

QlikView

Web Parts

Version 11.2 for Microsoft Windows®

Lund, Sweden, 2017

Authored by QlikTech International AB

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Contents

1	What's New in Version 11	5
2	Version Compatibility	7
3	Installing QlikView Web Parts	9
	3.1 Requirements.....	9
	3.2 Installation.....	9
	3.3 Post-installation Manual Setup.....	10
4	Creating a Web Parts Page	13
5	Deployment Scenarios	17
	5.1 Scenarios.....	17
	5.2 Other Notes.....	18
6	Multi-hop Authentication	19
	6.1 NTLM Multi-hop Authentication Issue.....	19
	6.2 Kerberos.....	19
	6.3 Header Authentication.....	19
	6.4 QvAjaxZfc on the Same Machine as SharePoint.....	19
7	Troubleshooting	21
8	Appendix	23
	8.1 Inline Styles.....	23
	8.2 Logging.....	23

Contents

1 What's New in Version 11

The following list outlines changes and improvements in QlikView Web Parts for SharePoint® version 11:

- Header authentication can be used as an alternative to Kerberos in configurations that include multiple hops.
- The AJAX path is set in the `Web.config` file instead of in the `QvObject` control.

2 Version Compatibility

The version of QlikView Web Parts for SharePoint must always match the version of QlikView Server.

3 Installing QlikView Web Parts

3.1 Requirements

The following requirements must be fulfilled before installing QlikView Web Parts for SharePoint (hereafter referred to as “QlikView Web Parts”):

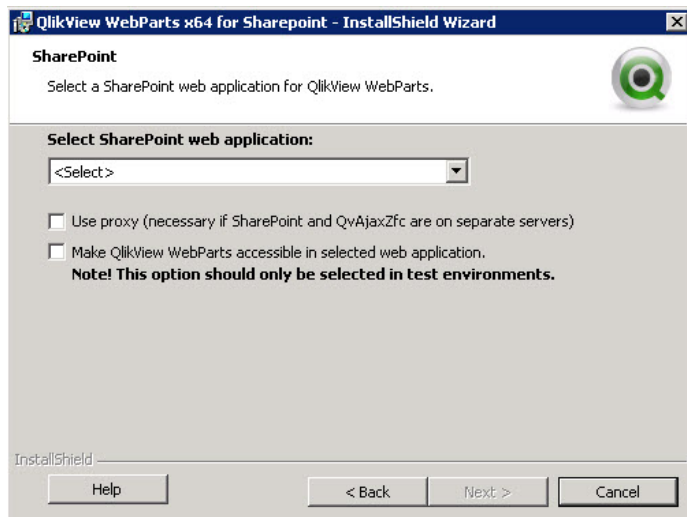
1. QlikView 11 Server:
 - The server does not have to be installed on the same machine, but must be accessible over the network.
 - QlikView Server must be configured to serve QlikView AJAX content either via QlikView Web Server or Microsoft® IIS – see the `QvAjaxZfcPath` setting in *Post-installation Manual Setup (page 10)*.
 - QlikView Server must be licensed to allow QlikView Web Parts. To verify if a given QlikView Server is properly licensed, check that the License Enabler File (LEF) for the server includes the following line:
`WEBPARTS;YES;;`
 For more information, contact the local QlikView account executive.
2. Since QlikView Web Parts act as a fully featured client to QlikView Server and exposes full QlikView functionality to the end user, each SharePoint user that consumes QlikView content via QlikView Web Parts must have the appropriate licensing on QlikView Server (check with the local QlikView account manager for details). Therefore, QlikView Server should be configured to use NTFS to let Windows control access to QlikView content in order to be consistent with authorization managed by SharePoint.
3. One of the following software packages must be installed on the same machine as QlikView Web Parts:
 - MOSS 2007
 - SharePoint Foundation 2010
 - SharePoint Standard 2010
 - SharePoint Enterprise 2010

Note! Throughout this manual, SharePoint Foundation 2010 is used.

3.2 Installation

Proceed as follows to install QlikView Web Parts:

1. Start the installation program, `QlikViewWeb Parts_x64.exe` or `QlikViewWeb Parts_x86.exe`.
2. The installation unpacks the files and computes the space needed for the installation. A welcome screen is then displayed. Click **Next** to continue.
3. Select the region where QlikView Web Parts are to be installed. Click **Next** to continue.
4. The software license agreement is displayed. Read it, select **I accept the terms in the license agreement**, and click **Next** to continue.
5. Enter the user information for QlikView Web Parts. Click **Next** to continue.
6. The default installation path is displayed. Click **Change** to use an alternative installation path. Click **Next** to continue.
7. Enter the URL to the `QvAjaxZfc` virtual directory on the web server (QlikView Web Server or Microsoft IIS). Click **Test URL** to confirm the path to the directory. When the path has been properly confirmed, click **Next** to continue.
8. Select the SharePoint web application for QlikView Web Parts in the drop-down list box. Check the **Use proxy** box, if SharePoint and the `QvAjaxZfc` folder are located on different machines. If QlikView Web Parts are to be accessible in the selected web application in a test environment, tick the **Make QlikView Web Parts accessible...** box. Finally, click **Next** to continue.



9. Click **Install** to install the files.
10. When the installation is complete, check the `readme` file for information on how to configure QlikView Web Parts manually. Optionally, check the installation log. Then click **Finish** to complete the installation process.

Once the installation is complete, proceed with the post-installation setup – see *Post-installation Manual Setup* (page 10).

3.3 Post-installation Manual Setup

All files needed for manual setup are copied to `C:\Program Files\QlikView\WebParts` during the installation. The solution file, `QlikViewWebPartsSolution.wsp`, can be run in the following ways:

- Manually using `stsadmin`
- Using the command file, `Install.cmd`, which is located in the `Setup` folder

The command file runs all necessary `stsadmin` commands for the SharePoint web application selected during the installation. The contents of the solution file are found in the `Source files` sub folder.

To make changes to the configuration, edit the `Web.config` file for the web application. In addition, edit `webconfig.FDC32F77-D5E3-4010-BFA6-C4EEA3CED089.xml` in `C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\CONFIG` (the path differs slightly depending on the SharePoint version used). The `Web.config` file in the `\...\CONFIG` folder is a template used when creating new web applications. To update an already existing web application, run the following `stsadmin` command:

```
-o copyappincontent
```

The command file adds the following section in the `Web.config` file:

```
<QlikViewWebParts>
<General>
<add key="QvAjaxZfcPath" value="http://<SERVERNAME>/QvAjaxZfc/" />
<add key="Proxy" value="" />
</General>
</QlikViewWebParts>
```

`Proxy` is used when running SharePoint and the `QvAjaxZfc` virtual folder on different machines. To enable the proxy at a later stage, set the value to `/_layouts/Proxy.aspx`.

To install QlikView Web Parts to another web application, use a copy of `Install.cmd` and edit the `url` parameter for the SharePoint web application.

The Setup sub folder also contains files for uninstallation, `Uninstall.cmd`, and upgrade, `Upgrade.cmd`, of QlikView Web Parts.

Using Proxy

If AccessPoint (that is, the `QvAjaxZfc` virtual directory) is not on the same machine as the QlikView WorkBench site, use a proxy to avoid cross-site scripting issues. Use `Proxy.aspx` for `asp.net` sites. A custom proxy can also be used. When creating a custom proxy, the following requirements must be fulfilled:

- Cookies are copied from the client request to the server request.
- Headers are copied from the server response to the client response.
- The server response is copied in binary form to the client response.
- The `QvAjaxZfcPath` property is retrieved from the `Web.config` file.
- The requested file is sent using `querystring` using `'file='`.

Example:

```
url=/QvWebSite2/Proxy.aspx?file=QvsViewClient.aspx&mark=&host=
Local&view=Films&platform=WEBPARTS&dpi=96
```

The `QvAjaxZfcPath`, `http://<SERVERNAME>/QvAjaxZfc/`, is retrieved from the `Web.config` file.

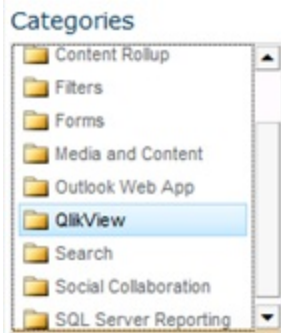
The proxy performs the following request:

```
http://<SERVERNAME>/QvAjaxZfc/QvsViewClient.aspx?mark=&host=
Local&view=Films&platform=WEBPARTS&dpi=96
```

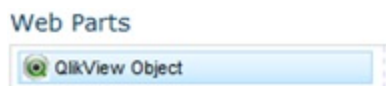

4 Creating a Web Parts Page

To add a QlikView Web Parts page to a SharePoint page, proceed as follows:

1. Select **Site Actions>Edit Page**.
2. Click **Add a Web Part**.
3. Select **QlikView** in the **Categories** list.



4. Select **QlikView Object** in the **Web Parts** list.



5. Click **Add**. The web parts page, where the properties of the web part can be edited, is displayed.
6. Click the link in the object to set the properties. The QlikView Object Selector opens in a pane to the right.

 A screenshot of the 'QlikView Object Selector' dialog box. The dialog has a title bar 'QlikView Object' and a close button. Below the title bar is the 'QlikView Object Selector' section with three dropdown menus: 'Document' (set to '<select document->'), 'Type', and 'Object'. Below this is the 'Appearance' section, which is expanded. It contains:

- Title:** A text box containing 'QlikView Object'.
- Height:** A section titled 'Should the Web Part have a fixed height?' with a radio button selected for 'Yes' and a dropdown menu set to '250 Pixels'. There is also an option for 'No. Adjust height to fit zone.'.
- Width:** A section titled 'Should the Web Part have a fixed width?' with a radio button selected for 'Yes' and a dropdown menu set to '400 Pixels'. There is also an option for 'No. Adjust width to fit zone.'.
- Chrome State:** Radio buttons for 'Minimized' and 'Normal' (selected).
- Chrome Type:** A dropdown menu set to 'None'.

 At the bottom, there are expandable sections for 'Layout', 'Advanced', 'QlikView Settings', and 'QlikView Object'. At the very bottom are 'OK', 'Cancel', and 'Apply' buttons.

The QlikView Object Selector contains the following settings:

Document	Select a document to connect to on QlikView Server. <hr/> Note! The list is limited to the documents that the user is authorized to see by QlikView Server (see the QlikView Server Reference Manual). <hr/>
Type	Select an object type in the QlikView document. <hr/> Note! This filters the Object list (see below). <hr/>
Object	Select an object in the QlikView document. <hr/> Note! The list is limited to the objects that the user is authorized to see by QlikView Server (see the QlikView Server Reference Manual). <hr/>

Note! If the Document drop-down list is empty, it may be because the `QvAjaxZfcPath` setting has to be configured or an incorrect path is used in the setting.

The only other properties in the QlikView Object Selector that are relevant to the QlikView object are those under the QlikView Settings and QlikView Object headings:

InlineStyle	Some styles are set using a stylesheet created by the QlikView Server AJAX engine. These styles can be overridden in a custom stylesheet. However, other styles are added to the inline HTML generated by the QlikView Server AJAX engine. Under normal circumstances, these styles cannot be overridden in a custom stylesheet, but by changing the default True to False, the inline styles can be overridden in a custom stylesheet. The styles that are provided inline by the QlikView Server AJAX engine are styles for fonts, borders, and colors. For more information on inline styles, see <i>Inline Styles (page 23)</i> .
--------------------	---

Tag Define a custom tag for the object that can be used in, for example, JavaScript®. This can be used for customizing a web part, marking a web part for special action, distinguishing between one web part and another at runtime, and so on. This information can be used to improve the integration of QlikView Web Parts with other SharePoint content.

Note! The tag is added as an attribute of the QlikView Web Parts `div` tag.

Below follows an example of a function that retries an array of tag attributes from all QlikView Web Parts on a web page:

```
<script type="text/javascript">

    GetAllQvObjectsByTag = function(tag) {

        var tagObjs = [];

        var divs =
            document.getElementsByTagName("div");

        for (var i = 0; i < divs.length; i++) {

            if (divs[i].getAttribute("Tag")
                == tag) {

                tagObjs.push(divs[i]);

            }

        }

        return tagObjs;

    }

</script>
```

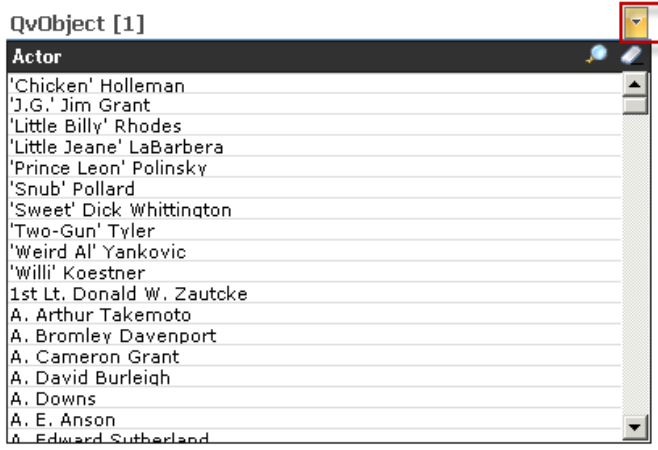
QvAjaxZfcPath This field shows the path to the `QvAjaxZfc` virtual directory on the web server that serves the QlikView AJAX content.

CustomIcons Custom images can be used to substitute caption icons. The following caption icons can be replaced by custom icons:

- Lock (icon code: LOC)
- Unlock (icon code: ULC)
- Clear Other Fields (icon code: CO)
- Select Excluded (icon code: SE)
- Select Possible (icon code: SP)
- Select All (icon code: SA)
- Search (icon code: SEARCH)
- Send to Microsoft Excel® (icon code: XL)
- Clear (icon code: CD)
- Print (icon code: PR)

The syntax of custom image(s) is `icon code:icon url`. Custom icons must use relative paths. Separate each custom icon with a comma, if more than one is used. For additional information on custom icons, see the JavaScript API documentation.

To modify an already created web part, click the small arrow in the caption of the object.



5 Deployment Scenarios

QlikView Web Parts expose QlikView AJAX content the same way as it is served up in the QlikView AJAX client. Both the QlikView AJAX client and QlikView Web Parts rely on the `QvAjaxZfc` virtual directory to serve the QlikView AJAX content. This directory is a virtual directory on a web server (QlikView Web Server or Microsoft IIS) and it is installed as part of the QlikView Server installation package (see the QlikView Server Reference Manual for information).

5.1 Scenarios

The virtual directory can, but does not have to, be hosted on the same web server as SharePoint. This leads to a flexible deployment scenario with many options. This section provides an overview of the options and the pros and cons of each option.

Scenario 1

Box 1 Both SharePoint and `QvAjaxZfc` are hosted on the same IIS.

Box 2 QlikView Server.

Pros Prevents any multi-hop authentication issues. Only a single web server.

Cons May not be suitable when SharePoint is dedicated to a portal only and all content processing must be done on other machines.

Notes Good when QlikView Server is dedicated to serving content to SharePoint, as non-SharePoint users consuming QlikView content otherwise use resources on the SharePoint IIS machine. In addition, this requires that the SharePoint administrator allows processing of QlikView AJAX content on the IIS running SharePoint.

Scenario 2

Box 1 SharePoint on IIS.

Box 2 QlikView Server and `QvAjaxZfc` (hosted on either QlikView Web Server or IIS).

Pros Dedicated SharePoint box.

Cons May encounter multi-hop authentication issues when NTLM is used between the client and SharePoint. Use Kerberos or header authentication to handle multiple hops (see *Multi-hop Authentication (page 19)*). A proxy must be used.

Notes Good when QlikView Server serves both SharePoint users and other QlikView client users. Offloads all QlikView AJAX content processing from the SharePoint box.

Scenario 3

Box 1 SharePoint hosted on IIS.

Box 2 QvAjaxZfc hosted on either IIS or QlikView Web Server.

Box 3 QlikView Server.

Pros Both QlikView Server and SharePoint have their own dedicated boxes.

Cons Requires three machines. May encounter multi-hop authentication issues when NTLM is used between the client and SharePoint. Use Kerberos or header authentication to handle multiple hops (see *Multi-hop Authentication (page 19)*). A proxy must be used.

Notes Only recommended in high-volume environments where heavy loads are expected on both the QlikView Server and SharePoint machines.

Scenario 4

Box 1 Both SharePoint and QvAjaxZfc hosted on IIS and QlikView Server.

Pros Requires only one machine.

Cons QlikView Server is not on a dedicated machine. This setup is *not* recommended.

Note! It is recommended to always install QlikView Server on a dedicated machine. The configuration in this scenario may have QlikView Server and SharePoint fighting for resources (that is, RAM and CPU time) and should be avoided except for in demo, development, and evaluation environments where no real load is placed on the system.

5.2 Other Notes

SharePoint hosted on IIS and QvAjaxZfc hosted on QlikView Web Server can be deployed on the same box (either using port sharing or running on separate ports), but such a configuration usually does not make much sense. However, it can be useful in environments with highly specialized requirements.

6 Multi-hop Authentication

6.1 NTLM Multi-hop Authentication Issue

The issue of multi-hop authentication is not QlikView-specific. It is a known limitation of the Microsoft NTLM authentication mechanism. The basic issue is that NTLM, due to its very nature, only allows a single hop. When the hop is from a client to a server (for example, from an end user machine to an SQL Server® machine), there is only one hop and, hence, no problem. However, when an intermediary server is added, such as a portal server (that is, SharePoint), there are two hops (for example, from the end user machine to the SharePoint machine, and from the SharePoint machine to SQL Server). In this case, the user identity is moved from the client machine to the SharePoint server via NTLM, but since NTLM does not support a second hop, the user comes into SQL Server not as an authenticated user, but as an anonymous user.

When using QlikView Web Parts, the multi-hop authentication issue may be encountered when the `QvAjaxZfc` directory is not on the same machine as SharePoint – see *Scenario 2 (page 17)* and *Scenario 3 (page 18)*. In this case, the user comes into QlikView Server as anonymous even though the user is authenticated as far as SharePoint (and the IIS that SharePoint runs on) is concerned.

6.2 Kerberos

To use a configuration that has multiple hops – see *Scenario 2 (page 17)* and *Scenario 3 (page 18)* – Kerberos can be used instead of NTLM. When using Kerberos, it must be configured to allow delegation (that is, the second hop). This procedure is documented in numerous places. For information, see the Microsoft Developers Network (MSDN) or consult the local Windows® administrator.

6.3 Header Authentication

As an alternative to configuring Kerberos between the server that hosts the web site and the server that runs QlikView Web Server (QVWS), header authentication can be used. This means that the web site adds an http header to the communication with QVWS.

The tag `Header` is by default included in `Web.config`:

```
<add key="Header" value="QVUSER"/>
```

The web server must also be configured for header authentication.

Note! Since headers can be manipulated, it is important to protect the communication between the web site and QVWS.

6.4 QvAjaxZfc on the Same Machine as SharePoint

When the `QvAjaxZfc` directory is on the same machine as SharePoint – see *Scenario 1 (page 17)* – multi-hop is no issue even though there are still multiple hops. This is due to the fact that `QvAjaxZfc` uses QlikView-specific authentication instead of NTLM for the hop back to QlikView Server, which avoids the multi-hop issue altogether. It should be noted that placing the `QvAjaxZfc` directory on the SharePoint machine almost certainly requires less configuration effort than configuring Kerberos to allow delegation, so the former is recommended (where possible).

7 Troubleshooting

Symptom(s)	Solution(s)
<p>Web part does not appear in the Web Part Gallery of the SharePoint site</p>	<p>Possible solutions:</p> <ul style="list-style-type: none"> • Verify that the web site that was specified when installing QlikView Web Parts is used. • Verify that the instructions in <i>Post-installation Manual Setup (page 10)</i> have been followed. • Check the SharePoint logs for information on the <code>stsadmin</code> commands executed during the installation: C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\LOGS The path may vary depending on the SharePoint version.
<p>Web part appears in the Web Part Gallery, but when it is added to the SharePoint web site, the drop-down menu in the Document property for the web part is empty</p>	<p>Possible solutions:</p> <ul style="list-style-type: none"> • Verify that the standard AJAX client can be accessed from a browser on the same machine as the SharePoint web site. If this does not work, there is an issue with QlikView Server. Consult the local QlikView Server administrator or the QlikView Server Reference Manual for information. • Verify that the <code>QvAjaxZfcPath</code> property is correctly set. • Verify that the current user is transferred to QlikView Server correctly. Check the QlikView Server logs. In addition, it may be helpful to set up a document authorized to be accessed by the anonymous account on QlikView Server (depending on the authorization, NTFS or DMS, this is done differently – see the QlikView Server Reference Manual for details). If the document appears in the menu, there is an authentication issue between the SharePoint server and QlikView Server. Typically, a SharePoint site uses Windows Integrated Authentication, so look for something that may be preventing this from functioning. In addition, consider the multi-hop authentication issue inherent in NTLM (consult the local Windows administrator for more information).
<p>Web part can be added correctly and the Document property can be set, but trying to set the Object property returns an error</p>	<p>Typically, this indicates that the QlikView document in question has section access that requires user ID and password. The workaround is to have the QlikView document administrator disable the section access while the web part is added to the web page and then re-enable the section access again.</p>

8 Appendix

8.1 Inline Styles

Some styles are set using a stylesheet created by the QlikView Server AJAX engine. These styles can be overridden in the custom stylesheet. However, other styles are added to the inline HTML generated by the QlikView Server AJAX engine. Under normal circumstances, these styles cannot be overridden in the custom stylesheet, but by changing the default True to False, the inline styles can be overridden in the custom stylesheet.

The styles that are provided inline by the QlikView Server AJAX engine are:

fontfamily, fontsize, fontstyle, fontweight, textalign, verticalalign, textdecoration, paddingTop, paddingLeft, paddingRight, paddingBottom, color

background-color, color, text-align, font-style, font-weight, text-decoration, font-size, border-bottom, border-top, border-left, border-right

MozBorderRadiusTopleft, MozBorderRadiusTopright, MozBorderRadiusBottomleft, MozBorderRadiusBottomright

WebkitBorderTopLeftRadius, WebkitBorderTopRightRadius, WebkitBorderBottomLeftRadius, WebkitBorderBottomRightRadius

8.2 Logging

Errors are automatically logged in `QlikView WebParts Errors.txt`, which is located in the SharePoint application directory. To extend the logging, add the `LogFile` key in `Web.config`:

```
<QlikViewWebParts>
<General>
<add key="QvAjaxZfcPath" value="http://<SERVERNAME>/QvAjaxZfc/" />
<add key="Proxy" value="/_layouts/proxy.aspx"/>
<add key="LogFile" value="/wplog.txt"/>
</General>
</QlikViewWebParts>
```

