A QlikView Installation Guide

Simplifying a single or multi node installation.

LEAD WITH DATA   **Qlik Q**

TABLE OF CONTENTS

This technical paper aims to break down the QlikView installation procedure into a simple step-by-step guide.

What you will find:

- Instructions for a simple *Single Node* setup
- A Multi Node scenario built on Certificate Trust
- Links to relevant and related content
- Tips and Tricks as collected by Qlik Support to help tackle challenges.

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1. First Steps

1a. Download the QlikView Installation package and Release Notes

1. They are available from the Extended Download Page accessible for customers on *Qlik.com.* Log in with your customer credentials and navigate to Support > Product Downloads & Upgrades.

1. Filter for QlikView, your desired language, the QlikView Server installation package and the chosen version.
2. Download both the QlikViewServer_x64Setup.exe installation package and the related Release Notes.

> If you are upgrading multiple point releases forward, be sure to download all interim Release Notes. Review each to ensure awareness of all new features and upgrade items made available between releases.

1b. Review the *Documentation, Release Notes*, and *System Requirements*

The Qlik Online Help provides an overview on <u>what to do prior to installing the QlikView Server</u>, and the Release notes contain information crucial for understanding specific requirements or considerations for the chosen version. Up-to-date System Requirements can be found on <u>Help Site</u>.

Related Content:

- <u>Before Installing QlikView Server</u> (help.qlik.com)
- <u>QlikView Folder And Files To Exclude From Anti-Virus Scanning</u> (KB 000005617)
- <u>System Requirements for QlikView April 2019</u> (help.qlik.com)
- <u>QlikView Service Account Requirements</u> (support.qlik.com)
- <u>Security Groups created at installation</u> (help.qlik.com)
- <u>Installation Notes for April 2019</u> (help.qlik.com)

2. Installing a Single Node QlikView Server

This document is written using the initial release of QlikView April 2019 (12.40 IR) as an example. Unless otherwise stated, the installation instructions apply to the entire range of an on-premise installation.
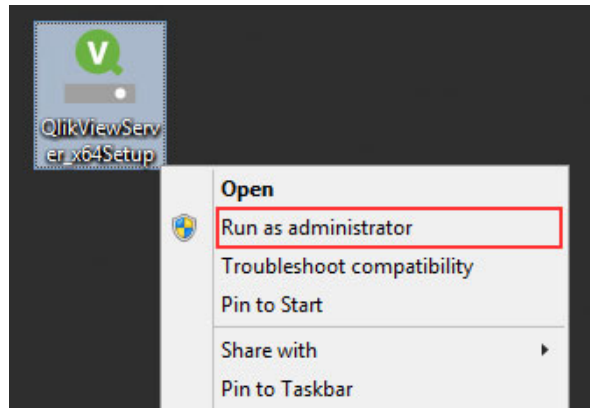
Best practice would be to use the latest Service Release (SR) in the major point release track you choose. You should also stay informed of future SR's and update to those that have fixes you may need related to issues you are experiencing. Subscribe to the Qlik Support Updates blog for news on our latest releases.

- ✓ Our example environment is configured as a member of the Windows Active Directory Domain **Domain.Local**.
- ✓ A Service Account with the name **QVService** has been created and has been given Local Administrator rights.
- ✓ Domain Users named **User1** and **User2** have been created for later testing.
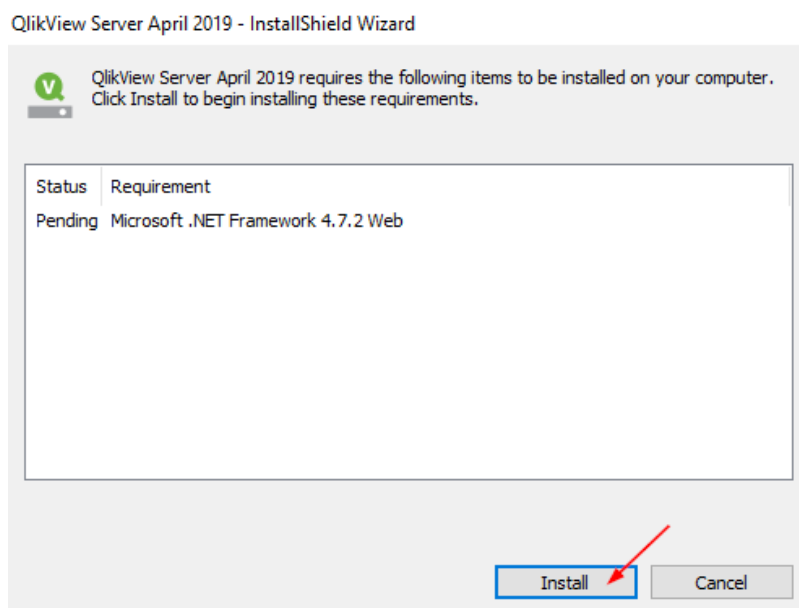
2a. Step by Step Instructions

1. Logged in as a member of the local ***Administrators*** *security group on the server,* execute the previously downloaded QlikView installation package.
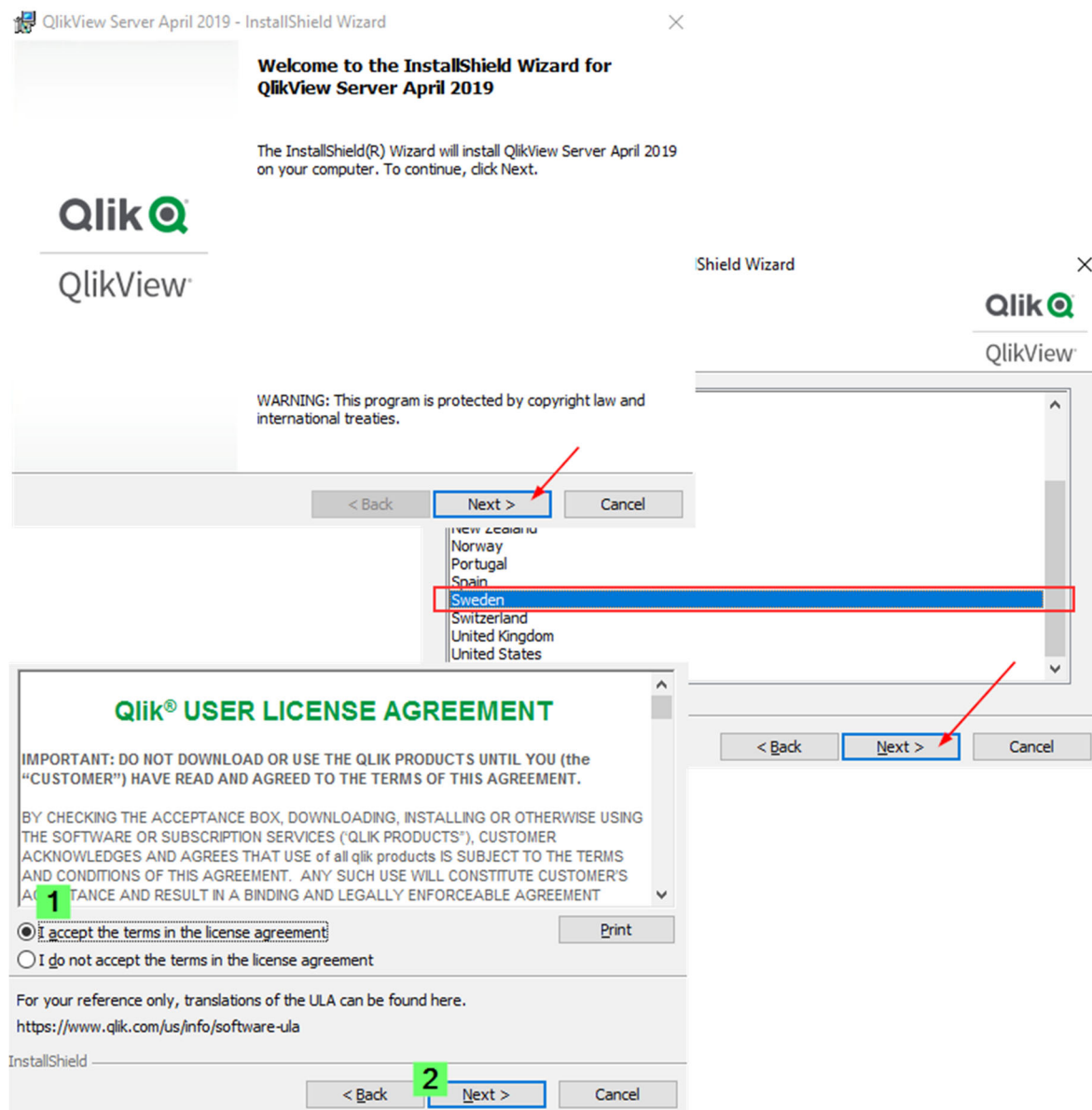2. Right click the item and select ***Run as administrator***

3. If the required .NET Framework version has not been installed previously, you will be prompted to do so now. Click ***Install.*** The required installation package will be downloaded (**Internet Connectivity required**).
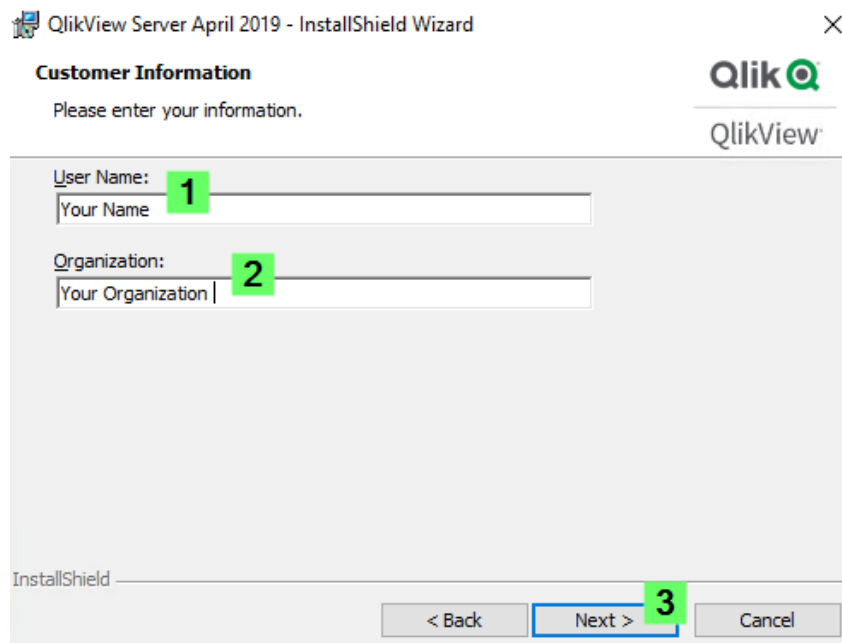
 Check the System Requirements area of Online Help if you are unsure of which version of .Net Framework is required to confirm things.
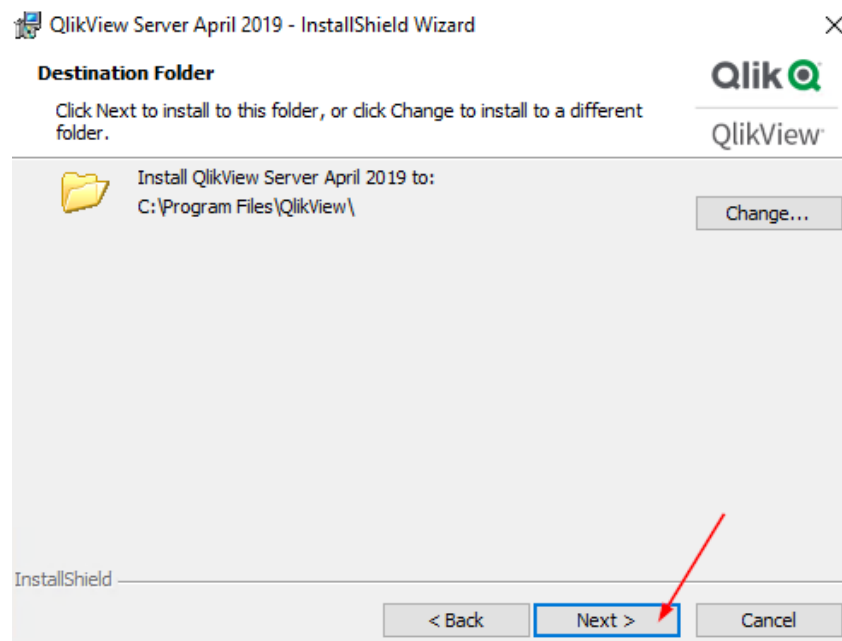
4. Once the installation begins, click *Next* on the welcome screen.

5. Select the correct **Region** and click **Next** again.

6. Finally, read through and accept the **License Agreement** and click *Next*

7. Input your name and organization name.

8. Choose your install folder. This will be the default location where the QlikView Program Files (.exe files) will be installed. Click **Next**. (Note: This should be a local drive/partition on the server.)
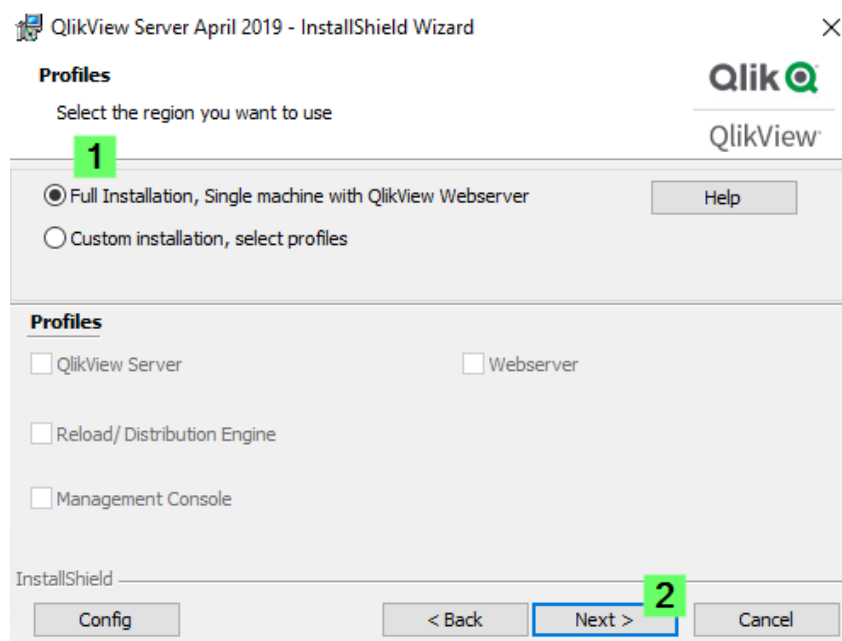

9. Select the type of installation you wish to perform:

a. **Full installation, Single machine with QlikView Webserver:** Used to run all components on a single machine with QlikView Web Server as the web server. *This is what we will use in this example.*

b. **Full installation, Single machine with Microsoft IIS:** Used to run all components on a single machine with Microsoft IIS as the web server. This option is only available if the IIS role has been installed on the target machine.

See *How to configure: QlikView and IIS* (KB 000003344) for details on how to set up Microsoft IIS as an alternate web server.

c. **Custom installation, select profiles:** If this option is selected you select the profiles you want to be included in the installation from the Profiles section in the dialog:

   i. **QlikView Server:** Installs QlikView Server, Directory Service Connector, and the QlikView Server example documents.

   ii. **Reload/ Distribute Engine:** Installs the Reload Engine/Distribution Service.

   iii. **Management Console:** Installs the QlikView Management Service which is the backend for the QlikView Management Console (QMC).

   iv. **Webserver:** Installs the QlikView Web Server or, alternatively, IIS Support.

10. Specify the User name and Password of the **Service Account**. This will add the account to the **QlikView Administrators** group created by the installation package.

> For more detailed information about service account requirements, see *QlikView Service Account Requirements* (KB 000056877).
>
> This step may fail with the message *Server not found. Verify that the specified server exists*. See *Server not found when installing QlikView Server* (KB 000002804) for details.
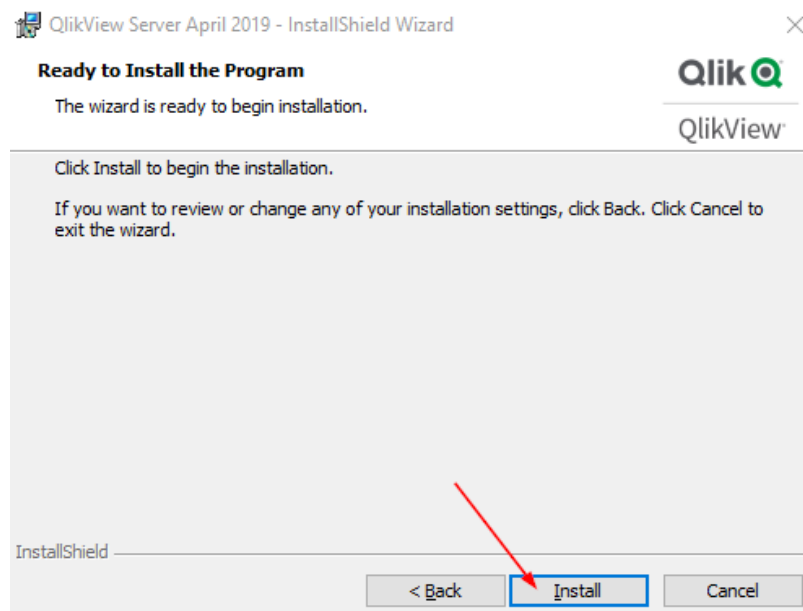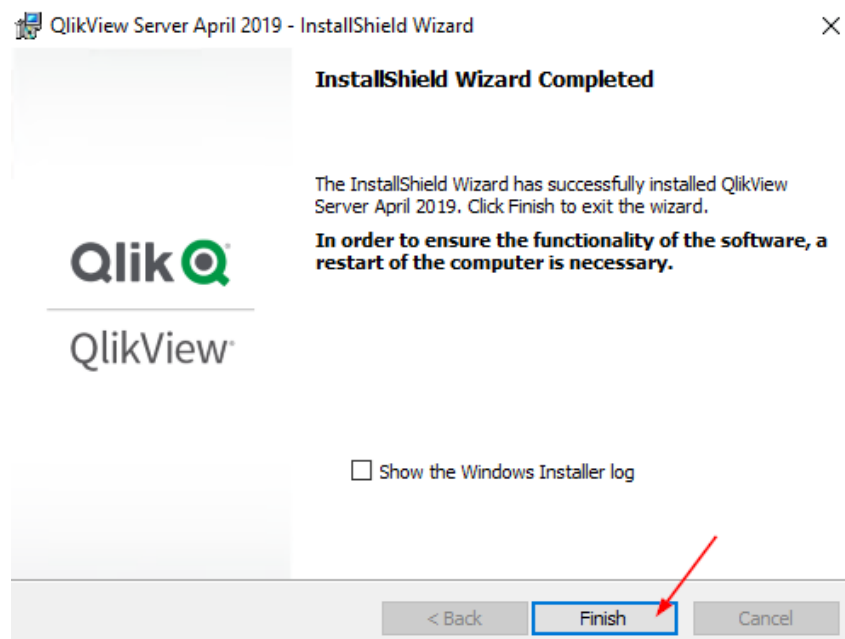
11. For our first installation example we will be using the **QlikView Administrators Group** for Service Authentication. Digital Certificates will be covered in a later chapter. Select **Use QlikView Administrators Group** and click *Next*.

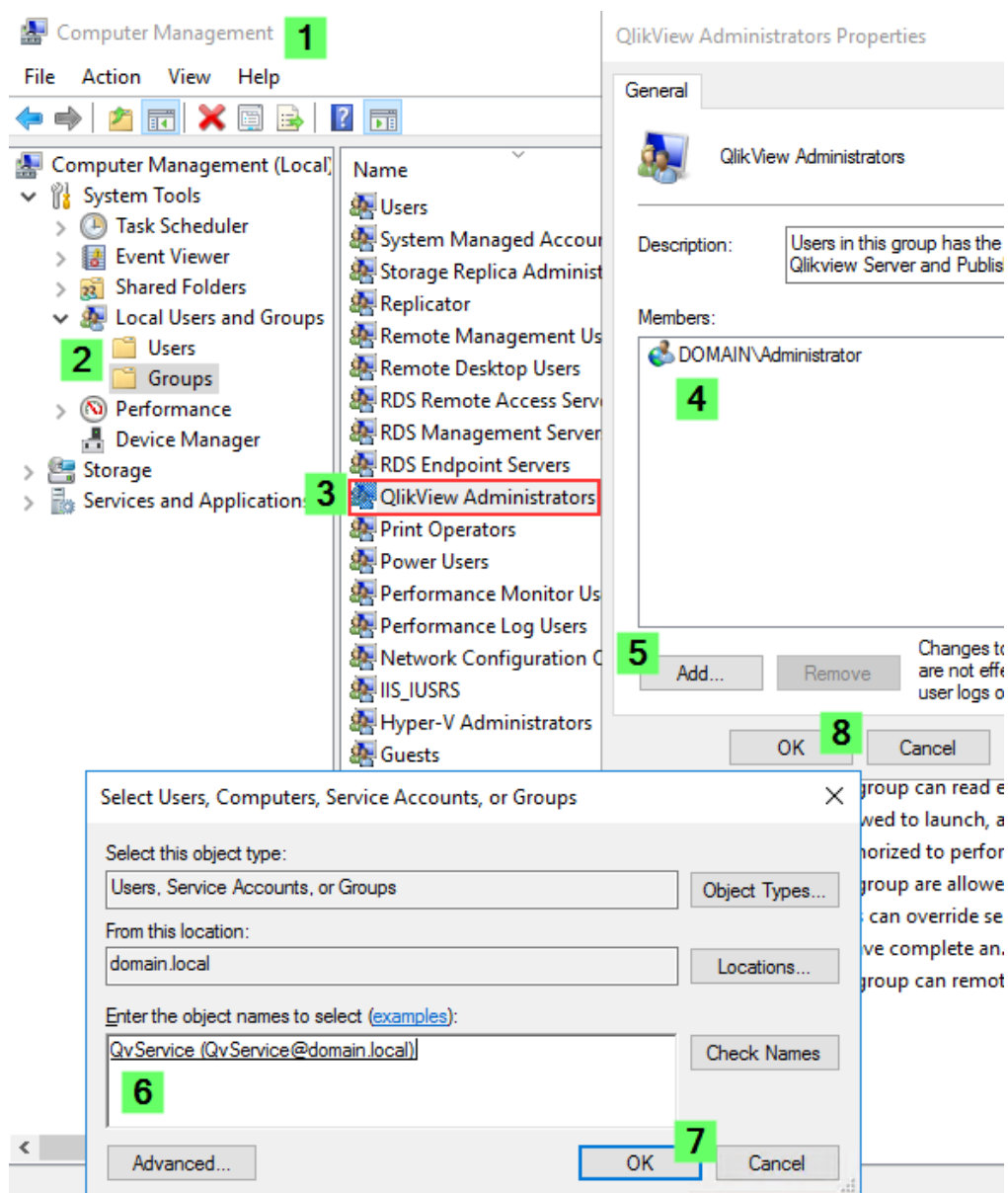12. Confirm the last prompt by clicking *Install*. The installation will proceed.

13. Once the installation has finished, click *Finish.* (Note: If the installation encountered any issues, check the Show the Windows Installer log checkbox to see the install log for further information. Be sure to reboot if this is an initial installation too.)

2b. Verifying the Installation
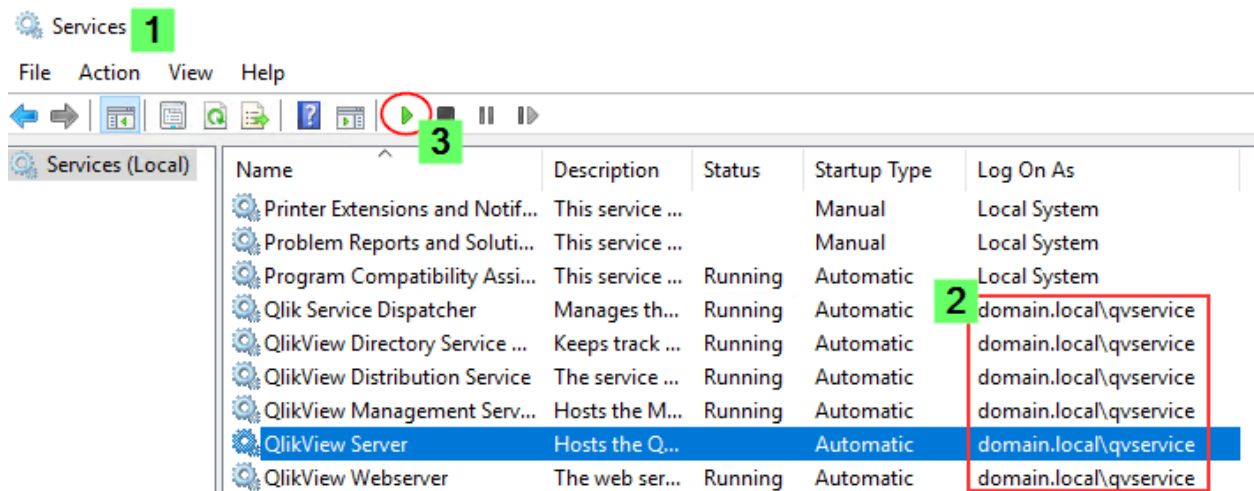
1. Verify that the chosen Service Account is correctly added to the **QlikView Administrators** group.

   a. Open Windows Computer Management, browse to Local Users and Groups and open the QlikView Administrators and Administrators groups.

   b. If the Service Account is not visible, click **Add...** and search for the username. Click **OK** to confirm and **OK** again to finalize.

2. Review the account running the QlikView Services and start the Services.

    a. Open the Windows **Services** console, review what account they are set to **Log On As** and if this is correct, start the services.

2c. Initial Setup

Licensing

1. To license the QlikView Server, open the QlikView Management Console through any supported web browser. Access it at `http://yourhostname:4780/qmc/default.htm`

    a. Navigate to System > Licenses > QlikView Server QVS@servername > QlikView Server License

    b. Input either your Signed Key or Serial Number and Control number

    c. Add your Name and Organization

    d. Click Apply License

Internet Access is mandatory when using a Signed Key. See *Using a Qlik signed license in an offline environment* (KB 000083655) for details. A Serial and Control Number can be applied without Internet Access using the Manual LEF file. See *How to license a QlikView or Qlik Sense server without Internet access* (KB 000020825).

If the license application fails with *Server Failed to Set License,* see *QlikView: Error Message "Server Failed To Set License" When Applying License In QMC* (KB 000003190).

Folder Setup: The Root folder and Document mounts

By default, all QlikView documents (.qvw, .qvd, .Tshared, .pgo, etc..) are stored in `C:\ProgramData\QlikTech`. Almost all those directories can be configured. In this section we will cover a few best practices.

For the QlikView operational files and QlikView documents, we recommend a high performing disk. See *QlikView and its backend File Share System* (KB 000050593) for details.

The QlikView **Root Folder**: Will always hold the .pgo files, necessary for the QlikView server to operate and manage license assignments. (Note: 'Backups' of the .pgo files are also maintained in `C:\ProgramData\QlikTech\QlikViewServer`.)

The **Mounted Folders:** These folders point to the locations of the QlikView documents (.qvw) files accessible to end users through the AccessPoint or the File\Open in Server… command from the Desktop Client. The *Browsable* checkbox governs whether or not the documents can be "browsed" (be displayed) on the AccessPoint. (Note: Regarding the Ajax Client, there is also another setting in the QVWS AccessPoint tab settings\Server Connections menu regarding whether the Ajax Client should respect the Browsable setting.)

We recommend keeping **.qvw** files separate from **.pgo** files, which means we will need to add our first mounted folder.

1. Open the QlikView Management Console at

    `http://yourhostname:4780/qmc/default.htm`

2. Navigate to System > QVS@servername > Folders

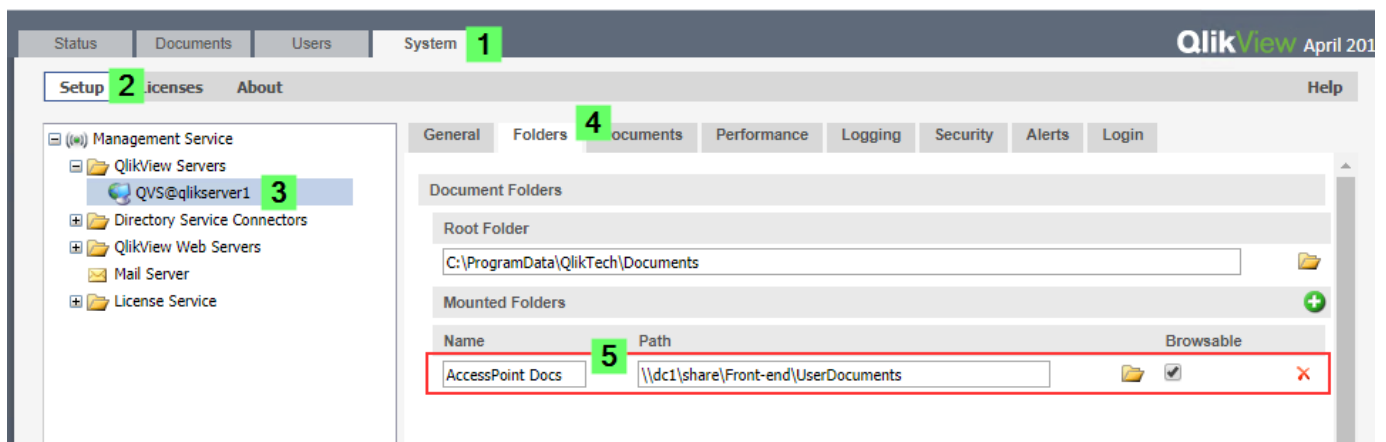3. Input a **Name** and **Path** to either a local or shared folder.

If using a network fileshare, ensure both the NTFS Rights and Share Permissions allow the proper access to the files. Windows uses the most restrictive setting at all times.

If one setting is more restrictive than the other, this is the one that applies. When using Effective Permissions in the Windows File Browser applet, be aware these do NOT take into account Network File Share Permissions.

4. Click *Apply*

5. For our example we have moved the default applications coming preinstalled in

    C:\ProgramData\QlikTech\Documents to our new ***AccessPoint Docs*** folder.

6. All QlikView Server Settings are stored in the QlikView Server Settings.ini file located in C:\ProgramData\QlikTech\QlikViewServer.

7. For information regarding the .pgo files see .pgo Help

Assigning Permissions and a License to a user

Out of the box, QlikView will use Windows Authentication/Authorization.

That means Windows will handle authentication and authorization. An alternate method (DMS mode) is available, however this is out of scope of this installation manual. See the Qlik Online Help for details.

Once a user is authenticated and verified as authorized to be allowed to open a document, QlikView will verify if the user has a Client Access License (CAL) assigned. Without a CAL, the user will not be able to open any document in the AccessPoint.
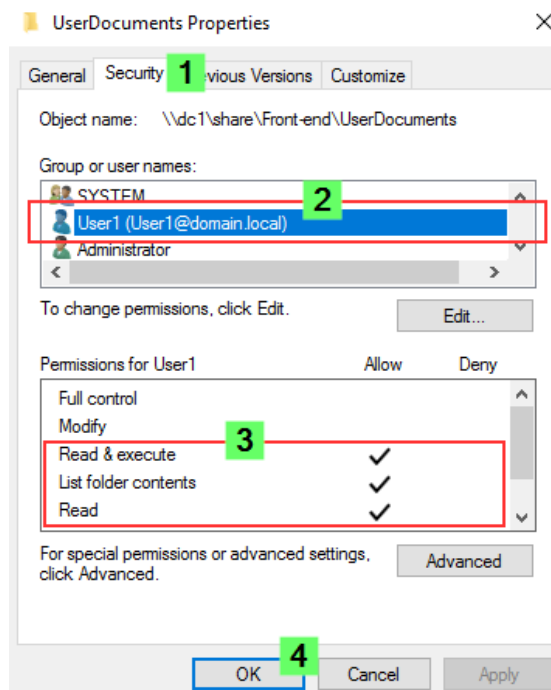
The workflow is as follows:

- ➢ Successfully Authenticated by Windows (Web Browser + Windows Client credentials)
- ➢ Does the authenticated user have access to the QlikView document? (NTFS Rights)
- ➢ Does the QlikView document have Section Access in the load script, and if so, is the User allowed to open it?
- ➢ Does the User have a Named/Document CAL assigned or is a Session or Usage CAL available?

Steps:

To verify our installation, we will give **User1** access to all documents stored in our *AccessPoint Docs* folder and provide them a **Named CAL** to open them.

1. In the Windows File Explorer, navigate to the User Documents folder. Right click and open *Properties.*
   a. Click *Edit…*
   b. Click *Add…*
   c. Search the user, validating it with *Check Names* and then click *OK*
   d. Ensure that the user has the desired permissions. We will go with *Read & execute, List folder contents,* and *Read.*
   e. Press *Apply*.

2. Open the QlikView Management Console at

   `http://yourhostname:4780/qmc/default.htm`

3. Navigate to System > Licenses > QlikView Server QVS@yourhostname > Client Access Licenses (CALs) > General

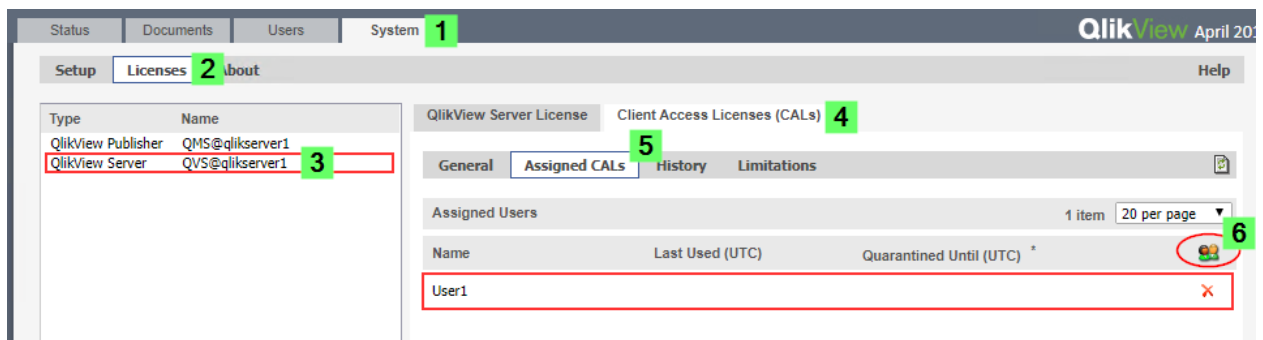> Decide if you want to *Allow dynamic CAL assignment* toggled on.
>
> When active, Named User CALs will be assigned automatically to users attempting to open a document until no more Named User CALs are available.

Named User CALs cannot be unassigned without a 7-day quarantine.

See *Overview of CAL Types* (KB 000003136) for more details on available CAL types to help you make that decision. Additional information: QlikView Product Terms PDF.

4. Change to the *Assigned CALs* tab
   a. In the *Assigned Users* [icon] section, click the icon.
   b. A *Manage Users* menu will open.
   c. Search for the User(s) to which you want to provide a license.
   d. Select the User and click *Add >*
   e. Click OK
   f. The User (User1 in our test case) will now be listed in the *Assigned Users* list.
   g. Press *Apply* to save the changes

For a more in-depth guide and for information on how to unassign Named CALs, see *How to assign and remove a Named CAL* (KB 000058725).

Testing the AccessPoint

The QlikView AccessPoint is hosted by the built-in QlikView WebServer service. It will listen on **port 80** when installed and is accessible from `http://serverhostname/qlikview`.
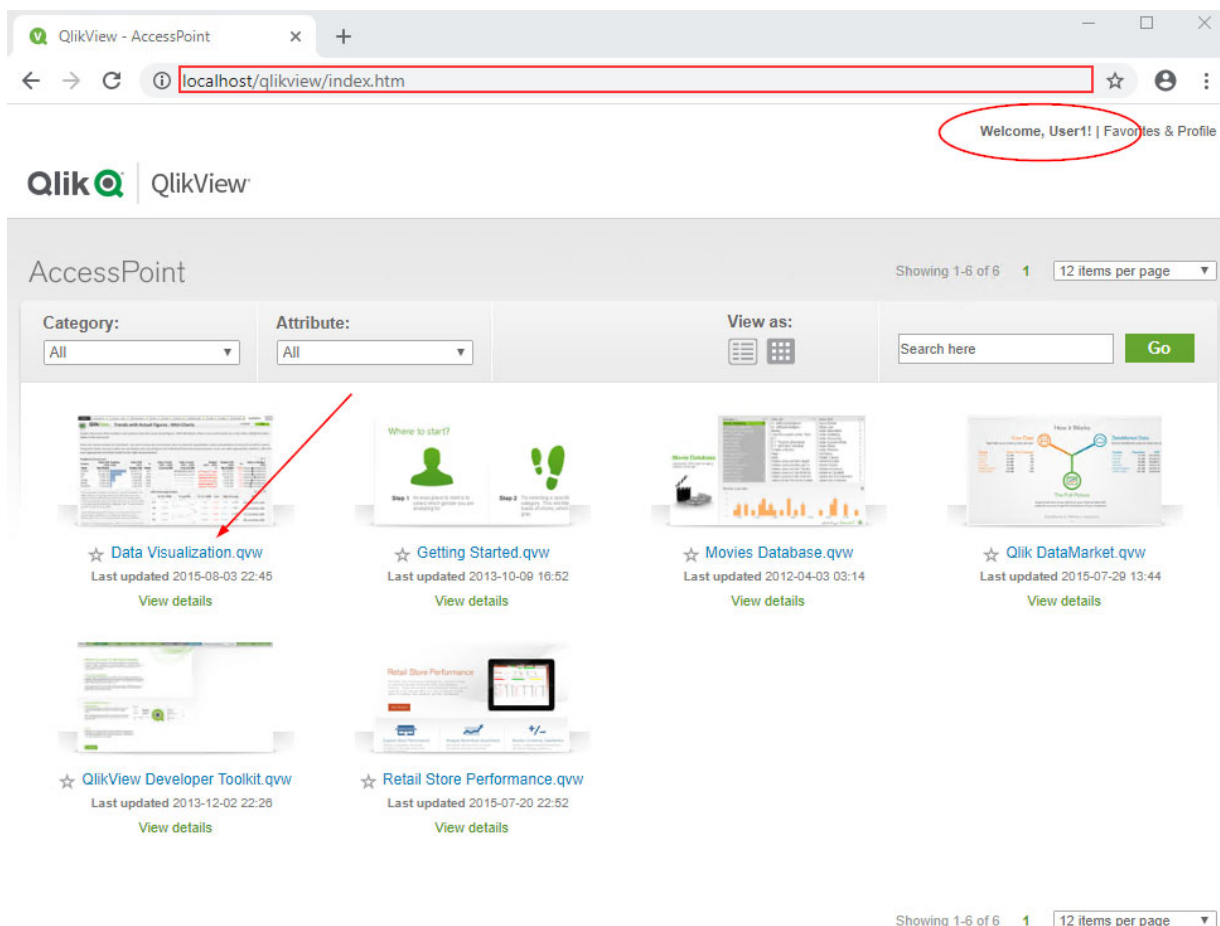
> If you are looking to configure **HTTPS**, see the #QlikSupport Blog for *QlikView AccessPoint and QMC with HTTPS*.

1. Open a supported web browser. Navigate to `http://serverhostname/qlikview` (remote) or `http://localhost/qlikview` (local).

> The use of 'localhost' may be prohibited by restrictive Group Security Policies.

2. You are shown a list of document thumbnails available to the logged in user.
3. Click any of them to verify them loading correctly.

> If a *No Server* message is displayed, see *QlikView: Error Message "Server Failed To Set License" When Applying License In QMC* (KB 000003190) for details. If users cannot see the correct or any documents, consult *Users cannot see documents on AccessPoint* (KB 000079673).

3. Installing a QlikView multi-node (with Certificate Trust)

This document is written using the initial release of QlikView April 2019 (12.40 IR) as an example. Unless otherwise stated, the installation instructions apply to the entire range of an on-premise installation.

- ✓ The license used in this test allows for a 3 node QlikView server cluster.
- ✓ Our example environment is configured as a member of the Windows Active Directory Domain **Domain.Local**.
- ✓ A Service Account with the name **QVService** has been created and has been given Local Administrator permissions.
- ✓ End Users named **User1** and **User2** have been set up for later testing.
- ✓ We have three Servers. The final setup will be as follows:
  - ○ **QlikServer1:** QMS, QVS, QVWS, DSC
  - ○ QlikServer2: QVS, DSC
  - ○ **QlikServer3:** QDS, QVS, DSC
- ✓ For additional information about Certificate Trust, see Certificate Trust (help.com**)**

This example is meant for demonstration purposes. For guidance on how to distribute services for specific purposes, contact Qlik Professional services.
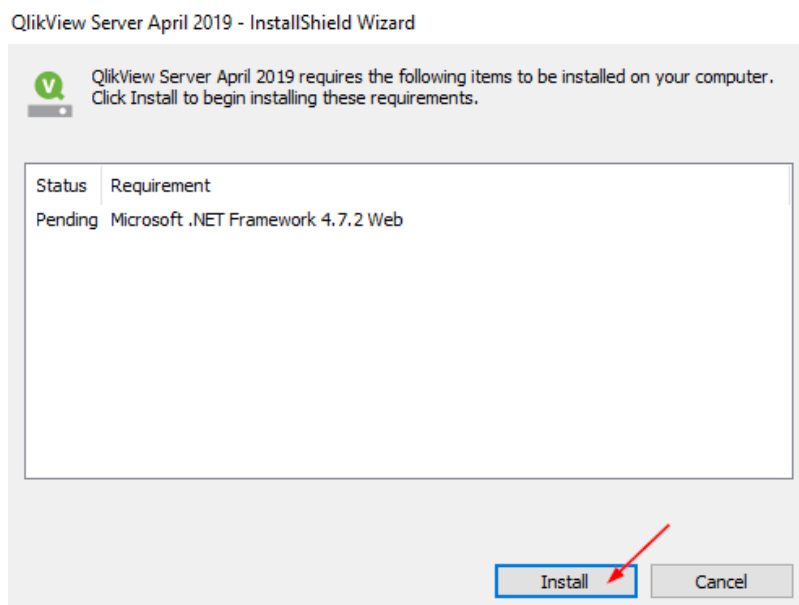
Before getting started:

1. Follow **Chapter 1: First Steps** to download the installation packages to all machines and read through the Release Notes as well as System Requirements.
2. As we are installing the services across different machines, verify the port requirements (Help.com).
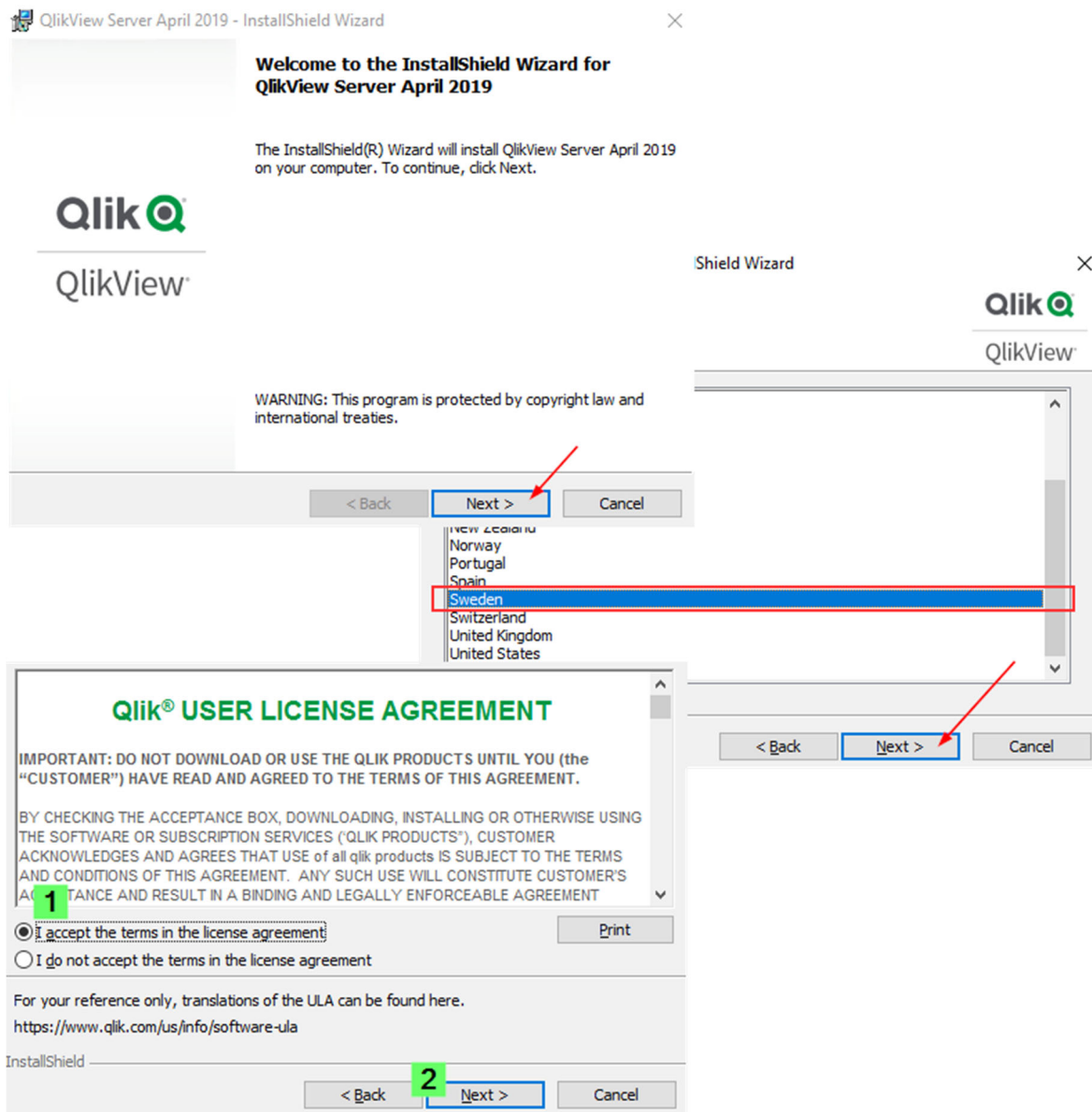
3a. Installing the first node

3. Logged in as an *Administrator,* execute the previously downloaded QlikView installation package.

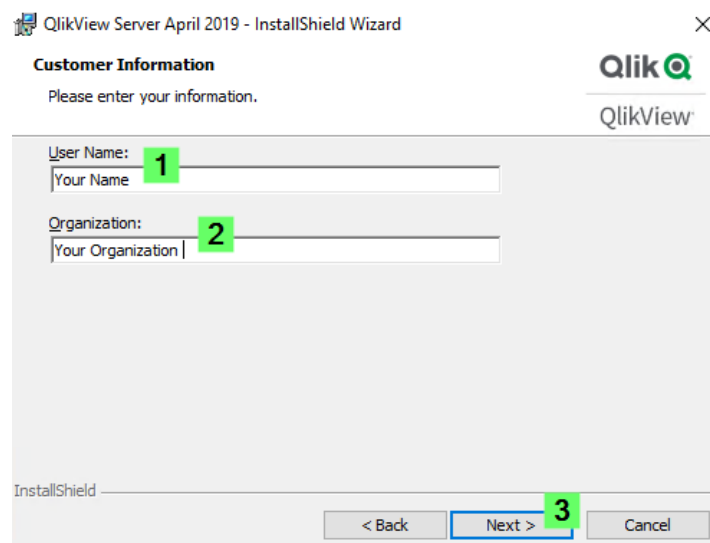4. Right click the item and select *Run as administrator.*

5. If the required .NET Framework version has not been installed previously, you will be prompted to do so now. Click *Install.* The required installation package will be downloaded (**Internet Connectivity required**).
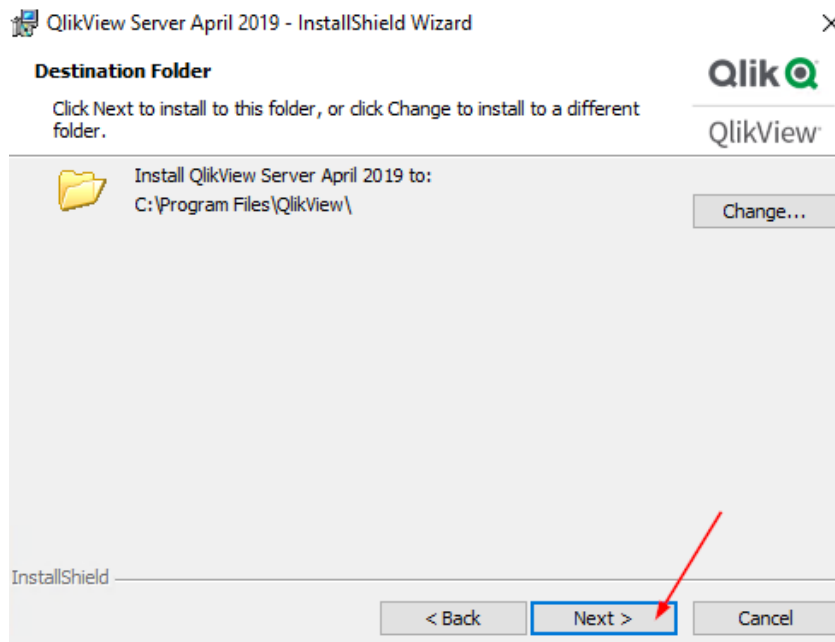

6. Once the installation begins, click *Next* on the welcome screen.

7. Select the correct **Region** and click **Next** again.

8. Finally, read through and accept the **License Agreement** and click *Next*

9. Input your name and organization name.

10. Choose your install folder. This will be the default location where the QlikView Program Files (.exe files) will be installed. Click **Next**.

11. Select the **QlikView** Server, Reload/Distribution Engine, Management Console, and Webserver Profile.

See *How to configure: QlikView and IIS* (KB 000003344) for details on how to set up Microsoft IIS as an alternate web server.

> *(i)* It is possible to select individual features/services using the ***Config*** menu. This allows for a more granular selection of services and their sub components for an advanced installation.

12. Click ***Next >***

13. Specify the User name and Password of the **Service Account**. This will add the

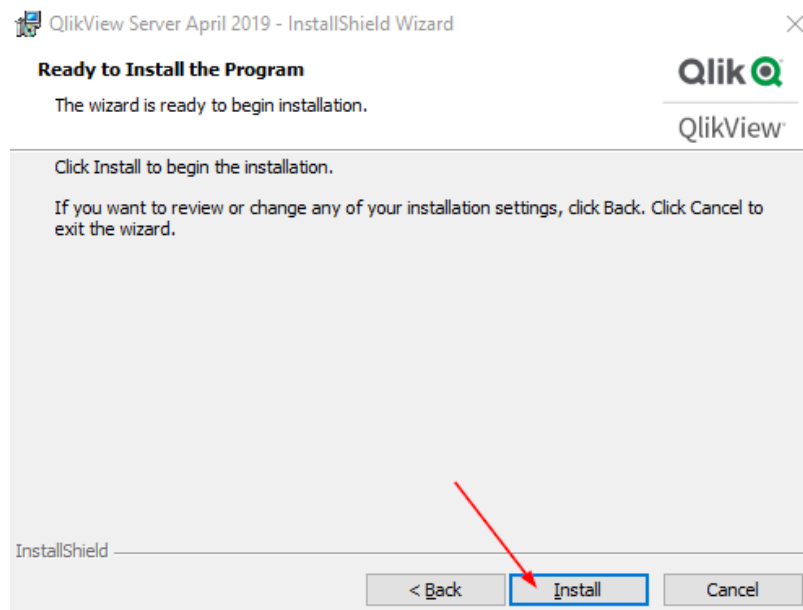   account to the **QlikView Administrators** group created by the installation package.

> *(i)* For more detailed information about service account requirements, see *QlikView Service Account Requirements* (KB 000056877).
>
> This step may fail with the message *Server not found. Verify that the specified server exists*. See *Server not found when installing QlikView Server* (KB 000002804) for details.

14. For our multi node installation example we will be selecting **Use digital certificates** for Service Authentication. Click **Next**.

15. Confirm the last prompt by clicking **Install**. The installation will proceed.

16. Once the installation has finished, click **Finish**.

17. Verify the installation by following the steps in **2b.** The following services should now be installed and started:

Qlik Service Dispatcher	Manages th...	Running	Automatic	domain.local\qvservice
QlikView Directory Service Connector	Keeps track ...	Running	Automatic	domain.local\qvservice
QlikView Management Service	Hosts the M...	Running	Automatic	domain.local\qvservice
QlikView Server	Hosts the Q...	Running	Automatic	domain.local\qvservice
QlikView Webserver	The web ser...	Starting	Automatic	domain.local\qvservice

18. On first startup, the QlikView Management Console creates a set of Self-Signed certificates. To verify that they have been correctly installed:

19. Open the **Windows Server Microsoft Management Console** (MMC) by clicking the start button and typing **mmc**.

20. From the MMC, click File > Add/Remove Snap-in...

21. Select **Certificates** and click *Add*

22. Select the **Computer account** radio button and click *Next* and then *Finish*

23. Verify that **Certificates (Local Computer)** is displayed as the selected snap-in and click *OK*

24. From the Certificates snap-in, expand Certificates (Local Computer) > Personal > Certificates

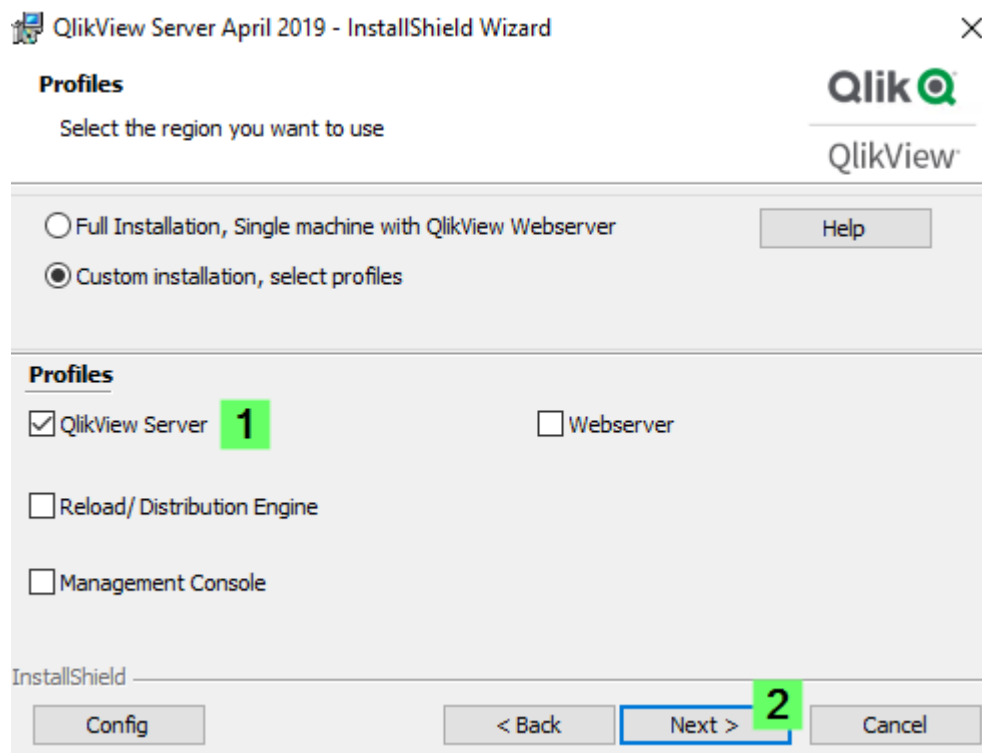25. Locate the certificates called `SERVERNAME` and `QVProxy`, both Issued By `QlikView CA`

26. From the Certificates snap-in, expand Certificates (Local Computer) > Trusted root Certificate Authorities > Certificates

27. Locate the certificate called `QlikViewCA` Issued By `QlikView CA`.

3b. Installing the QlikView Server node (QVS)

During this installation we will be installing the QlikView Server service and verify that the service starts.

1. Follow the initial installation instructions as outlined from **3a step 1** to **step 9**.
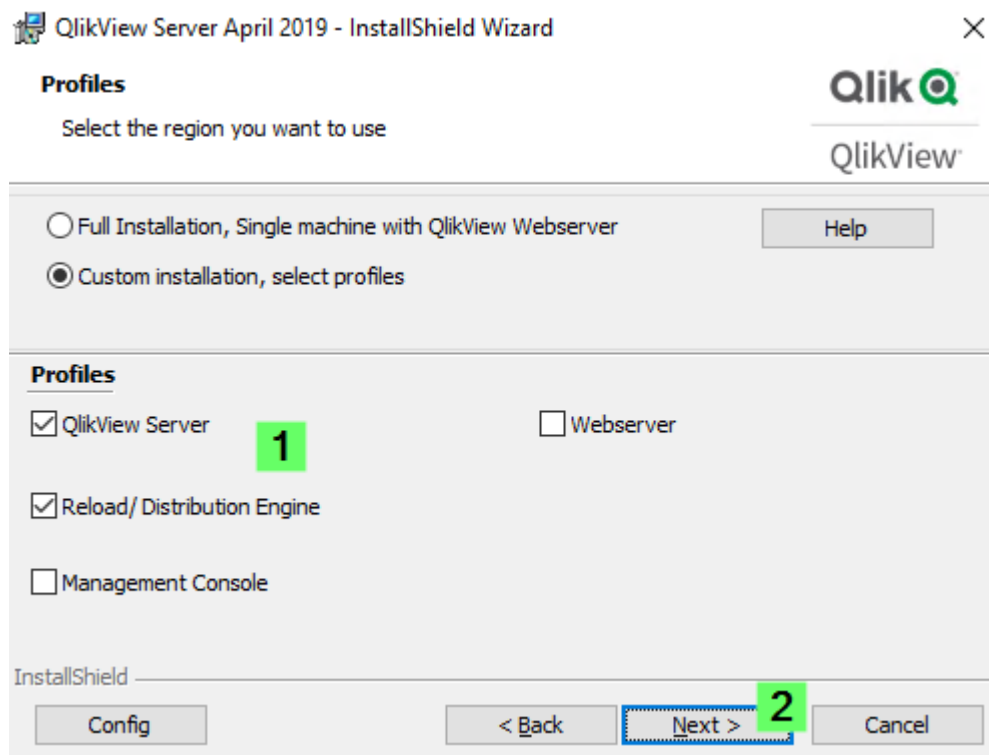2. Choose the *QlikView Server* profile and click **Next >**

3. Specify the username and password and click **Next >**
4. Select to Use digital certificates and click **Next >**
5. Click **Install**
6. Verify the installation by following the steps in **2b.** The following services should now be installed and started:

3c. Installing the Distribution Service and second Server node (QDS + QVS)

During this installation we will be installing the Distribution Service and QlikView Server service and verify that the services start.

1. Follow the initial installation instructions as outlined from 3a step 1 to step 9.
2. Choose the QlikView Server and Reload/Distribution Engine profile and click **Next >**

3. Specify the username and password and click **Next >**
4. Select to Use digital certificates and click **Next >**
5. Click **Install**
6. Verify the installation by following the steps in **2b.** The following services should now be installed and started:

3c. Connecting the Services

Licensing the QlikView Server and Distribution Service / Publisher

Before we can proceed with connecting the other services, the QlikView environment needs to be licensed.

1. To license the QlikView Server follow the instructions in **2c, Licensing**.
2. To license the Distribution Service / Publisher, open the QlikView Management Console at `http://yourhostname:4780/qmc/default.htm` in any supported browser
3. Navigate to System > Licenses > QlikView Publisher QMS@servername
4. Switch to the QlikView Publisher License tab
5. Enter the correct Serial number, Control number, and a Name and Organization
6. Press **Apply License.** A *Success* confirmation should be displayed and the LEF data populated.
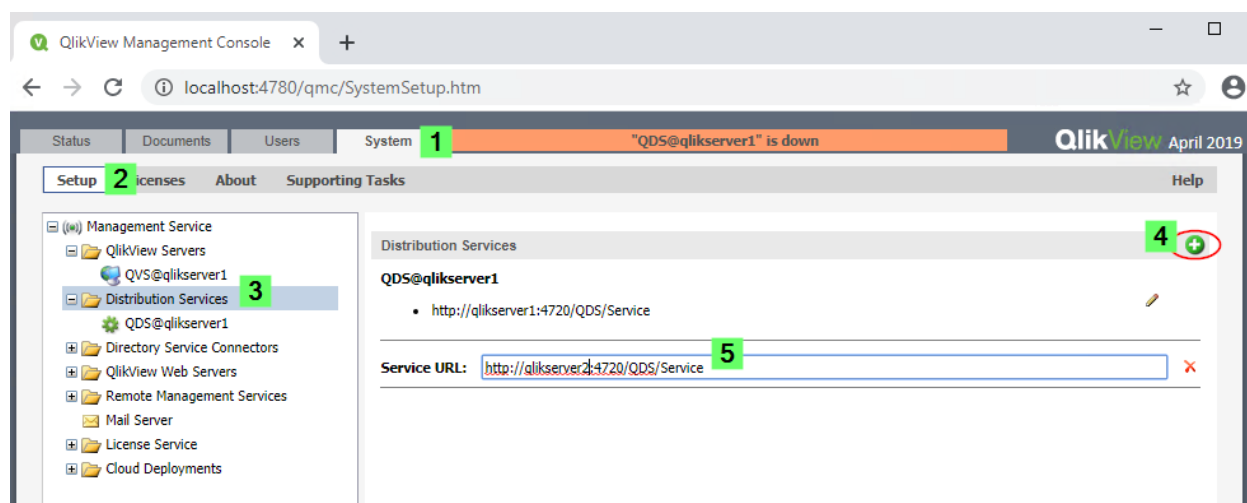
In the next step we'll connect all services to the QlikView Management Console. This will distribute the certificates created on startup by the Management Service.

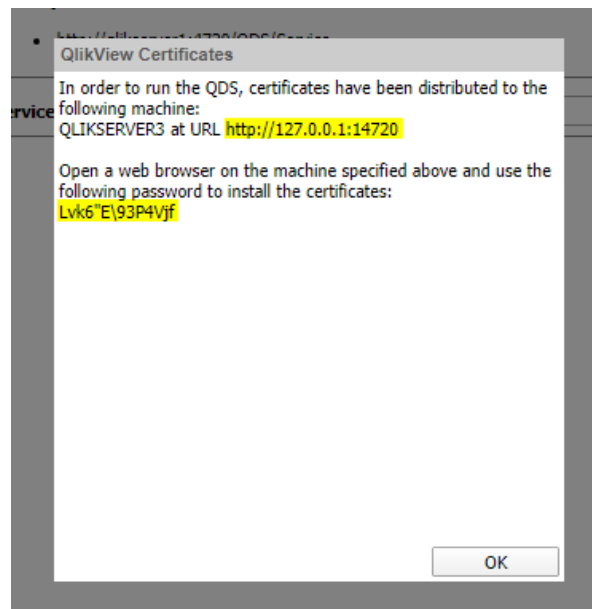### Connecting the QlikView Distribution Service

To review the requirements for Certificate Trust again (such as ports), see ***Certificate Trust*** (Help.com).
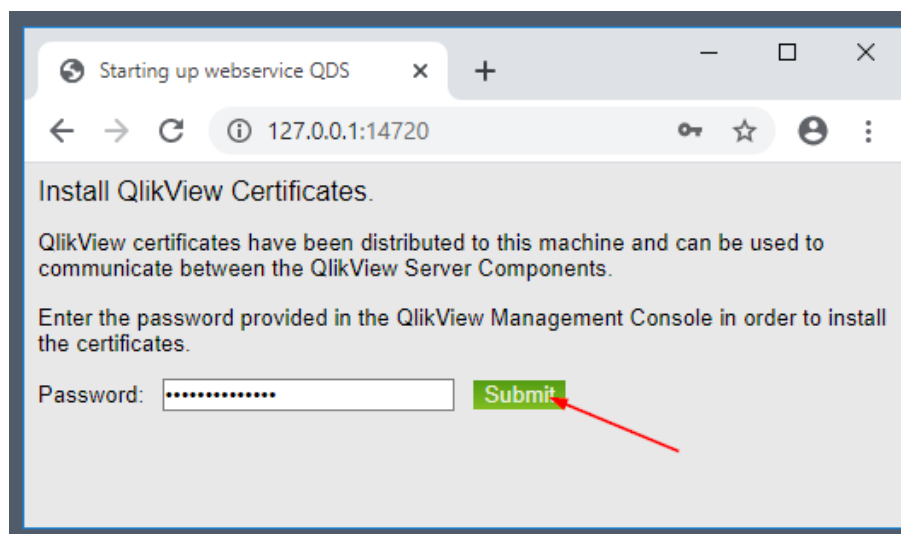
1. Open the QlikView Management Console
2. Navigate to **System > Setup > Distribution Service** to open the current list of QlikView Distribution Services. **Do not open** QDS@servername. This will lead to a timeout as this service was not installed here.
3. Click the green button with the white plus sign on the top right: ⊕
4. Enter the address to the first QlikView Distribution Service node:
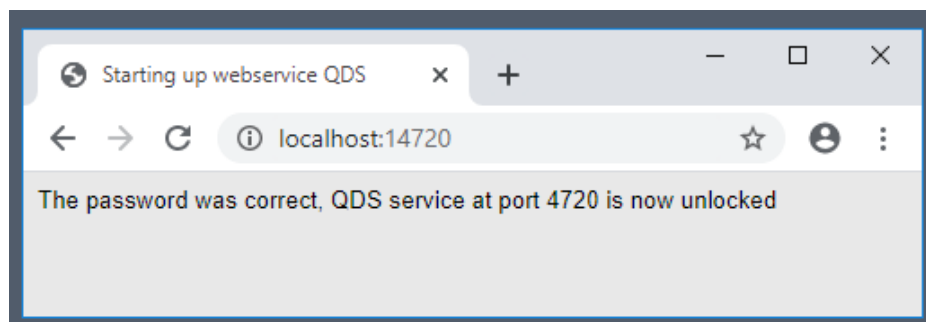   `http://qlikserver3:4720/QDS/Service`

5. Press ***Apply***
6. A ***QlikView Certificates*** prompts will be displayed, showing a URL as well as a password.
   a. At this point, the certificates have been packaged and transferred to the target machine.
   b. The package is locked with a password and needs to be unlocked on the target machine.
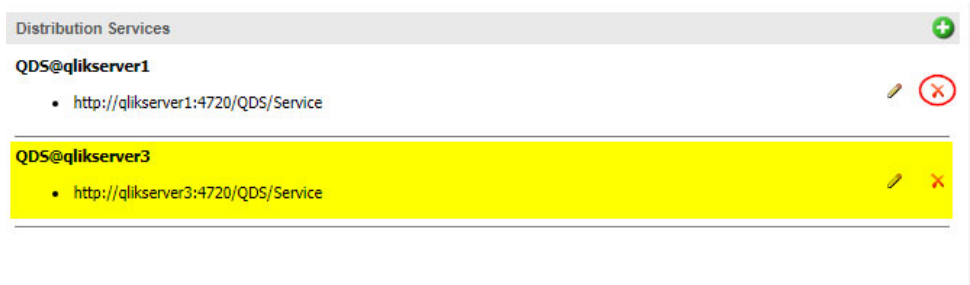
7. On the **Target Machine** open a supported web browser and navigate to the prompted address. In this case, `127.0.0.1:14720`. Enter the displayed password and click **Submit**.

8. If successful, a confirmation will appear.

9. Return to the Management Console of the first machine and confirm with *OK.*

10. The new QDS will now be successfully listed. Remove the first QDS by pressing the red x ✗

11. Confirm with *Apply*

Connecting the Directory Service Connector(s)

The steps to transfer and unlock the certificates will only need to be necessary for *one* of the Directory Service Connectors, as we have already done so for the Distribution Service node.
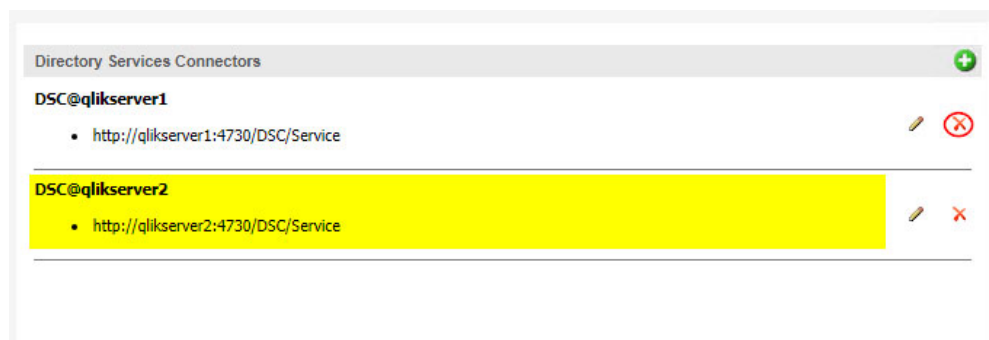
> Just one of the services per additional node needs to have the certificate step performed. Once it is done for one service, all other QlikView services on that server will pick up the same certificates.

1. Open the QlikView Management Console at
    `http://yourhostname:4780/qmc/default.htm`

2. Navigate to **System > Setup > Directory Service Connectors** to open the current list of connected QlikView Distribution Services. **Do not open** DSC@servername. This will lead to a timeout as this service was not installed here.

3. Click the green button with the white plus sign on the top right:

4. Enter the address to the first QlikView Directory Service Connector node:
    `http://qlikserver2:4730/DSC/Service`

5. Press *Apply*

6. A *QlikView Certificates* prompts will be displayed, showing a URL as well as a password.

7. On the **Target Machine** open a supported web browser and navigate to the prompted address. In this case, `127.0.0.1:14730`. Enter the displayed password and click *Submit.*

8. If successful, a confirmation will appear.

9. Return to the Management Console of the first machine and confirm with *OK.*

10. The new QDS will now be successfully listed. Remove the first QDS by pressing the red x ✗
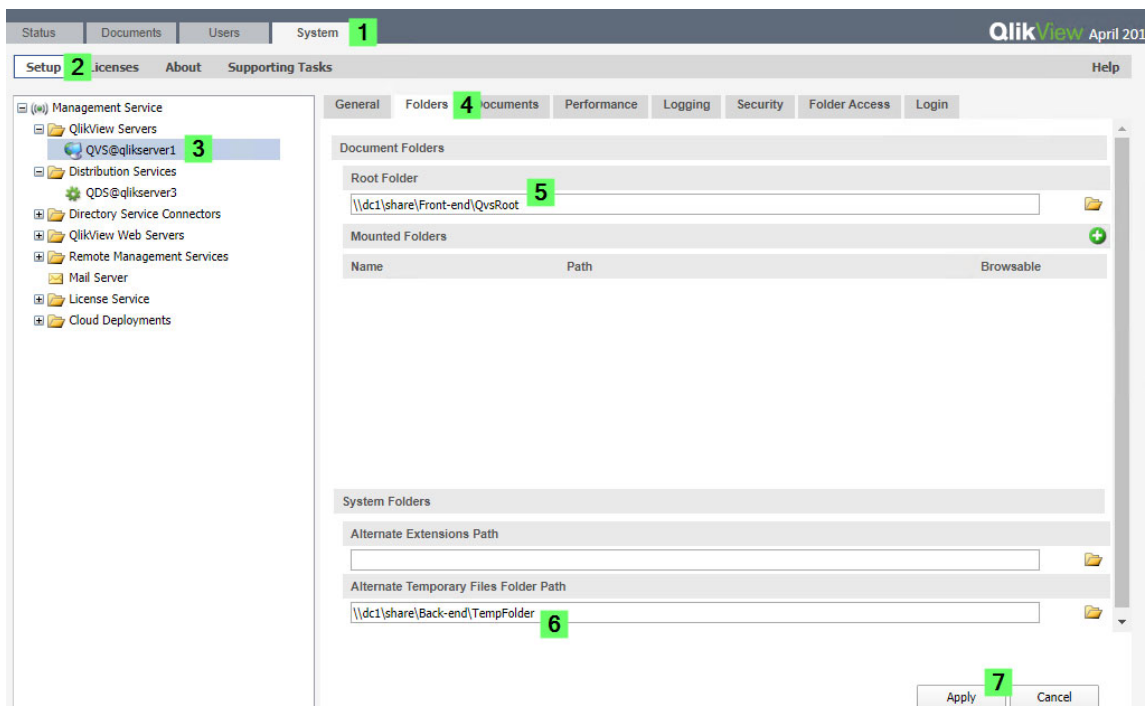

11. Confirm with *Apply*

12. Repeat the above **steps 3 and 4** to add the remaining Directory Service Connector

3d. Clustering the QlikView Server Services

Clustered QlikView servers need to share a common root folder to be able to share configuration and license data. In addition, temporary folders and log folders need to be set up and shared.

Preparation

1. Prepare and share the following, providing access to the service account(s) running the QlikView Server services:
   - ✓ A Root folder used by all QlikView Server services.
   - ✓ A Temporary folder which will be used for storing exports (.pdf, .xls)
   - ✓ A log folder used to collect the log files of all QlikView Server services
2. Open the QlikView Management Console at
   `http://yourhostname:4780/qmc/default.htm`
3. Navigate to System > Setup > QlikView Servers > QVS@servername
4. Select the **Folders** tab
5. Provide the new **Root** folder
6. Provide the new Alternate Temporary Files Folder Path

7. Confirm with *Apply*. The QlikView Server service will restart.
8. Navigate to the **Logging** tab.
9. Provide the new **Log Folder**
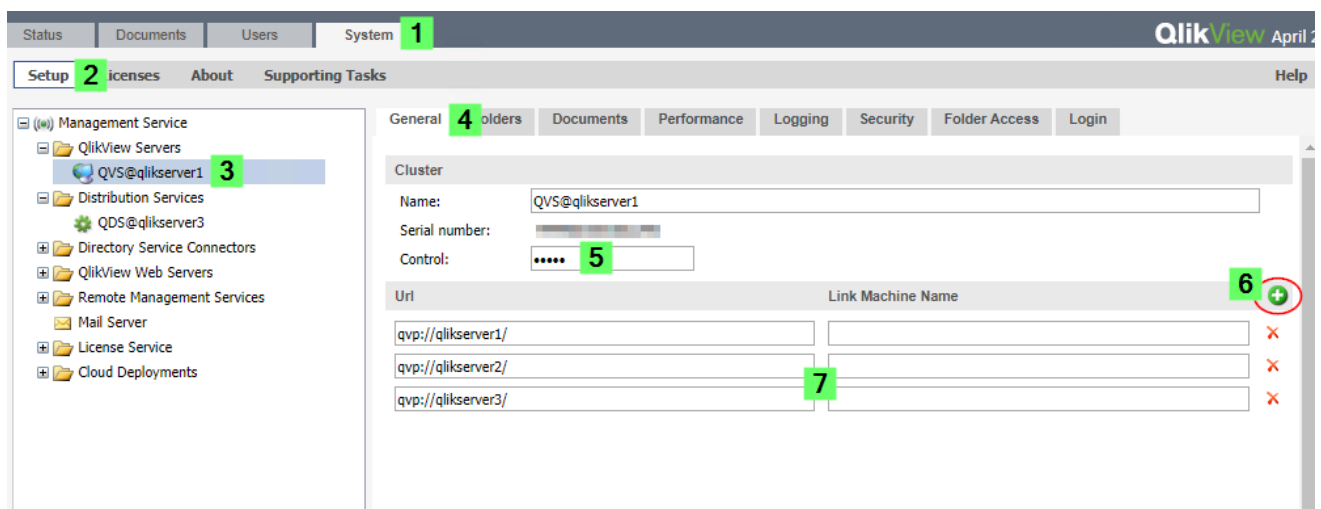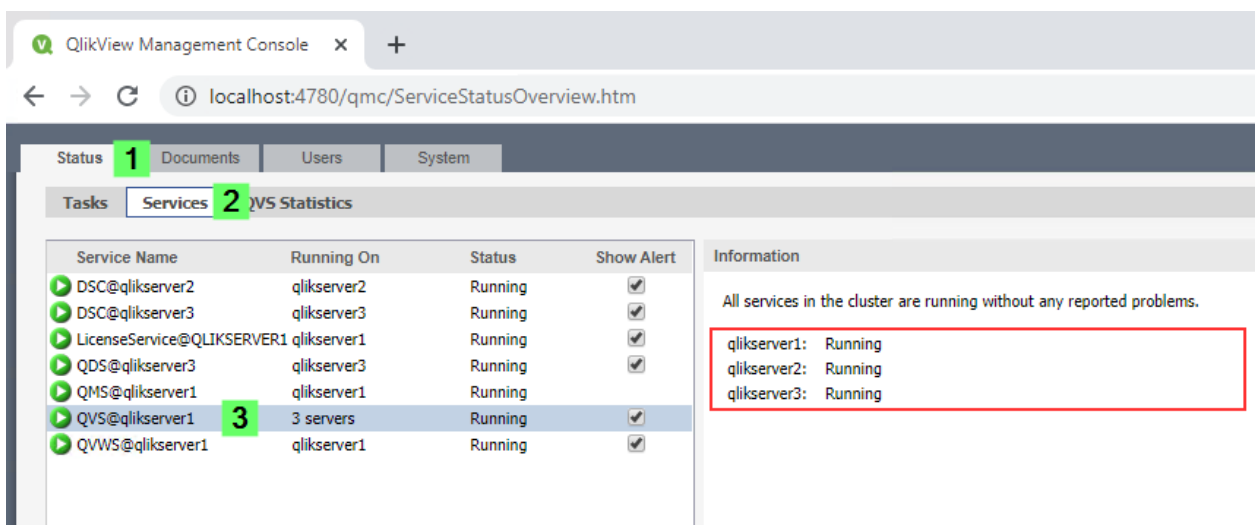
10. Confirm with *Apply*

Clustering

The certificates have already been distributed when the Directory Service Connectors were connected to the Management Console. They will not need to be distributed again.

1. Open the QlikView Management Console at

   `http://yourhostname:4780/qmc/default.htm`

2. Navigate to System > Setup > QlikView Servers > QVS@servername

3. In the **General** tab, fill out the **Control** number.

4. Click the green circle icon

5. Add each new cluster member using the format `qvp://servername/`

6. Confirm with **Apply.** The QlikView Server services will restart.

7. Navigate to **Status > Services** and select **QVS@servername** to verify that the newly added cluster members are shown as *Running*

Verifying the installation

Verify the installation by following the instructions in chapter **2c,** including **Folder Setup**, **Assigning Permissions**, and **Testing the AccessPoint**.

> If the configuration is manually changed away from Certificate Trust to Windows groups, any upgrade will automatically reset the services back to Certificate Trust. It is best practice to uninstall/reinstall if service communication methods need to be changed.