Dashboards for Accolade®

QlikView Installation Guide

For Sopheon Accolade® v16.2

About Sopheon Accolade®

Document Name:	QlikView Dashboards for Accolade Installation Guide
Document Version:	1
Software Version:	Sopheon Accolade 16.2
Document Date:	February 2024

Ownership of Software and Documentation

The Sopheon® software described in this documentation is furnished under a license agreement and may be used only in accordance with the terms of that license agreement.

Sopheon Corporation and its associated Sopheon Group companies, including its subsidiaries, its immediate holding company and its ultimate holding company (together, "Sopheon") have created and own all rights to the software and documentation. Licensees of the software have purchased a limited right to use the software in accordance with their license agreement.

Copyright Notice

All materials in this documentation or in the software, including software code, pages, documents, graphics, audio and video, are copyright © 2024 Sopheon. All rights reserved.

Certain Sopheon software modules incorporate portions of third party software, and the copyright of the authors of such third party software are hereby acknowledged. All rights reserved.

All the information on this documentation is proprietary and no part of this publication may be copied without the express written permission of Sopheon.

Trademarks

"Accolade", "Sopheon", and the Sopheon logo are registered trademarks of Sopheon. "Vision Strategist", the Vision Strategist logos, "Idea Lab", and "Process Manager" are trademarks of Sopheon. A more complete list of Sopheon trademarks is available at www.sopheon.com.

"Microsoft", "Windows", "Excel" , "PowerPoint" and "Microsoft Teams" are registered trademarks of Microsoft Corporation. A complete list of Microsoft trademarks is available at www.microsoft.com . "Lotus Notes" is a registered trademark of International Business Machines Corporation. "WinZip" is a registered trademark of WinZip Computing, Inc. "Stage-Gate" is a registered trademark of the Product Development Institute. Other product names mentioned in this Help system may be trademarks of their respective companies and are hereby acknowledged.

"Slack" is a registered trademark of Salesforce Technologies, LLC.

Names of persons or companies and other data contained in examples set forth in this user documentation are fictitious unless otherwise noted.

No Warranty

The technical documentation is being delivered to you AS-IS, and Sopheon makes no warranty as to its accuracy or use. Any use of the technical documentation or the information contained therein is at the risk of the user. Documentation may include technical or other inaccuracies or typographical errors. Sopheon reserves the right to make changes without prior notice. In no circumstances will Sopheon, its agents or employees be liable for any special, consequential or indirect loss or damage arising from any use of or reliance on any materials in this documentation or in the software.

Patents

Aspects of Sopheon software are protected by U.S. Patents 5634051, 6632251, and 6526404; European Patent EP0914637; and by U.K. Patent GB2341252A.

Contents

About This Guide

Welcome to the *QlikView Dashboards for Accolade Installation Guide*.

This guide describes the prerequisites and process for installing and configuring Dashboards for Accolade on the QlikView server as well as the process for maintaining charts with QlikView. This version of Dashboards for Accolade is intended for integration with Sopheon Accolade v.16.2.

> **Note:** Your company may use other components of QlikView for other purposes in your business. This guide discusses only the information you need to install and setup Dashboards for Accolade. For additional information about installing, setting up, and developing content in QlikView, see the QlikView help available at http:\\help.qlik.com.

Assumptions

This guide assumes you are familiar with the following:

- Microsoft Windows operating system, procedures, and user interface
- Installing software packages
- Working with servers
- The basic concepts of QlikView
- Basic knowledge of Accolade (login procedures, user administrations, etc.)

Font Conventions

- This **bold font** is used for important words and the names of the items you need to identify.

  Create a SQL account named "Geneva", and give this account the **VS_Write** database role.

- `This fixed-width font` is used for examples of code, paths, and URLS.

  `https//:your-server-name:port-number/`

- *This italic font* is used for document names.

- *An italic font* enclosed in brackets shows what information is displayed in this location when the information is changeable, rather than fixed.

  Process Document - Smart Excel *<version>*.xlt

- Blue text indicates a cross-reference link that you can click to take you to that location.

Icon Conventions

💡 - Indicates a tip to assist with Accolade configuration or management.

EXAMPLE - Indicates an example use case to assist with Accolade component configuration.

Important! This is an important statement. Read it carefully before proceeding with an action.

Related Documentation

Sopheon Accolade v16.2 Installation Guide

Contacting Technical Publications

To send comments and suggestions regarding this document, send email to techpubs@sopheon.com.

Scope of Access Notices

Dashboards for Accolade is powered by QlikView® and is licensed by Sopheon through an OEM arrangement between QlikTech Inc. and Sopheon.

In addition to the terms of use in your license agreement with Sopheon, your use of Dashboards for Accolade is limited as set out below.

QlikTech and its affiliates may enforce these restrictions directly. You may deploy up to 10 QVW files of up to 10 tabs each. Your license to Dashboards for Accolade entitles you to access solely the Sopheon Accolade databases for which it has been licensed, for the purpose of forecasting and assessing the status, risk, and value of your projects. Under the terms of the OEM arrangement, it is prohibited to:

> (a) connect Dashboards for Accolade to other databases

> (b) use QlikView as an independent application or a standalone product;

> (c) use the Sopheon Accolade applications as a conduit for Dashboards for Accolade to report on data produced by or residing in another database or application where such data falls outside the business scope of the host Sopheon Accolade software

> (d) create new .qvw files or applications, modify the database schema referenced by Dashboards for Accolade, or create or modify custom database tables. Any modification to Dashboards for Accolade may only be performed by Sopheon. Any use or modification outside these provisions would be unsupported and may be in breach of your license.

Furthermore, Individual software components, each of which has its own copyright and its own applicable license conditions ("Third Party Software") may be distributed, embedded, or bundled with QlikView. Such Third Party Software is separately licensed by its copyright holder. Use of the Third Party Software must be in accordance with its license terms available at http://www.qlik.com.

Prerequisites

Prior to installing and configuring Dashboards for Accolade, review the prerequisites listed in the following sections.

Roles Needed for Installing Dashboards for Accolade

The Dashboards for Accolade installation can be performed by a single individual, or it can require two different people with different expertise and different rights on your system.

- **Domain Administrator** - A domain administrator may be needed to create a domain user account with access to the Accolade database. You can use the user created for Windows Authentication that is described in the *Sopheon Accolade Installation Guide*.

- **Application Administrator** - The application administrator installs and configures the Dashboards for Accolade software. This person needs Administrator rights on the QlikView server.

  The application administrator also needs the **SGM_Write** role for the Accolade database and snapshots database and to have access group visibility to at least one project within Accolade.

Accolade Database Prerequisites

See the *Sopheon Accolade v16.2 Software and Hardware Requirements* document for a full list of the hardware and software required for the database server.

If Windows Authentication is used to communicate with the Accolade database, create a domain user to run the QlikView services or identify this user if it has already been created. This user is required when you install QlikView on the QlikView server. See "Installing the QlikView Software" on page 18.

Assign this domain user the public server role and the **SGM_Write** database role for the Accolade database and the snapshots database.

1. In SQL Server Management Studio, connect to the Accolade server.

2. In **Object Explorer**, expand **Security**.

3. Right-click **Logins** and click **New Login**.

4. On the **General** tab, search for and select the domain user you created.

5. Click **Server Roles** and select **public**.

6. Click **User Mapping** and do the following:

   - Select the Accolade database and select **SGM_Write**.

   - Select the Accolade Snapshots database and select **SGM_Write**.

Accolade Application Server Prerequisites

An installed and running instance of Sopheon Accolade 16.2 is required prior to installing Dashboards for Accolade. For more information about installing Accolade, see the *Sopheon Accolade Installation Guide*.

See the *Sopheon Accolade v16.2 Software and Hardware Requirements* document for a full list of the hardware and software required for the server.

Windows Roles, Services, and Features

Ensure the following roles are installed the application server:

- Application Server
- Web Server (IIS)

The complete list of roles and roles services on the application server is shown in "Application Server Roles, Role Services, and Features" on page 37.

See "Installing Windows Roles, Services, and Features" on page 14 for installation instructions.

QlikView and Dashboards Application Server Prerequisites

In addition to the requirements outlined in the *Sopheon Accolade v16.2 Software and Hardware Requirements* document, ensure that the following are also set on the server that contains QlikView and Dashboards for Accolade:

Prerequisite	Notes
User Account Control disabled	If you have User Account Control (UAC) enabled on the server, you must disable it in both the control panel and the registry in order to complete the installation. You can turn UAC back on after you install and configure Dashboards for Accolade.
Domain user for QlikView Services	If the server is using Windows Authentication to communicate with the Accolade database, the domain user account for the QlikView services must be a local administrator on the server and must be assigned the **log on as a service** right.
Open Ports	The following ports must remain open for use by QlikView Services: • QlikView Directory Service Connector: 4730, 4735 • QlikView Distribution Service: 4720 • QlikView Management Service: 4780, 4799 • QlikView Server: 4747, 4774
Web Server Ports	Install the **Web Server** role including all of its default role services. In addition, install the following web server role services:

Prerequisite	Notes
	• asp.Net • Windows Authentication • HTTP Redirection
TLS 1.2	Ensure this version of the security layer is enabled in the registry.
SQL Server 2012 Native Client	In order for QlikView to connect to the SQL Server database, SQL Server 2012 Native Client must be download and installed.

In addition, the installation requires a License Enabler File. To obtain the License Enabler File (LEF) information for the license, go to http://lef1.qliktech.com/manuallef/ and enter the license key and control number Sopheon provided to you.

Create the Dashboards website in IIS manager manually for new installations prior to launching the installation.

QlikView Dashboards for Accolade at a Glance

QlikView Dashboards for Accolade provides a solution for users who want to utilize dashboard reporting capabilities for their organization, integrating pertinent Accolade data into reporting views that can be accessed directly within Accolade.

QlikView Dashboards for Accolade Components

Dashboards for Accolade consists of the following components:

- **QlikView** - The underlying generation engine of Dashboards for Accolade. Sopheon recommends installing QlikView on a separate server from the Accolade application. See "Installation and Configuration" on page 13.

- **Dashboards for Accolade** - The actual software used to view charts, also known as dashboards, created using data from the Accolade databases. Sopheon recommends installing Dashboards for Accolade on the QlikView server. See "Installation and Configuration" on page 13.

- **Load and Refresh Scripts** - The QVD files and any custom scripts that contain the data extracted from Accolade for use in dashboards. Prior to using Dashboards for Accolade, configure the server load scripts, schedules, and add Global Links within Accolade to view the defined dashboards. See "Configuring Dashboards for Accolade" on page 21.

- **QlikView Client Application** - The client application is required for those users at your company who develop the dashboards. After you install the QlikView Server, install the client application as necessary. See "Client Computer Installation" on page 35.

- **Upgrade Dashboards for Accolade** - If you are already running Dashboards for Accolade and only need to update to the latest version of QlikView, see "Upgrades" on page 31.

  Note: QlikView server is available for Windows 2012 R2 and higher. The instructions and default directories provided in this guide may differ slightly for the version you are installing.

Chapter 1

Installation and Configuration

Installing Dashboards for Accolade involves the following:

- Installing the QlikView software, the underlying engine that populates defined dashboards.

- Installing the Dashboards for Accolade software, the software used to load and view dashboards.

- Configuring the Dashboards for Accolade load scripts and refresh schedules.

This chapter describes the initial installation of Dashboards for Accolade on a dedicated QlikView server. If you are already running Dashboards for Accolade and are only performing an upgrade, evaluate your need to upgrade the servers as well and see the upgrade instructions in the next chapter.

> **Note:** Sopheon recommends that you install the QlikView server and the Dashboards for Accolade software on a dedicated computer, separate from the server that contains the Accolade software.

Installing Windows Roles, Services, and Features

On the application server, install the following roles:

- Application Server (2012 servers only)
- Web Server (IIS)

The complete list of roles and roles services on the application server is shown in "Application Server Roles, Role Services, and Features" on page 37.

To Install Windows server roles, services, and features on Windows Server 2019:

1. In **Administrative Tools**, open **Server Manager**.

2. In the **Dashboard's Quick Start** menu, click **Add roles and features**.

3. In the console tree, select **Server Selection**, ensure the correct server is selected, and select **Server Roles**.

4. On the **Select Server Roles** page, select the **Web Server (IIS)** role and accept all its default settings.

5. On the **Web Server (IIS)** page, expand the **Web Server (IIS) > Management Tools** and select **IIS Management Compatibility** and ensure the following options are also selected:

   - IIS Metabase Compatibility
   - IIS Management Console
   - IIS Scripting Tools
   - IIS WMI Compatibility

6. Also on the **Web Server (IIS)** page, enable the following additional **Web Server (IIS)** services:

   - Web Server > Common HTTP Features > HTTP Redirection
   - Web Server > Health Diagnostics > Logging Tools

     If SMTP Server is set, also check OBDC Logging.

   - Web Server > Performance > Dynamic Content Compression
   - Web Server > Security

     Select the appropriate options based on your security configuration.

7. On the **Select Features** page, select the **.NET Framework 4.7 Features**, expand it and **WCF Services**, and select the following:

   - **.NET Framework 4.7** - .NET Framework 4.7 is installed by default with Windows Server 2019.

💡 Accolade may require a different version of .NET Framework be installed. See the *Sopheon Accolade v16.2 Software and Hardware Requirements* document for a full list of the hardware and software required for the server.

- **HTTP Activation**
- **Message Queuing Activation**
- **Named Pipe Activation**
- **TCP Activation**
- **TCP Activation**
- **TCP Port Sharing**

8. Also on the **Select Features** page, select **Management ODate IIS Extension**.

9. Click **Next**, confirm that all needed roles, role services, and features are selected, and click **Install**.

10. After the installation finishes, confirm that all the installations succeeded and click **Close**.

To Install Windows server roles, services, and features on Windows Server 2016:

1. In **Administrative Tools**, open **Server Manager**.

2. In the **Dashboard's Quick Start** menu, click **Add roles and features**.

3. In the console tree, select **Server Selection**, ensure the correct server is selected, and select **Server Roles**.

4. On the **Select Server Roles** page, select the **Web Server (IIS)** role and accept all its default settings.

5. On the **Select Features** page, select the **.NET Framework 4.6 Features**, expand it and **WCF Services**, and select the following:

- **.NET Framework 4.6** - .NET Framework 4.6 is installed by default with Windows Server 2016.

💡 Accolade may require a different version of .NET Framework be installed. See the *Sopheon Accolade v16.2 Software and Hardware Requirements* document for a full list of the hardware and software required for the server.

- **HTTP Activation** - Accept the added **ASP.NET 4.6**, additional **Web Server (IIS)** services, and **Windows Process Activation Service** features.

- **Message Queuing (MSMQ) Activation**

6. Also on the **Select Features** page, select the following:

- **Management ODate IIS Extension** - Accept the additional Web Server role services.

- **SMTP Server Tools** - Select by expanding **Remote Server Administration Tools > Feature Administration Tools**.

7. On the **Web Server (IIS)** page, expand the **Web Server (IIS) > Management Tools** and select **IIS Management Compatibility** and ensure the following options are also selected:

- IIS Metabase Compatibility

- IIS Management Console

- IIS Scripting Tools

- IIS WMI Compatibility

8. Also on the **Web Server (IIS)** page, enable the following additional **Web Server (IIS)** services:

- Web Server > Common HTTP Features > HTTP Redirection

- Web Server > Health Diagnostics > Logging Tools

   If SMTP Server is set, also check OBDC Logging.

- Web Server > Performance > Dynamic Content Compression

- Web Server > Security

   Select the appropriate options based on your security configuration.

9. Click **Next**, confirm that all needed roles, role services, and features are selected, and click **Install**.

10. After the installation finishes, confirm that all the installations succeeded and click **Close**.

To Install Windows server roles, services, and features on Windows Server 2012:

1. In **Administrative Tools**, open **Server Manager**.

2. In the **Dashboard's Quick Start** menu, click **Add roles and features**.

3. In the console tree, select **Server Selection**, ensure the correct server is selected, and select **Server Roles**.

4. On the **Select Server Roles** page, select the **Application Server** role, expand it, and select the following:

- **.NET Framework** - .NET v4.5 is installed by default with Windows Server 2012.

   💡 Accolade may require a different version of .NET Framework be installed. See the *Sopheon Accolade v16.2 Software and Hardware Requirements* document for a full list of the hardware and software required for the server.

- **Distributed Transactions** - If the database and application servers are installed on two different machines, select **Distributed Transactions** to enable the MSDTC

service and ensure that **Incoming Network Transaction** and **Outgoing Network Transactions** are selected.

- **Windows Process Activation Service Support** - Ensure that **HTTP Activation** and **Named Pipes Activation** are selected under this role.

5. On the **Server Roles** page, also select the **Web Server (IIS)** role and accept all its default settings.

6. On the **Web Server (IIS)** page, expand the **Web Server (IIS) > Application Development > Web Server** option and select **ASP**.

7. Also on the **Web Server (IIS)** page, expand the **Web Server (IIS) > Management Tools** and select **IIS Management Compatibility** and ensure the following options are also selected:

- IIS Metabase Compatibility

- IIS Management Console

- IIS Scripting Tools

- IIS WMI Compatibility

8. Click **Next**, confirm that all needed roles, role services, and features are selected, and click **Install**.

9. After the installation finishes, confirm that all the installations succeeded and click **Close**.

Installing the Software

Integration with Sopheon Accolade only requires installations on the QlikView server.

The instructions in this section integrates QlikView with Accolade and requires the following two software packages, which are available for download from www.sopheon.com:

- **Dashboards for Accolade v16.2.zip** - Contains the QlikView desktop and server software.

- **Accolade_16.2_Installation.zip** - Contains the Accolade software, including the file **Integration with Dashboards for Accolade16.2.msi**. This file is installed on the QlikView server and creates the integration between Accolade and QlikView.

Integrating Dashboards for Accolade requires the software files above and that you complete the following:

- Install QlikView.

- Install the Dashboards for Accolade software.

- Generate and enter licenses.

- Configure Accolade Dashboard Security and Configuration settings.

Each is described in detail in the sections below.

Installing the QlikView Software

Install the QlikView Software on the QlikView server.

1. Log on to the QlikView server as a local administrator.

2. Save the QlikView installation software file downloaded from Sopheon, to the root of the C drive (C:\) and run the executable.

    The executable extracts the file into a folder named **Dashboards for Accolade v16.2**. If the installation file is saved to another location, the path to the file could become too long for the installer.

3. In the Dashboards for Accolade folder, run the appropriate server .exe file (for example, for Windows Server 2012 or later, run the **QlikViewServer_x64Setup.exe** file)

    The executable installs the QlikView server, the QlikView Management Console, and other folders and files.

4. On the **Profile** page of the installation wizard, select the **Full Installation, Single Machine with IIS** option, which installs all QlikView components.

5. Select create a new website.

6. On the **Logon Information** page, enter the credentials for the user account that runs the QlikView services. If the user account cannot be selected, the account name must be manually added to the QlikView Administrator's group after installation.

    The roles and rights needed for this user are described in "QlikView and Dashboards Application Server Prerequisites" on page 10.

7. In the **Dashboards for Accolade** folder, run the appropriate *desktop* .exe.

    The desktop .exe you select depends on your operating system.

    This program should also be installed on the computers of those users who develop QlikView charts. See "Installing the Client Application" on page 36.

8. Restart the QlikView server and start all the QlikView services.

    *   QlikView Directory Service Connector
    *   QlikView Distribution Service
    *   QlikView Management Service
    *   QlikView Server
    *   QlikView Settings Service

8. Continue with the next section.

Generating and Entering QlikView License Information

Generate the QlikView license and enter the information to apply the license.

1. Start the **QlikView Management Console** that was installed in the previous section.

2. Click the **System** tab, then click **Licenses**.

3. In the **Type** column, select **QlikView Server**, then click the **QlikView Server License** tab.

4. Do either of the following to enter licenses:

Option	Description
Generate the LEF on the server	If the server has an Internet connection, you can generate the LEF by entering your license key and other data on the server. 1. Below **Serial and Control**, enter the long license key in the **Serial Number** field and control key in the **Control field**. 2. Enter your company name and organization. 3. Click **Apply License** to generate the LEF.
Generate the LEF on a website and the enter it on the server	1. On a computer with an Internet connection, go to http://lef1.qliktech.com/manuallef/. 2. Enter your license key and click **Request LEF**. 3. Copy the LEF, paste it into the **LEF** field below **QlikView Server License** on the server. 4. Click **Apply License**.

You can also request the appropriate LEF from Sopheon Customer Support.

Installing the Dashboards for Accolade Software

To connect QlikView to the Accolade database, TLS 1.2 must be enabled as the security layer. Additionally, the SQL Server 2012 Native Client must be downloaded and installed in order for QlikView to connect to the SQL Server database. You can use either Windows Authentication or SQL Server Authentication as the authentication method.

Follow the steps below to install the Dashboards for Accolade software on the QlikView server:

1. In the Accolade installation software, open the **Integration with Dashboards for Accolade** folder, copy the **Integration with Dashboards for Accolade v16.2.msi** file to the QlikView server, and run the file.

   Important! If installing on Windows Server 2012, run this file in the root C: directory.

2. Open the **Utilities** folder and run the **Accolade Administration Console.exe**.

   The **Utilities** folder is installed by default at the following location:

   `...Sopheon\Dashboards\Utilities`

3. Click **Dashboards Security**, enter the Administrator password for the QlikView Admin user that can access QVW files, and click **Apply**.

> **Important!** This user can be used to open/develop QVW files when the user is not in Accolade. This user has full administration access, so ensure the user password has the appropriate security.

4. Click **Database Configuration** and enter the following in the **Connection** section:

   • **Server Name** - The name of the Accolade database server

   • **Instance Name** - The name of the SQL Server instance, only if it is other than **Default**.

   • **Database Name** - The name of the Accolade database.

   • **Port Number** - Select the option to identify the connection port on the Accolade database server.

5. Still in **Database Configuration**, enter the following information in the **Authentication** section:

   • **Type** - Select the authentication type on the Accolade database.

   • **User Name** - If you selected **Windows Authentication**, enter the name of the user account that runs the QlikView services. You entered this user's credentials on the QlikView server in "Installing the QlikView Software" on page 18.

     If you selected **SQL Server Authentication**, enter the name of the database login created in SQL Server.

   • **Password** - For SQL Server Authentication, see "Generating Encrypted Passwords for SQL Server Authentication" on page 20. Generate and then enter the password used by the service account

     Not used for Windows Authentication.

6. Click **Apply**.

Generating Encrypted Passwords for SQL Server Authentication

If you selected SQL Server Authentication use the steps below to create an encrypted password.

1. Log into the QlikView server and launch QlikView.

2. On the **File** menu click **New** to create a new QlikView document.

   If the **Select data source wizard** starts, cancel the wizard.

3. Press **CTRL+E** on your keyboard to launch the script editor.

4. In the **Database** drop-down at the bottom left, select **OLE DB**.

5. Click **Connect**.

6. Select **Microsoft OLE DB Provider for SQL Server**.

   Do not select the native client.

7. Click **Next** and enter the name of the SQL server.

8. Select the **Enter a specific username and password** check box and enter the user name and password of the SQL Server user that is used to connect to the Accolade database.

9. Select the **Allow saving password** check box.

10. From the **Select the database on the server** select the Accolade database.

11. Click **OK**.

    For example, the connection string now appears in the script editor as follows with XPassword varying according to your configuration.

    ```
    OLEDB CONNECT TO [Provider= SQLNCLI11;Persist Security
    Info=True;User ID=sa;Initial Catalog=Accolade;Data
    Source=DEMO;Use Procedure for Prepare=1;Auto
    Translate=True;Packet Size=4096;Workstation ID=DEMO;Use
    Encryption for Data=False;Tag with column collation when
    possible=False] (XPassword is OIQPXGBGVTbIXQFNObcKM);
    ```

12. Copy the encrypted password following "XPassword is" and paste it into the **Password** field in the Administration Console.

    In the example above, the password is **OIQPXGBGVTbIXQFNObcKM**.

    Paste only the password's letters. Do not include the space between "is" and the password or the characters ");" after it.

Configuring Dashboards for Accolade

After initial installation, you can configure the refresh schedule for Accolade reports and create global links to QlikView reports within Accolade.

> **Note:** If you are installing on Windows Server 2012 or later and have User Access Control (UAC) enabled, you must disable it in both the control panel and the registry to complete the procedures in this section. You can turn UAC back on after completing the installation and configuration of Dashboards for Accolade.

Setting Reload Schedules for Load Files

In this process, you specify the schedule to refresh (reload) the QlikView Load files (named SGM_<*name*>_Load.qvw or APE_<*name*>_Load.qvw). Load schedules automate loading data from Accolade databases into QlikView Dashboards. Load schedules attach events to Accolade Dashboard Integration load scripts that then run automatically. Two common types of events that can trigger the reloading of data into QlikView are time-based events that load data on an interval of time and task-completion events that load data when an event completes.

> **Important!** Entire system loads can take a large amount of time to execute and could negatively impact system performance. Sopheon recommends setting

individual files to load when the load area data has changed. For example, the data part of snapshots is typically not updated as frequently as other areas including core or scenarios data. If snapshots are taken at the beginning of each month, consider scheduling the snapshots load to run the day after the snapshots are taken to update the data in QlikView as necessary.

Use the following tables to determine what qvw files to load to update data from certain load areas.

For the following data and associated QVW files, load the SGM_SECURITY_UserLoad.qvw and SGM_SECURITY_ScenariosLoad.qvw files *before* running the associated qvw files.

Data	Associated QVW File
Scenario Core	APE_CORE_ScenarioLoad.qvw
Scenario Project Matrix Metrics	APE_PROJECTMATRIXMETRICS_ ScenarioLoad.qvw
Scenario Project Metrics	APE_PROJECTMETRICS_ScenarioLoad.qvw
Scenario Project Security Lists	APE_PROJECTSECURITYLISTS_ ScenarioLoad.qvw
Scenario Related Projects	APE_RELATEDPROJECTS_ScenarioLoad.qvw

Load SGM_SECURITY_UserLoad.qvw and SGM_SECURITY_CoreLoad.qvw *before* running the following associated qvw files.

Data	Associated QVW File
Core	SGM_CORE_Load.qvw
Custom	SGM_CUSTOM_Load.qvw
Project Matrix Metrics	SGM_PROJECTMATRIXMETRICS_Load.qvw
Project Metrics	SGM_PROJECTMETRICS_Load.qvw
Reference Tables	SGM_REFERENCETABLES_Load.qvw
Related Projects	SGM_RELATEDPROJECTS_Load.qvw
Trended Project Metrics	SGM_TRENDED_PROJECTMETRICS_Load.qvw

Load SGM_SECURITY_UserLoad.qvw *before* running the following associated qvw files.

Data	Associated QVW File
Core (Security)	SGM_SECURITY_CoreLoad.qvw
Scenarios (Security)	SGM__SECURITY_ScenariosLoad.qvw
Snapshots (Security)	SGM_SECURITY_SnapshotsLoad.qvw

To load merged data, you must execute an entire system load at least once before loading merged data. Load the following security files *before* running the qvw files listed in the table below:

- SGM_SECURITY_UserLoad.qvw

- SGM_SECURITY_CoreLoad.qvw

- SGM_SECURITY_SnapshotsLoad.qvw

- SGM_SECURITY_ScenariosLoad.qvw

- SGM_SECURITY_MergeLoad.qvw

Data	Associated QVW File
Merged Table Mapping	SGM_MERGED_MappingTableLoad.qvw
Merged Project Matrix	SGM_MERGED_ProjectMatrixLoad.qvw
Merged Project Metrics	SGM_MERGED_ProjectMetricsLoad.qvw
Merged Resource Period	SGM_MERGED_ResourcePeriodLoad.qvw
Merged Security Lists	SGM_MERGED_SecurityListsLoad.qvw
Merged Tables	SGM_MERGED_TableLoad.qvw

Load the following security files *before* loading SGM__SECURITY_MergeLoad.qvw:

- SGM_SECURITY_UserLoad.qvw

- SGM_SECURITY_CoreLoad.qvw

- SGM_SECURITY_SnapshotsLoad.qvw

- SGM_SECURITY_ScenariosLoad.qvw

For SGM_SNAPSHOTS_Load.qvw, load SGM_SECURITY_UserLoad.qvw and SGM_ SECURITY_SnapshotsLoad.qvw *before* running the snapshots qvw file.

Reloading Schedules

To load data into QlikView, complete step 1, then complete steps 2 and 3 for each of the files in the load folder. See the load examples below for the files required depending on the load. If you are using Windows Authentication as the authentication type, you must log in with the Application Administrator account that has access to the Accolade database and the snapshots database with the **SGM_Write** role on both.

Reloading schedules requires that you complete the following:

1. Mount the load folder in the QlikView Management Console.

2. Reload the selected files into QlikView.

3. Set the reload schedule.

To mount the load folder in the QlikView Management Console (Step 1 above):

1. Start the QlikView Management Console and select the **System** tab.

2. In the **Setup** pane, expand **QlikView Servers** and select **QVS@<*server name*>**.

3. Click the Folders subtab and click ➕ in the **Mounted Folders** row to mount the Load folder.

4. In the **Name** field, enter a name for this mounted folder, such as Dashboards Load.

5. Click 📂 next to the **Path** field, and browse to the Load folder:

   `...Sopheon\Dashboards\Files QVW\Load`.

6. Select the **Load** folder.

7. Click **OK** and then **Apply**.

8. Click **Apply**.

   If prompted to restart QVS, click **OK**.

To reload the files into QlikView (Step 2 above):

1. On the QlikView server, in Windows Explorer, make sure that the Folder Options setting **Hide extensions for known file types** is not selected.

   Ensure you are seeing all file extensions.

2. Open the Load folder located at:

   `...\Sopheon\Dashboards\Files QVW\Load`

3. Double-click the **SGM_SECURITY_UserLoad.qvw** file to open it in QlikView.

4. In the QlikView toolbar, click 📥 .

   If the button is not displayed, display the **Standard** toolbar or use the **Reload** command on the **File** menu.

5. When the Script Security dialog box displays, click **Give System Access**.

6. Save the file.

7. Close the file and repeat the load process for the next file.

To reload the schedules (Step 3 above):

1. If necessary, start the QlikView Management Console.

2. Click the upper **Documents** tab (between Status and Users).

3. In the left pane, expand **QVS@<*server name*>**, then expand the folder that you mounted in the procedure above to display the files in the folder.

4. In the left pane, select the **SGM_SECURITY_UserLoad.qvw** file.

5. In the right pane, select the Reload tab.

6. Enter a reload schedule.

   • To maintain data consistency, reload all the load files on the same basic schedule, for example, either dependency, or hourly, or daily or weekly, etc.

- Sopheon recommends that only one file be reloaded at a time to minimize the load on the database server. The minimum time delay between reloads will depend on the size of the Accolade database. Set it to a value that is appropriate to the size of the database and requirements of the application users.

7. Click **Apply**.

8. Click the next file in the left pane and repeat the process until all files have been rescheduled.

Load Examples

To execute an entire system load into QlikView, complete the reload procedure outlined above, and use the entire system load tree.

Important! Sopheon does not recommend entire system loads as it negatively impacts performance and is typically unnecessary as certain data areas do not change frequently.

The data from a core load is often updated more than any other area. It is recommended that a core load be the most frequently run load. Use the core load tree to execute.

Load any chart qvw file that uses data from the tree after the tree qvw files have been successfully loaded.

Entire System Load

- SGM_SECURITY_UserLoad.qvw
- SGM_SECURITY_CoreLoad.qvw
- SGM_SECURITY_SnapshotLoad.qvw
- SGM_SECURITY_ScenariosLoad.qvw
- SGM_SECURITY_MergeLoad.qvw
- SGM_CORE_Load.qvw
- SGM_CUSTOM_Load.qvw
- SGM_PROJECTMETRICS_Load.qvw
- SGM_PROJECTMATRIXMETRICS_Load.qvw
- SGM_TRENDED_PROJECTMETRICS_Load.qvw
- SGM_REFERENCETABLES_Load.qvw
- SGM_RELATEDPROJECTS_Load.qvw
- SGM_SNAPSHOTS_Load.qvw
- APE_CORE_ScenarioLoad.qvw
- APE_PROJECTMETRICS_ScenarioLoad.qvw

- APE_PROJECTMATRIXMETRICS_ScenarioLoad.qvw
- APE_PROJECTSECURITYLISTS_ScenarioLoad.qvw
- APE_RELATEDPROJECTS_ScenarioLoad.qvw

  If you are using the merged data set, load the following in the following order:

  - SGM_MERGED_MappingTableLoad.qvw
  - SGM_MERGED_TableLoad.qvw
  - SGM_MERGED_ProjectMetricsLoad.qvw
  - SGM_MERGED_ProjectMatrixLoad.qvw
  - SGM_MERGED_SecurityListsLoad.qvw
  - SGM_MERGED_ResourcePeriodLoad.qvw

Core Load

- SGM_SECURITY_UserLoad.qvw
- SGM_SECURITY_CoreLoad.qvw
- SGM_CORE_Load.qvw
- SGM_CUSTOM_Load.qvw
- SGM_PROJECTMETRICS_Load.qvw
- SGM_PROJECTMATRIXMETRICS_Load.qvw
- SGM_TRENDED_PROJECTMETRICS_Load.qvw
- SGM_REFERENCETABLES_Load.qvw
- SGM_RELATEDPROJECTS_Load.qvw

  If you are using the merged data set, load the following in the following order:

  - SGM_MERGED_MappingTableLoad.qvw
  - SGM_MERGED_TableLoad.qvw
  - SGM_MERGED_ProjectMetricsLoad.qvw
  - SGM_MERGED_ProjectMatrixLoad.qvw
  - SGM_MERGED_SecurityListsLoad.qvw
  - SGM_MERGED_ResourcePeriodLoad.qvw

Since Core Loads are often run on a regular basis, this will ensure that the merged data is updated in QlikView.

Snapshot Load

- SGM_SECURITY_UserLoad.qvw
- SGM_SECURITY_SnapshotLoad.qvw

- SGM_SNAPSHOTS_Load.qvw

Scenario Load

- SGM_SECURITY_UserLoad.qvw

- SGM_SECURITY_ScenariosLoad.qvw

- APE_CORE_ScenarioLoad.qvw

- APE_PROJECTMETRICS_ScenarioLoad.qvw

- APE_PROJECTMATRIXMETRICS_ScenarioLoad.qvw

- APE_PROJECTSECURITYLISTS_ScenarioLoad.qvw

- APE_RELATEDPROJECTS_ScenarioLoad.qvw

Preparing to Create Charts and Testing the Accolade Integration

Ensure that Accolade is installed and is ready for the integration and configure the data integration script.

To test the integration, ensure your QlikView server Application Administrator is also defined as an Accolade user with access group visibility to at least one project within Accolade.

1. In Windows Explorer, browse to the Templates folder:

   ```
   ...Sopheon\Dashboards\Files QVW\Templates
   ```

2. Double-click the **SGM_BaseTemplate_v10.qvw** file to open it in QlikView.

3. Click 📝 and uncomment the data that you need for your charts.

4. Reload the template.

Setting Reload Schedules for QlikView Chart Files

Specify the schedule to refresh (reload) the QlikView chart files (files with extension .qvw). Complete this section after you have reloaded the load files.

Reloading schedules for chart files requires that you complete the following:

1. Reload the chart files into QlikView.

2. Mount the charts folder in the QlikView Management Console

If you do not yet have any chart files created in Dashboards for Accolade, the procedures in this section are not necessary.

Note the following when establishing reload schedules for charts:

- To maintain data consistency, reload the chart files after the load files have been reloaded but on their same basic schedule, for example, either dependency, or hourly, or daily, or weekly, etc.

- Only one file can be reloaded at a time per processor, so depending on the number of processors in the server, you may need to load some of the files at a certain time and then a second group of files a set period after loading the first group, and so on. The time delay between groups will depend on the size of the Accolade database.

To reload the file into QlikView:

1. On the QlikView server, in Windows Explorer, make sure that the Folder Options setting **Hide extensions for known file types** is not selected.

    Ensure you are seeing all file extensions.

2. Open the Charts folder located at:

    `...Sopheon\Dashboards\Files QVW\Charts`

3. Double-click the first file with the **.qvw** extension.

4. If prompted to log in, enter one of the following:

    - For new charts created from a template but not reloaded: User name: ADMIN; Password: ADMIN

    - For charts that have been reloaded at least once: User name: ADMIN; Password: password created previously in the Accolade Administration Console

5. In the QlikView toolbar, click .

6. Save the file.

7. Close the file and repeat the reload process for the next file.

To mount the charts folder in the QlikView Management Console:

1. Start the QlikView Management Console and select the **System** tab.

2. In the Setup pane, expand QlikView Servers and select **QVS@***(server name)*.

3. On the **Folders** subtab, click in the **Mounted Folders** row to mount the Charts folder.

4. In the **Name** field enter a name for this mounted folder, such as Dashboards for Accolade Charts.

5. Click next to the **Path** field, then browse to and select the Charts folder:

    `...Sopheon\Dashboards\Files QVW\Charts.`

6. Click **Apply**.

    If prompted to restart QVS, click **OK**.

To reload the schedules:

1. If necessary, start the QlikView Management Console.

2. Click the upper **Documents** tab (between Status and Users).

3. In the left pane expand the folder that you mounted in the previous procedure to display the files in the folder.

4. To set the reload schedule for a chart, click one of documents with file extension **.qvw** in the left pane.

5. In the right pane, select the **Reload** tab and select a reload schedule for the file.

6. Click **Apply**.

7. Click the next file in the left pane and repeat the process until all charts have been rescheduled.

Creating Global Links to Dashboards for Accolade

To create global links in Accolade, navigate to the document through the QlikView Access Point

1. To open the QlikView Access Point, open the dashboards URL from Accolade. For example, https://abc.sopheon.com/dashboards

2. Find the QVW file and open it.

3. Select the URL from the browser address bar and use it to create the global link in the following format:

   [blank dropdown] /dashboards/getchart?document=[Folder]/[Document.qvw]

Portfolio	/dashboards/getchart?document=Dashboards%20-%20Charts%2FPortfolio.qvw	Dashboards

   Note: If passing a parameter such as a list ID to QlikView, adjust the URL syntax. Bracket the ID and value in the following URL:
   ```
   /Dashboards/GetChart?document=<documentUrl>&select=<list
   Id>,<listValue>
   ```

Completing Routine Backups

At a minimum, complete the following to backup the Dashboards for Accolade server:

- Setup a version control methodology for any custom load scripts.

- Setup a version control methodology for the `...\Files\QVW\Charts*.qvw` directory so that each time someone edits the dashboard using the QlikView Desktop Client, they also do a File | Reduce Data and save a copy of the file in a backup location.

Backing up all the QVD files and QVW files daily is not necessary as they reload data from the Accolade database as specified in the reload schedule.

QlikView Dashboards for Accolade Installation Guide

Chapter 2

Upgrades

This chapter described the following upgrade scenarios:

- Upgrading to the latest version of QlikView (the generation engine).
- Upgrading the Dashboards for Accolade software.
- Upgrading the Client application.

Important! Do not uninstall the Dashboards for Accolade software unless the QlikView version has changed.

Note: If you are upgrading from QlikView to Qlik Sense Dashboards for Accolade, please contact Sopheon Customer Support for assistance with your upgrade.

Upgrading QlikView Versions

Upgrading Dashboards for Accolade to the latest QlikView version requires that you uninstall the earlier version and delete specific folders.

1. On the QlikView server, in Administrative Tools, open Services.

2. Locate each service that starts with "QlikView" and stop it.

3. In the Control Panel, uninstall the following programs:
   - PDF-XChange 3
   - QlikView
   - QlikView Plugin
   - QlikView Server

4. Verify that the **QlikView** folders under **Program Files** are deleted after the uninstall.

5. Browse to the `C:\ProgramData\QlikTech` directory and delete the following folders.
   - DirectoryServiceConnector
   - QlikViewServer
   - ManagementService

6. Browse to `C:\ProgramData\QlikTech` and copy the **DistributionService** folder to the desktop or other network location.

   The workload.xml file within this folder contains the reload schedule, and the folder is overwritten upon upgrade.

7. Using the appropriate IIS administrative tool, expand the Dashboards for Accolade website (this website may be named Portfolio Center) and delete the following IIS virtual directories:
   - QlikView
   - QvAjaxZfc
   - QvAnalyzer
   - QvClients
   - QvJava
   - QvPlugin
   - QvPrint
   - Scripts

8. Restart the QlikView server.

9. Install the new version of QlikView as described in "Installation and Configuration" on page 13.

Upgrading and Reintegrating Dashboards for Accolade

This section describes how to recreate the integration between Dashboards and Accolade when the Accolade software is upgraded or moved to a different server. When only the Accolade software is changed, you do not need to reinstall Dashboards, just recreate the integration.

To recreate the integration when Accolade is changed or moved, complete the following:

- Backup your data and uninstall the integration with Dashboards for Accolade.
- Reinstall the Integration with Dashboards for Accolade and restore your data.

If the QlikView version in Dashboards for Accolade changes, you must prepare for the upgrade by following the processes outlined in "Upgrades" on page 31 and then reinstall Dashboards as described in "Installing the Software" on page 17.

To backup your data and uninstall:

1. Verify that no reload errors or other integration issues exist before the reintegration.

2. Stop all QlikView services on the QlikView server.

3. Copy or back up the folder containing the integration data, which is installed by default in `C:\Program Files\Sopheon`.

4. Record the QlikView server's database settings by taking a screen shot of the Database page of the Accolade Administration Console, which is installed by default in the following location

   `...Sopheon\Dashboards\Utilities\Accolade Administration Console.exe`

5. Uninstall **Integration with Dashboards for Accolade**.

6. Delete the integration folder that you backed up in step 3.

7. Continue with the next section.

To reinstall and restore your data:

1. Reinstall **Integration with Dashboards for Accolade.msi**, located in the **Integration with Dashboards for Accolade** folder in the Accolade installation software.

   Important! If installing on Windows Server 2012, run this file in the root C: directory.

   ---

2. Open the Accolade Administration Console and enter the database settings that you recorded in step 4 above.

3. Copy any backed-up custom load scripts to the **Load** folder, installed by default at the following location:

   `...Sopheon\Dashboards\Files QVW\Load`

4. Copy all QVW files from the backed up **Charts** folder to the new Charts folder, installed by default in the following location:

    ```
    ...Sopheon\Dashboards\Files QVW\Charts
    ```

5. Start all QlikView services on the QlikView server.

6. In QlikView Desktop, open the QVW files in the **Load** folder and in the **Charts** folder, reload them, and save them in the order specified in "Setting Reload Schedules for Load Files" on page 21.

    Allow system access for any new QVW files.

7. Test the reload sequence.

8. Test any global links to Dashboards for Accolade.

Upgrading the Client Application

Make sure to uninstall QlikView (the client application) and QVPluginSetup, from every client computer where they are installed before installing the latest version.

Installing the client application installs the plug-in automatically.

Chapter 3

Client Computer Installation

This chapter describes the components required to develop and view QlikView charts on client computers. The components required depend on the user's responsibility:

- **Users who develop QlikView charts** - Development of QlikView charts requires the client application, which includes the functionality needed to both develop and view QlikView charts.

- **Users who need to view but not develop QlikView charts** - If you use Google Chrome to view Dashboards for Accolade charts, use the **QlikView AJAX Zero-Footprint Client**, which requires no additional installation. For more Information about the AJAX Zero-Footprint Client, see the *QlikView Server/Publisher* reference document.

Installing the Client Application

For each user that requires access to QlikView to develop charts, install the QlikView client application.

To install the client application:

1. From the client machine, browse to the server where the QlikView installation software has been extracted.

2. Open the **Dashboards for Accolade v16.2** folder that was extracted to the root of the **C:** drive on the QlikView server.

3. In the **Desktop** folder, run the appropriate **desktop.msi** file, depending on the client machine's operating system, to install the QlikView client application.

Appendix A

Application Server Roles, Role Services, and Features

This appendix lists the roles, role services, and features in the standard installation on the application server.

Roles and Services in Windows Server 2019

Compare this list to the list shown in the Server Roles and Features sections of the Server Manager to ensure you have installed all the needed items on a Windows 2019 server.

Other roles than those listed here might also be installed. The roles and features below are required for Accolade to run successfully.

Web Server (IIS) Role

Displays in the Server Roles section of the Server Manager.

- Web Server > Common HTTP Features
  - Default Document
  - Directory Browsing
  - HTTP Errors
  - Static Content
  - HTTP Redirection
- Web Server > Health and Diagnostics
  - HTTP Logging
  - Logging Tools
  - ODBC Logging (selected if SMTP Server is selected)
  - Request Monitor
  - Tracing
- Web Server > Performance
  - Static Content Compression
  - Dynamic Content Compression
- Web Server > Security
  - Request Filtering
  - Basic Authentication
  - Client Certificate Mapping Authentication
  - Digest Authentication
  - IIS Client Certificate Mapping Authentication
  - IP and Domain Restrictions
  - URL Authorization
  - Windows Authentication

- Web Server > Application Development
  - .NET Extensibility 4.7
  - ASP
  - ASP.NET 4.7
  - ISAPI Extensions
  - ISAPI Filters
- Management Tools
  - IIS Management Console
- Management Tools > IIS Management Compatibility
  - IIS Metabase Compatibility
  - IIS Management Console
  - IIS Scripting Tools
  - IIS WMI Compatibility

Features

Displays in the Features of the Server Manager.

- .NET Framework 4.7 Features
  - .NET Framework 4.7
  - ASP .NET 4.7
  - WCF Services
    - HTTP Activation
    - Message Queuing (MSMQ Activation)
    - Named Pipe Activation
    - TCP Activation
    - TCP Port Sharing
- Management OData IIS Extension
- System Data Archiver
- Windows Process Activation Service
  - Process Model
  - Configuration APIs

Roles and Services in Windows Server 2016

Compare this list to the list shown in the Server Roles and Features sections of the Server Manager to ensure you have installed all the needed items on a Windows 2016 server.

Other roles than those listed here might also be installed. The roles and features below are required for Accolade to run successfully.

Web Server (IIS) Role

Displays in the Server Roles section of the Server Manager.

- Web Server > Common HTTP Features
  - Default Document
  - Directory Browsing
  - HTTP Errors
  - Static Content
  - HTTP Redirection
- Web Server > Health and Diagnostics
  - HTTP Logging
  - Logging Tools
  - ODBC Logging (selected if SMTP Server is selected)
  - Request Monitor
  - Tracing
- Web Server > Performance
  - Static Content Compression
  - Dynamic Content Compression
- Web Server > Security
  - Request Filtering
  - Basic Authentication
  - Client Certificate Mapping Authentication
  - Digest Authentication
  - IIS Client Certificate Mapping Authentication
  - IP and Domain Restrictions
  - URL Authorization
  - Windows Authentication

- Web Server > Application Development
  - .NET Extensibility 4.6
  - ASP
  - ASP.NET 4.6
  - ISAPI Extensions
  - ISAPI Filters
- Management Tools
  - IIS Management Console
- Management Tools > IIS Management Compatibility
  - IIS Metabase Compatibility
  - IIS Management Console
  - IIS Scripting Tools
  - IIS WMI Compatibility

Features

Displays in the Features of the Server Manager.

- .NET Framework 4.6 Features
  - .NET Framework 4.6
  - ASP .NET 4.6
  - WCF Services
    - HTTP Activation
    - Message Queuing (MSMQ Activation)
    - Named Pipe Activation
    - TCP Activation
    - TCP Port Sharing
- Management OData IIS Extension
- Windows Process Activation Service
  - Process Model
  - .NET Environment
  - Configuration APIs

Roles and Services in Windows Server 2012

Compare this list to the list shown in the Server Roles and Features sections of the Server Manager to ensure you have installed all the needed items on a Windows 2012 server.

Other roles than those listed here might also be installed. The roles and features below are required for Accolade to run successfully.

Application Server Role

Displays in the Server Roles section of the Server Manager.

- .NET Framework 4.5
- Distributed Transactions (selected if application servers and the database are separate)
  - Incoming Remote Transactions
  - Outgoing Remote Transactions
- TCP Port Sharing
- Web Server (IIS) Support
- Windows Process Activation Service Support
  - HTTP Activation
  - Named Pipes Activation

Web Server (IIS) Role

Displays in the Server Roles section of the Server Manager.

- Web Server > Common HTTP Features
  - Default Document
  - Directory Browsing
  - HTTP Errors
  - Static Content
  - HTTP Redirection
- Web Server > Health and Diagnostics
  - HTTP Logging
  - Logging Tools
  - ODBC Logging (selected if SMTP Server is selected)
  - Request Monitor

- Tracing
- Web Server > Performance
  - Static Content Compression
  - Dynamic Content Compression
- Web Server > Security
  - Request Filtering
  - Basic Authentication
  - Client Certificate Mapping Authentication
  - Digest Authentication
  - IIS Client Certificate Mapping Authentication
  - IP and Domain Restrictions
  - URL Authorization
  - Windows Authentication
- Web Server > Application Development
  - .NET Extensibility 4.5
  - ASP
  - ASP.NET 4.5
  - ISAPI Extensions
  - ISAPI Filters
- Management Tools
  - IIS Management Console
  - IIS Management Scripts and Tools
- Management Tools > IIS Management Compatibility
  - IIS Metabase Compatibility
  - IIS Management Console
  - IIS Scripting Tools
  - IIS WMI Compatibility

Features

Displays in the Features of the Server Manager.

- .NET Framework 4.5 Features
  - .NET Framework 4.5

- ASP .NET 4.5
- WCF Services
  - HTTP Activation
  - Message Queuing (MSMQ Activation)
  - Named Pipe Activation
  - TCP Activation
  - TCP Port Sharing
- Management OData IIS Extension
- Remote Server Administration Tools
  - SMTP Server Tools
- Windows Process Activation Service
  - Process Model
  - .NET Environment
  - Configuration APIs

QlikView Dashboards for Accolade Installation Guide