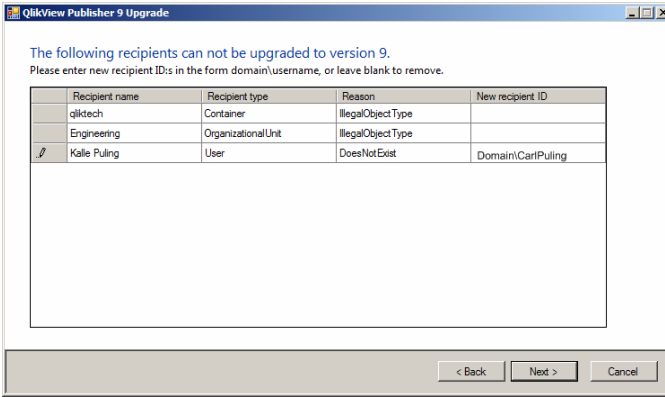


*Figure 147.  Upgrading recipients*

4    The Accesspoint resource of previous versions has been removed and the distribution is now handled by QlikView Server. Enter the name of the QlikView Server that will handle the distribution.
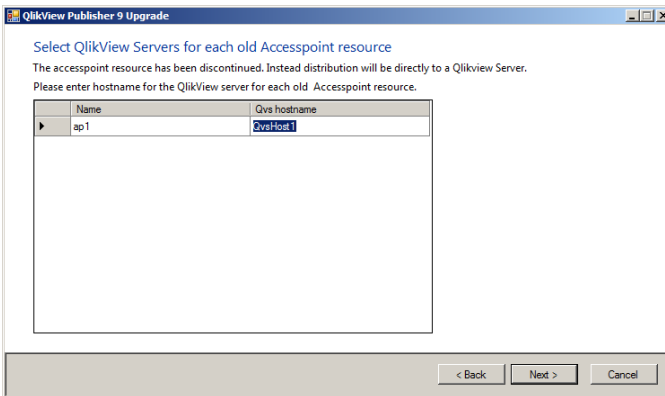


*Figure 148.  Select QlikView Server*

5    In version 9 only one destination per task is allowed for dynamic distribution. You must choose a destination for each task that contains a dynamic distribution.
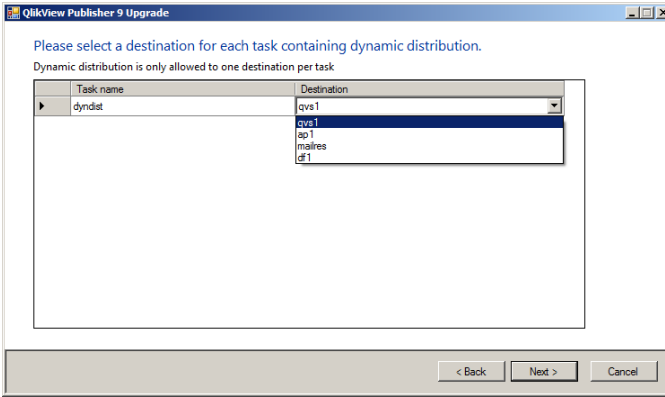


*Figure 149.  Choose destination for the old dynamic distributions*

6    The Command Center no longer handles the Custom Users. You must choose a Directory Service Connector to handle your Custom Users.
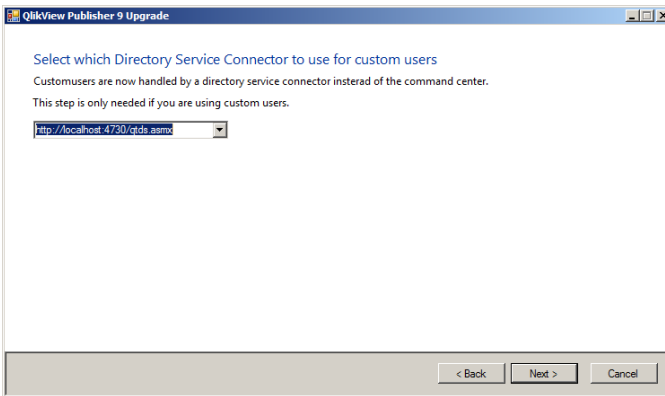


*Figure 150.  Select Directory Service Connector to handle Custom Users*

7        Until you mark the **Confirm** check box and click **Upgrade** you can still cancel the upgrade of the repository.
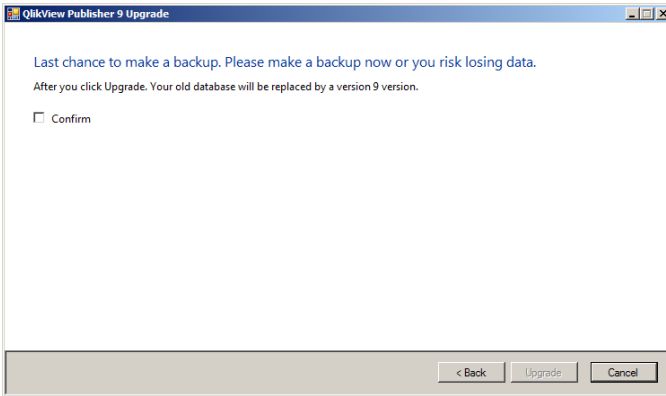


*Figure 151.  Confirm the upgrade*

After the upgrade has been completed, you must start the QlikView Management Service. You can now open the QMC or the QEMC and change your settings.

# 24.2 Reloading a file from the command line

The following value in QlikViewDistributionService.exe.config needs to be set to true:

```
<add key="EnableBatchMode" value="false"/>
```

The following parameters are used for reloading:

| | |
|---|---|
| -r=path to qvw file | Reload and quit |
| -rp=path to qvw file | Partial reload and quit |
| -out=logfile | Redirect output to file. Default output is console. -out=. creates a lofile in the current directory |
| -variablename=name | Variable name |
| -variablevalue=value | Variable value |
| -debug | Service will run as standalone EXE |
| -sleep | Service will wait 60 seconds before starting main |
| -datapath=path | Path to datafiles. Use -datapath=. for current directory. |

| -port=number | Override listening port specified in workorder |
|---|---|

## Example:

```
QlikViewDistributionService.exe -r=d:\myapps\docu-
ment.qwv -out=d:\logfiles
```

```
echo Error Code: %errorlevel%
```

This will reload the document document.qwv and set the home directory to d:\logfiles where the Distribution Service files will be written.

The error code parameter goes through the log file and returns the number of errors found in it.

**Note**     Alerts will not be triggered via a command line reload.

# 25 LOAD SHARING (CLUSTERING)

All clustering requires the QlikView Enterprise Management Console.

## 25.1 QlikView Distribution Service

In order to cluster QlikView Distribution Service, the services will need a common disk area on a NAS to save the configuration file. Add the same value to the setting **Application Data Folder** in the QEMC for all Distribution Services that should be clustered.

The load sharing is determined by a internal ranking system based on the amount of memory available and on previously cached documents. You can change how the ranking is done in the configuration file **QlikViewDistributionSer-vice.exe.config.** The key (below) is written in JavaScript.

<add key="LoadBalancingFormule" value="(AverageCPULoad*400) + ((Memory-Usage / TotalMemory) * 300) + ((NumberOfQlikViewEngines / MaxQlikViewEn-gines)*200) + (NumberOfRunningTasks*100)"/>.

**AverageCPULoad**
> The average CPU load of all running QVBs.

**MemoryUsage**
> The total memory usage for the entire application.

**TotalMemory**
> The total amount of memory in the machine.

**NumberOfQlikViewEngines**
> The number of the QlikView engines currently in use.

**MaxQlikViewEngines**
> The configured value of max QlikView engines.

**NumberOfRunningTasks**
> The number of currently running tasks.

If the log message "The network BIOS command limit has been reached" occurs in the Debug-Cluster log, you need to increase the limit for long-term sessions in the registry. Failure to do so may result in tasks not being run!

Increase the following parameters in the registry:

**HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lanman-workstation\parameters\MaxCmds**

and

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\lanman-
server\parameters\MaxMpxCt
```

This issue only occurs on Windows Server 2000, Windows XP and Windows Server 2003! More information is available on http://support.microsoft.com/kb/810886.

# 25.2 Directory Service Connector

To cluster the Directory Service Connector, you need to add one or more Directory Service Connectors in the QEMC, see page 164. You do not have to change the settings for those services pointing to the Directory Service Connector that you add the other connectors to. They will automatically point to the cluster when the other connectors are added.

When using Custom Users you will need a common disk area on a NAS for the different services. The disk area is set in the key **<add key="ApplicationData-Folder" value="" />** in the file
**QVDirectoryServiceConnector.exe.config**.

### Notable behavior in a DSC Cluster

Every node in a DSC cluster has its own cache. This means you might see variations between searches if a change has recently been made in your directory service. The variations are due to the fact that the QlikView Management Service randomly picks a DSC node for a search and the result of that search is cached with that node for 30 minutes. A workaround for this is to restart all DSC clusters after a change is made in the underlying directory service, or searches should wait until the cache expires.

An example:

1        A cluster with two DSC nodes is running.

2        The administrator searches for User1 and DSC node 1 executes the search and answers GroupA.

3        In the underlying directory service, User1 is moved from GroupA to GroupB.

4        A new search is made by the administrator and this time DSC node 2 executes the search. The result is GroupB.

5        Another seach is made, DSC node 1, that still has the result of the first search in its cache, executes the search and the result is GroupA.

# 26 DETAILED TECHNICAL VIEW

## 26.1 Audit Logging

Audit logging gives you the possibility to track changes on tasks and settings made in the system, to see who made the changes and when they were made.

You enable the logging and set the location of the log files in the Management Service configuration file, **QVManagementService.exe.config**, see page 256. Changing the values requires that you restart the QMS service.

One folder per table is created. Each folder contains one file per day with the changes made to the tasks. The logs are tab separated files.

The following entries can be found in the logs:

**TransactionID**- The id of the transaction. Useful for keeping track of changes made simultaneously.

**ChangeType** - The type of operation made. The sub types are:

> **Update** - New or changed entries.

> **Delete** - Entries have been deleted.

**ModifiedTime** - The time and date the changes were made in UTC.

**ModifiedByUser** - The user that has made the changes in the user interface. The entry **System** means that the change has been initiated by the system and not by any user.

The following example comes from the table alert e-mail. The log has been put in a table for better overview.

| TransactionID | 455a241d-8428-4dc7-ba67-4ae7cb21cf3d |
| ChangeType | Update |
| ModifiedTime | 2010-02-02 15:12:54 |
| ModifiedByUser | MyDomain\mjn |
| ID | b3745325-cee7-4fe7-b681-9c9efe22fc5c |
| DistributionServiceID | 8846d7dd-bb3f-4289-9c9b-b0ca71b7c3b2 |
| EmailAddress | mjn |

The following example comes from the table QDSCluster. Notice that the TransactionID is the same for both examples. This means that the changes were made simultaneously.

| TransactionID | 455a241d-8428-4dc7-ba67-4ae7cb21cf3d |

| ChangeType | Update |
|---|---|
| ModifiedTime | 2010-02-02 15:12:54 |
| ModifiedByUser | MyDomain\mjn |
| ID | a37f242c-6d80-42da-a10c-1742d2ec927f |
| DistributionServiceID | 8846d7dd-bb3f-4289-9c9b-b0ca71b7c3b2 |
| QDSWebAdress | http://computer-mjn:4720/qtxs.asmx |
| CurrentWorkorderID | 96bff2dc-f1ea-84d2-b6c4-ea58bf5c98e5 |

# 26.2 Document Administrators

To delegate the responsibility of creating tasks to people not part of the QlikView Administrators group, you can now make users document administrators. The users that are appointed document administrators will only be able to access those tabs in QEMC that are related to either user documents or source documents.

Add the users to the mounts in QEMC, see page 156 for adding users to a user document folder and page 158 for adding users to source document folders.

If the users are to distribute via e-mail, you must add them to the e-mail server in the same way as the QVS, see page 185.

# 26.3 Configuration Files

## Management Service– QVManagementService.exe.config

In a default installation this file is found under `C:\Program Files\QlikView\Management Service`. This file has a number of automatically generated tags that should not be modified, but the following settings that can be modified. Below is an excerpt from the config file. Read more about the snmp section on page 303.

**ApplicationDataFolder**

This is the folder where the log folder and all other files/folders will be created. The default value is `C:\Documents and Settings\All Users\Application Data\QlikTech\Publisher\CommandCenter`. This folder is where the XML version of QVPR and the LEF information are stored.

**UseHTTPS**

If the value is set to `True` the communication will run over SSL instead of http. To enable this setting you need a certificate for your web site.

**Trace**

Used for debug logging.

**QMSBackendWebServicePort**

>This is the port the backend management service listens to. The default value is 799.

**QMSFrontendWebServicePort**

>This is the port the frontend management service listens to. The default value is 4780.

**MaxLogRecords**

>With this setting you can specify the maximum number of log records that should be retrieved for a task.

**EnableAuditLogging**

>Set this value to True if you want to track changes on tasks and settings made in the system, to see who made the changes and when they were made.

**AuditLogFolder**

>Set the path to the folder where the audit logs should be saved.

**AuditLogKeepMaxDays**

>Set the maximum number of days each log should be saved.

## Distribution Service – QvDistributionService.exe.config

>In a default installation this file is located in **C:\Program Files\QlikView\Distribution Service**. The app settings tag is the part that can be modified. Read more about the snmp section on page 303. Below are some of the settings in the configuration file explained:

**ApplicationDataFolder**

>This is the folder where the log folder and all other files/folders will be created. The default value is **C:\Documents and Settings\All Users\Application Data\QlikTech\Publisher\CommandCenter**. This folder is where the XML version of QVPR and the LEF information are stored.

**V**

**WebservicePort**

>This is the port that the Distribution service will use to communicate with. The default value is 4720.

**UseHTTPS**

>If the value is set to **True** the communication will run over SSL instead of http. To enable this setting you need a certificate for your web site.

**DSCAddress**

>This is the port that the Directory Service Connector service will use to communicate with. The default value is 4730. If you modify that, you will need to modify the tag "DSCAddress" in the **QVDirectoryServiceConnector.exe.config** file too.

**DSCTimeoutSeconds**

      The timeout for calls to the Directory Service Connector.

**DSCCacheSeconds**

      Set how long the service should cache the responses from the Directory Service Connector.

**QlikViewEngineQuarantineTimeInms**

      Set how often a QlikView engine is allowed to start.

**OpenDocumentAttempts**

      This setting allows you to define how many tries that should be made to open a document before it is logged as an error during distribution.

**DebugLog**

      Set to **True** if you want to enable logging of memory usage and stack trace on "Error" logging.

**Trace**

      Set this to **True** if you wan to enable debug logging.

**EnableBatchMode**

      Enable this setting if you want to make batch calls to the Distribution service.

## Directory Service Connector – QVDirectoryServiceConnector.exe.config

      By default this file is located in `C:\Program Files\QlikView\Directory Service Connector\DirectoryServiceConnector.exe.config.` Read more about the snmp section on page 303. Some of the more commonly modified settings are explained below:

**ApplicationDataFolder**

      This is the folder where the log folder and all other files/folders will be created. The default value is `C:\Documents and Settings\All Users\Application Data\QlikTech\DirectoryServiceConnector`.

**WebservicePort**

      This is the port that the Directory Service Connector service will use to communicate with. The default value is 4730. If you modify that, you will need to modify the tag "DSCAddress" in the `QVDistributionService.exe.config` file too.

**UseHTTPS**

      If the value is set to **True** the communication will run over SSL instead of http. To enable this setting you need a certificate for your web site.

**PluginPath**

This is the path where the DSC will look for available DSP plugins. The default value is **C:\Program Files\QlikView\Publisher\Directo-ryServiceConnector\DSPlugins.**

**Trace**

Set this to **True** if you wan to enable debug logging.

**DisableCompress**

Enable this setting if you do not want to use compression on your http communication.


# 26.4 Triggering EDX Enabled Tasks

In order to start the tasks that have an external event as trigger, you must make two POST type request calls to the QlikView Distribution Service that has been assigned the task. The user making the request calls must be member of the local group QlikView Administrators or QlikView EDX. The QlikView Administrators group is set up during installation of QlikView Server, but the QlikView EDX group you must create yourself in **Computer Management**. A member of the QlikView EDX group has only the right to trigger an EDX enabled task.

The body of the first request call must contain the following:

**<Global method="GetTimeLimitedRequestKey" />**

The reply will contain the following important entry:

```
<GetTimeLimitedRequestKey>

<GetTimeLimitedRequestKeyResult>zLavfNlancWoyhACGlpaE
5sWOy8kicLa</GetTimeLimitedRequestKeyResult>
</GetTimeLimitedRequestKey>
```

The value of the entry **GetTimeLimitedRequestKey** is then used for the next request:

```
<Global method="RequestEDX"
key="zLavfNlancWoyhACGlpaE5sWOy8kicLa">
 <i_TaskIDOrTaskName>MyTask</i_TaskIDOrTaskName>
  <i_Password>MyPassword</i_Password>
  <i_VariableName />
  <i_VariableValueList />
</Global>
```

The attributes in the second request are:

**TasIDOrTaskName** - The name or ID of the task you want to start

**i_Password** - The password you set when you created the trigger. If no password was set the attribute must still be included but can be left empty.

`i_VariableName` - The name of the variable you wish to change. The attribute may be left empty.

`i_VariableValueList` - The values you want to assign the variable. The variables are entered according to the same pattern as in QEMC. The attribute may be left empty.

The status of the task is returned in xml format. The response for a successful call will look like the following:

```
<RequestEDX>
  <RequestEDXResult>
    <Log />
    <TaskStartResult>Success</TaskStartResult>
    <TaskStartResultCode>0</TaskStartResultCode>
  </RequestEDXResult>
</RequestEDX>
```

Where

`Log` - A small part of what is written in the log. It will be empty if the task has been started successfully.

`TaskStartResult` - A textual representation of `TaskStartResultCode`.

`TaskStartResultCode` - The result of the attempt to start a task. 0 means that the task was started successfully. 1 means `TaskNotFound`, 2 means `TaskIsAlready-Running`, 3 means `NoEDXTriggerFound` and 9 is `OtherError`.

The response to an unsuccessful call may look like this:

```
<RequestEDX>
  <RequestEDXResult>
    <Log>
      <string>2009-10-29 12:32:18    Error       Could
not trigger task. Bad password. Task=Notepad, EDX
triggered</string>
    </Log>
    <TaskStartResult>OtherError</TaskStartResult>
    <TaskStartResultCode>9</TaskStartResultCode>
  </RequestEDXResult>
</RequestEDX>.
```

You can connect to the Publisher to check the status of a given task. You must be member of the QlikView Administrators group to be able to do this.You must also get a temporary key, using the `GetTimeLimitedRequestKey` request. Then you send the request:

```
<Global method="GetTaskStatus"
key="rPnBL6zlbvNr5k2nowI919EJkkOeHsi8" >
   <TaskNameOrId>Notepad, EDX triggered</TaskNameOrId>
</Global>
```

Where

`TaskNameOrId` is the name or ID of the task you wish to check.

The respons is as follows:

```
<GetTaskStatus>
  <GetTaskStatusResult>
    <TaskStatus>
      <DocumentPath />
      <ID>55a4d924-f7bc-4027-9204-4c00711e001a</ID>
      <LastLogMsg>Executing c:\windows\notepad.exe
            Executing commandline:
"c:\windows\notepad.exe" in folder "c:\windows".
            Process exited with exit code: 0 at 2009-
10-29 12:31:31
            Process exited with exit code: 0 at 2009-
10-29 12:31:31
          The task "Notepad, EDX triggered" finished
successfully
      </LastLogMsg>
      <Name>Notepad, EDX triggered</Name>
      <Server />
      <Start>On EDX</Start>
      <LastExec>2009-10-29 12:31:34</LastExec>
      <Status>Waiting</Status>
      <DoAlert>False</DoAlert>
      <TaskType>ExternalProgramTask</TaskType>
      <Summary />
      <Category>Default</Category>
    </TaskStatus>
  </GetTaskStatusResult>
</GetTaskStatus>
```

Where

`DocumentPath` - The path to the qvw document.

`ID` - the ID of the task.

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**LastLogMsg** - The last log message for this particular task.

**Name** - The name of the task.

**Server** - Not used.

**Start** - If the task is running according to a schedule, the next scheduled time is displayed. If the task has an EDX trigger **Start** will say **On EDX**. If the task is already running, the start time is displayed.

**LastExec** - The time when the task was last finished.

**Status** - The status of the task, Running, Waiting, Finished with errors or Finished with warnings.

**Do Alert** - Is returned True if the task has errors, but has not been aborted manually.

**Summary** - Not used.

**Category** - The category of the task. If no category is set in the management console "Default" will be displayed.

# 27 SECTION ACCESS

A very important change in QlikView Publisher 8.00 and onwards compared to older versions is that QlikView Publisher respects the Section Access of any document it works with. This means that if you have a Section Access in your document script, the Publisher user or user account must have ADMIN rights according to the Section Access statement. If the Distribution Service is running under the local computer accounts Local System or Network Service, the computer account must be added to your Section Access. The account name of the computer is usually the name of the computer plus a $ sign, e. g. PublisherServer$. If a dynamic reduction is made, the reduction field must be left empty.

Example:

Section Access;

LOAD * INLINE [

ACCESS, NTNAME, REDUCTIONFIELD

ADMIN, PUBLISHERACCOUNT,

USER, HIC, A

USER, TNI, B

Section Application;

Load …

It is important that the Section Access line containing the Publisher account does not reduce data in an unwanted way. Example: If you would use a wild-card "*" in the reduction field, this would limit QlikView Publisher's access to the data in the QlikView file to other values defined in the Section Access (A and B in this example; however, the values C to Z would not be included). Such a reduction can be avoided in two ways: either you need to make sure that all values of the reduction field are represented in the Section Access, or you leave the reduction field blank. In the latter case, no reduction will be made since the Publisher account is an ADMIN account. However, in this case, the Publisher account cannot be used to open the file on a Server since all accounts are USER accounts on a Server and the user will then be denied access since no values are allowed.

Read more about Section Access in the Security chapter in the QlikView Reference Manual.

## 27.1 Authorization Management

From version 10 QlikView Enterprise Management Console can provide a central-ized way of maintaining authorization tables that are used in the section access part of

a QlikView document. This is done by letting the QlikView Administrators create and maintain the tables in the QEMC user interface. The tables are stored in the repository and can be used by a QlikView developer as any other table by connecting to the QlikView Management Service, for example `http://MyServer:4780/QMS/authtables`. This page will supply the developer with all the authorization tables that exist. It is however possible to get only a specific table by specifying a table in the query string, for example `http://MyServer:4780/QMS/authtables?Salesauthtable.`

The QlikView Administrator can specify which document developer should be able to use the whole authorization table or parts of it.

Example of an authorization table:

| Access | NT Name | Country | Product Group |
|--------|---------|---------|---------------|
| Admin | QvAdmin | * | * |
| User | Bob | US | Socks, Shoes |
| User | Stig | Swe | Ties, Hats |

Table users: Sara

Column Users:

> Access and NTName: John, Jenny
>
> Country: John
>
> Product Group: Jenny

This means that when requesting the authorization table Sara will get the entire table, John will get 'Access', 'NT Name' and 'Country', finally, Jenny will get 'Access', 'NT Name' and 'Product Group'.

# 27.2 Important notices and Troubleshooting

- All paths that are used by QlikView Publisher must be reachable from the application.

---

**Note**   It is highly recommended that a designated account is created to run QlikView Distribution Service. This account must be permitted to log on as a Windows service. It must also be permitted to read from the directory service as well as to write to folders, change and set permissions on the content therein.

---

- Reduction based on Section Access may cause unwanted results in the Distributed Documents and should be used with caution.

- If QlikView Publisher has difficulties when reading from Active Directory, a probable cause is that the account running the application lacks permissions to read from the directory service. Check the permissions of this account.

- Make sure that Local Service, Network Service and the account running QlikView Distribution Service have been given read and execute permissions to the .NET Framework component System.Management.dll.

- Should a field name within a Source Document change, QlikView Publisher will not be able to distribute Distributed Documents based on this field. Please ensure that field names used for reductions are correctly represented in the Distributed Documents.

- The number of roles given access to a file on a Windows computer cannot exceed 1820.

- QlikView Distribution Service does not execute any macros that may exist in the Source Document.

- If a Source Document contains an "Only One Selected Value" setting on a field, this setting will be respected by QlikView Publisher. Any selections made on the document will be affected by this field.

# 27.3 SSL on QlikView Publisher

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Configuring SSL for the QlikView Publisher services can only be done in QlikView Enterprise Management Console and requires an SSL certificate.

The certificate must be installed for all QlikView Publisher Services, specifying their ip addresses and ports, e.g. 0.0.0.0:4710. For more information on how to add certificates for services see Microsofts' homepage.

The configuration file for each service must be changed, see page 256 for more information about the configuration files. The setting `<add key="UseHTTPS" value="false"/>` must be set to `TRUE`.

In `C:\ProgramData\QlikTech\WebServer\config.xml (C:\Documents and Settings\All Users\Application Data\QlikTech\WebServer\config.xml` on older systems) change the setting `<ConfigUrl>http://_:4750/qvws.asmx</ConfigUrl>` to include https instead of http.

It is important that the **URL** for the services match the URL in the certificate. The settings must be changed in the user interface: **System**, **Setup**, **Service**, **General**, **Location**. The picture below shows the QlikView Web Services Service.
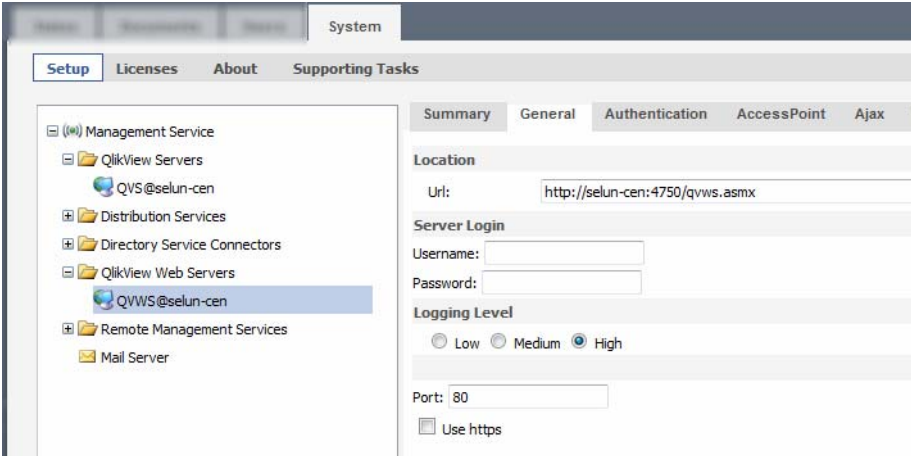


*Figure 152. Setting the domain for SSL*

# PART VI: CLIENTS

- **Client overview**

- **QlikView installed Windows Client**

- **QlikView IE Plug-in**

- **QlikView AJAX Zero-Footprint Client (ZFC)**

**VI**

# 28 SUMMARY OF QLIKVIEW CLIENTS

A QlikView client is required for display and usage of an existing QlikView document (.qvw file). While the QlikView Server is responsible for opening, hosting, and calculating the document, the clients are required for user interaction and presenting the document and its objects. In addition, clients (except Mobile Clients) can be used to add personal and shared objects to a document.

The choice of which client or set of clients to use is entirely dependent on the customer's environment and preferences. Client choices range from a fully installed QlikView Developer to a (no installation required) AJAX Zero-Footprint Client (ZFC), to a Mobile Client on your iPhone. Any combination of client types is allowed, as long as the proper licensing CALs are available (see Section QVS Licensing) on the server license. In general, any QlikView document may be displayed with any client, although additional HTML code must be created for the Object clients, including AJAX, to display and interact with the objects within a particular document. In the case of AJAX, this code is generated automatically by QlikView Server. Finally, certain considerations must be taken into account when deploying a QlikView document with QlikView Server and its clients. See Section Considerations when developing documents for use with QlikView Server for information on limitations when using a QlikView client to interface with a QlikView document.

The following table provides a brief summary description of client choices.

| QlikView Client | Description |
|---|---|
| Windows Installed Client | Full image desktop installed QlikView Desktop. Installation and client licensing required. |
| QlikView IE Plug-in | Full image ActiveX plug in for Internet Explorer web browser. Installation required. No client side licensing required. |
| QlikX Analyzer for Internet Explorer | Object only ActiveX plug in for Internet Explorer web browser. Requires web page design or QlikView Client Generator. Installation required. No client side licensing required. |
| AJAX Zero-Footprint Client (ZFC) | Object only Dynamic HTML client utilizing AJAX architecture in web browser. Web page is automatically generated by QlikView Server. No installation or client side licensing required. |
| QlikView iPhone client | One object-at-a-time view of full QlikView document. Download and install App through App Store. No client side licensing required. |

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| QlikView Client | Description |
| --- | --- |
| QlikView BlackBerry and Java Mobile clients | Full image client is based on Java Mobile Edition (Java ME) and will run on most mobile phones that support MIDP 2.0. Download and install App on device. No client side licensing required. |

The table below shows the different client varieties and some of their most important positioning properties.

| Clients for publishing QlikView documents | Clients for building web applications with QlikView data and logic | Layout fidelity and functionality | Demands on client environment and install bandwidth |
| --- | --- | --- | --- |
| Installed EXE clients (QVE, QVP, QVA) | - | High | High |
| QVA for IE (plug-in) | QlikX:s (part of plug-in) | | |
| QVA Java client | QVA Java Objects client | | Medium |
| - | AJAX Zero Footprint Client (ZFC) | Low | Low |

The leftmost column in the table contains client variants where entire QlikView documents with sheets and layout can be presented without the need for web page design.

The second column shows client variants which require web page design.

# 29 QLIKVIEW IE PLUG-IN

## 29.1 Plug-in Client

A plug-in is a program hosted by and running inside a web browser. Typically it consists of an ActiveX component with ocx as file extension. Acrobat Reader is a common example of a plug-in that computer users should be familiar with. QVA for IE installs and operates along exactly the same principles.

QlikView IE Plug-in is a freely downloadable program and can easily be distributed throughout the company via the sample HTML pages provided with the installation of QlikView Server.

The QVA for IE client appear as an integrated part of the MS Internet Explorer window. No QlikView menu bar is available, but most of the QlikView toolbar functions are available. Sheet and sheet object context menus are available where applicable.

Local files are not accessible from QVA for IE..
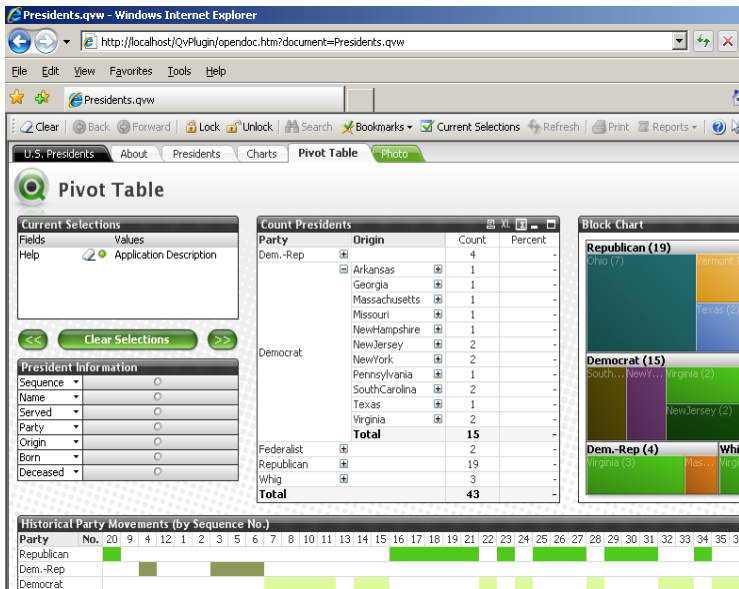


*Figure 153. QlikView plug-in client in Internet Explorer.*

## 29.2 Collaboration - Shared Objects

Collaboration – shared objects – is supported in the Plugin Client for authenticated users. Sheet objects may be created, moved, and sized. Use the standard right-click menu and select **New Sheet Object**. Reports can be created and existing reports can be edited. New objects, reports and bookmarks may be shared with other users through the **Server Objects** dialog. Locate this option off the Menu Options toolbar icon.
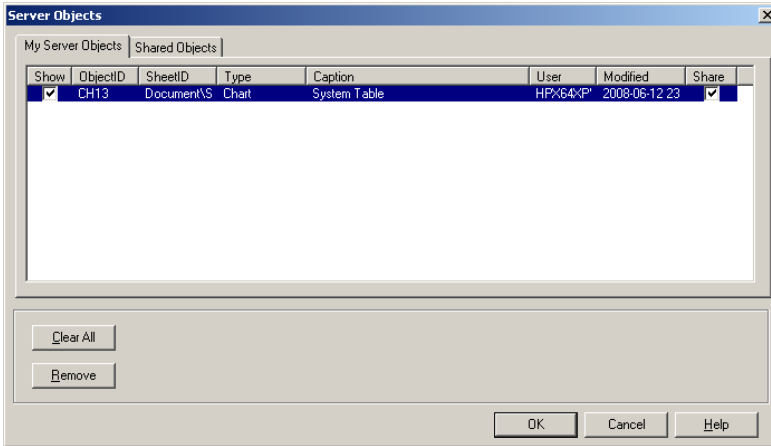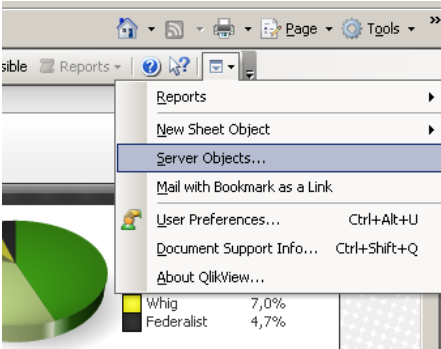




Use the **Share** option to share the selected objects with other server users. Access to the object through this dialog will move to the **Shared Objects** tab.

Shared Objects may also be controlled through the **Server objects** menu. You can display the **Server objects** menu from the **Add** or **Remove** buttons dialog off the main toolbar. Choose the **Server Objects Pane** from the **Toolbars** tab of the dialog.
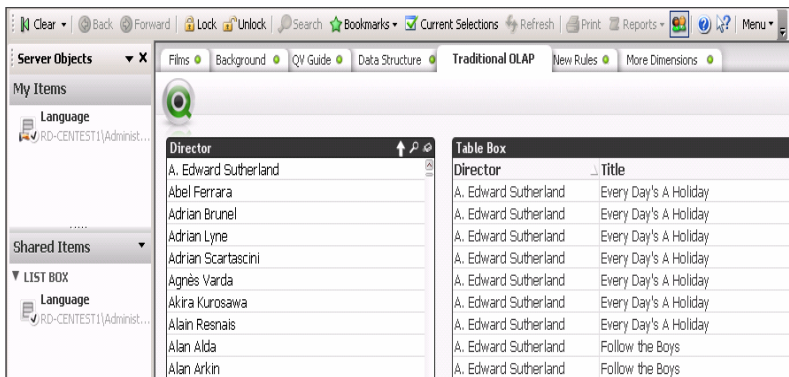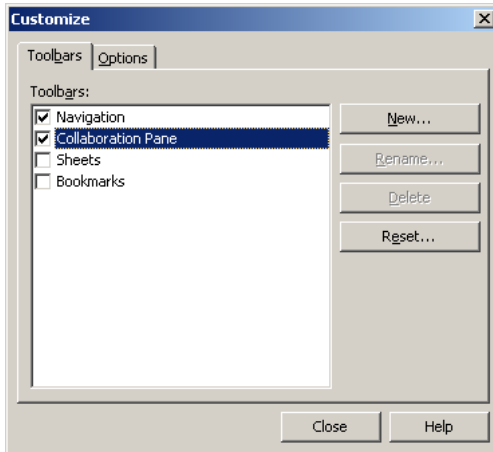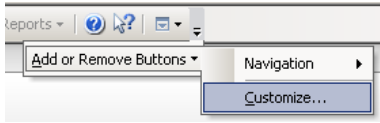






The **Server Objects Pane** will list all objects that you have created, as well as any shared objects that are available.

# 29.3 Deployment of QVA for IE

There are two basic ways to get the QVA for IE plug-in installed on a client computer:

## Simple install link on web page

Clicking on a **download and install** link on a web page starts the installation. This is a very common approach used for many commercial plug-ins.

It is necessary that the user installing the plug-in has install privileges on their own machine in order for this approach to work.

## Pushing out client via group policy

In organizations where individual users are not allowed to install new software on their computers, the system administrator may create a so called "group policy" and "shoot out" the QVA for IE clients to any set of computers in the directory.

# 29.4 Customizing settings for QVA for IE

The appearance and behavior of the QVA for IE client can be changed via a couple of special commands, as follows.

## Selecting toolbars

The client comes with a predefined toolbar for Navigation, Server objects, Sheets and Bookmarks. The toolbar may be customized by clicking on the **Toolbar Options** icon located to the right of the toolbar.

## Setting User Preferences

Use the **Show Menu** toolbar icon to display the **User Preferences** selection. This will allow setting user preferences, such as language and printing preferences. For a detailed explanation of each of the available commands, please refer to the QlikView Reference Manual.

# 30 QLikX - Publishing separate sheet objects from the QVA for IE plug-in client

## 30.1 Technical description of the QlikX concept

The QVA for IE plug-in has the ability to support the display of individual sheet objects on a web page, without the surrounding sheet environment. Sheet objects from different QVS documents can be displayed on the same page. Web pages that are to utilize this functionality may be created manually. This section describes the requirements and process for creation and/or maintenance of a QlikX web page.

Incompatibility notice! The whole architecture for this concept has been changed in version 9 of QlikView. The QlikOcx control is used for each object that is displayed and the QlikOcx.ocx directly connects to the QlikView document holding the data. The class id for the QlikOcx is also changed from the QlikOcx class id used in version 8.

## 30.2 Limitations

The following conditions must be met for the QlikXs to work:

- MS Internet Explorer version 6 or later must be installed on the client computer

- The QlikView IE Plug- must be installed on the client computer

## 30.3 Getting it to work

This section provides an outline of the steps necessary to build a web page with QlikX objects. It is assumed that the reader possesses a general knowledge of HTML.

### Infrastructure

#### Server environment

QlikView Server must be of version 7 or later.

### Web page components

#### HTML web page

> The basic HTML web page(s) defining the client typically reside in a directory somewhere under the web server's wwwroot, either directly, or indirectly through the QlikView virtual directory. The pages could contain any standard HTML code. The details of how to present QlikX sheet objects is described in the next chapter.

#### Plug-in

> The QlikView IE Plug-in must be installed on the client computer.

## 30.4 QlikView Page Generator for QlikX

**Note**    QlikView QlikX pages are automatically generated by QlikView Server as they are requested through the AccessPoint, so no additional maintenance is required.

If you have a QlikView Server prior to version 9 you must still generate your pages using the Objects Client Page Generator tool in QlikView, located off the Tools menu.
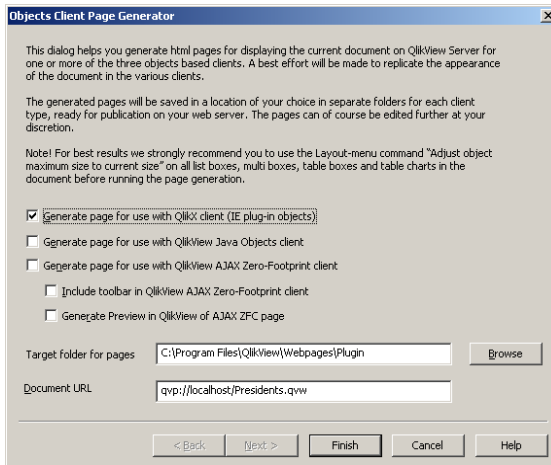


*Figure 154. The **Objects Client Page Generator** for QlikX client.*

### Target folder for pages

Specifies the folder where the generated pages will be saved. Each page variant (for different client types) will be saved in a separate sub-folder in the specified location. The target folder must exist for the **Finish** button to be enabled.

### Document URL

Specifies the target document URL on the QlikView Server where the pages are to be run. This setting is necessary for the QlikX pages to work properly.

## Web page design with QlikX objects

This section describes the HTML code necessary to publish QlikView sheet objects as QlikXs.

### Sheet object display code

For each sheet object to be shown a chunk of code must be added. The code should look as follows:

```
<OBJECT
      id="Qlix1"
      height="122"
      width="102"
      classid="CLSID:6E1BAAF6-ECB9-4505-86C1-5D04467B02CC" >
      <PARAM NAME="ObjectID" VALUE="Document\LB01">
      <PARAM NAME="DocName" VALUE="qvp://extra.qlik-
      tech.ideon.se/MyQvApp.qvw">
</OBJECT>
```

The value of the VALUE property in the first parameter is the id of the sheet object you want to show. The sheet object must reside on the opening sheet of the source document.

The value of the VALUE property in the second parameter must be a complete qvp URL pointing at a QlikView document on a QlikView Server.

The value of the height property is the height in pixels of the rectangle containing the sheet object in the HTML page.

The value of the width property is the height in pixels of the rectangle containing the sheet object in the HTML page.

### Automation access to QlikX objects

The <head> tag of the HTML page could contain scripting code referencing a specific QlikView document, identified by its object id. The code could look as follows:

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```
<head>
        <script type="text/javascript">
        function ClearAll()
        {
                Qlix1.ActiveDocument.ClearAll();
        }
        </script>
</head>
```

The Qlix1.ActiveDocument gives you an Automation handle to the connected QlikView document.

# 30.5 Capabilities, differences and limitations

This section describes some of the technical differences and limitations with QlikX in relation to other QlikView clients.

## Sheet Objects supported

All sheet objects apart from Custom Objects are supported

## QlikView entities with partial support

The following QlikView entities currently have partial support:

• Sheets (there is no direct connection available to the sheets in the QVW document, but it is very easy to create the same functionality using HTML frames and tabs).

The following QlikView entities currently have no counterpart in the QlikX environment but may appear in some form in future versions:

• Alerts

• Reports

## Navigational differences

There are a few differences in the GUI facing users of QlikX compared to users of other types of QlikView clients.

• There is no menu bar

• There is no toolbar

## Print/Export

Print and export work exactly as in normal QlikView. Right-click on the object and select Print...

# 30.6 Complete sample page

Below is a complete HTML page for displaying one list box and one chart with
QlikX. Minimum HTML formatting applied.

```html
<html>
      <head>
            <title>QlixTest</title>
            <meta name="vs_targetSchema"
            content="http://schemas.microsoft.com/intel-
            lisense/ie5">
            <script type="text/javascript">
            function ClearAll()
            {
                  Qlix1.ActiveDocument.ClearAll();
            }
            </script>
      </head>
<body>

      <OBJECT
            id="Qlix1"
            height="122"
            width="102"
            classid="CLSID:6E1BAAF6-ECB9-4505-86C1-
            5D04467B02CC" >
            <PARAM NAME="ObjectID" VALUE="Document\LB01">
            <PARAM NAME="DocName"
            VALUE="qvp://extra.qliktech.ideon.se/MyQvApp.qvw">
      </OBJECT>

           

      <OBJECT
            id="Qlix2"
            height="288"
            width="448"
            classid="CLSID:6E1BAAF6-ECB9-4505-86C1-
            5D04467B02CC" >
            <PARAM NAME="ObjectID" VALUE="Document\CH01">
            <PARAM NAME="DocName" VALUE="qvp://extra.qlik-
            tech.ideon.se/MyQvApp.qvw">
      </OBJECT>

           

      <input
```

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```
                type="button"
                value="ClearAll"
                onclick="ClearAll()"
                id=button2
                name=button2>
        </body>
</html>
```
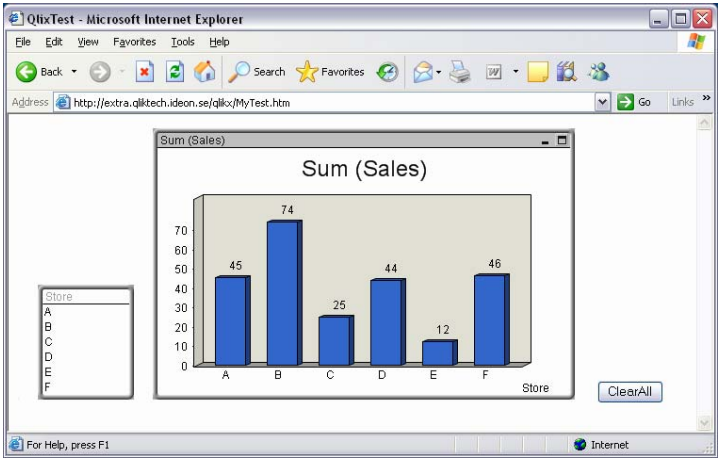
The result of the HTML code above can be seen below:



*Figure 155.  The QlikX example in Microsoft Internet Explorer.*

# 31 QLIKVIEW INSTALLED WINDOWS CLIENTS

## 31.1 Locally installed Windows Client

With QlikView Desktop installed on your machine, you may open any application on QlikView Server which you have access rights to.

## 31.2 Open in Server

Once QlikView has been installed, the end user can choose to open QlikView documents through the **Open in Server** command in the **File** menu.
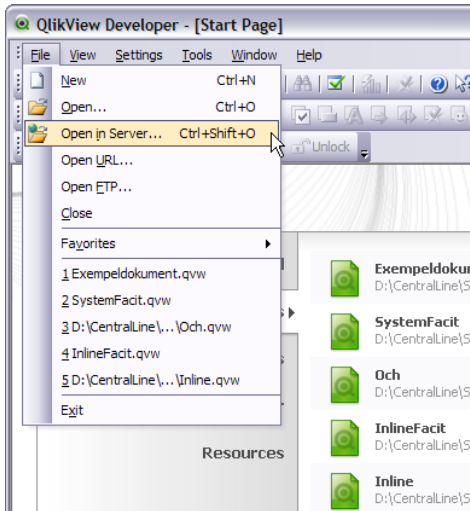


*Figure 156. The Open in Server menu item.*

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This command will provide the end user with all the possible QlikView documents provided and which QlikView Servers are available. By clicking in the **Connect to Server** dialog the application will open and the analysis session can begin.
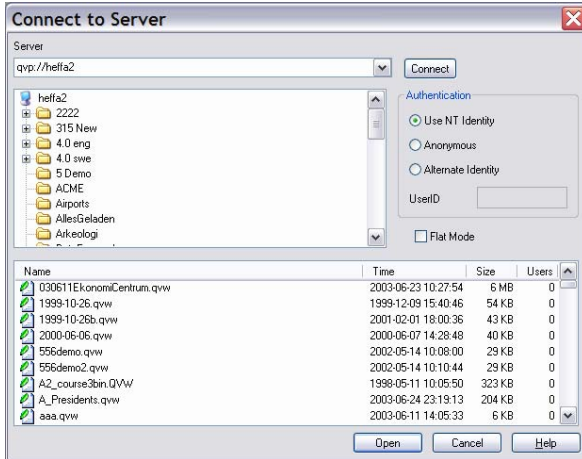


*Figure 157.  The Connect to Server dialog in QlikView.*

## Connection pseudo-URLs

When connecting to QlikView Server from Windows clients, either via the Open in Server dialog or via link files, the identity to be used is specified via the pseudo-URL document address. The syntax is:

```
qvp://[[username]@]servername [:(port | protocol)] / [docu-
mentname.qvw][?paramname=paramvalue{&paramname=paramvalue}]
```

where

`username` is a Windows user ID

`servername` is the name of a server running QlikView Server

`documentname` is the name of the QlikView document (excluding qvw extension)

`port` (e.g. 4749) can be used to specify a specific port used by the server

`protocol` (e.g. http) can be used to specify tunneling protocol

`paramname` := (USERID | XUSERID | PASSWORD | XPASSWORD | MACRO | IIS_AUTHENTICATE )

`USERID` denotes a section access userID in clear text. This parameter is also utilized to pass a `Ticket` value during the `Get Ticket` process.

**XUSERID** denotes a scrambled section access userID

**PASSWORD** denotes a section access password in clear text

**XPASSWORD** denotes a scrambled section access password

**MACRO** denotes the name of a macro to be run when the document is opened

(only one macro allowed)

**IIS_AUTHENTICATE** denotes a single-use key (40 hex characters) for IIS integrated authentication.

paramvalue is a valid value for each parameter.

@ without username denotes anonymous identity.

If user identity is omitted altogether, the logged in Windows identity is assumed.

### Examples:

`qvp://www.qliktech.com/AcmeStores.qvw`

`qvp://@www.qliktech.com/AcmeStores.qvw`

`qvp://john.doe@www.qliktech.com/AcmeStores.qvw`

`qvp://www.qliktech.com:http/AcmeStores.qvw`

`qvp://www.qliktech.com/AcmeStores.qvw?USERID=JOHN&PASS-WORD=ABC123`

`qvp://www.qliktech.com/AcmeStores.qvw?MACRO=Mymacro`

TIP: Internet Explorer 7 does not support @ or : in the URL in order to prevent spooling of URLs. To specify these characters in the URL, you need to URL-encode them.

Use %3A for: and %40 for @.

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# 32 THE QLIKVIEW AJAX ZERO-FOOTPRINT CLIENT (ZFC)

## 32.1 General

The QlikView AJAX Zero-Footprint Client (ZFC) provides an object based client environment built on a state-of-the-art AJAX (Asynchronous JavaScript And XML) architecture. The QlikView AJAX ZFC requires no installation or version maintenance on the client computer. Implementations may chose to custom develop their own HTML/ASP code for display and user interaction, but most installations can simply use QlikView Server to automatically generate HTML code as needed. Almost all customization can be accomplished through the source QlikView document.

TIP: The detailed documentation for defining web pages using the AJAX client is now accessed through the QlikView Software Development Kit (SDK). SDK materials are available in the installation package for QlikView Server.
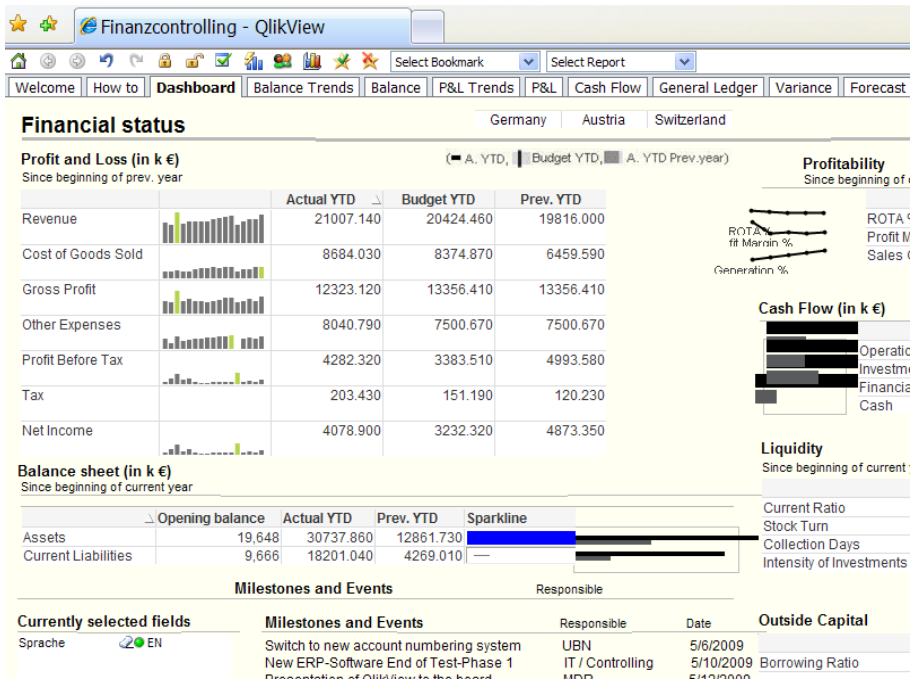


*Figure 158.  QlikView AJAX client*

## Basic description of the QlikView AJAX ZFC

One of the main advantages of the AJAX architecture is the inherent asynchronous update capability to provide quick, incremental updates to the user interface, without requiring a browser page refresh. The QlikView AJAX ZFC provides the environment for the QlikView Server to produce and send Dynamic HTML (DHTML) pages and XML data to the browser running on the client computer and also receive feedback from the user clicking in those pages. DHTML is basically HTML with scripting. Nothing is installed on the client computer.

QlikView AJAX ZFC is based on the component AVQ.HTC, which is part of Winsider AB's "Visual Value"™ framework. The "Visual Value"™ framework is a data modeling and presentation framework that allows location independent presentation and manipulation of data with advanced business logic rules and constraints. QlikTech has licensed this component for use with QlikView Server.

## Requirements and Limitations

*   The client requires one of the following browser types:
    - MS Internet Explorer version 7 or later
    - Browsers based on the Mozilla engine version 1.0.6 or later (e.g. Firefox)
    Different browsers may render the same page slightly differently.

*   This is a way to build web pages featuring one or more QlikView sheet objects. The standard QlikView Sheet Tab is not supported, but separate QlikView sheets may be emulated through the use of multiple HTML pages. Selection state in the source QlikView document will hold throughout the same browser session.

*   Almost all types of QlikView sheet objects and their functionality are supported. See the end of this chapter for details.

# 32.2 QlikView Page Generator for AJAX ZFC

**Note**   QlikView AJAX ZFC pages are automatically generated by QlikView Server as they are requested through the AccessPoint, so no additional maintenance is required.

If you have a QlikView Server prior to version 9 you must still generate your pages using the **Objects Client Page Generator** tool in QlikView, located off the **Tools** menu in QlikView Desktop versions prior to version 10.
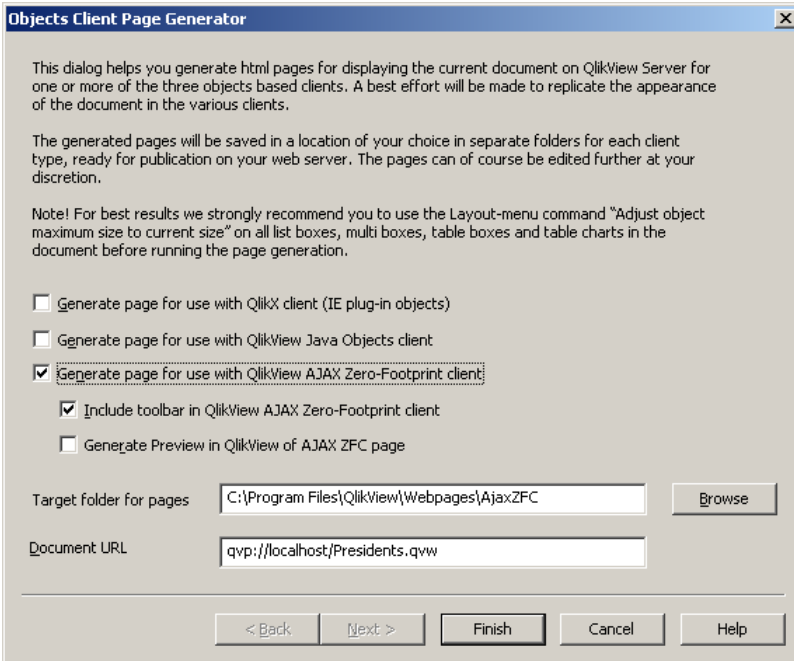


*Figure 159. The Objects Client Page Generator for AJAX Zero-Footprint client.*

**Target folder for pages**

Specifies the folder where the generated pages will be saved. Each page variant (for different client types) will be saved in a separate sub-folder in the specified location. The target folder must exist for the **Finish** button to be enabled.

**Document URL**

Specifies the target document URL on the QlikView Server where the pages are to be run. This setting is necessary for the QlikX and AJAX pages to work properly.

**Include toolbar in QlikView AJAX Zero-Footprint Client**

This option is checked by default, and will include a basic navigation toolbar in the generated pages.

You can optionally choose to view a preview of the generated pages in this instance of QlikView. Check the box for **Generate Preview in QlikView of AJAX ZFC page**.

# 32.3 Collaboration - Shared Objects

All authenticated users are allowed to create and share objects through the AJAX client. Use the Shared Objects dialog to create new objects, access object properties, hide or show shared objects, and copy existing objects.

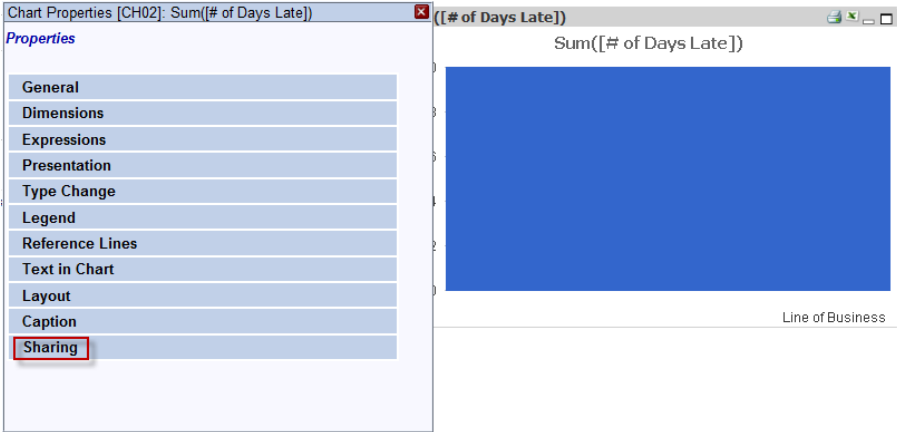Use the **Share** option when you have created a new object to share the selected objects with other server users.



*Figure 160. QlikView AJAX client Collaboration*

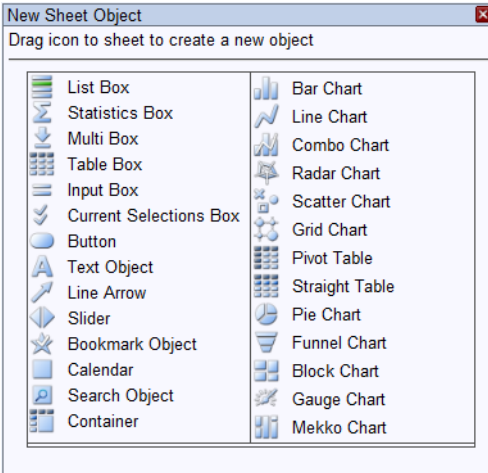Click on **New Sheet Object** in the context menu to create a personal object.



*Figure 161. Create new object*

Select the object type and drag the icon to the desired location on the currently displayed sheet. This will display the **Properties** dialog for the new object. Set the desired properties and close the dialog by clicking on the red X in the upper right corner.

Multiple Property dialogs can be open at the same time, and existing properties can be copied by dragging.
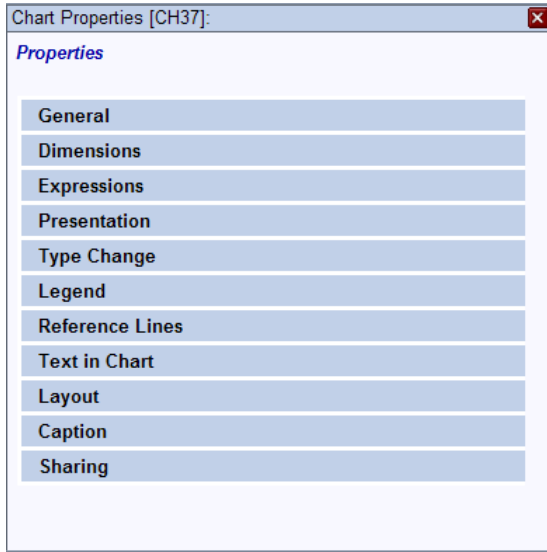


*Figure 162.  The properties page*

Objects can be shared with other users through the Sharing dialog. Click on **Sharing** in the **Properties** dialog to control how the object should be shared or to turn off sharing.
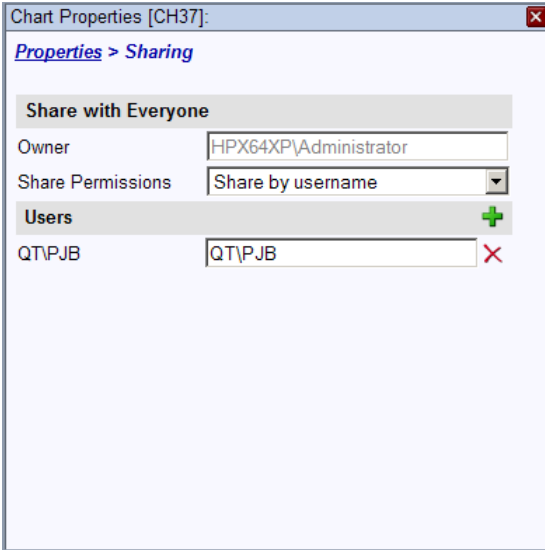


*Figure 163. The Sharing dialog*

Objects may be shared with all users, shared with specific users, or not shared. Click on the plus sign under **Users** to add specific users. Click on the X next to a user to stop sharing with that user.

To hide an object, right-click on the object and choose **Delete**. To show a hidden object you must drag the object from the **Repository**. You may also copy (clone) an object by dragging the clone icon onto the current sheet. To copy (clone) a document object, drag the clone icon for the desired object onto the current sheet.

# 32.4 Document Repository

The AJAX client has access to all document chart dimensions and expressions. To access the Repository, click on the toolbar icon in the AJAX client.
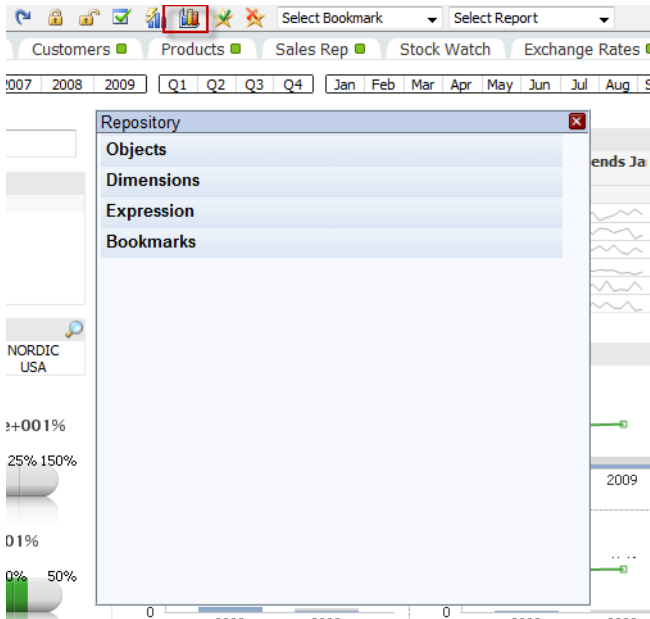


*Figure 164.  The Repository dialog*

In the Repository you see all objects of the document, those that originally were part of the document, the shared objects of other users and your own objects.

Use this dialog to view dimensions (fields) used in the document and to drag a dimension to another open property dialog.
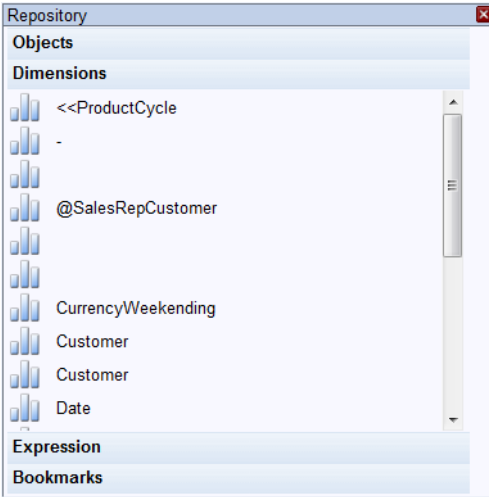


*Figure 165. The Document Dimensions page of the Repository dialog*

Use this dialog to view expressions used in the document and drag an expression to another open property dialog.
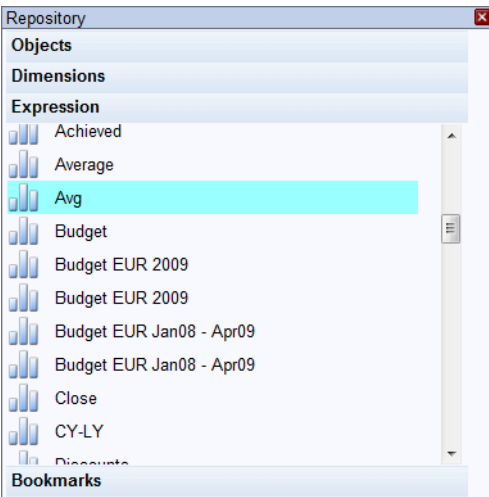


*Figure 166. The Document Expressions page of the Repository dialog*

# 32.5 Capabilities, differences and limitations

This section describes some of the technical differences and limitations with QlikView AJAX ZFC in relation to other QlikView Server clients.

## Sheet Objects supported

Virtually all sheet objects and functionality is now supported through the AJAX client. The few minor exceptions to this are noted below.

The following types of sheet objects are not supported in the QlikView AJAX ZFC and are very unlikely to ever be supported:

• Custom Object

## QlikView entities with partial support

The following QlikView entities currently have partial support in the QlikView AJAX ZFC environment:

• Sheets (there is no direct connection available to the sheets in the QVW document, but it is very easy to create the same functionality using HTML frames and tabs). User selection state is maintained throughout a single browser session.

## Print/Export

The following general comments can be made with regard to print and export of objects and data when using the QlikView AJAX ZFC

Functionality supported includes:

• The HTML page can be printed by using the Print command in MS Internet Explorer. The usual rules and limitations regarding MS IE printing apply.

• Chart images can be copied to clipboard or saved as any other pieces of graphics on a web page.

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**Note**  In order to copy an object you must first put your web browser in native mode by clicking SHIFT+CTRL. You can then right-click and choose **Copy Image**.

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• Button-driven server-side export providing results in a new MS Internet Explorer window.

Caption icons can be utilized in object captions for additional functionality.

## APIs and integration

QlikView AJAX ZFC builds on HTML. This implies certain limitations with regard to programmatic access and integration

•       Automation APIs cannot be used

•       No real client side APIs are available. It may be possible in the future to access data stored client-side in QlikView AJAX ZFC elements via scripting.

Note however that

•       Actions can be executed via buttons and objects

•       The HTML elements of QlikView AJAX ZFC can co-exist with all other types of web page components on a common HTML page. That includes other QlikView clients (e.g. QVA for IE plug-in, including QlikX components) and all types of ActiveX controls. Interaction between QlikView AJAX ZFC and the other components will however be limited.

## Selection Parameters in the URL

It is possible to include selection parameters in the url for the Ajax ZFC. Note that the selection parameters always clears any other selections in the list box.

The following syntax rules apply:

•       Separate selections are divided by "&"

•       Separate selection values are divided by ","

•       White spaces matters

•       Syntax is case sensitive

The following table includes a list of possible actions and url parameters.

| Action | Parameter |
|---|---|
| Single selection in list box | select=LB02,Germany |
| Multiple selection in one list box | select=LB02,Germany,Argentina |
| Multiple selection in multiple list boxes | select=LB02,Germany,Argentina,Albania&select=LB01,-Boero |
| Specify whether the object is a Server or document object (document is default) | select=Server\LB02,DE4620<br><br>select=Document\LB02,Germany,Argentina |

| Action | Parameter |
|---|---|
| Specify data source or document (only necessary if there is more than one on the page) | select=DataSource1.Document\LB02,Germany,Argentina |
| | select=Safpro9.Document\LB02,Germany,Argentina |
| | select=DataSource1.LB02,Germany,Argentina |
| | select=Safpro.LB02,Germany,Argentina |
| Select a bookmark. NB! Must enter bookmark id, not name. Do the following to obtain the correct id:<br><br>1.Open the document in QlikView<br><br>2.In the Bookmarks menu choose "More..."<br><br>3.The id is in column "ID"<br><br>4.Only document bookmark can be used. The prefix is therefore always "Document". (Prefix must be entered) | bookmark=Document\BM02 |
| Combine bookmark with selection | select=LB02,Germany&bookmark=Document\BM06 |
| Change a data source document if there is only one data source on the page | application=Films |

Example of a url:

```
http://AccessPoint1/QvAJAXZfc/opendoc.htm?docu-
ment=Data%20Visualization.qvw&host=localhost&select=Doc-
ument\LB02,Germany,Argentina,Albania&select=Document\LB0
1-Boero
```

## 32.6 ASP timeouts for very large QlikView documents

When using the QlikView AJAX ZFC with large QlikView documents, the asp code might sometimes require that you increase the asp timeout. This can be made in two ways, either programmatically or by customizing the IIS.

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- By setting the Server.ScriptTimeout property in your code, such as: <%Server.ScriptTimeout = 180 %>, where the numeric value is the number of seconds that the current script will be executed.

- To set the timeout in the IIS, open the **IIS Management Console**, open **Properties** for the folder containing the asp code, go to the **Directory** or **Virtual Directory** page (depends on what type of folder you use), press the **Configuration** button to open the **Application Configuration** dialog, go to the **Options** page where you find the edit box for the **ASP Script Timeout**.

# APPENDIX

# A THE DIRECTORY SERVICE PROVIDER

## A.1 The Directory Service Provider Interface

This chapter will examine the two relevant interfaces, their methods and properties and make notes on implementation details where due. The chapter is aimed at users with programming experience.

The reason for developing a DSP of your own is to be able to use QlikView to distribute QlikView documents to users in a directory service not supported per default today.

### IDirectoryServiceProvider

This is the interface of the class that should plug into the framework. The members are as follows:

```
LogMessage LogMessageEvent { set; get; }
```

Directly after construction this field will be instantiated with a delegate providing crude logging facilities.

```
string ProviderName { get; }
```

A free-form, preferably somewhat descriptive, name for the component suitable for the end-user.

```
string ProviderType { get; }
```

An installation-unique identifier used internally by the framework and related components. The identifiers used by the supplied providers are: AD, NT, Local and Custom.

```
void SetupPath (string _path, string _username, string
_password);
```

Should create a node representing the corresponding directory service node at the specified path. Upon failure, an exception should be thrown.

```
IList<string>GetKnownRootPaths ();
```

The list returned should contain one or more viable paths for the methods above and below.

```
void ClearCache ();
```

If the implementation keeps a cache a call to this method should clear it.

```
string DomainName { get; }
```

A "domain name" associated with the path that is set up. It is used as qualifier to separate nodes of different providers (for example, the shipped Active Directory provider uses NetBIOSName as domain name).

```
IDictionary<string, string> GetSettings ();
```

The dictionary of supported settings has name of setting as *key* and name of type as *value*.

```
void SetSetting (string _name, string _value);
```

The parsing responsibility is obviously set on the provider.

```
IList<IDSObject> Search (string [] _pattern, eSearchType
_type, string _otherattribute);
```

Search for nodes with attributes matching any of the patterns supplied. The attributes are specified with the type parameter which can be one or more values from the enumeration. If type is "other", then the last parameter specifies the name of the attribute. The search type "legacyid" is used for backward compatibility. Search should support patterns containing the wildcard sign '*' that matches zero or more characters of any kind.

```
void Dispose ();
```

This method will be called whenever a provider object is released.

## IDSObject

A simple interface for any type of node within the directory service.

```
string ID { get; }
```

The id of the node, unique within the instantiated path and consistent over all executions.

```
string DisplayName { get; }
```

The common name of the node in the directory service.

```
string AccountName { get; }
```

If present, this is the account name associated with the node.

```
eDSObjectType ObjectType { get; }
```

The basic type of the object.

```
IList<IContainer> MemberOf ();
```

A list of all the groups the node is member of.

```
string GetCustomProperty (string _name);
```

Any other property not natively supported by the interface. If not present null should be returned.

```
string Email { get; }
```

The primary, if any, email-address associated with the node.


## A.2  Configurable ODBC

The ODBC database has to have two table, or two views, one for entities and one for groups.

The entity table must have the four following fields: `entityid`, `name`, `descr` and `email`. The fields `name`, `descr` and `email` must be strings. `Entityid` must be a unique identifier (suitable for primary key).

The groups table must contain two fields: `groupid` and `memberid`. Together these two fields create a unique identifier.

# B   SNMP

QlikView Publisher now incorporates SNMP agents for all Publisher services, the setting is, however, per default off. This implementation is in its initial stages and is subject to change. At the time of writing we have enabled read from the agents. We support the following messages: **GetRequest**, **GetRespons** and **GetNextRequest**.

All services answer the standard SNMP queries, answer examples in parentheses:

| | | |
|---|---|---|
| 1.3.6.1.2.1.1.1 | sysDescr | Description of service/product (sysDescr.0:Qlikview Publisher Commandcenterservice version 8.50.600) |
| 1.3.6.1.2.1.1.2 | sysObjectID | Type of unit (sysObjectID.0:iso.org.dod.internet.private.enterprises.qliktech.products.publisher.Distributionservice) |
| 1.3.6.1.2.1.1.3 | sysUpTime | The system uptime (sysUpTime.0:0 hours, 12 minutes, 15 seconds) |
| 1.3.6.1.2.1.1.4 | sysContact | Possible to set in configuration file (sysContact.0:Unspecified System contact) |
| 1.3.6.1.2.1.1.5 | sysName | Possible to set in configuration file (sysName.0:Unspecified name) |
| 1.3.6.1.2.1.1.6 | sysLocation | Possible to set in configuration file (sysLocation.0:Unspecified location) |
| 1.3.6.1.2.1.1.7 | sysService | Constant, 72 means application server (sysServices.0:72) |

The Distribution Service can answer additional queries. These are specified in the MIB file; see section about MIB file later in this chapter.

Each service has a configuration file, found in their subfolder in the Publisher installation folder, i.e. the configuration file for the Distribution Service is **QlikViewdistributionService.exe.config**.

The SNMP settings can be adjusted in the SNMP SETTINGS part of the configuration file. The SNMP has to be enabled for all services, the default is off.

EnableSNMP - Set to true to enable SNMP listener. Default value is **false**.

SNMPPort - Set the port you want to use for the particular Publisher service. See default settings for each service below.

SNMPsysContact - The textual identification of the contact person for this managed node, together with information on how to contact this person. Default value is **Unspecified System contact**.

SNMPsysName - An administratively-assigned name for this managed node. By convention, this is the node's fully-qualified domain name. If the name is unknown, the value is the zero-length string. If left empty, it defaults to current machine name. Default value is **Unspecified name**.

SNMPsysLocation - The physical location of this node (e.g. 'telephone closet, 3rd floor'). Default value is **Unspecified location**.

DebugSNMP - Set to true to enable extended debuglog for SNMP listener. Default value is **false**.

The default port settings for the services are:

| | |
|---|---|
| Management Service | 4781 |
| Directory Service Connector | 4731 |
| Distribution Service | 4721 (default SNMP port). |
| QlikView Server | 4748 |

The ports are all configurable. If the services are installed on different computers they can all run on the same port. The ports will change as the implementation moves away from the experimental SNMP range and in to the range allotted QlikTech.

QlikTech has included a MIB file, so all SNMP managers will be able to interpret the additional responses for the Distribution Service. The file is installed to **.\QlikView\Support Tools**. The Support Tools requre a customized install. The MIB file is subject to change. The Distribution Service can answer the following queries, in addition to the ones previously mentioned:

| 1.3.6.1.4.1.30764.1.2.2.1 | QDSTaskExecuteStatusTable |
|---|---|
| 1.3.6.1.4.1.30764.1.2.2.1.1 | QDSTaskExecuteStatusEntry |
| 1.3.6.1.4.1.30764.1.2.2.1.1.1 | QDSTaskID (ID-number of the task) |
| 1.3.6.1.4.1.30764.1.2.2.1.1.2 | QDSTaskName (Name of the task) |
| 1.3.6.1.4.1.30764.1.2.2.1.1.3 | QDSTaskExecuteStatus.(Status of the task. Possible values are: <br><br>•　　　Waiting <br><br>•　　　Running <br><br>•　　　Aborting <br><br>•　　　Failed <br><br>•　　　Warning |
| 1.3.6.1.4.1.30764.1.2.2.1.1.4 | QDSTaskNextExecutionAt (When the taskwill be executed next). |

| | |
|---|---|
| 1.3.6.1.4.1.30764.1.2.2.1.1.5 | QDSTaskLastExecutedAt (When the taskwas last executed). |
| 1.3.6.1.4.1.30764.1.2.2.1.1.6 | QDSTaskCurrentWork (What the task is doing now). |
| 1.3.6.1.4.1.30764.1.2.2.1.1.7 | QDSTaskEnabled (Whether the task is enabled). |

Read more about SNMP:

RFC for SNMP - http://www.ietf.org/rfc/rfc1157.txt

Wikipedia - http://en.wikipedia.org/wiki/
Simple_Network_Management_Protocol

**APPENDIX**

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# C  HOW TO ACTIVATE SSL FOR SERVICES IN WINDOWS

Make sure you have a valid certificate for the web site. You can use Microsoft IIS to generate a Certificate Request (CSR) or certreq.exe (part of Administration Toolkit in Windows Server 2003 (not covered here).

Import the certificate to the correct certificate store on the server using **Management Console** and the **Certificate snap-in.**

Bind the certificate to SSL using httpcfg in Windows Server 2003 or netsh.exe in Windows Server 2008.

## Import Certificate

Open the **Management Console** (**MMC**)by pressing **Start**, **Run** and typing **mmc.exe**. In the **MMC** go to **File**, **Add/Remove Snap-ins**. Select **Certificates** and click **Add**. Make sure you select **Computer Account** and **Local Computer** when prompted.

Browse to **Certificates** and then **Personal**. If the certificate is not present, right-click and select **All Tasks**, **Import...**

Locate the certificate you wish to import. Make sure the Certificate store is set to **Personal**.
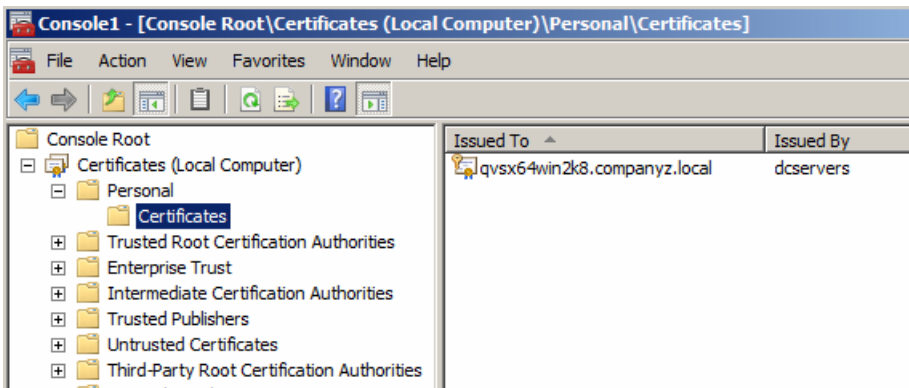
# Get the Thumbprint for the Certificate

Open the **Certificate snap-in** in **MMC** and double-click on the certificate. Copy the **Thumbprint** hash to notepad or similar. Remove the spaces in the hash.
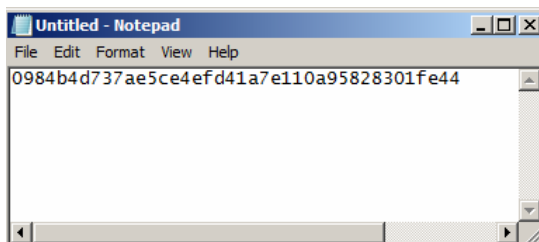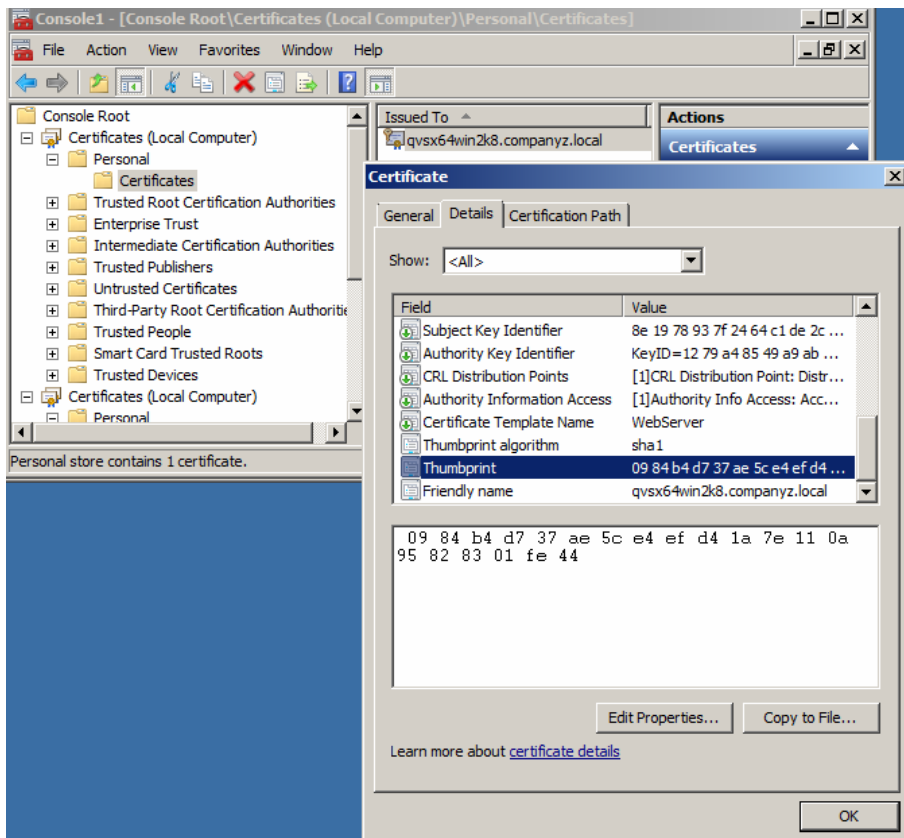
## Generate a GUID

Download **Guidgen.exe** from Microsoft to generate a unique GUID. Copy the GUID to **Notepad.exe**.
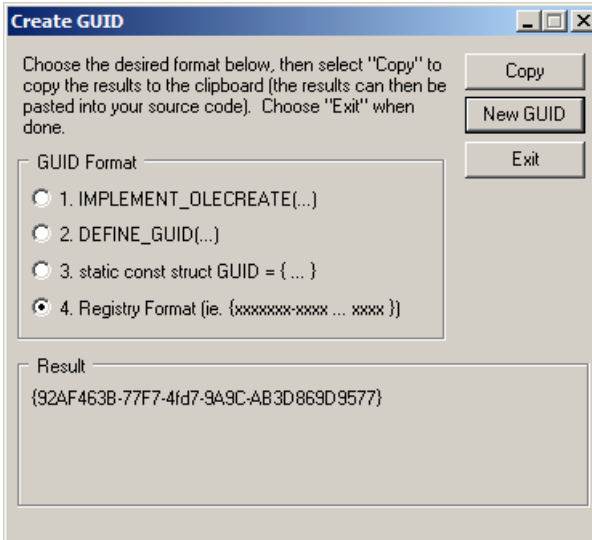
## Bind to SSL in Windows Server 2003

Use **httpcfg** to add the certificate in the SSL store (**httpcfg** can be found in the Support Tools for Windows 2003). Make sure you do not already have the certificate in the SSL store. If you do, you can skip this part.

The syntax for adding a certificate using **httpcfg** is:

**Httpcfg set ssl /i ipnumber:port /h hash /g GUID**

where

**ipnumber:port** the ipnumber of QlikViewWebServer and port used for SSL (443)

**hash** the Thumbprint hash of the certificate.

**GUID** the generated GUID in the form {xxxxxxxx-xxxx-....}". The GUID must be enclosed by curly brackets.

To verify the registration of the certificate, use **httpcfg query ssl**. The result will look something like:

```
-----------------------------------------------------------
IP                      : 10.1.2.5:443
```

```
Hash                        : 7091684c6baf12306788bca24f5ca3df4d63937a
Guid                        : {c52f8795-6047-43f4-94da-4fe84df7517c}
CertStoreName               : (null)
CertCheckMode               : 0
RevocationFreshnessTime     : 0
UrlRetrievalTimeout         : 0
SslCtlIdentifier            : (null)
SslCtlStoreName             : (null)
Flags                       : 0
```

Read more on http://technet2.microsoft.com/windowsserver/en/library/
e17527d2-105a-451f-8e3f-d515479527011033.mspx?mfr=true

## Bind to SSL in Windows Server 2008

On Windows 2008 you use the netsh command shell:

**netsh http add sslcert ipport=0.0.0.0:443 certhash=hash appid=GUID**

where

**ipport** is the ipnumber of QlikView Web Server and port used for SSL (443).

**certhash** is the thumbprint hash of the certificate.

**appid** is the generated GUID in the form {xxxxxxxx-xxxx-….}". The GUID must be enclosed by curly brackets.

To verify the registration of the certificate, **use netsh http show sslcert**.

## Addintional changes for the QlikView Web Server

Make changes to **config.xml** for QlikView Web Server to add the full URL used for SSL. The default location for the **config.xml** file is **C:\Program Files\QlikView\Server\QvWebServer**. Note that the URL must match the URL for which the certificate is valid.

**<Url>https://QVS.companyx.local:443/</Url>**

Make sure no other services are using the port specified for SSL (for example a running IIS) and restart the service. If it fails to start, it's either because a service is already running on the specified port, or errors exist in the **config.xml**.

# D GLOSSARY

| | |
|---|---|
| AccessPoint | A web portal that lists the User Documents hosted by the QlikView Server. |
| Attribute | Meta data attributes set on User Documents, but saved in the meta data of the Server, not in the document. |
| Category | Bundles User Documents in containers to make categorization easier for the end-user. They are only visible to the end-user on an AccessPoint. |
| Data reduction | Only selected data and associated fields make up a User Document that has been reduced. |
| Distribution task | Produces a User Document based on a Source Document |
| Preload | Load the document into the server's RAM for faster access. |
| Reload task | Reloads and refreshes the data in a Source Documen. |
| Repository | The database that contains all QlikView Publisher data. It can either be an XML repository or a Microsoft SQL database. |
| Source document | QlikView documents that contain data that is to be made accessible to end-users in the form of Distributed documents |
| Trigger | This is what sets of a QlikView Publisher task. A trigger can be set on a schedule, it can be an external event etc. A taska can have multiple triggers, making it possible to set up a workflow of tasks. |
| User document | QlikView documents that are distributed to users, either through QlikView Server or QlikView Publisher. |

# E  DEPLOYING MSI PACKAGES WITH GROUP POLICIES

## General

A common issue today is how to deploy applications in a network environment where the users have limited rights and how to deploy applications to a specific group of users. This document will shortly describe how to deploy Microsoft's Windows Installer (.msi) packages with group policies in an Active Directory environment.

**Note**   Deploying software with group policies is only supported by workstations running Windows XP Professional, Windows Vista or 2003 or 2008 Server.

The QlikView .msi packages also require version 2.0 or higher of the Windows Installer service to be installed on the destination workstations.

## Deploying the MSI Package

When you have obtained your .msi file it must be placed in a folder shared on the network. Make sure that all users and/or computers that will install the application have read access to that folder. When the package is made accessible to these users and/or computers you are ready to create the Group policy object that will advertise the installation package. See section 1.3 for further information about advertising.

The package can be advertised for each user or each computer. Use the "User Configuration/Software Settings" container to advertise per user. Use the "Computer Configuration/Software Settings" container to advertise it per computer. Both containers are located in the Group Policy Object editor.

If the package is advertised per user, you can either assign or publish it. A package that is advertised per computer can only be published.

To publish a package per user means that it is listed (advertised) in the "Add programs from your network"-list in the "Add/Remove programs" dialog, see figure below.
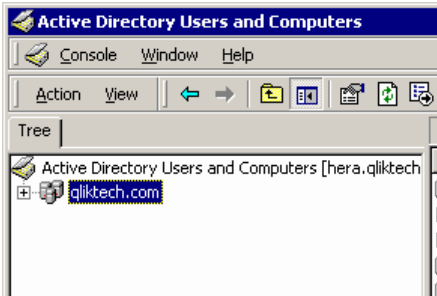


Each user must then click the **Add** button to complete the installation.

To publish a package per computer means that the package is installed and accessible for all users on that computer the next time the computer is rebooted.

An advertised package that is assigned is also listed in the "Add programs from your network" list and can be added from there. This option also offers a few more ways to activate the installation package:

- Shortcuts, if the installation package adds any shortcuts, to desktop and/or start menu, these are added and the installation package can be executed by clicking on any of these.

- File association, the installation program is executed when the user tries to open a file that is associated with the advertised application.

- There are a few more ways to execute the installation when it is advertised as assigned but they are not applicable to any QlikView installations and therefore fall out of the scope for this documentation.

---

**Note**   Executing the installation from shortcuts or via a file association is not applicable to the "QlikView Analyzer for Internet Explorer"-installation package, since is doesn't add any shortcuts or file associations. Therefore it is not recommended to advertise QlikView installation packages with the assign option.

---

## Advertising

To advertise means that the administrator gives the installation package permission to execute on an account with locked down permissions.

When the package is advertised, there are so called "entry points" loaded onto the destination system. Entry points are typically shortcuts, file associations, listing in the Add/Remove programs dialog etc.

## Step-by-step guide

This section provides a brief step-by-step guide for creating a group policy for the advertising of QlikView Internet Explorer plug-in.msi package on a number of machines in the Active Directory.

For more details on creating group policies we refer to the wealth of published literature in this field.
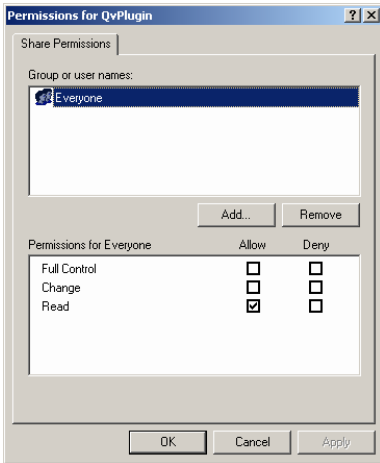
1    Browse to the folder containing the .msi package. Share the folder to the network users with permission to install the package.



315
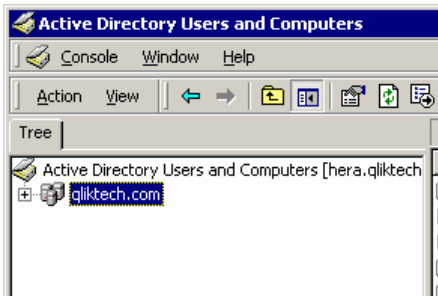
2        Open **Active Directory Users and Computers** and highlight the **Organizational Unit (OU)** where you want to deploy the package.
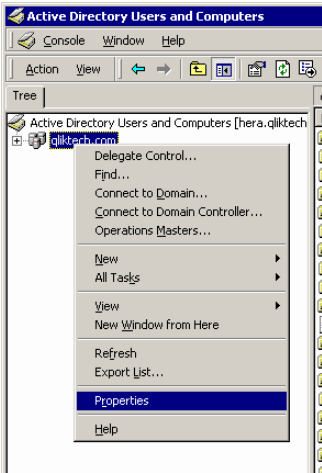


3        Right-click and choose **Properties**.
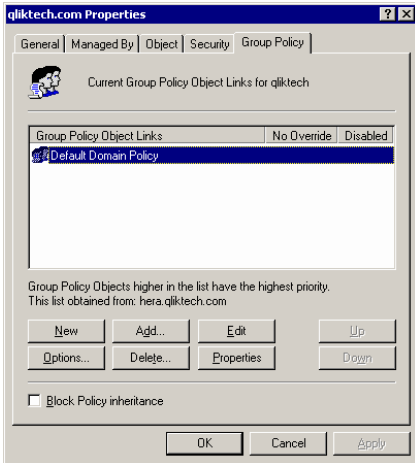
4    Go to the **Group Policy** tab, click **New** and give it an appropriate
     name.
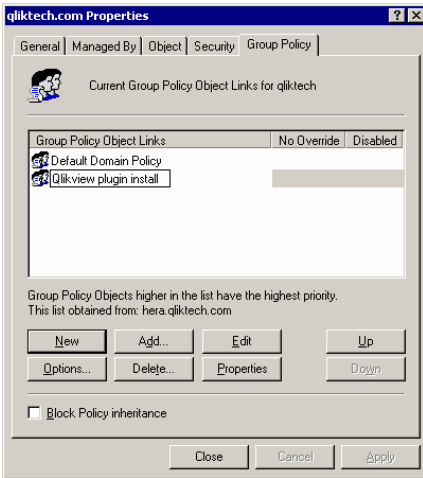


5    Highlight the new group policy object and press **Edit**.
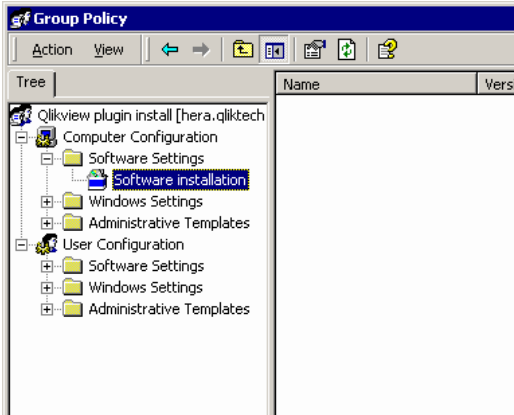
6	Expand to **Computer Configuration/Software Settings** or **User Configuration/Software Settings** depending on how you want to deploy the package. We select **Computer Configuration** and then highlight **Software installation**.
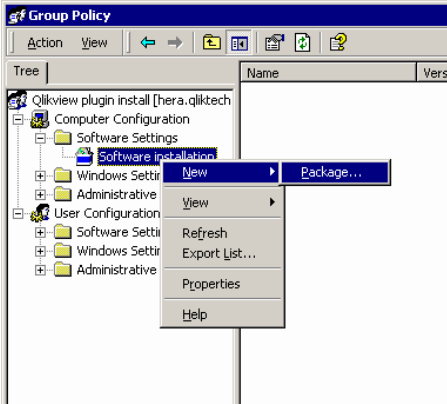


7	Right-click **Software installation** and choose **New** -> **Package**. A pop-up window is shown asking where to locate the installation package.
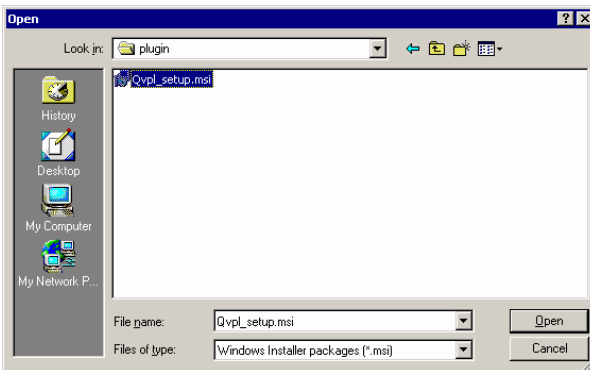
8       Find the installation package, select it and press **Open** (in this case
        `QvPluginSetup.msi`).
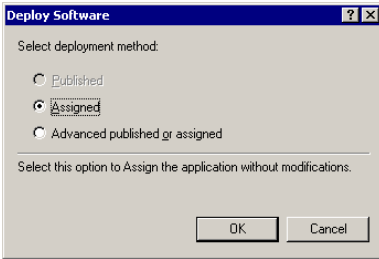


9       Select the deployment method **Assigned** and press the **OK** button.
        Since we selected to apply the installation to the **Computer config-
        uration** in item #6, it is only possible to use the **Assigned** deploy-
        ment method, see section 1.2 for further information.
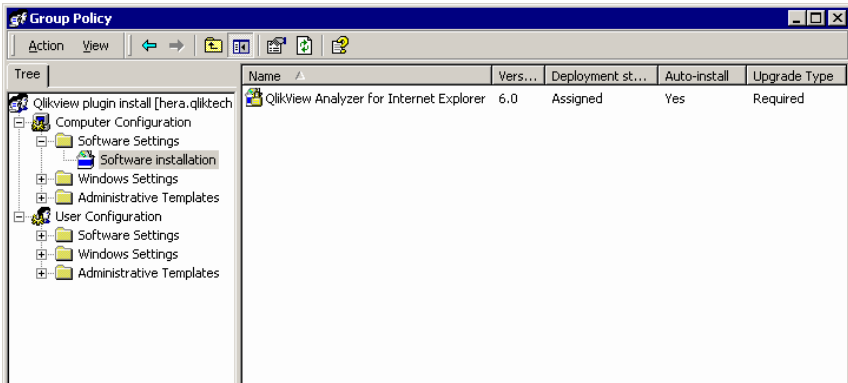
10      The deployment rule is now ready for use. All the machines in this
        Operational Unit (OU) get this deployment automatically. What
        actually happens is that when a computer is rebooted the installation
        program is executed so that any user who logs on to a computer in
        that OU, will be able to run the installed program. The rule can be
        applied to many different OU's.

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