



QlikView Server: A Simple Installation

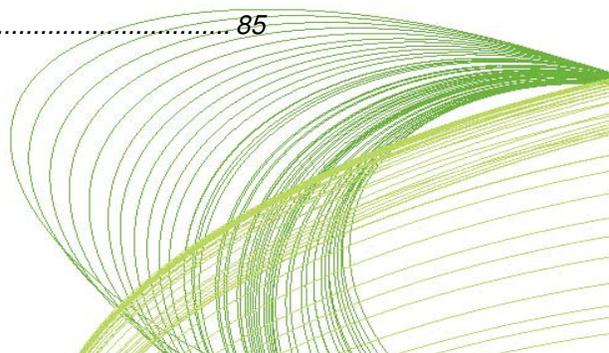
"A best practice is a technique or methodology that, through experience and research, has proven to reliably lead to a desired result."

Disclaimer:

Please be aware that this document is not supported and meant only as a guide. Individual environments may require adjustments for things to work correctly. Recommend contacting QlikView Expert Services for help with configuration.

Table of Contents

Setting Up a Qlikview Server	4
1 Introduction	4
1.1 Prerequisites.....	5
1.1.1 System Requirements.....	5
1.1.2 A word about Firewalls.....	5
2 Installing and Configuring Qlikview Server.....	6
2.1 Installation	6
2.2 Configuration.....	14
2.2.1 Testing that the AccessPoint works	21
3 Installing and Configuring QlikView Publisher	23
3.1 Installation	23
3.2 Configuration.....	23
3.2.1 Testing Qlikview Publisher With A Simple Reload and Distribute	27
4 Setting Up A Simple Server Cluster	41
4.1 Why Cluster?.....	41
4.2 Requirements.....	41
4.3 Configuration.....	42
4.3.1 Shared Storage	42
4.3.2 Adding Second Server To The Cluster	48
4.3.3 Configuring Second Server In Cluster	55
4.4 Testing The Cluster.....	58
5 Setting Up A Simple QlikView Publisher Cluster.....	64
5.1 Requirements.....	64
5.2 Configuration.....	65
5.2.1 Shared Storage Setup.....	65
5.2.2 Adding Second Distribution Service To The Cluster.....	69
5.2.3 Configuring Second QlikView Distribution Service in the Cluster	74
5.3 Testing the Cluster	77
6 Setting Up A Simple Directory Service Cluster.....	83
6.1 Requirements.....	83
6.2 Configuration.....	83
6.2.1 Adding A Second Directory Service Connector	83
6.2.2 Configuring Second QlikView Directory Service Connector in the Cluster	83
6.3 Testing The Cluster.....	85



Setting Up a Qlikview Server

1 *Introduction*

This document is written with Qlikview Server version 11 in mind. The examples and screen shots are from this version.

Please note this document is not meant as a replacement for training and using expert services for implementation. It will not go into great detail with regards to tabs, settings, etc. This information is covered in the documentation and help files.

What is covered in this document:

1. How to setup a simple Qlikview Server
2. How to setup a simple Qlikview Publisher
3. How to set up a simple Qlikview Server Cluster
4. How to set up a simple Qlikview Publisher Cluster
5. How to cluster Qlikview Directory Service Connectors



1.1 Prerequisites

1.1.1 System Requirements

Please see the [Qlikview Server Help Site](#) for specific.

1.1.2 A word about Firewalls

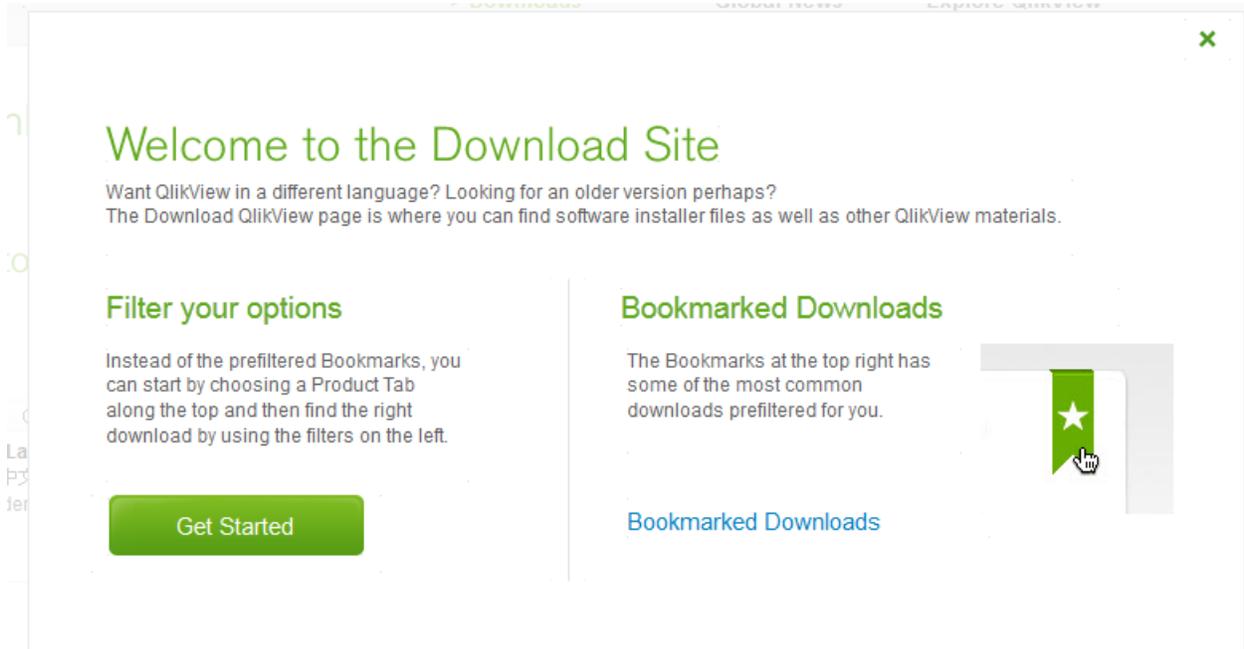
For simplicity sake, all firewalls have been turned off on the example servers, your situation may be different and it is recommended you consult the documentation as to what ports are used for each service.



2 Installing and Configuring Qlikview Server

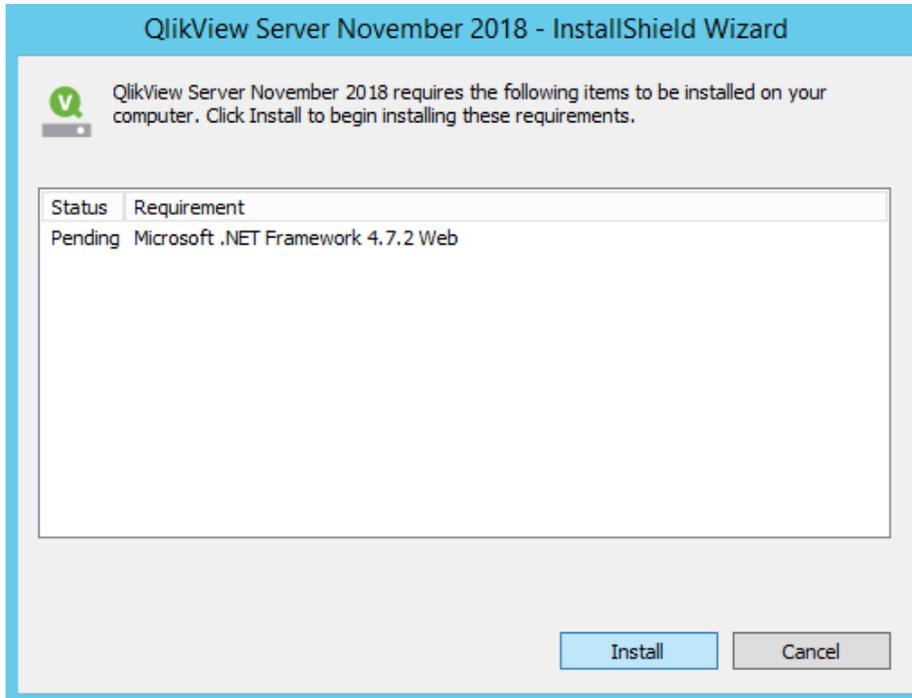
2.1 Installation

1. Download the exe package from the QlikView Download Site. Keep in mind you must have the proper credentials to see all available downloads.



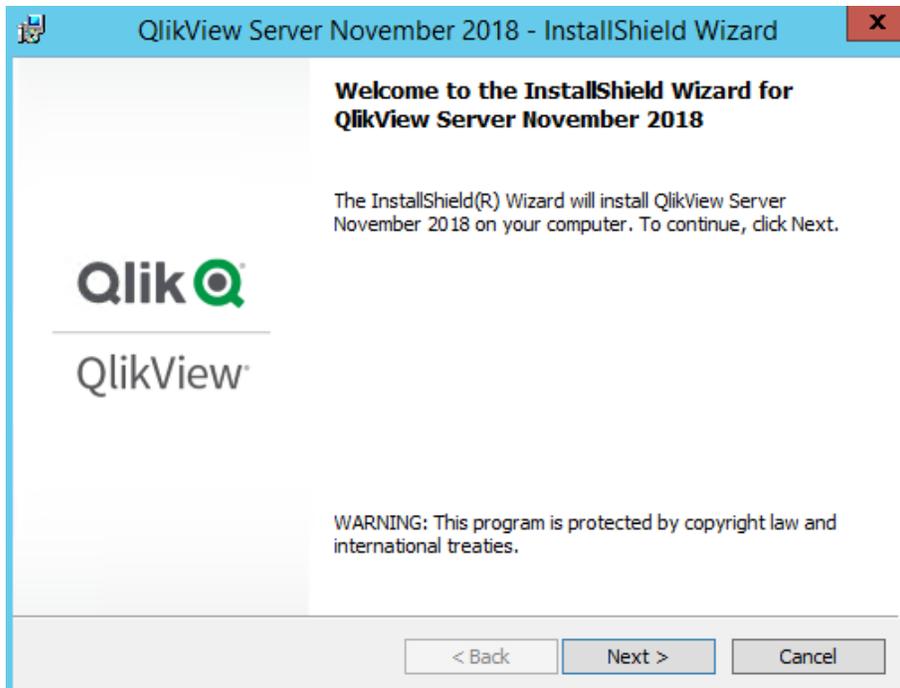
2. The package used in this document is the 64 bit version of the application.
 - a. QlikViewServer_x64Setup.exe
3. Make sure the user running the installation has local Administrator rights on the machine.
4. Double click the exe to start the installation (In some cases it is best to right-click the exe and choose the Run as Administrator option as well).
5. You may be prompted to install the correct version of .NET framework (reference the system requirements)





Click Install and allow the installation to finish

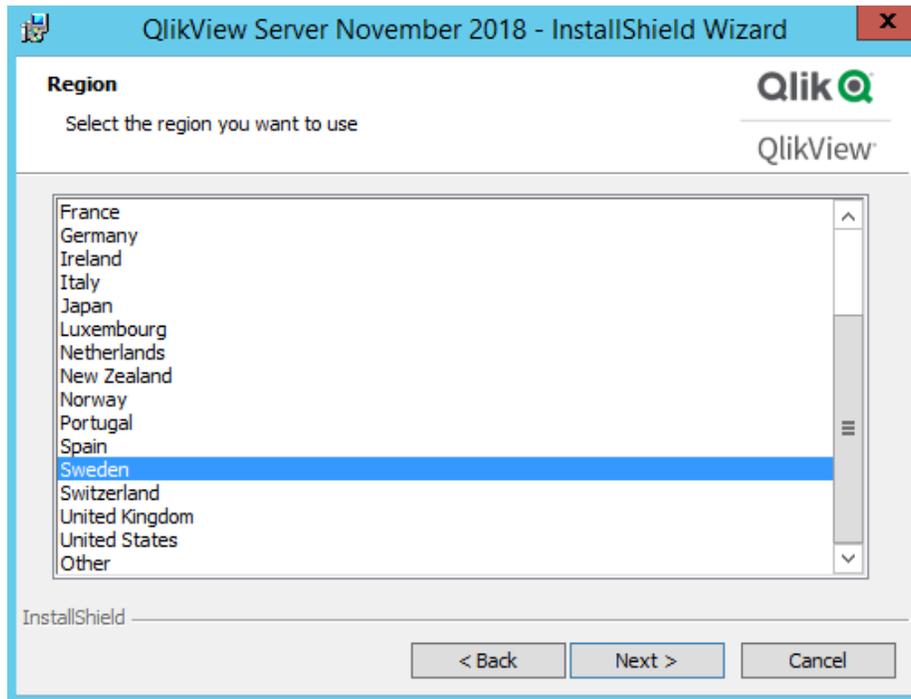
6. The InstallShield wizard will extract the files and begin the installation process.



Click Next

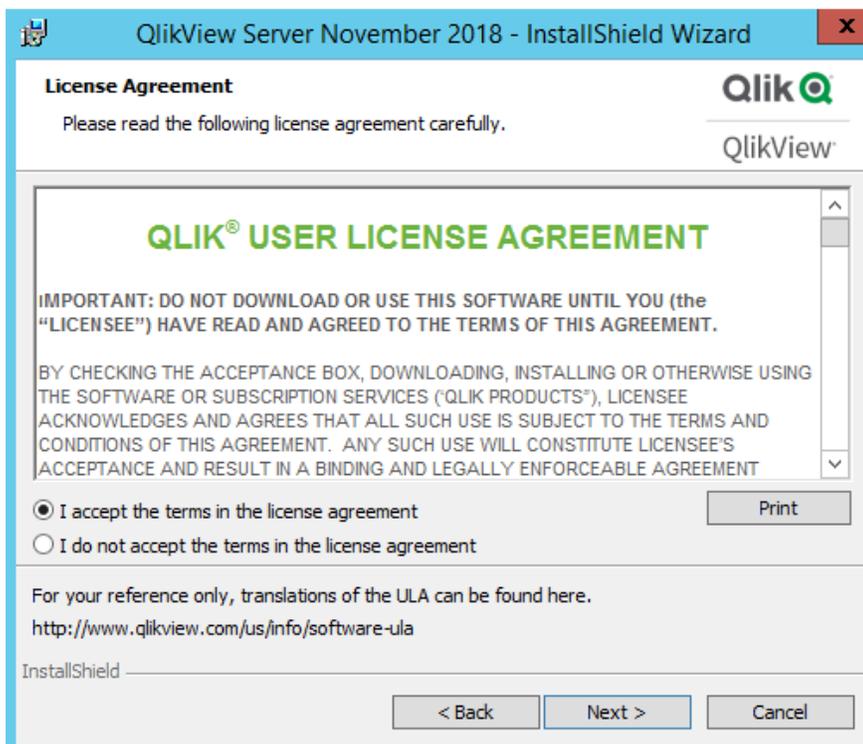


7. You are presented with the Region Selection. Select your region.



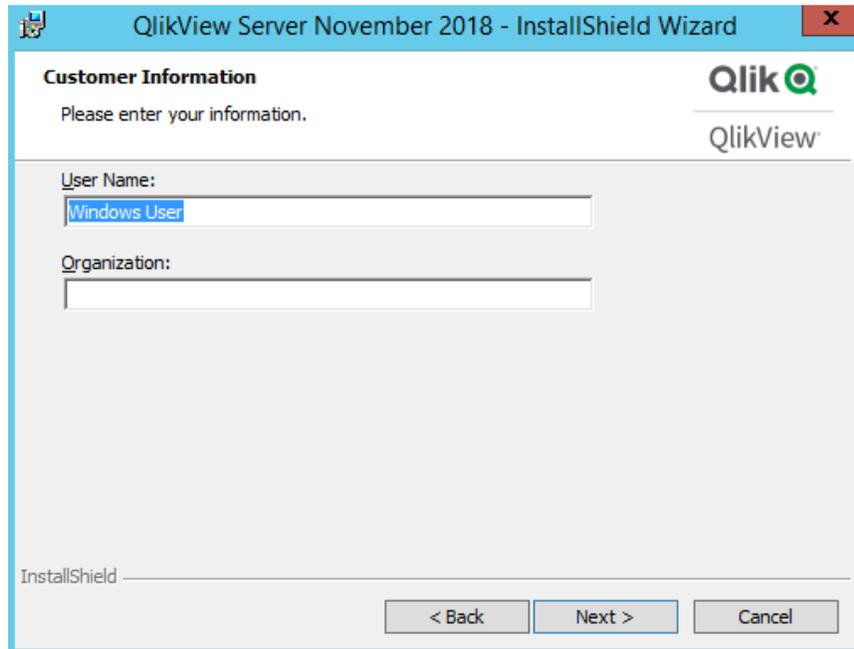
Click Next

8. You are presented with the License Agreement. Read and Click I accept....



Click Next

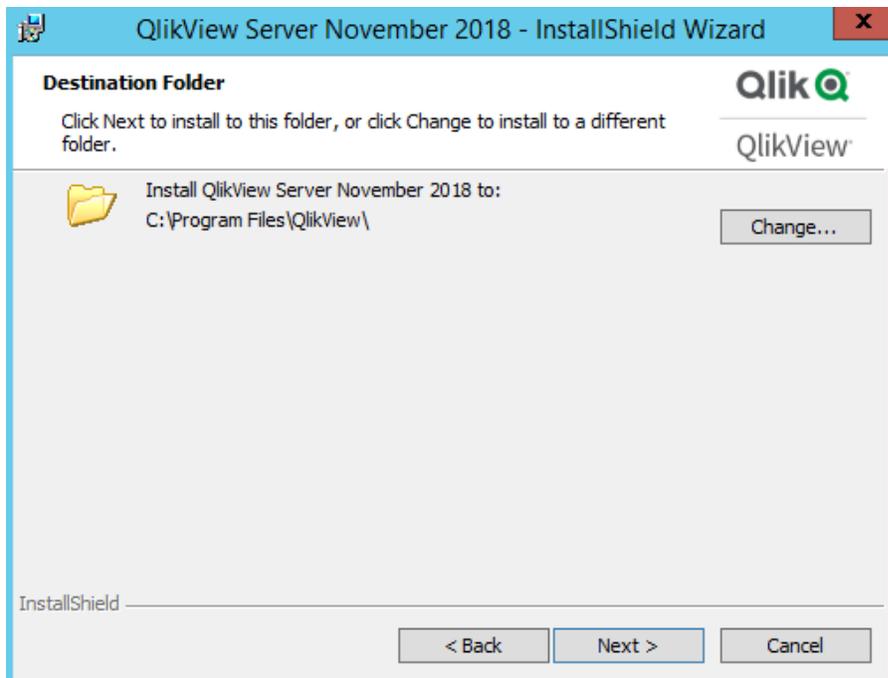
9. You are presented with the Customer Information. Enter your User Name and Organization.



The screenshot shows the 'Customer Information' step of the 'QlikView Server November 2018 - InstallShield Wizard'. The window title is 'QlikView Server November 2018 - InstallShield Wizard'. The main heading is 'Customer Information' with the instruction 'Please enter your information.' and the QlikView logo. There are two input fields: 'User Name:' containing 'Windows User' and 'Organization:' which is empty. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner.

Click Next

10. You are presented with the Destination Folder. In this setup we are using all defaults.

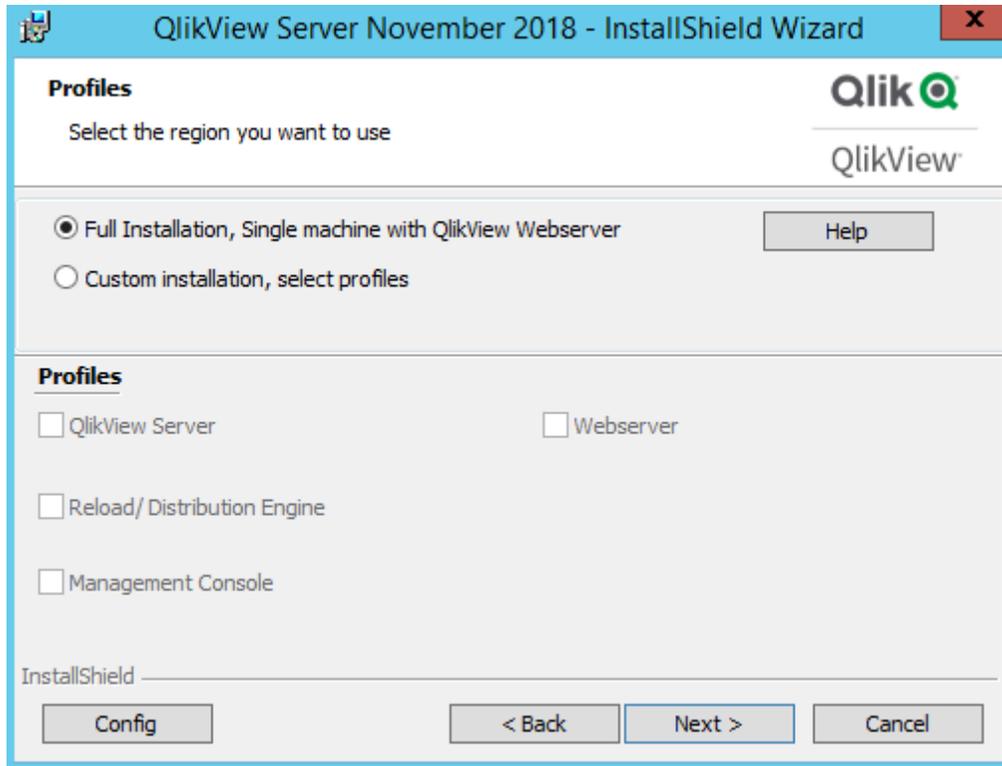


The screenshot shows the 'Destination Folder' step of the 'QlikView Server November 2018 - InstallShield Wizard'. The window title is 'QlikView Server November 2018 - InstallShield Wizard'. The main heading is 'Destination Folder' with the instruction 'Click Next to install to this folder, or click Change to install to a different folder.' and the QlikView logo. It displays a folder icon and the text 'Install QlikView Server November 2018 to: C:\Program Files\QlikView\'. A 'Change...' button is located to the right of the folder path. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner.

Click Next



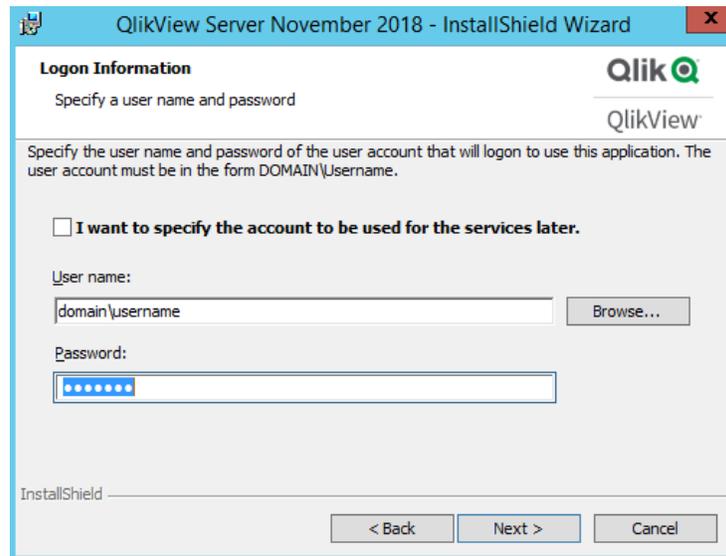
11. You are presented with the Profiles Selection section. At this point you have to make a decision as to what is going to be installed on this server. For this example, we are installing everything on one machine so we are going to accept the default. If you had IIS installed on this machine you would see an option to use either IIS or the QlikView Web Server. Please note if IIS is not installed or not running this option will not be available.



Click Next



12. You are presented with the Service Account Logon Information. Enter the username that will be used to run the QlikView Services. The format is <Domain>\<UserName>. If for some reason you need to bypass this step (user is not created yet), then you can check the box to specify the account later. The user that is used for the QlikView Service account must be in the local Administrators Security Group on the machine. If you are going to specify later you must put that user in the QlikView Administrators Security Group that is created during the install as well (See [Appendix A](#)).



The screenshot shows the 'Logon Information' dialog box in the QlikView Server November 2018 - InstallShield Wizard. The dialog has a title bar with the QlikView logo and a close button. Below the title bar, it says 'Logon Information' and 'Specify a user name and password'. There is a checkbox labeled 'I want to specify the account to be used for the services later.' which is currently unchecked. Below this, there are two input fields: 'User name:' with a text box containing 'domain\username' and a 'Browse...' button, and 'Password:' with a text box containing six dots. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

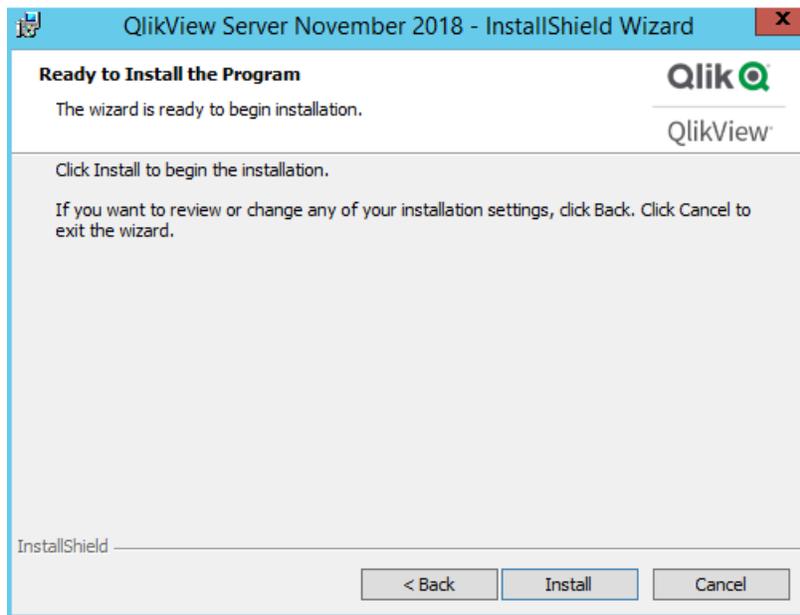
Click Next

13. You will now be prompted to choose between **Digital Certificates** and **QlikView Administrators Group** (default). See the [Online Help](#) for more information regarding Digital Certificates.



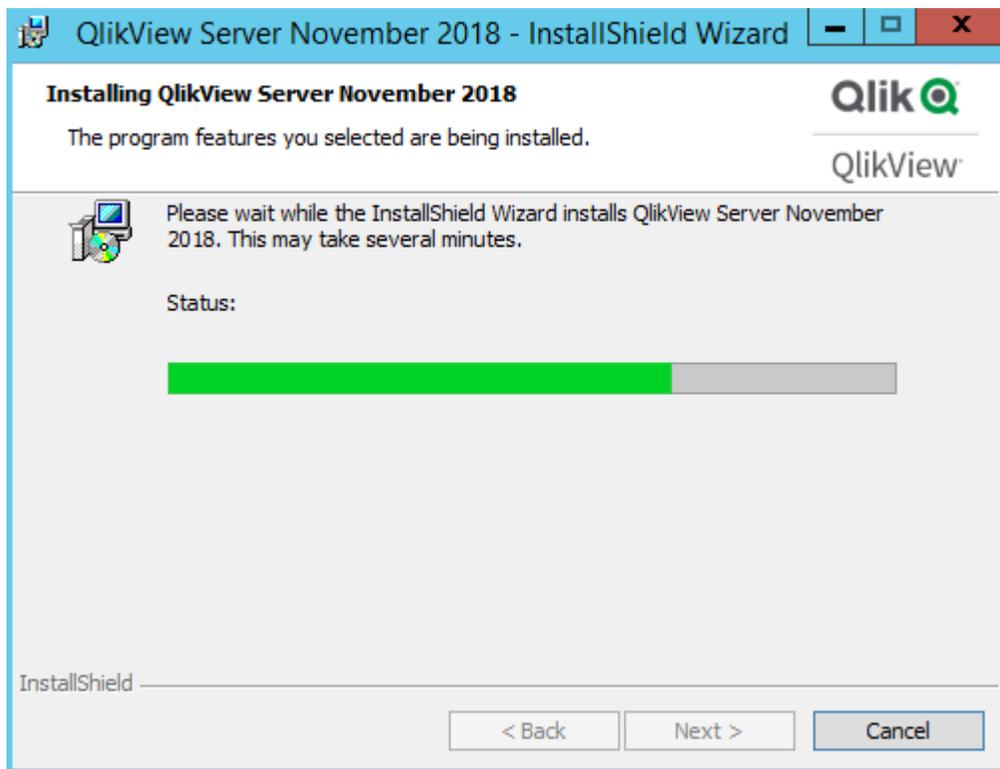
The screenshot shows the 'Service Authentication' dialog box in the QlikView Server November 2018 - InstallShield Wizard. The dialog has a title bar with the QlikView logo and a close button. Below the title bar, it says 'Service Authentication' and 'Select the QlikView servers authentication method'. There are two radio button options: 'Use digital certificates' (which is unselected) and 'Use QlikView Administrators Group' (which is selected). Below each option is a paragraph of text explaining the authentication method. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

14. At this point, the user name and password are verified for accuracy, if for some reason it does not pass, you will need to verify that the username and password are correct. Once the credentials pass, you are presented with the Ready to Install the Program dialog.

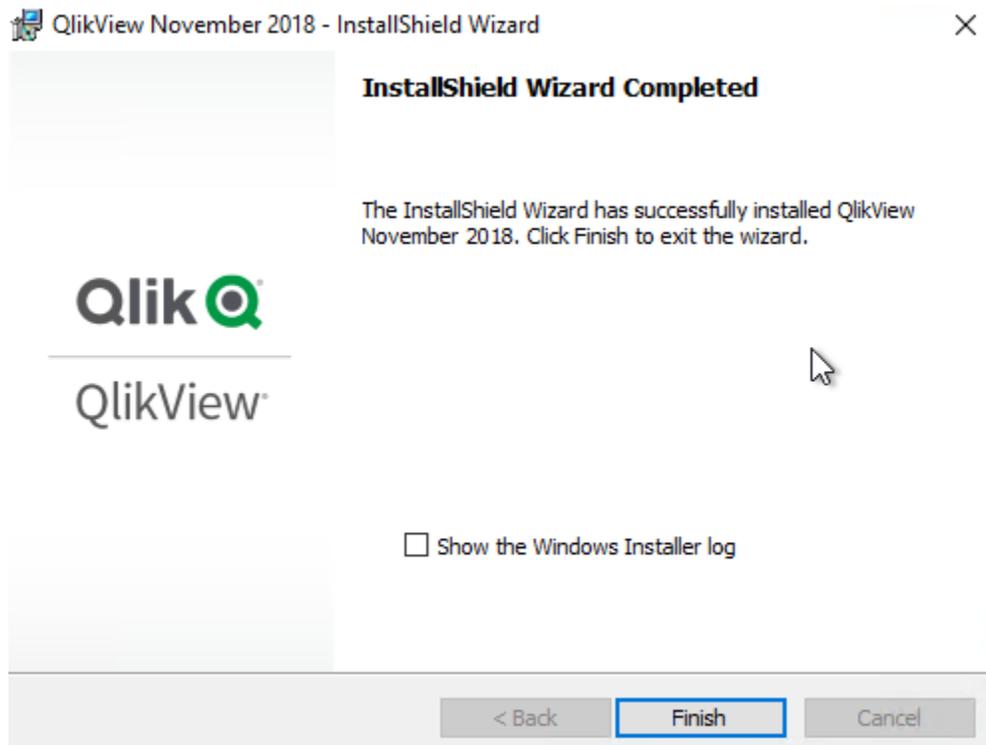


Click Install to begin the installation

15. The installation will begin



16. Once the install is complete, you will be presented with the following screen. You may check the box to see the install log if you wish. You will notice that it recommends that you restart the machine, please do so. This is important to make sure that the QlikView Administrators Security Group is created and that things are properly configured.



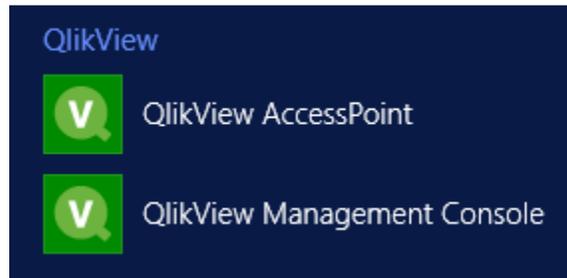
Click Finish

17. Once the server has been rebooted, it is time to move on to the configuration to get things up and running.

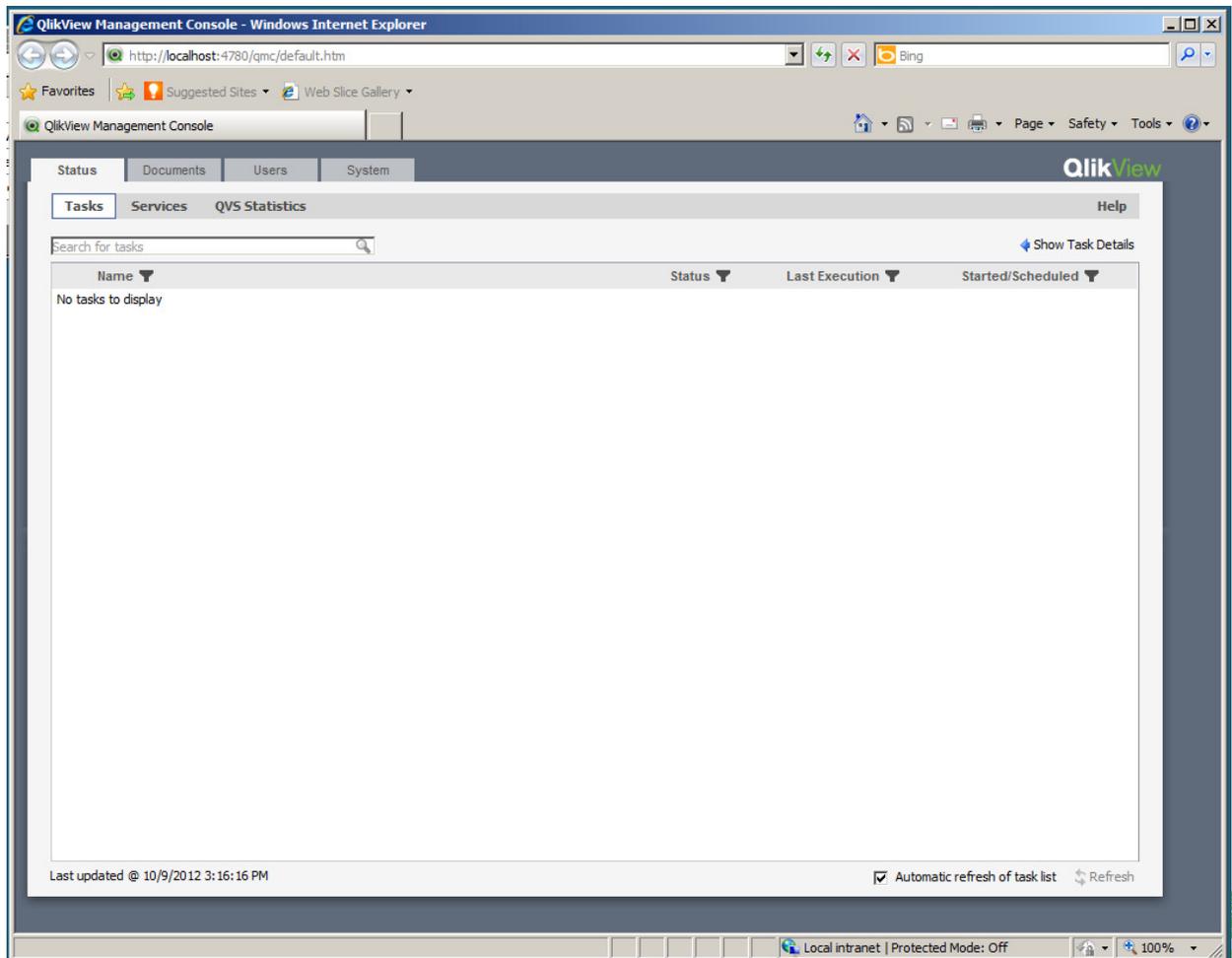


2.2 Configuration

1. Now that the server has been restarted, we need to open the QlikView Management Console (QMC).



2. When the Management Console opens you are presented with the Tasks window.



3. If you click on the Services Tab, you will see the status of the Qlikview Services. Notice that the QlikViewServer (qvs@<servername> shows as unlicensed. This is to be expected at this point.

Status Documents Users System				
Tasks Services QVS Statistics				
Service Name	Running On	Status	Show Alert	Messages
⚠ QVS@jcmvm-cluster1	jcmvm-cluster1	Unlicensed	<input checked="" type="checkbox"/>	jcmvm-cluster1: Unlicensed
🟢 DSC@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>	
🟢 QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>	
🟢 QVWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>	

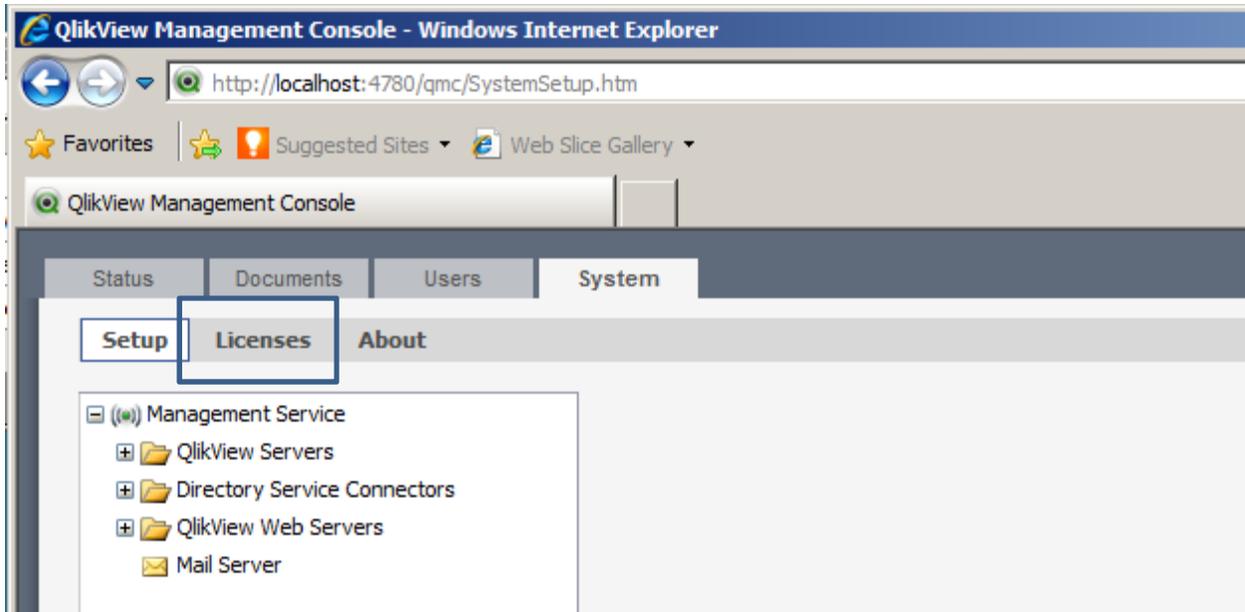
4. Click the System tab; this will bring us to the section in QMC where we can license the server.

The screenshot shows the QlikView Management Console interface in a Windows Internet Explorer browser window. The address bar displays <http://localhost:4780/qmc/SystemSetup.htm>. The main navigation bar includes tabs for Status, Documents, Users, and System. The System tab is active, and the sub-navigation bar shows Setup, Licenses, and About. The Setup section is expanded, revealing a tree view with the following items:

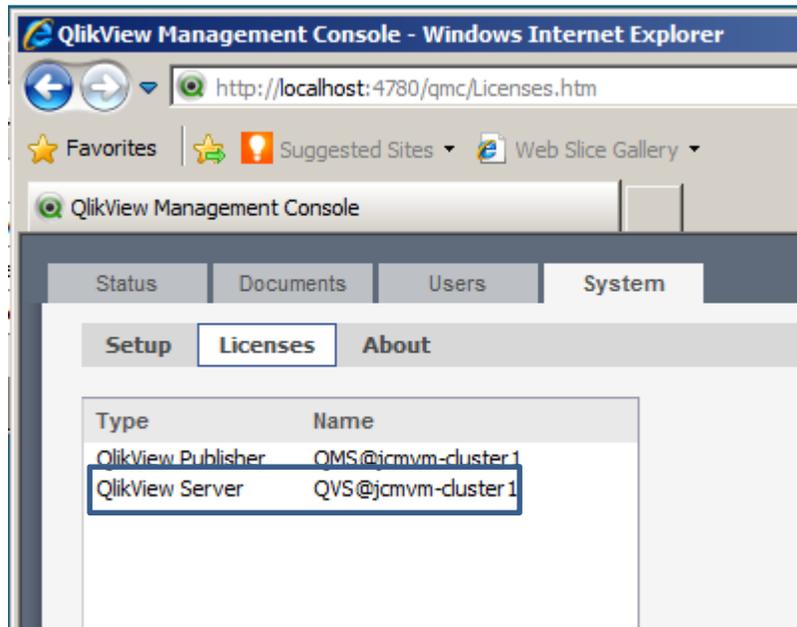
- Management Service
 - QlikView Servers
 - Directory Service Connectors
 - QlikView Web Servers
 - Mail Server

5. Click on the Licenses tab





6. You are now presented with two options, License Publisher or License Server. At this point we just want to license QlikView Server.



7. Click on the QlikView Server to open up its licensing window.



The screenshot displays the 'System' setup page for QlikView, specifically the 'Licenses' section. The interface is divided into several panels:

- Top Navigation:** Status, Documents, Users, System.
- Sub-panels:** Setup, Licenses (selected), About.
- License List:** A table with columns 'Type' and 'Name'.

Type	Name
QlikView Publisher	QMS@jcmvm-cluster1
QlikView Server	QVS@jcmvm-cluster1
- License Configuration:** A panel for the selected 'QlikView Server License' with sub-tabs: General (selected), Assigned CALs, History, Limitations.
 - Identification:** Identify user by User name Machine name
 - Named User CALs:** 0 assigned (0 in license).
 - Allow license lease
 - Allow dynamic CAL assignment
 - Document CALs:** 0 assigned (0 in license). Changes are managed under User Documents.
 - Session CALs:** 0 available (0 in license).
 - Usage CALs:** 0 available (0 in license).

8. To license server, click on the QlikView Server License tab, this will open the dialog to input your License key and control number.



The screenshot displays the QlikView System Setup interface, specifically the Licenses tab. The interface is divided into several sections:

- Navigation:** Status, Documents, Users, System (top bar); Setup, Licenses, About (sub-tabs); Help (top right).
- License List:** A table with columns 'Type' and 'Name'.

Type	Name
QlikView Publisher	QMS@jcmvm-cluster1
QlikView Server	QVS@jcmvm-cluster1
- QlikView Server License / Client Access Licenses (CALs):**
 - Serial and Control:** Fields for 'Serial number:' and 'Control:'.
 - Paste the contents of the LEF file here (optional):** A large text area for pasting license file contents.
 - Owner Information:** Fields for 'Name:' and 'Organization:'.
- Buttons:** 'Clear License', 'Update License From Server', and 'Apply License' at the bottom right.

9. Now we need to enter the required information to license QlikView Server

- a. Enter your QlikView Server Serial Number
- b. Enter the Control number
- c. Enter a Name
- d. Enter an Organization

Your screen should now look like the next figure; the serial number has been blanked out here for security reasons:



Type	Name
QlikView Publisher	QMS@jcmvm-cluster1
QlikView Server	QVS@jcmvm-cluster1

QlikView Server License Client Access Licenses (CALs)

Serial and Control

Serial number:

Control:

Paste the contents of the LEF file here (optional):

Owner Information

Name:

Organization:

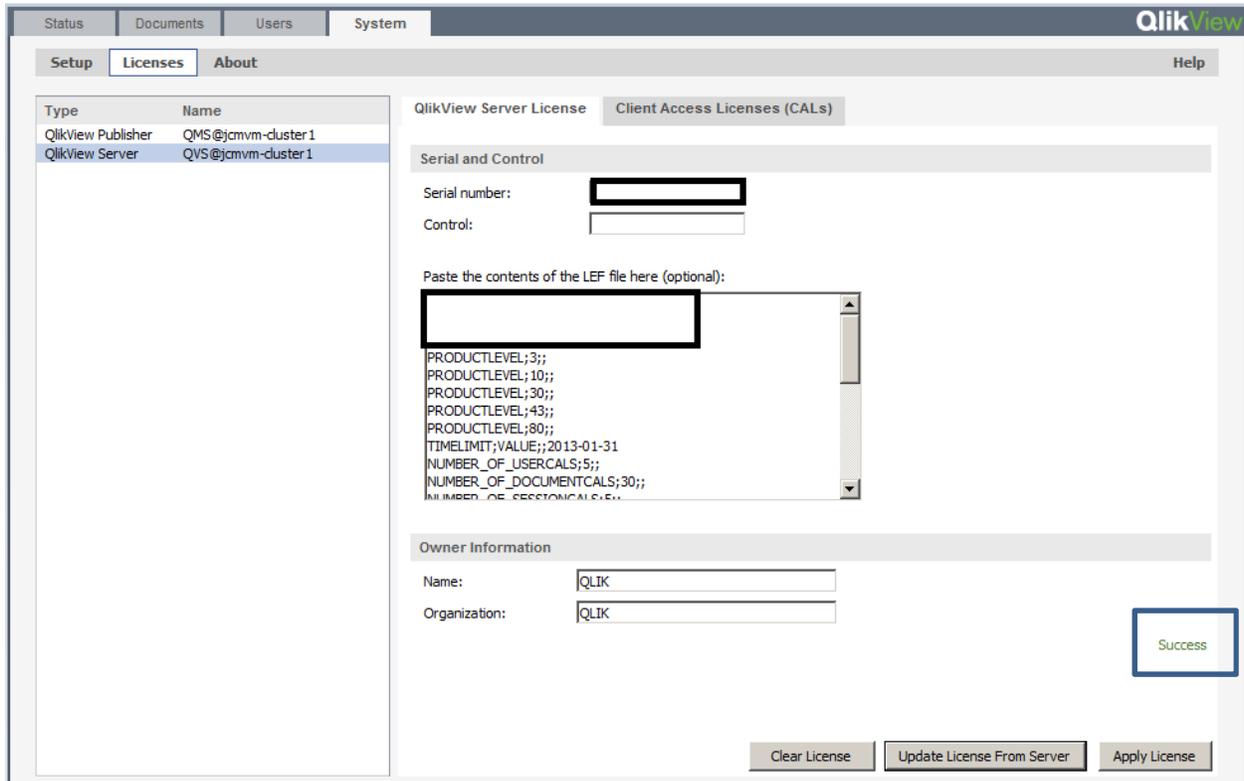
10. Now we want to apply the license so we must click the Apply License button in the lower right corner of the window. You will be presented with a message confirming that QlikView Server needs to be restarted to continue. Click OK to restart.

Apply License

This action requires a restart of QlikView Server



11. If all goes as expected, you should be presented with a screen similar to the next figure. Note that the LEF has now populated and you see a **Success** message on the right side of the screen. Note the license Keys have been blanked for security reasons. The Control number is not there by design, it disappears after the license is applied. The LEF for your server will be different.



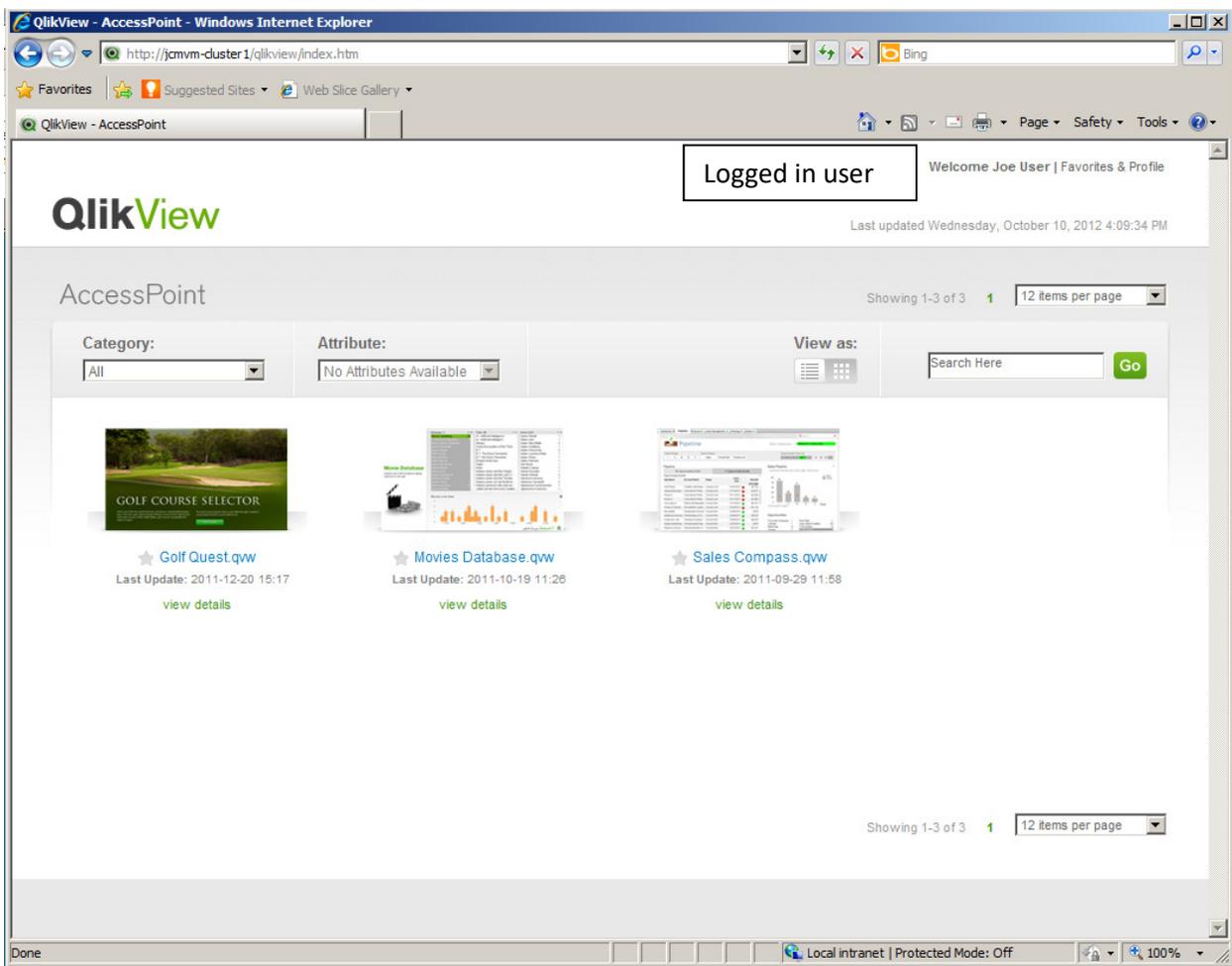
Note - If for any reason your server does not have internet access, you may still license the server. In the LEF field you need to manually paste the LEF prior to clicking apply. Your LEF should be supplied with your license key and control numbers. If you do not have it, you may contact your account manager or Order team, and they should be able to provide it.

12. Now we can check that all the services are up and running. Click on the Status tab, then on the Services tab. Your window should look like the next figure.

Service Name	Running On	Status	Show Alert	Messages
▶ DSC@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>	
▶ QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>	
▶ QVS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>	
▶ QVWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>	

2.2.1 Testing that the AccessPoint works

1. At this point, we have all green signals on our services in the QMC and we may now test to see if the Qlikview AccessPoint will load and present documents.
2. As we are running things in their default settings, there is no need to change any of the settings in QMC.
3. Open an Internet Explorer instance and enter the following URL:
<http://localhost/qlikview>
4. Once the page loads you should see something similar to the figure below



If you look at the URL you will see that it is not using localhost, in this case it is using the server name. When you are running on the QlikView Server itself, either will work. If you are on a machine other than the server, then you must use the server name.



5. Now test opening a document. In this case we may only open with Ajax as we do not have the Internet Explorer Plugin installed. Once you click on a document it should open and present you with the opening page, similar to the next figure.

The screenshot shows a Windows Internet Explorer browser window titled "Movies Database.qvw". The address bar contains the URL: `http://jcmvm-cluster1/QvAJAZfc/opencv.htm?document=Movies%20Database.qvw&host=Local`. The browser's navigation bar includes "Clear", "Select Bookmark", "Select Report", and "More". The application's navigation menu includes "Intro", "How QlikView works", "Traditional OLAP", "QlikView Model", "Dashboard", and "Analysis". A "Language" dropdown menu is set to "English".

The main content area features the heading "Movie Database" with the subtext "Explore Over 4,000 movies." Below this, there are three questions: "Do you know how many movies Tom Hanks & Steven Spielberg have worked together on?", "What year was Gone With The Wind released?", and "If you want to know more about movies, or are just looking for a movie to watch tonight, explore the QlikView Movie Database. Filter over 4,000 movies by a variety of factors." A green "Get Started" button is located below the text.

A central image shows a tablet displaying a QlikView dashboard. The dashboard includes a list of movies and a bar chart titled "Movies over time". A pile of popcorn is shown next to the tablet. The browser's status bar at the bottom indicates "Local intranet | Protected Mode: Off" and "100%" zoom.

6. At this point, everything is working as expected.



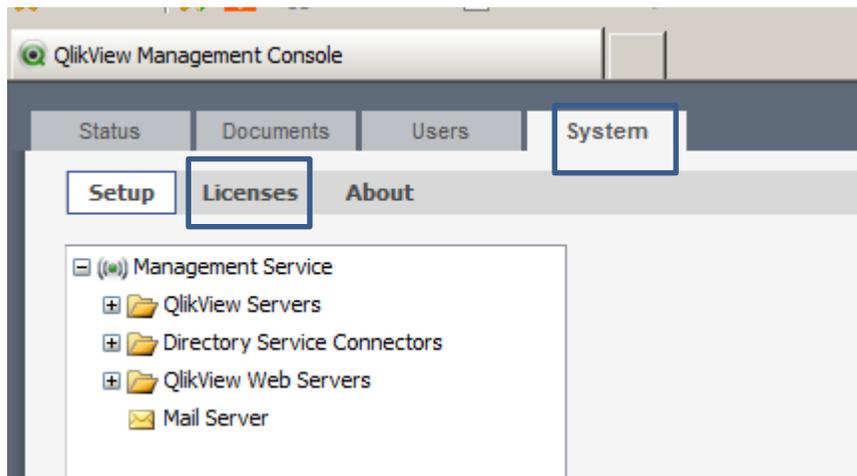
3 Installing and Configuring QlikView Publisher

3.1 Installation

1. Qlikview Publisher does not require a separate installation. When you installed server and the other components it was also installed.

3.2 Configuration

1. Now that QlikView Server is licensed and running, QlikView Publisher may be licensed for use.
2. Click on the System tab, then click on the Licenses Menu.



3. Now you are presented with the licensing window.

The screenshot shows the QlikView Management Console interface with the 'Licenses' sub-tab selected. Below the sub-tabs, there is a table with the following data:

Type	Name
QlikView Publisher	QMS@jcmvm-cluster1
QlikView Server	QVS@jcmvm-cluster1



4. Click on the QlikView Publisher link, and you are presented with the Publisher licensing dialog.

Type	Name
QlikView Publisher	QMS@jcmvm-cluster1
QlikView Server	QVS@jcmvm-cluster1

QlikView Publisher License

Serial and Control

Serial number:

Control:

Paste the contents of LEF file here (optional):

Owner Information

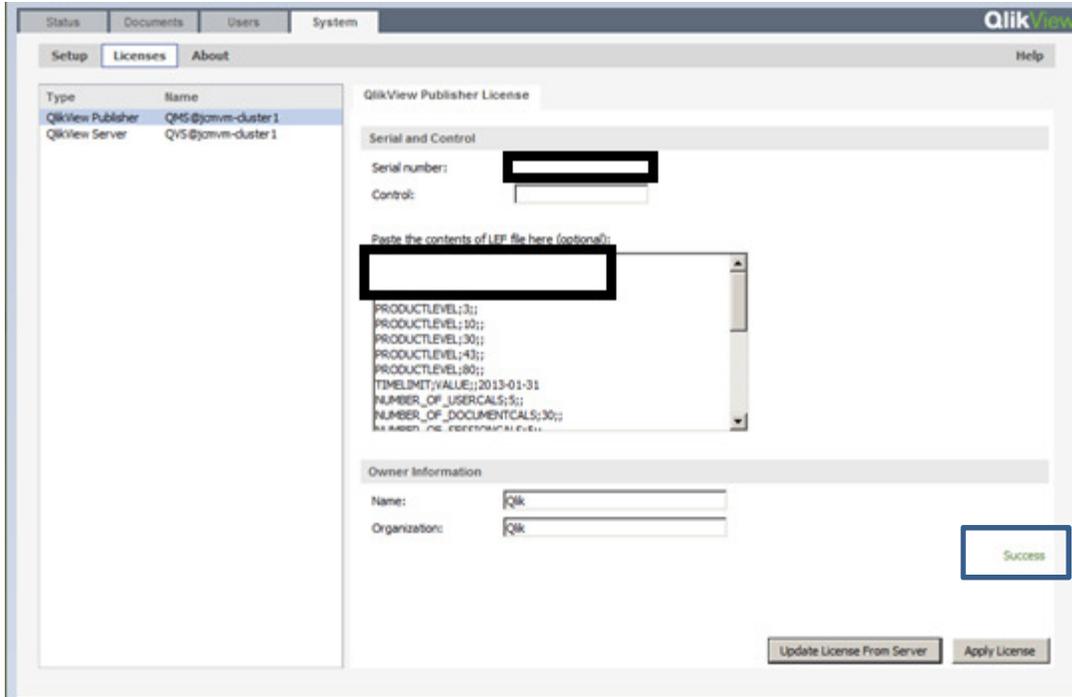
Name:

Organization:

Update License From Server Apply License

5. Publisher is licensed the same way as Server. In this case you must have a Publisher license key and control number. As with Server, you enter the Serial number and Control numbers in their respective fields. Enter a Name and Organization and click Apply. If everything is correct, you will be presented with a screen similar to the next figure.





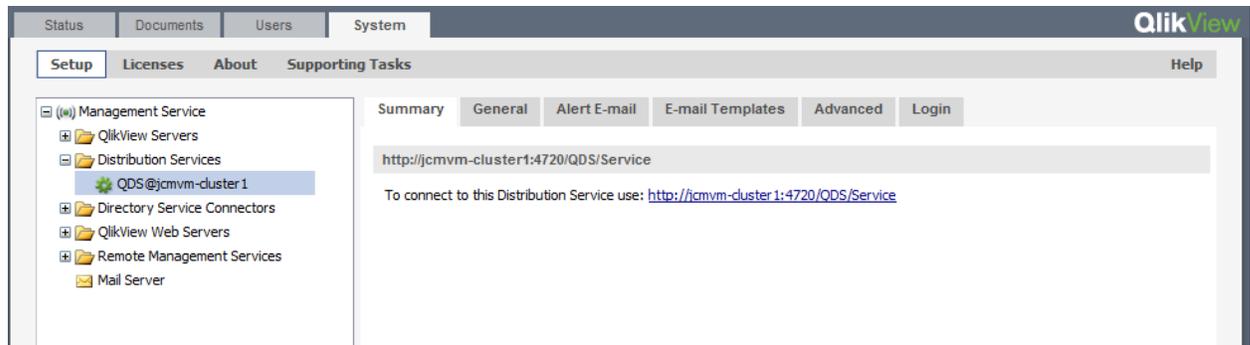
Note - If for some reason your server does not have internet access, you may still license the server. In the LEF field you need to manually paste the LEF prior to clicking apply. Your LEF should be supplied with your license key and control numbers. If you do not have it you can contact your account manager or Order team, and they should be able to provide it.

6. With Publisher now licensed, there is a new addition to the System – Setup tab.

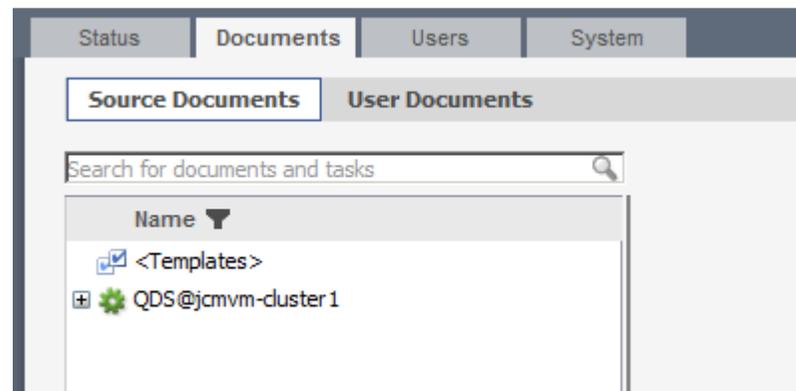


7. You may click the + to expand the Distribution Service and explore the settings. However, in this setup, we are using the default settings, so nothing will be changed.



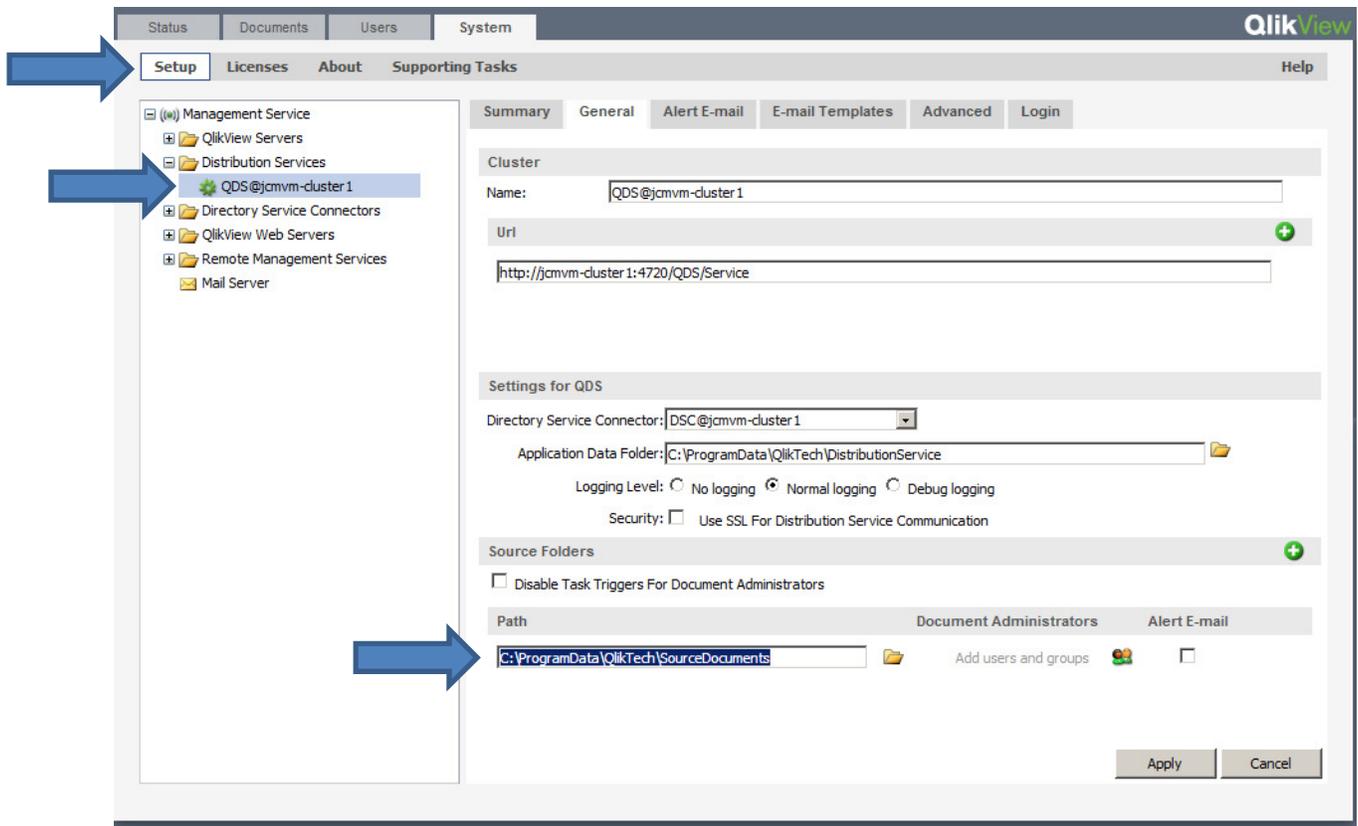


8. Under the Documents tab, you will now see that there is a tab for Source Documents and User Documents. If this server was not using a Publisher license, you would only see User Documents and would be restricted to only configuring document reloads. With Publisher, you can do reloads and distributions, in addition to other task options.



9. Source Documents may be thought of as where you do your reloads, distributions and manipulations. User Documents are where the QVW's go after Publisher is done with them and are ready to be presented to your users.
- Source Documents are presented by the QlikView Distribution service, so if it is not running you will not see the Source Documents.
 - User Documents are presented by the QlikView Server, so if it is not running you will not see the User Documents or Documents on the AccessPoint.
10. At this time there are no QVW's in the Source Document folder, so if you expand the + you will not see any. By default, the Source folder is found here:
- C:\ProgramData\QlikTech\SourceDocuments. This may be verified by checking the Source Folders Path found in the Qlikview Distribution Service settings.





3.2.1 Testing Qlikview Publisher With A Simple Reload and Distribute Task

1. To test Publisher, we need a test QVW placed in the Source Folder Path. For this test, we need something that is easy to work with and does not require any outside data sources. Luckily, Qlikview Developer/Desktop has the functionality built-in that we require. On a machine running Developer, create a new QVW. Edit the script and while holding down the CTRL key click the Q key twice (CTRL-QQ), this will generate a sample script that you can use to play with as it gives you dimensions and expressions to configure. You can also just paste the following:

Characters:

```
Load Chr(RecNo()+Ord('A')-1) as Alpha, RecNo() as Num autogenerate 26;
```

ASCII:

```
Load
  if(RecNo()>=65 and RecNo()<=90,RecNo()-64) as Num,
  Chr(RecNo()) as AsciiAlpha,
  RecNo() as AsciiNum
autogenerate 255
Where (RecNo())>=32 and RecNo()<=126) or RecNo()>=160 ;
```

Transactions:

```
Load
  TransLineID,
  TransID,
  mod(TransID,26)+1 as Num,
  Pick(Ceil(3*Rand1),'A','B','C') as Dim1,
```



```

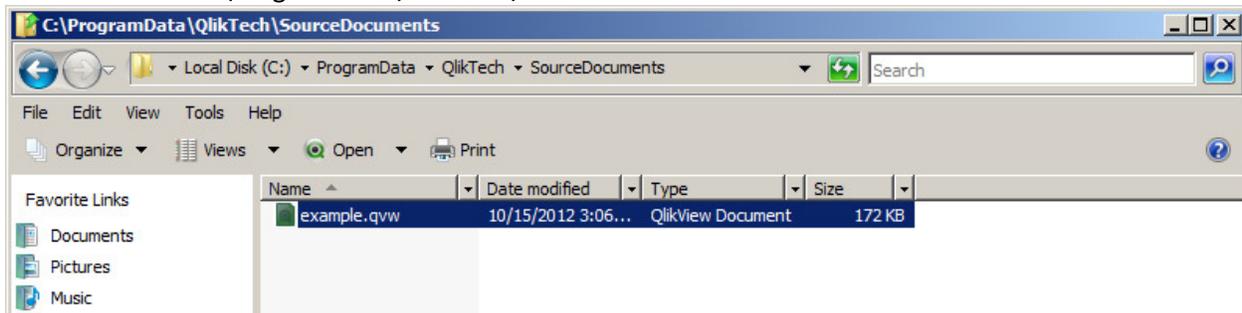
Pick(Ceil(6*Rand1),'a','b','c','d','e','f') as Dim2,
Pick(Ceil(3*Rand()),'X','Y','Z') as Dim3,
Round(1000*Rand()*Rand()*Rand1) as Expression1,
Round( 10*Rand()*Rand()*Rand1) as Expression2,
Round(Rand()*Rand1,0.00001) as Expression3;
Load
  Rand() as Rand1,
  IterNo() as TransLineID,
  RecNo() as TransID
Autogenerate 1000
  While Rand()<=0.5 or IterNo()=1;

  Comment Field Dim1 With "This is a field comment";

```

Save and reload at this point, feel free to add objects to the app if you wish.

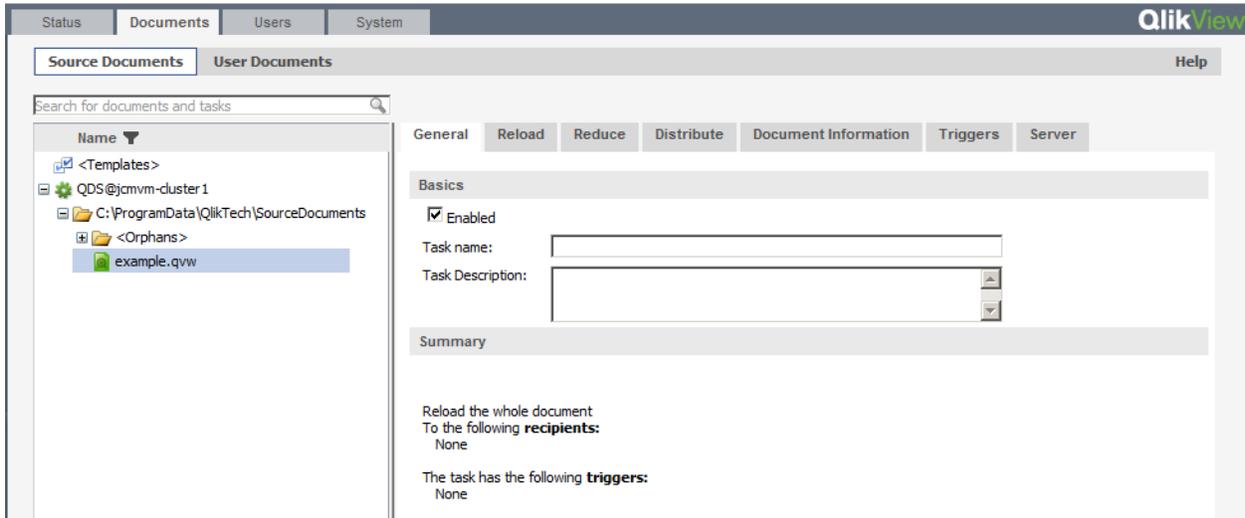
2. Copy the finished app to the Source Documents folder.
 - a. C:\ProgramData\QlikTech\SourceDocuments



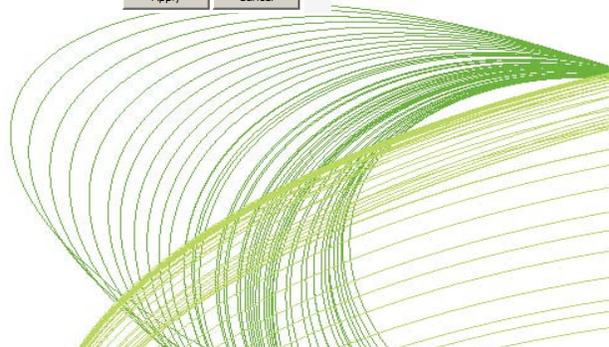
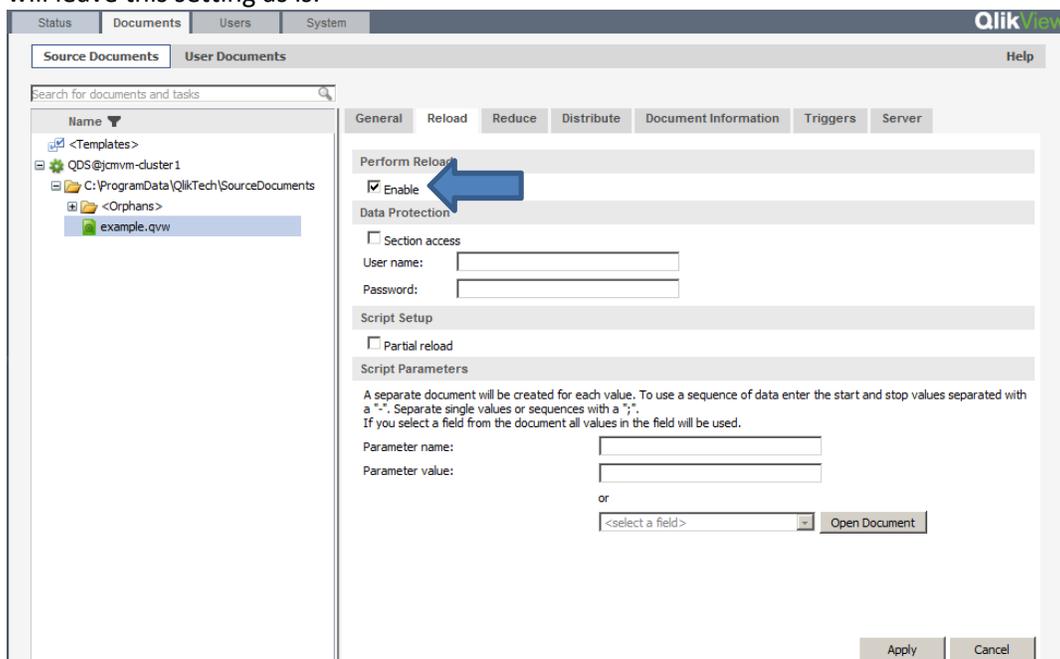
3. Now that it is copied to the Source folder, we should be able to see it in the Qlikview Management Console. Navigate to Documents, Source Documents. You will need to expand the trees to see the document.



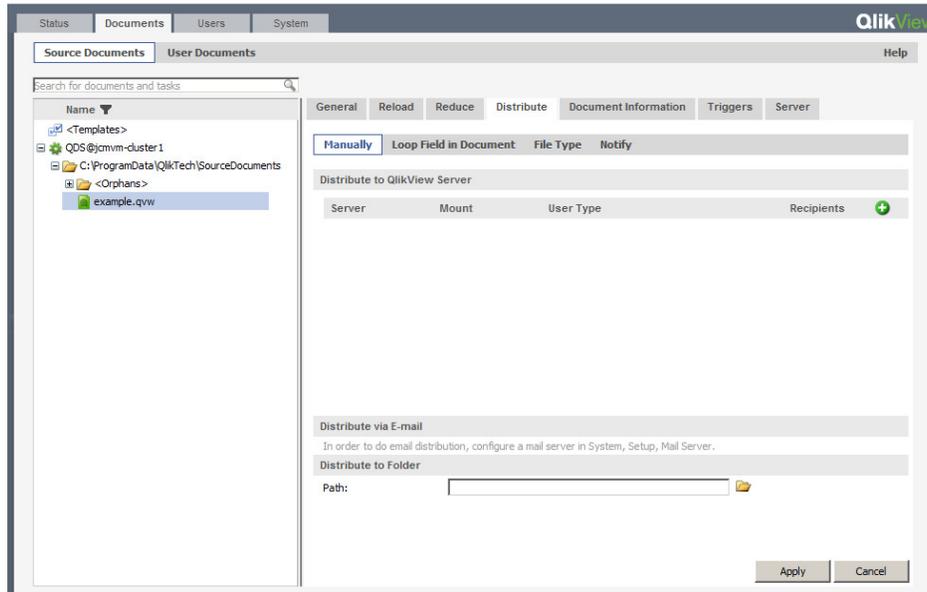
- At this point, we can now add a very simple reload and distribution task to the app to test our Publisher setup. Add a new task by clicking the green plus  in the right hand window. This will open the dialog to create a new task.



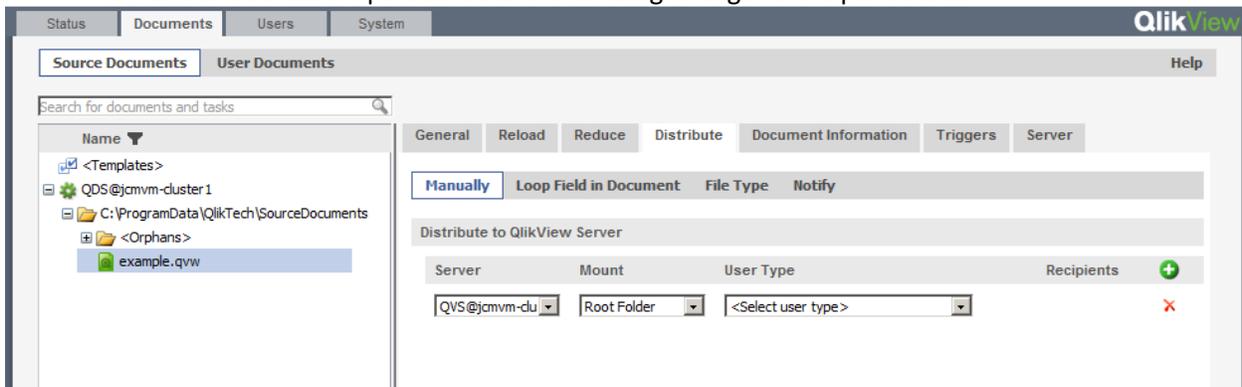
- The General tab allows you to name the task and give it a description, if you do not specify a task name it will default to something that matches the purpose of the task. For example, we are going to create a task to reload and distribute the Example.qvw. The name of the task will default to *Reload and Distribute of Example.qvw*.
- When a task is created, it defaults to doing a reload and that is configured on the Reload tab, we will leave this setting as is.



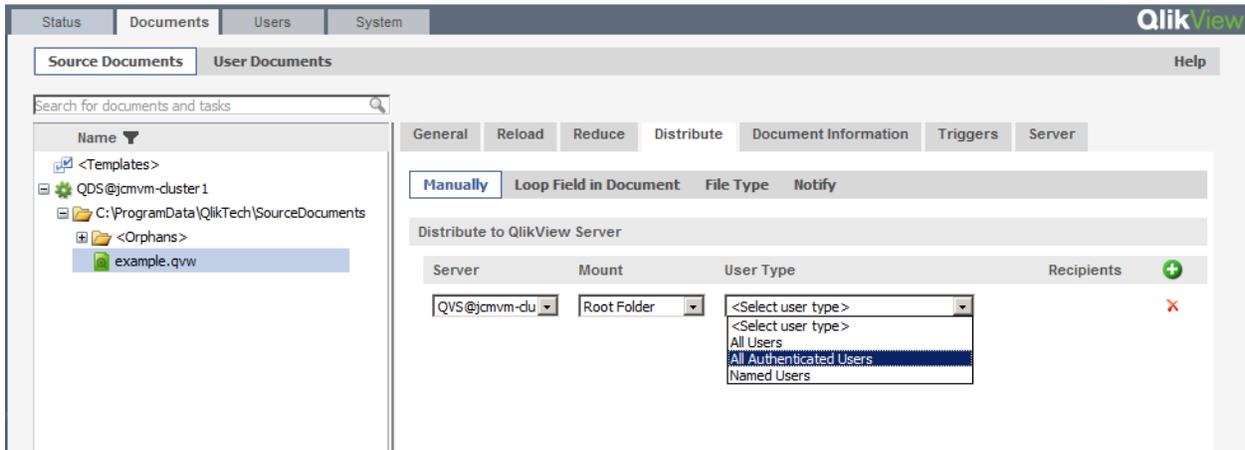
7. Now we need to configure the Distribution portion of our task (who are we going to let see this app). Click on the Distribution tab, and you will be presented with the following:



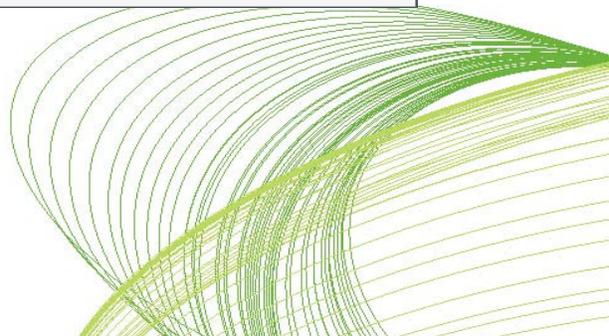
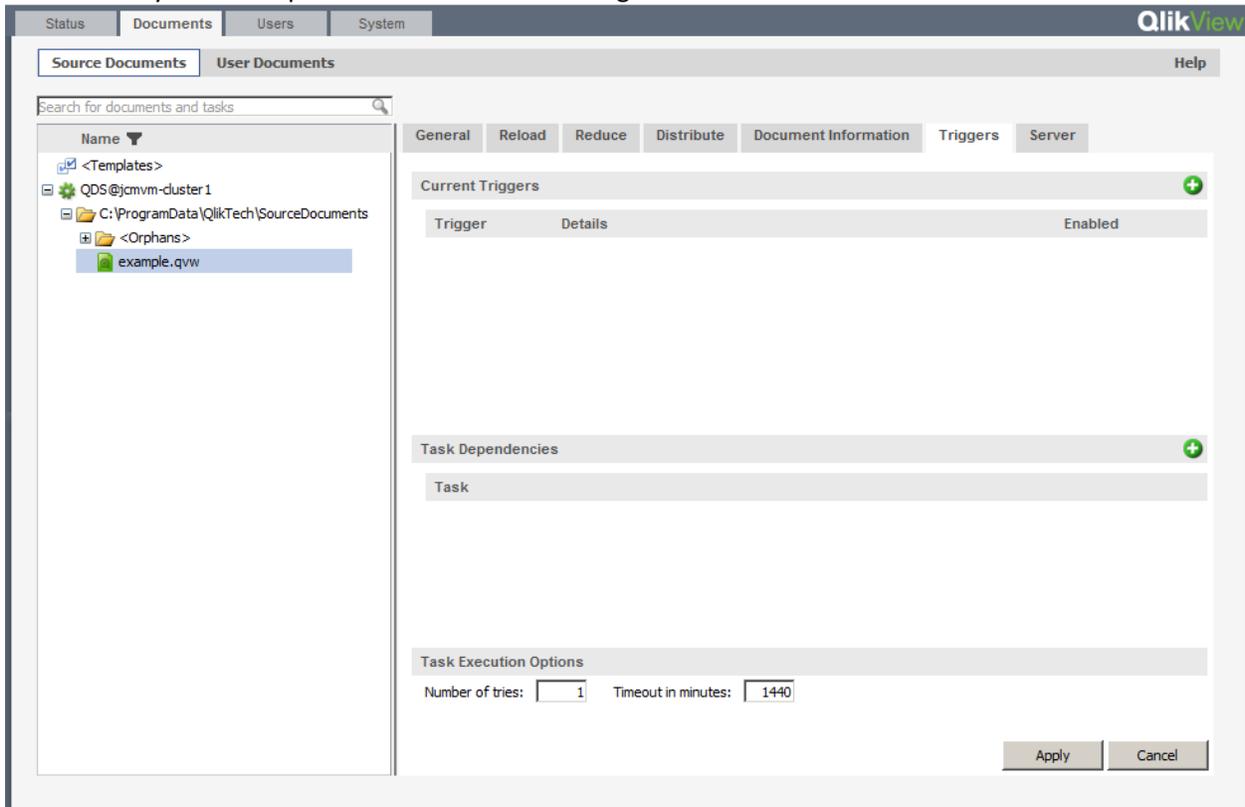
8. In this example, we are doing a simple distribution so we will configure a Manual distribution. Under the section "Distribute to Qlikview Server" click the green plus  to open the dialog to add the users. You will be presented with following change to the prior view.



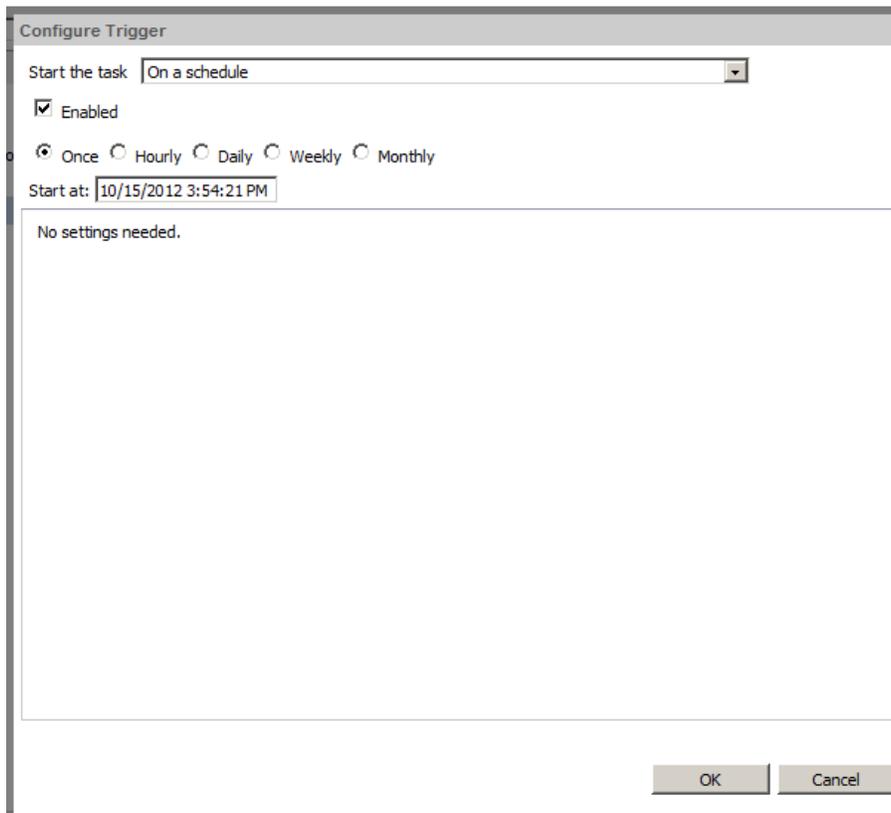
9. For simplicity, we will set the User Type drop down to “All Authenticated”, this will basically set the authorization on the app such that all authenticated users who log into the AccessPoint will be able to see the document. There is no reason to change the settings under Server and Mount.



10. Now a trigger needs to be set, so the app can be reloaded on a schedule; the completion of another task, an external task or after multiple tasks have completed. In this example, we are going to do a simple On a Schedule trigger with the setting of Once. Click on the Triggers tab and you will be presented with the following view:

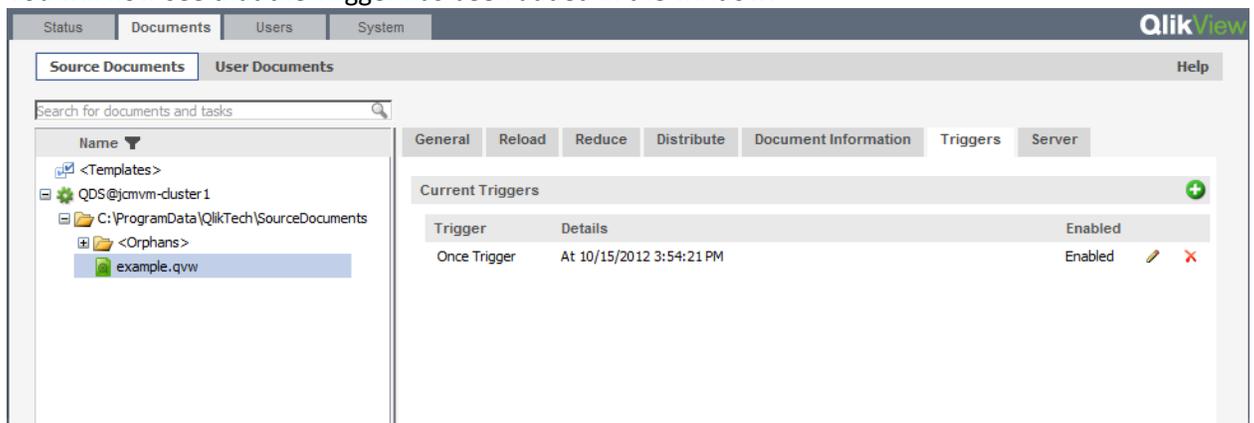


- Under the Current Triggers section, click the green plus  to open the Configure Trigger Dialog.



The 'Configure Trigger' dialog box is shown. It has a title bar 'Configure Trigger'. Below the title bar, there is a dropdown menu 'Start the task' with 'On a schedule' selected. Below that is a checked checkbox 'Enabled'. Underneath are radio buttons for 'Once', 'Hourly', 'Daily', 'Weekly', and 'Monthly', with 'Once' selected. A text field 'Start at:' contains '10/15/2012 3:54:21 PM'. A large empty text area contains the text 'No settings needed.'. At the bottom right are 'OK' and 'Cancel' buttons.

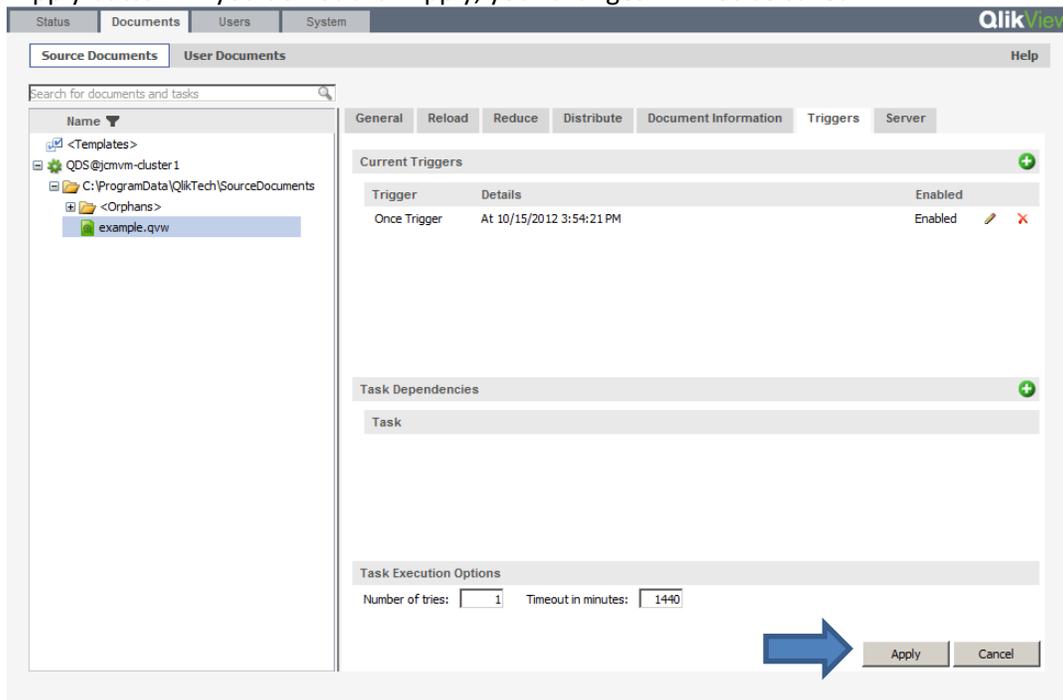
- Since these are the settings we want to use, nothing needs to be changed. Click Ok to close the window.
- You will now see that the Trigger has been added in the window.



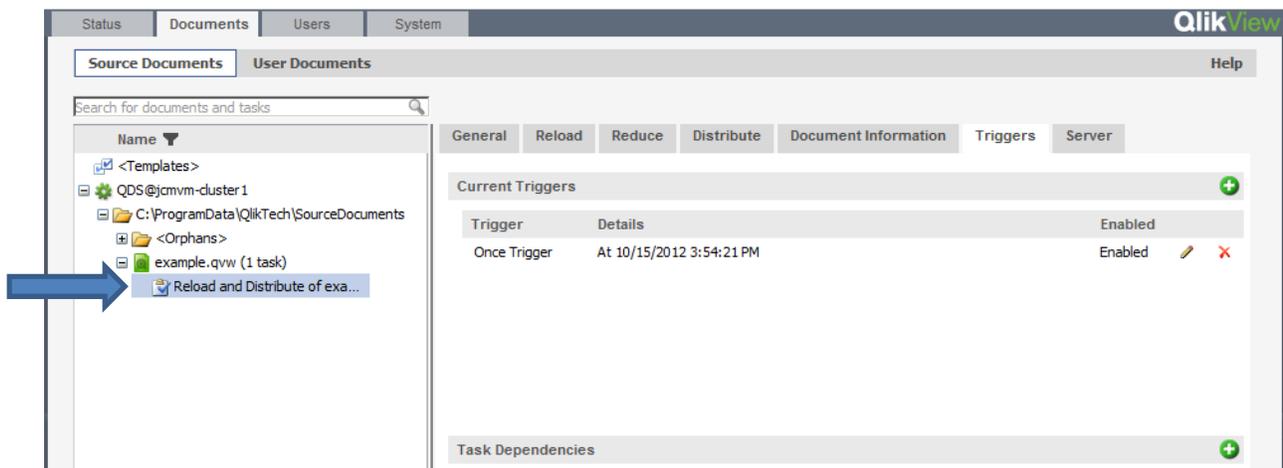
The QlikView interface is shown with the 'Triggers' tab selected. The top navigation bar includes 'Status', 'Documents', 'Users', 'System', and 'QlikView'. Below the navigation bar, there are tabs for 'Source Documents' and 'User Documents'. A search bar is present. The left pane shows a tree view with 'example.qvw' selected. The right pane shows the 'Current Triggers' section with a green plus icon. Below it is a table:

Trigger	Details	Enabled
Once Trigger	At 10/15/2012 3:54:21 PM	Enabled  

14. At this point, we have configured everything for this task to Reload and Distribute. However, there is one last step that some folks forget. At the bottom right of the window, you will see the Apply button. If you do not click Apply, your changes will not be saved.

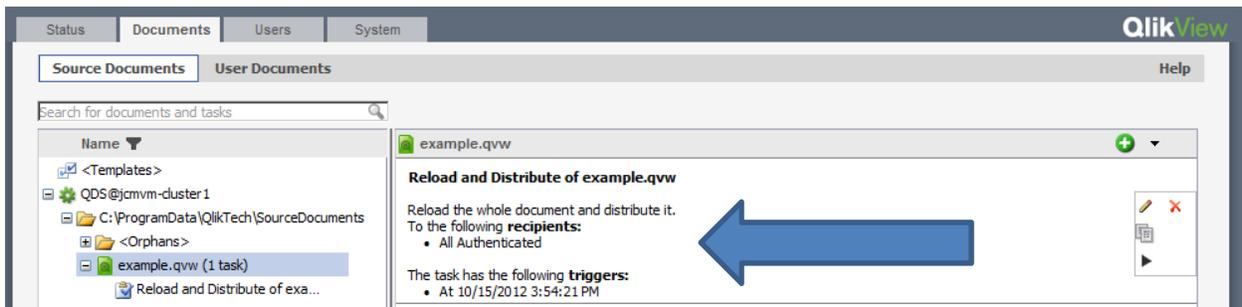


15. Once you click Apply, you will see the new task has been added to the app in the left hand pane.



16. Clicking on the actual app will show you a summary of the task that was created.





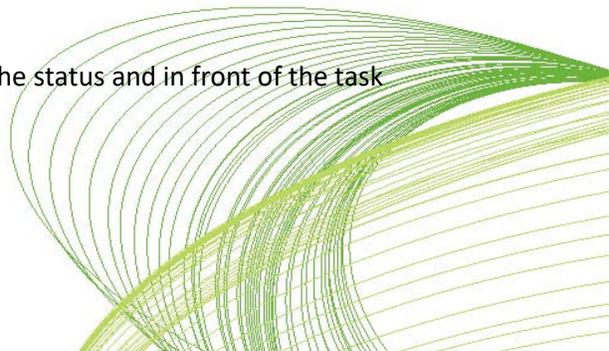
17. By clicking the Status tab, you will be presented with the Task's Status window, by expanding the tree, you will see your newly created task.



18. To run the task, click the Play button , the task will go into a running state and then, if successful, back to a waiting state. Since our reload script is rather short, the task may complete before the refresh of the screen is done (~ every 5 seconds). You can tell it has run by checking the Last Execution timestamp, as it will change from "Never" to the timestamp of the last run.



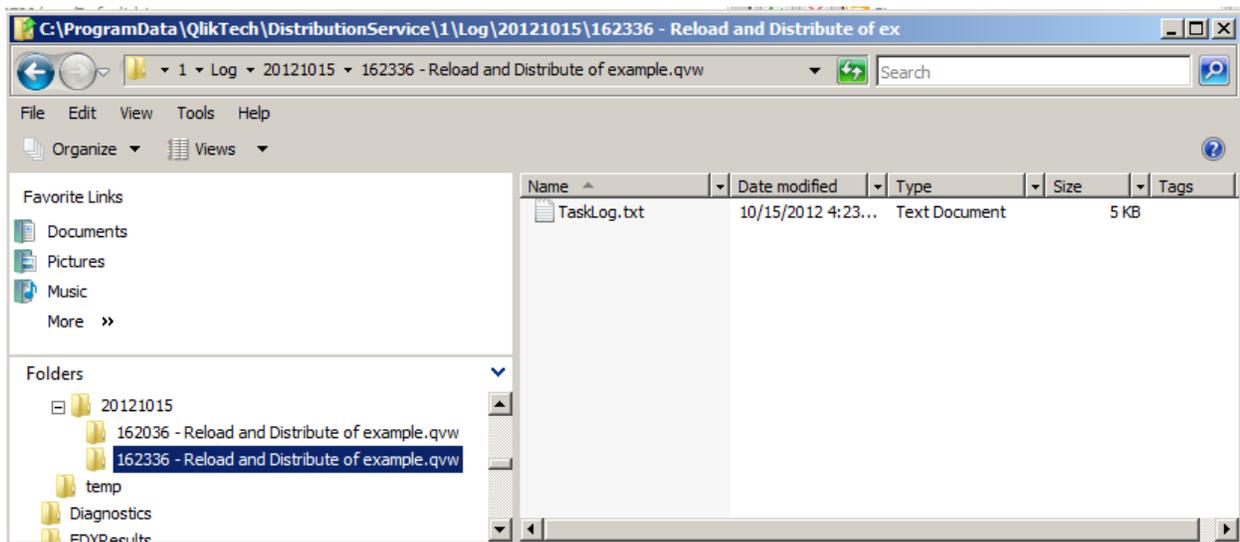
19. If for some reason the task failed, you would see "Failed" as the status and in front of the task name, you would see a red circle with an x in it.





20. To see why the task failed, you can check the log file for that particular execution of the task. The log files are found, by default, in:

- a. C:\ProgramData\QlikTech\DistributionService\1\Log
 - Under this folder, you will see a folder for the particular day that the task ran. You need to navigate to the folder for the date that the task failed. Under this folder, you will see folders for each individual task that was run that day. Navigate to the correct folder for the failed task, they are ordered by date and time.



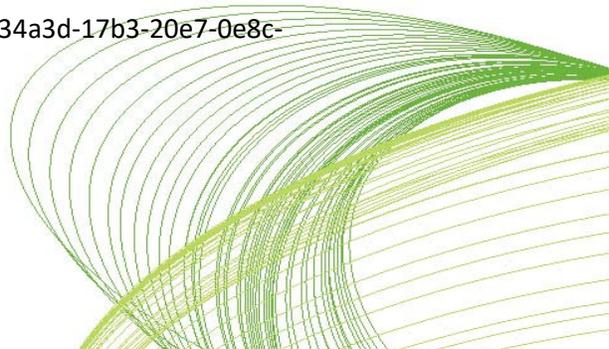
- b. If you open the task log, you can see where the task failed and possibly the reason. If the task failed on the reload, then it is helpful to turn on the logging within the app. For example, in the log below, we can see the task failed during the reload.

```
10/15/2012 16:23:36.4279973 Information Starting task 'Reload and Distribute of
example.qvw'. Id:78b54d72-06e2-4ed4-ae73-609659ff5955. Triggered by
'ManualStartTrigger'. Id:00000001-0002-0003-0405-0607080a0b0c
```

```
10/15/2012 16:23:36.4279973 Information Entering Task Execution.
```

```
10/15/2012 16:23:36.4279973 Information ClusterID=1
```

```
10/15/2012 16:23:36.4279973 Information QDSID=6fb34a3d-17b3-20e7-0e8c-
7bd14295a87e
```



10/15/2012 16:23:36.4279973 Information TaskID=78b54d72-06e2-4ed4-ae73-609659ff5955

10/15/2012 16:23:36.4279973 Information MaxRunTime=1.00:00:00

10/15/2012 16:23:36.4279973 Information MachineName=JCMVM-CLUSTER1

10/15/2012 16:23:36.4279973 Information Max attempts:1

10/15/2012 16:23:36.4279973 Information Current Attempt=0

10/15/2012 16:23:36.4279973 Information Task Dependencies are OK

10/15/2012 16:23:36.4436224 Information Document is marked to be Reloaded with fresh data. Initializing Reload for Distribution.

10/15/2012 16:23:36.4436224 Information Opening "C:\ProgramData\QlikTech\SourceDocuments\example.qvw"

10/15/2012 16:23:36.4436224 Information Allocating new QlikView Engine. Current usage count=0 of 4 (of type non-reader).

10/15/2012 16:23:36.4436224 Information Max retries:5

10/15/2012 16:23:36.4436224 Information Attempt:01

10/15/2012 16:23:36.7092491 Information Allocated QlikView Engine successfully. Current usage count=1 of 4 (of type non-reader). Ticket number=4.

10/15/2012 16:23:36.7092491 Information Loading document "C:\ProgramData\QlikTech\SourceDocuments\example.qvw" (0.17 Mb)

10/15/2012 16:23:36.7404993 Information Physical FileSize=0.17 Mb. Memory Allocation Delta for this file=3.02 Mb. Available Physical Memory Before Open=3054.59 Mb. Available Physical Memory After Open=3049.79 Mb. Total Physical Memory=4094.48 Mb.

10/15/2012 16:23:36.7404993 Information Attempted to load the document without data.

10/15/2012 16:23:36.7404993 Information The document was loaded successfully.

10/15/2012 16:23:36.7404993 Information Document was opened successfully

10/15/2012 16:23:36.7404993 Information Starting reload

10/15/2012 16:23:36.7561244 Information QlikView->Settings->Document Peferences->Generate Logfile in document is not set.

10/15/2012 16:23:36.7561244 Information The Source Document is being reloaded. DocumentPath=C:\ProgramData\QlikTech\SourceDocuments\example.qvw

10/15/2012 16:23:36.8029997 Information The Source Document reload complete. DocumentPath=C:\ProgramData\QlikTech\SourceDocuments\example.qvw

10/15/2012 16:23:36.8029997 Information Memory Allocation Delta for this file=0.00 Mb. Available Physical Memory Before Reload=3049.78 Mb. Available Physical Memory After Reload=3049.38 Mb. Total Physical Memory=3049.38 Mb.

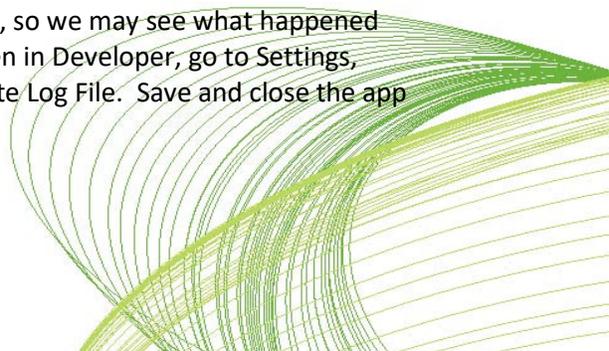
10/15/2012 16:23:36.8967503 Error The Source Document was NOT reloaded successfully. DocumentPath=C:\ProgramData\QlikTech\SourceDocuments\example.qvw.

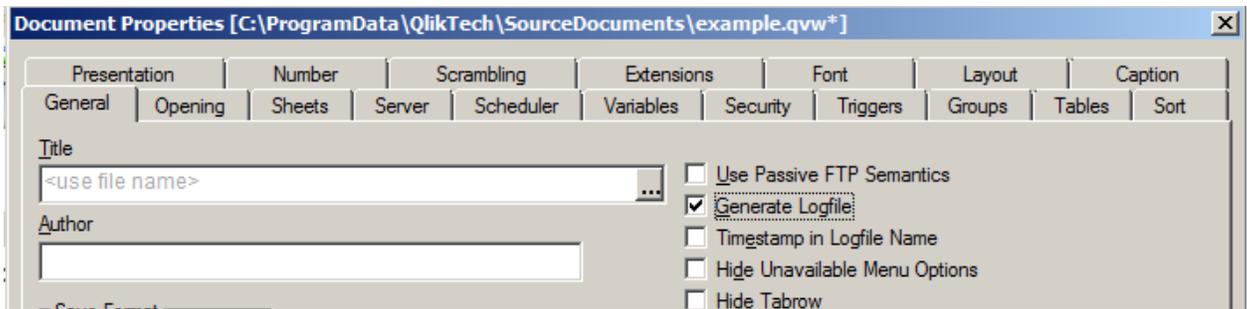
```

10/15/2012 16:23:36.8967503 Information Closing the document.
10/15/2012 16:23:37.5217543 Information Closed the QlikView Engine successfully.
ProcessID=2264
10/15/2012 16:23:37.5373794 Error The task "Reload and Distribute of
example.qvw" failed. Exception:
QDSMain.Exceptions.DistributionFailedException: Distribute failed with errors to follow. --->
QDSMain.Exceptions.ReloadFailedException: Reload failed --->
QDSMain.Exceptions.LogBucketErrorException: The Source Document was NOT reloaded
successfully. DocumentPath=C:\ProgramData\QlikTech\SourceDocuments\example.qvw.
    at QDSMain.ReloadTask.VerifyConditions(TaskResult taskResult)
    at QDSMain.ReloadTask.Reload(String fileName, TaskResult taskResult, String
sectionAccessUserName, String sectionAccessPassword, eReloadOptions reloadOption,
String variableName, String variableValue, Boolean monitorCpuUsage)
    --- End of inner exception stack trace ---
    at QDSMain.ReloadTask.Reload(String fileName, TaskResult taskResult, String
sectionAccessUserName, String sectionAccessPassword, eReloadOptions reloadOption,
String variableName, String variableValue, Boolean monitorCpuUsage)
    at QDSMain.DistributeTask.Execute(TaskResult currentTaskResult)
    --- End of inner exception stack trace ---
    at QDSMain.DistributeTask.Execute(TaskResult currentTaskResult)
    at QDSMain.Task.AbstractTask.TaskExecution(ILogBucket logBucket, TaskResult
taskResult)
10/15/2012 16:23:37.5373794 Information Task Execute Duration=00:00:01.1093821
10/15/2012 16:23:37.5530045 Information TaskResult.status=Finished
10/15/2012 16:23:37.5530045 Information Notifying all triggers of new
state:FinishedWithErrors
10/15/2012 16:23:37.5530045 Information Notifying all triggers of new
state:FinishedWithErrors - completed
10/15/2012 16:23:37.5530045 Information Saving Task Result

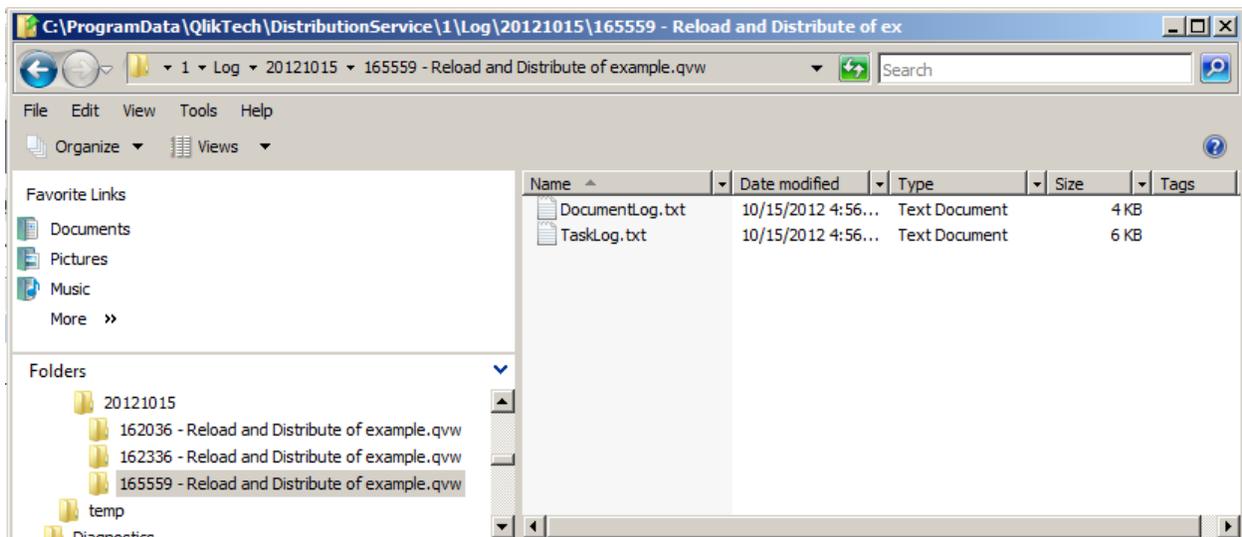
```

- c. Because the reload failed, we need the document log, so we may see what happened during the reload. To turn on logging in the app, open in Developer, go to Settings, Document Properties, General tab, check the Generate Log File. Save and close the app to the source folder.



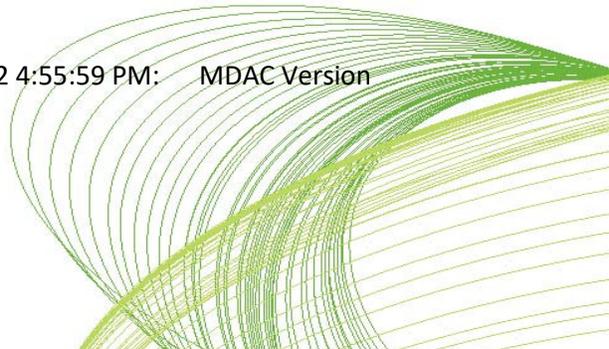


- d. Rerun the task, and this time we can use the log to determine why the reload failed. The new log will be created with the task log. Now that we have run the task again, the logs will be in the folder for the latest run.

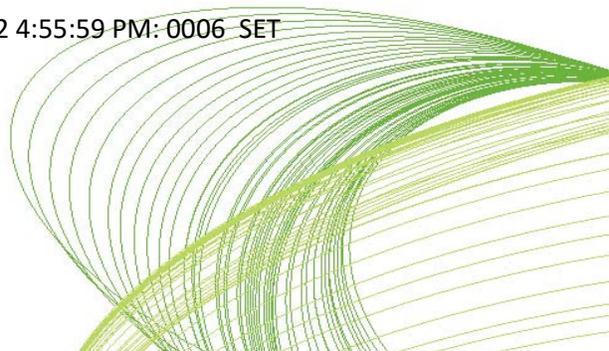


- e. Looking at the document log, you can see that there is a problem with the script. General script errors are vague but in this case we can see that there is an unknown function:

10/15/2012 16:55:59.8329456	Information	10/15/2012 4:55:59 PM:	Execution started.
10/15/2012 16:55:59.8329456	Information	10/15/2012 4:55:59 PM:	QlikView Version:11.00.11414.0
10/15/2012 16:55:59.8329456	Information	10/15/2012 4:55:59 PM:	CPU Target x64
10/15/2012 16:55:59.8329456	Information	10/15/2012 4:55:59 PM:	Operating System Windows Server (R) 2008 Standard Service Pack 2 (64 bit edition)
10/15/2012 16:55:59.8329456	Information	10/15/2012 4:55:59 PM:	Wow64 mode Not using Wow64
10/15/2012 16:55:59.8329456	Information	10/15/2012 4:55:59 PM:	MDAC Version 6.0.6002.18005



10/15/2012 16:55:59.8329456 Version 6.0.6002.18005	Information	10/15/2012 4:55:59 PM:	MDAC Full Install
10/15/2012 16:55:59.8329456 PreferredCompression 2	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 EnableParallelReload 1	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 ParallelizeQvdLoads 1	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 AutoSaveAfterReload 0	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 BackupBeforeReload 0	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 0	Information	10/15/2012 4:55:59 PM:	EnableFlushLog
10/15/2012 16:55:59.8329456 SaveInfoWhenSavingFile 0	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 UserLogfileCharset 0	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 OdbcLoginTimeout -1	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 OdbcConnectionTimeout -1	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 ScriptWantsDbWrite false	Information	10/15/2012 4:55:59 PM:	
10/15/2012 16:55:59.8329456 false	Information	10/15/2012 4:55:59 PM:	ScriptWantsExe
10/15/2012 16:55:59.8329456 Used: 1252	Information	10/15/2012 4:55:59 PM:	LogFile CodePage
10/15/2012 16:55:59.8329456 ThousandSep=','	Information	10/15/2012 4:55:59 PM:	0002 SET
10/15/2012 16:55:59.8329456 DecimalSep='.'	Information	10/15/2012 4:55:59 PM:	0003 SET
10/15/2012 16:55:59.8329456 MoneyThousandSep=','	Information	10/15/2012 4:55:59 PM:	0004 SET
10/15/2012 16:55:59.8329456 MoneyDecimalSep='.'	Information	10/15/2012 4:55:59 PM:	0005 SET
10/15/2012 16:55:59.8329456 MoneyFormat='\$#,###0.00;(\$#,###0.00)'	Information	10/15/2012 4:55:59 PM:	0006 SET



```

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0007 SET
TimeFormat='h:mm:ss TT'

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0008 SET
DateFormat='M/D/YYYY'

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0009 SET
TimestampFormat='M/D/YYYY h:mm:ss[.fff] TT'

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0010 SET
MonthNames='Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec'

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0011 SET
DayNames='Mon;Tue;Wed;Thu;Fri;Sat;Sun'

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0012 blah

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0013 Characters:

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM: 0014 Load
Chr(RecNo()+Ord('A')-1) as Alpha, RecNo() as Num autogenerate 26

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM:      Error: Unknown
statement

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM:      General Script
Error

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM:      Execution Failed

10/15/2012 16:55:59.8329456      Information  10/15/2012 4:55:59 PM:      Execution
finished.

```

- f. This is a very generic example to illustrate a point. Please understand, reloads may fail for any number of reasons, and the only way to troubleshoot is to go through the logs. In this case, Blah was inserted into the script, and QlikView has no idea what to do with it.



4 Setting Up A Simple Server Cluster

4.1 Why Cluster?

Clustering may help with scaling and resilience in your environment as more users require access. This is covered in further detail in the QlikView Server/Publisher training.

4.2 Requirements

1. Your server license key must allow for clustering.
 - In the LEF you must have the following line:
NUMBER_OF_CLUSTER_NODES;X where X is the number of nodes allowed in your cluster.
2. A shared storage location. This is required for the servers in the cluster to joint access to required files and QVW's.
 - Please note QlikView does not support NAS devices in a cluster.

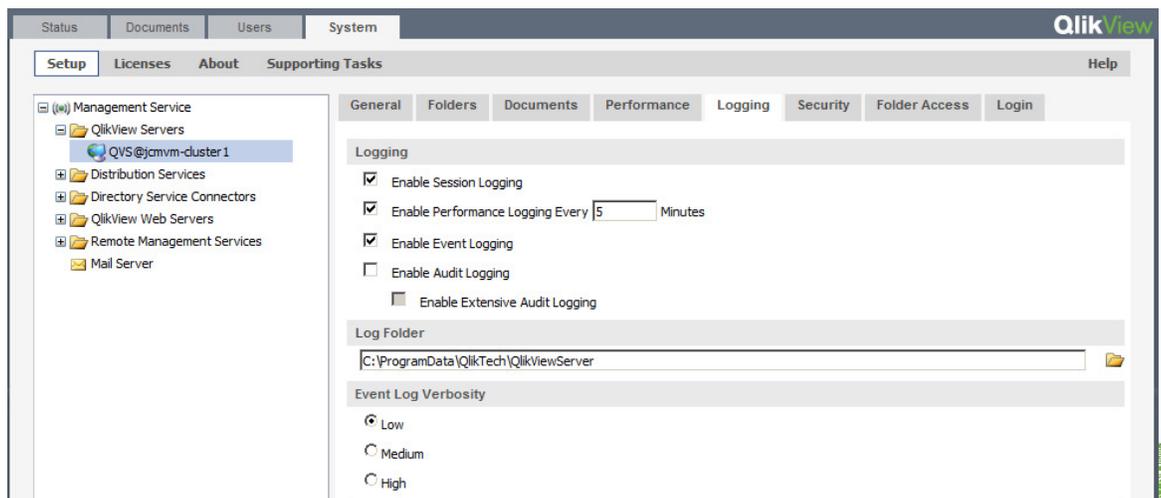
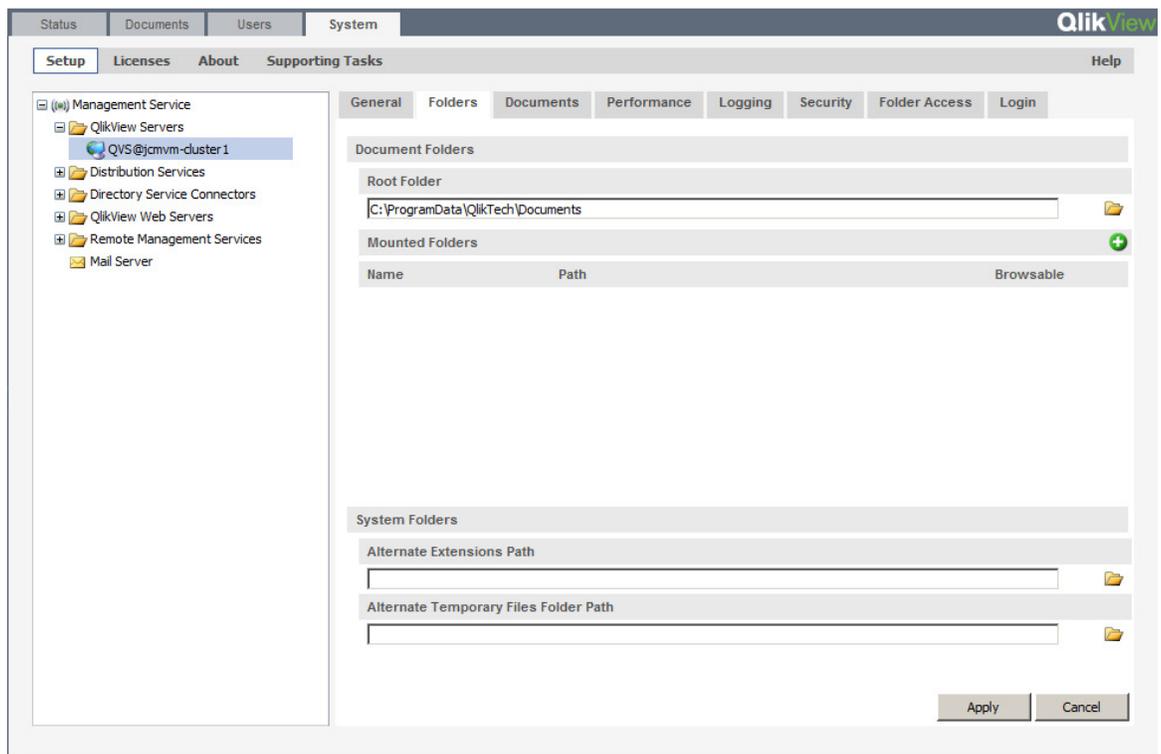


4.3 Configuration

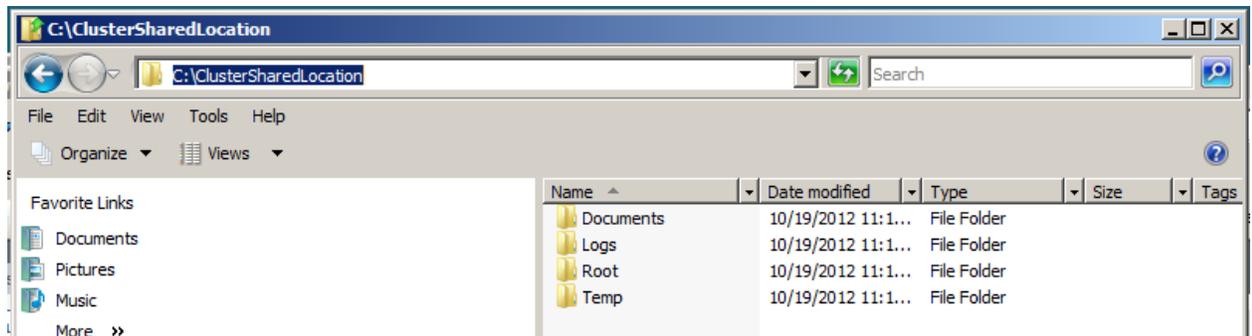
4.3.1 Shared Storage

In this scenario, we are building on the steps taken above to set up a QlikView Server. Modifications will be made to the current server, and a second server will be added to make the cluster.

1. For a cluster to work properly, we need to configure shared folders for items that need to be shared between the servers in the cluster. The configuration of the locations for these folders is found on the Folders tab and Logging tab under System – Setup – Qlikview Servers.

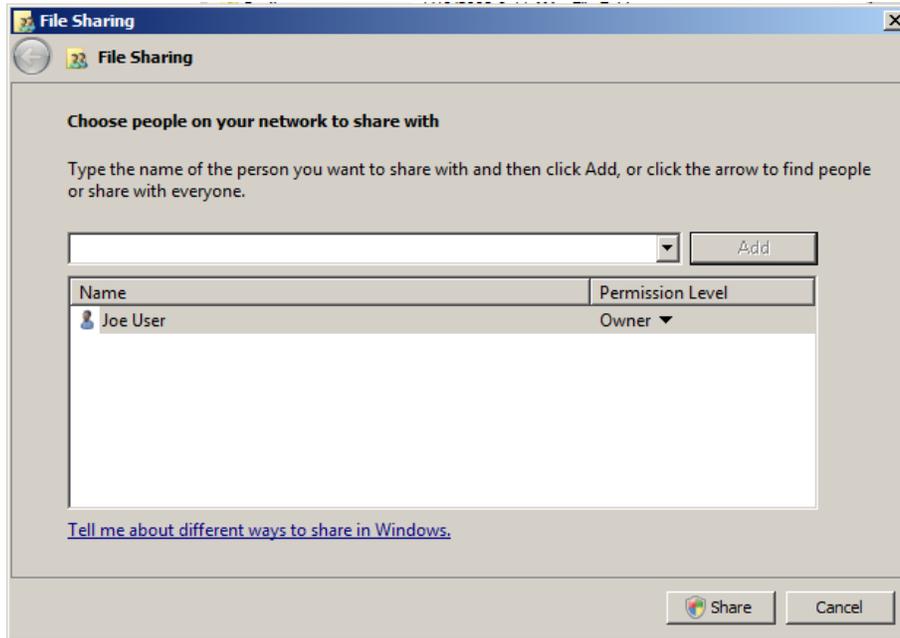


- a. Folders Tab
 - Root folder (houses PGO files)
 - Mounted folder (houses QVW's and related files)
 - System folders
 - Alternate Extensions Path (only if using document extensions)
 - Alternate Temporary Files Folder Path (printing and Send to Excel)
 - b. Logging Tab
 - Log folder (this can be a shared location or not, if not, then the logs for each server will be in the location defined in the Log Folder path on that particular server)
2. For this demonstration, we are going to use the "primary" server as the shared location.
- a. On the root of the C:\ drive, create a folder called ClusterSharedLocation
 - b. Under the folder ClusterSharedLocation create four folders
 - Root
 - Documents
 - Logs
 - Temp

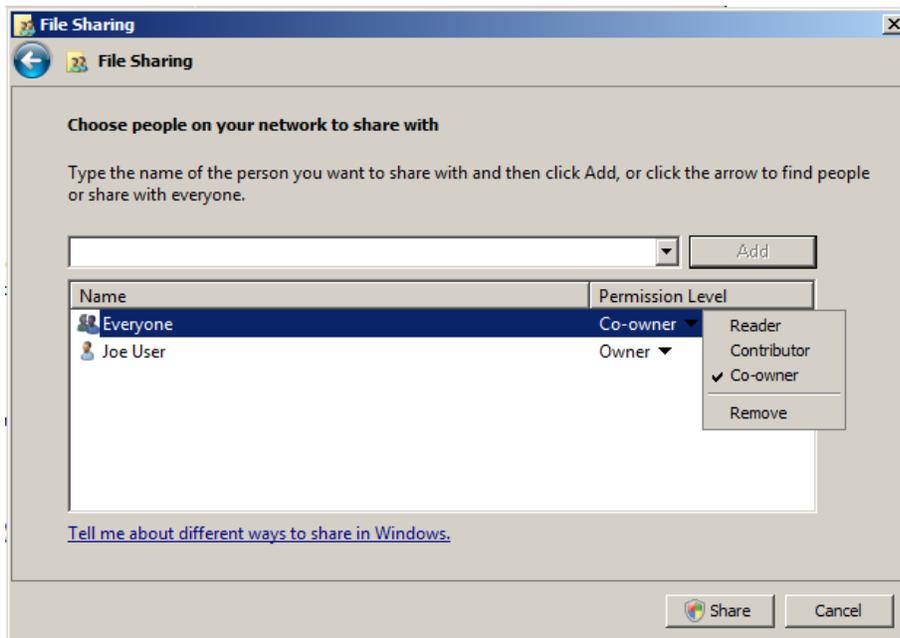


3. Now that the folders are created, we need to share them, so they are accessible by the servers in the cluster.
- a. Right-click on the ClusterSharedLocation folder and click the Share section of the menu. You will be presented with:

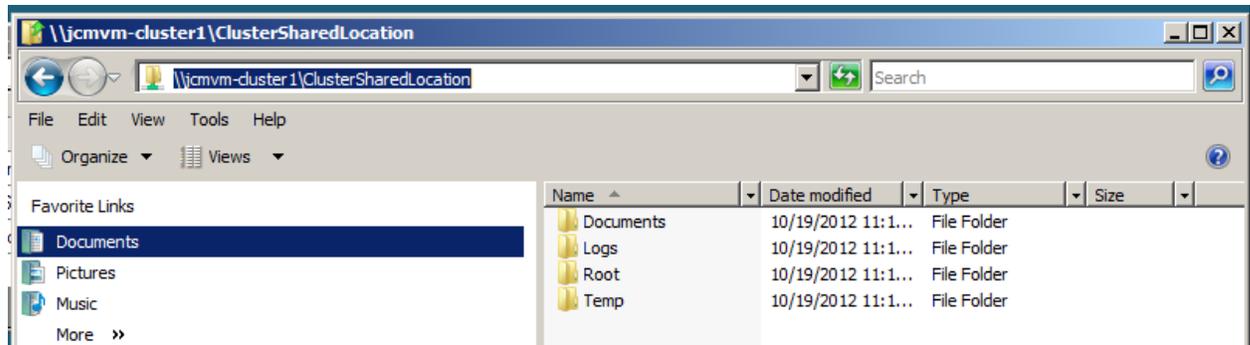




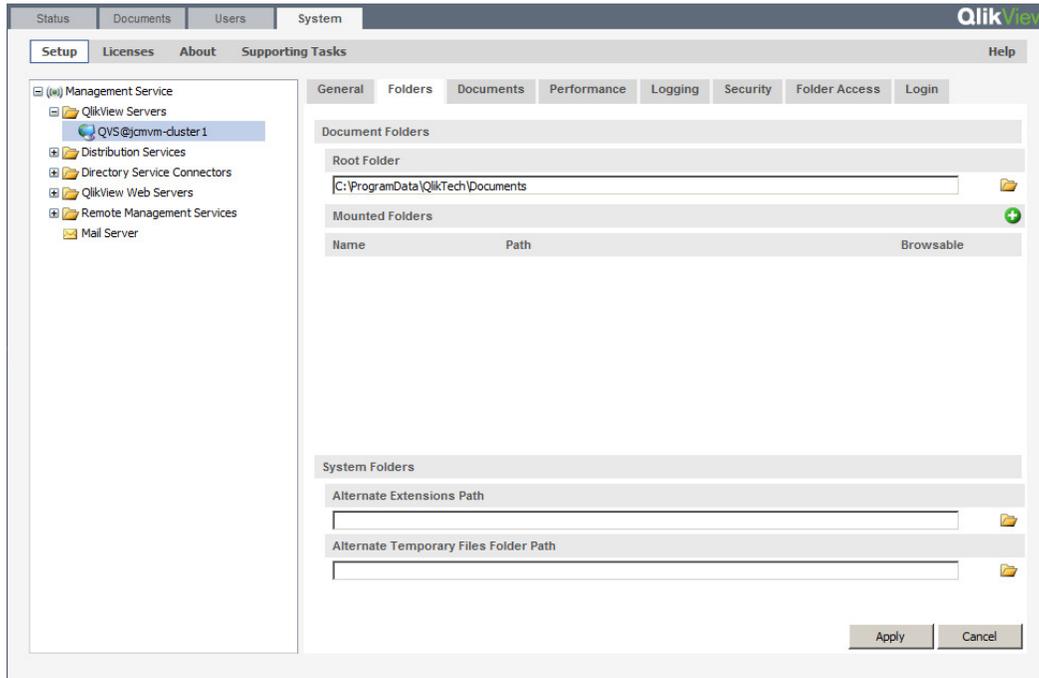
- b. In the drop down, select Everyone, and click add. Set co-owner as the permission level.



- c. Click Share and then Done. By doing the top level folder the rights will be inherited by the folders and files below.
- d. Checking the URL of the server, we can see our shares.



4. Now that we have the share, we may configure the “primary” server via the Qlikview Management Console (QMC)
5. Open the QMC and navigate to System – Setup – Qlikview Server - Folders



6. In the Root folder, enter the UNC path to the Root folder share that was created.
 - a. [\\<servername>\ClusterSharedFolder\Root](#)
7. In the Alternate Temporary Files Folder Path, enter the UNC path to the Temp folder share that was created.
 - a. [\\<servername>\ClusterSharedFolder\Temp](#)
8. Now we need to create a Mounted Folder for the documents.
 - a. Click the green plus  to insert a new row, you will see the following:



Mounted Folders			+
Name	Path	Browsable	
<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>	✘

- b. In the Name field enter Documents.
 - c. In the Path, enter the UNC path to the Documents folder share that was created.
 - [\\<servername>\ClusterSharedFolder\Documents](#)
9. Click Apply to accept the settings. You will be prompted to allow a restart of the Qlikview Server. Click OK

Apply QlikView Server Settings

This Action Requires a Restart of QlikView Server

10. The QlikView Server will restart, and you will be presented with the following:

Status | Documents | Users | System
QlikView

Setup | Licenses | About | Supporting Tasks
Help

Management Service

- QlikView Servers
 - QVS@jmmv-cluster1
- Distribution Services
- Directory Service Connectors
- QlikView Web Servers
- Remote Management Services
- Mail Server

General | **Folders** | Documents | Performance | Logging | Security | Folder Access | Login

Document Folders

Root Folder

Mounted Folders +

Name	Path	Browsable	
Documents	\\jmmv-cluster1\ClusterSharedLocation\Documents	<input checked="" type="checkbox"/>	✘

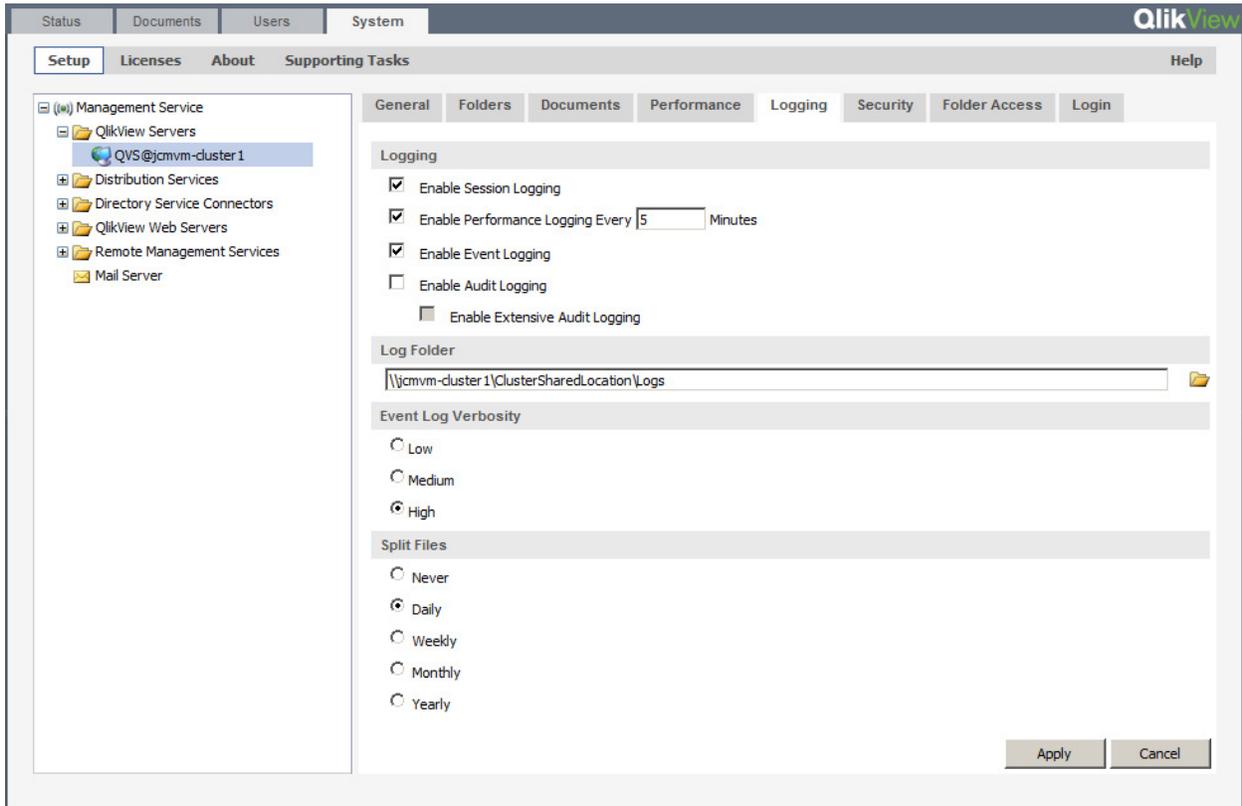
System Folders

Alternate Extensions Path

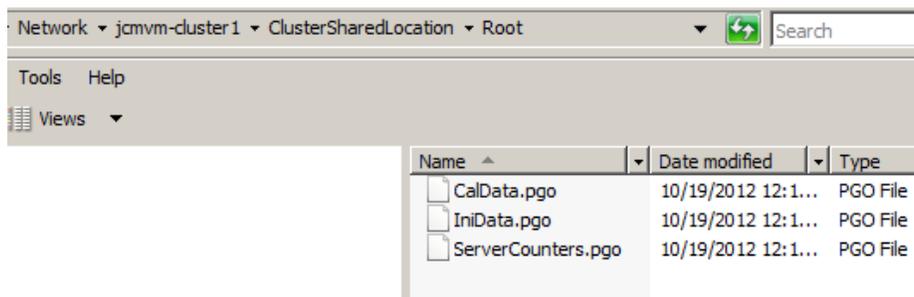
Alternate Temporary Files Folder Path

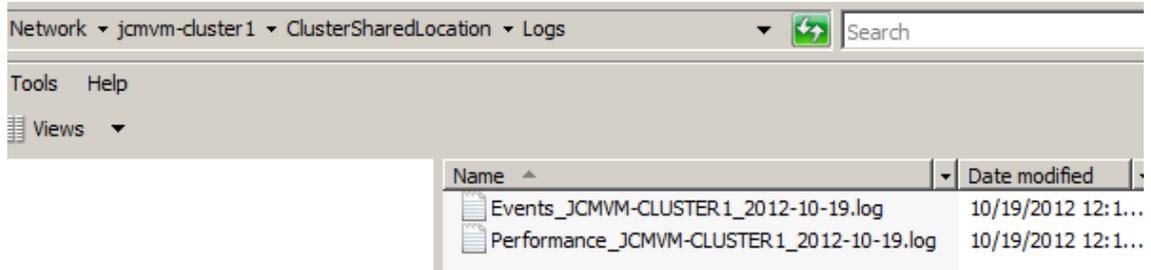
11. Click on the Logging Tab.

12. In the Log Folder path, enter the UNC path to the Log folder share that was created.
 - a. [\\<servername>\ClusterSharedFolder\Logs](#)
13. For Event Log Verbosity, set it to High.
14. For Spilt Files , set it to Daily.
15. Click Apply, and you will be presented with the following:



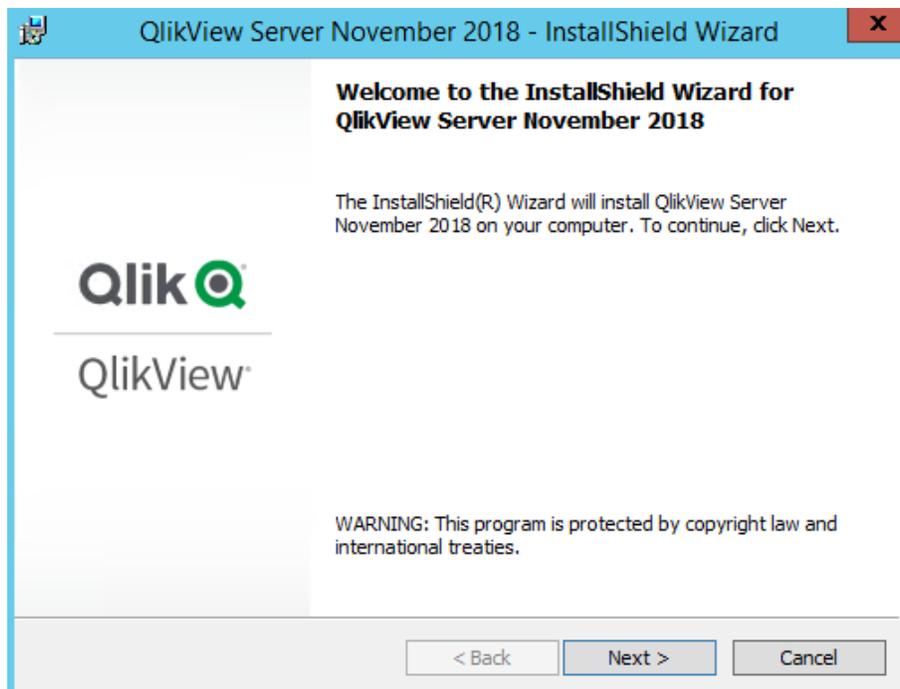
16. To confirm things are going to the correct locations, open the shares for Logs and Root and you should see files have been created in these folders.





4.3.2 Adding A Second Server To The Cluster

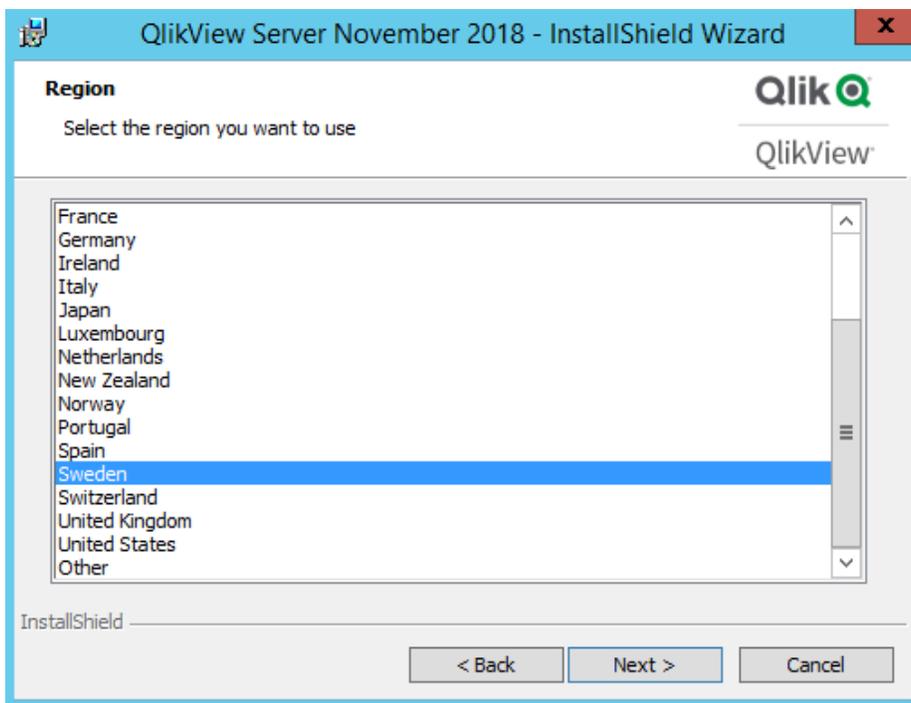
1. Now that the "primary" server has been setup, we can now add the secondary server.
2. On the second server we need to install the QlikView server.
3. Make sure the user running the installation has local Administrator rights on the machine.
4. Double click the exe to start the installation (In some cases, it may be necessary to right-click and select Run as Administrator).
5. The InstallShield wizard will extract the files and begin the installation.



Click Next



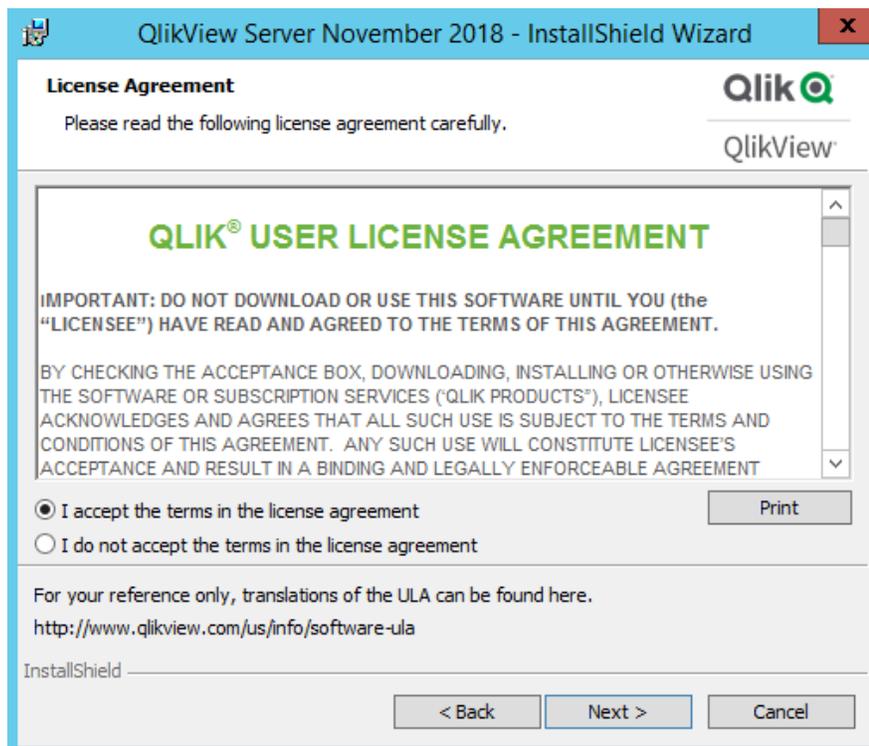
6. You are presented with the Region Selection. Select your region.



Click Next



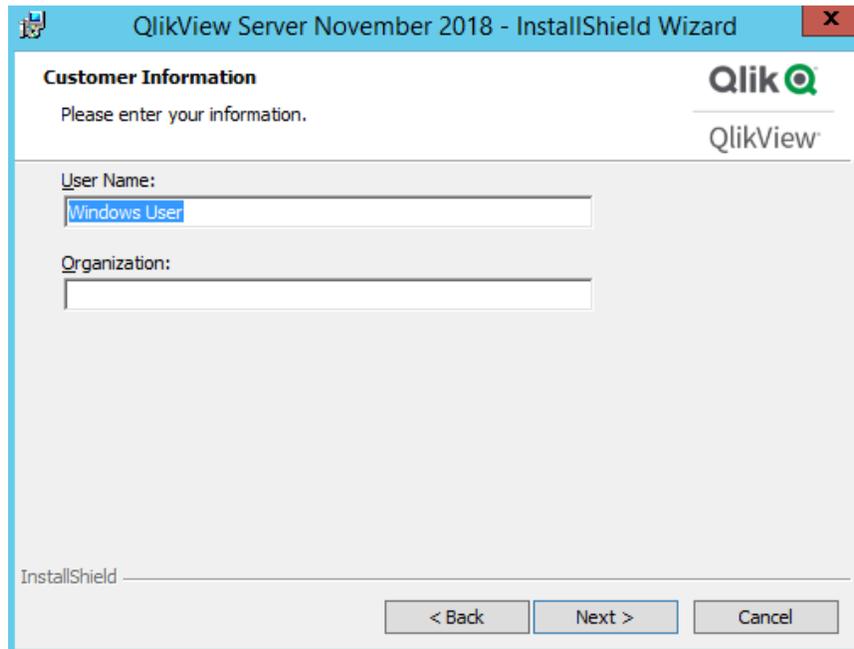
7. You are presented with the License Agreement. Click I accept after reading.



Click Next



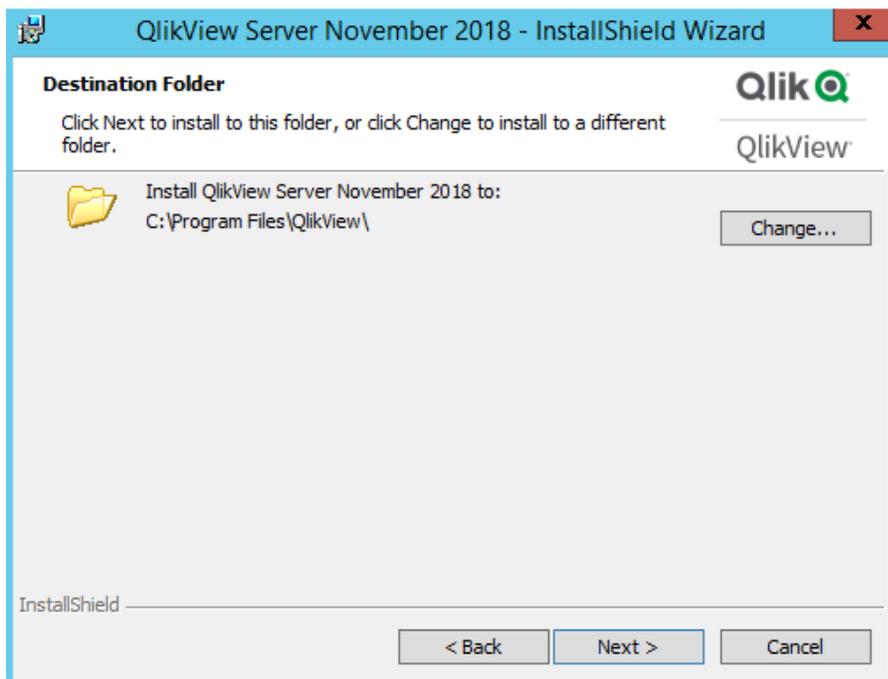
- You are presented with the Customer Information. Enter User Name and Organization



The screenshot shows the 'Customer Information' step of the 'QlikView Server November 2018 - InstallShield Wizard'. The window title is 'QlikView Server November 2018 - InstallShield Wizard'. The QlikView logo is in the top right corner. Below the logo, it says 'Please enter your information.' There are two input fields: 'User Name:' with the text 'Windows User' and 'Organization:' which is empty. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is in the bottom left corner.

Click Next

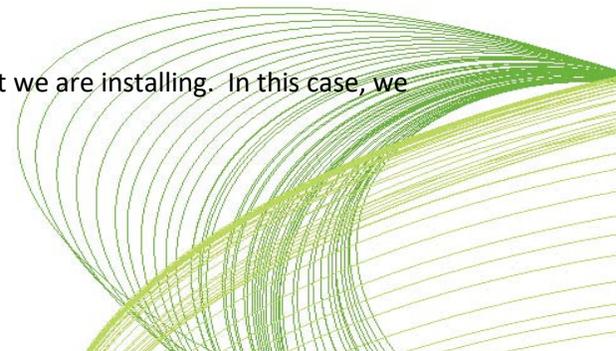
- You are presented with the Destination Folder. In this setup, we are using all defaults.



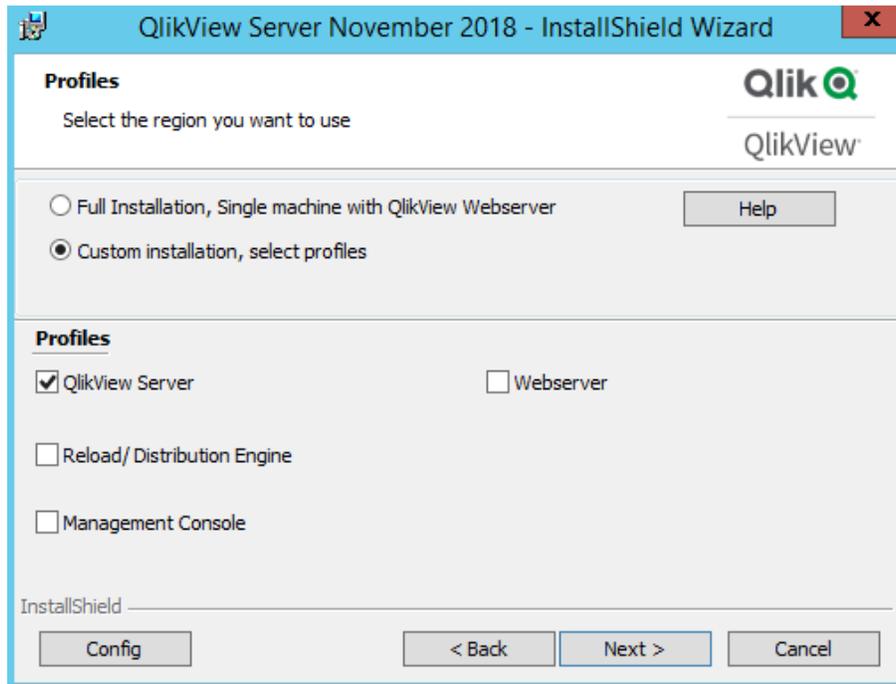
The screenshot shows the 'Destination Folder' step of the 'QlikView Server November 2018 - InstallShield Wizard'. The window title is 'QlikView Server November 2018 - InstallShield Wizard'. The QlikView logo is in the top right corner. Below the logo, it says 'Click Next to install to this folder, or click Change to install to a different folder.' There is a folder icon and the text 'Install QlikView Server November 2018 to: C:\Program Files\QlikView\'. A 'Change...' button is to the right of the folder path. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is in the bottom left corner.

Click Next

- On the next screen we need to make a choice as to what we are installing. In this case, we need to have QlikView Server installed.

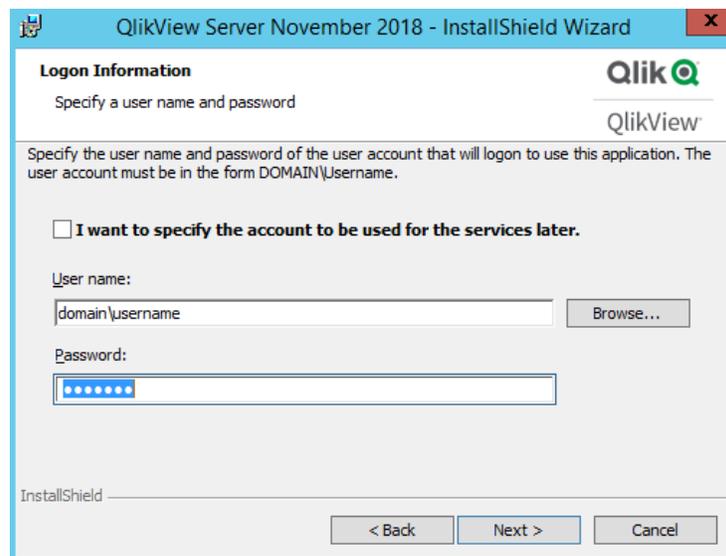


11. Select “Custom Installation, select profiles”, click the QlikView Server checkbox.



Click Next

12. You are presented with the Service Account Logon Information. Enter the username that will be used to run the QlikView Services. The format is <Domain>\<UserName>. If for some reason you need to bypass this step (user is not yet created) then you may check the box to specify the account later. The user that is used for the QlikView Service account must be a local Administrator on the machine. If you are going to specify later, you must put that user in the QlikView Administrators Group that is created during the install as well ([See Appendix A](#)).

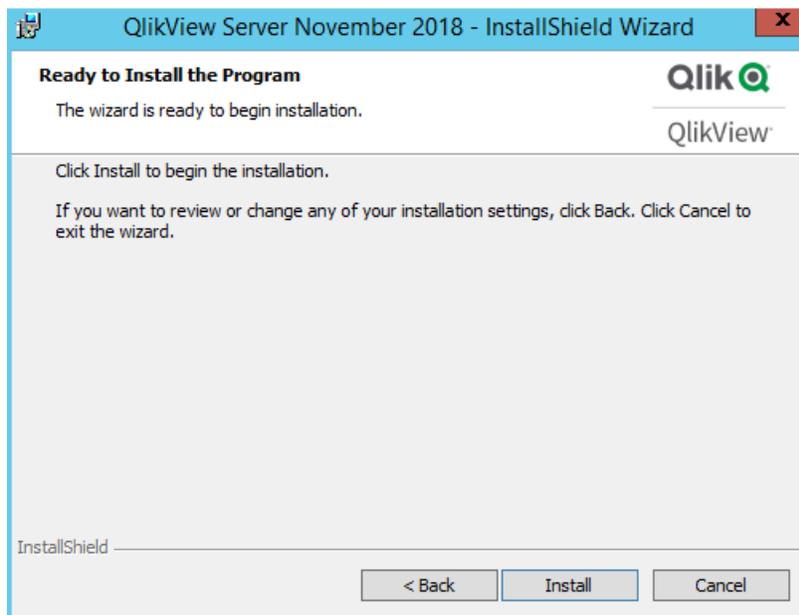


Click Next

13. You will now be prompted to choose between **Digital Certificates** and **QlikView Administrators Group** (default). See the [Online Help](#) for more information regarding Digital Certificates.



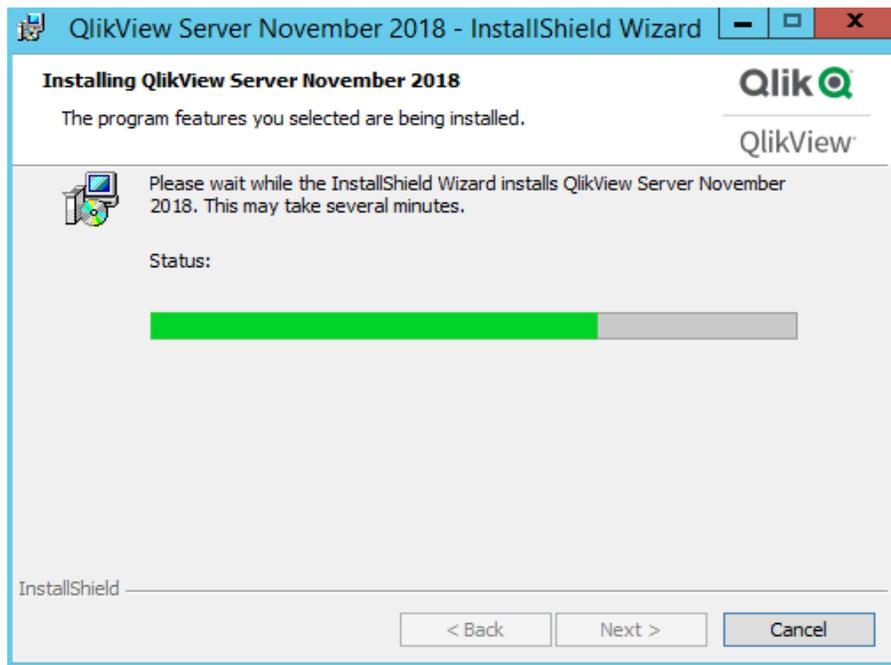
14. At this point the user name and password are verified for accuracy, if for some reason it does not verify, you will need to check that the username and password are correct. Once things are verified, you are presented with the Ready to Install the Program dialog.



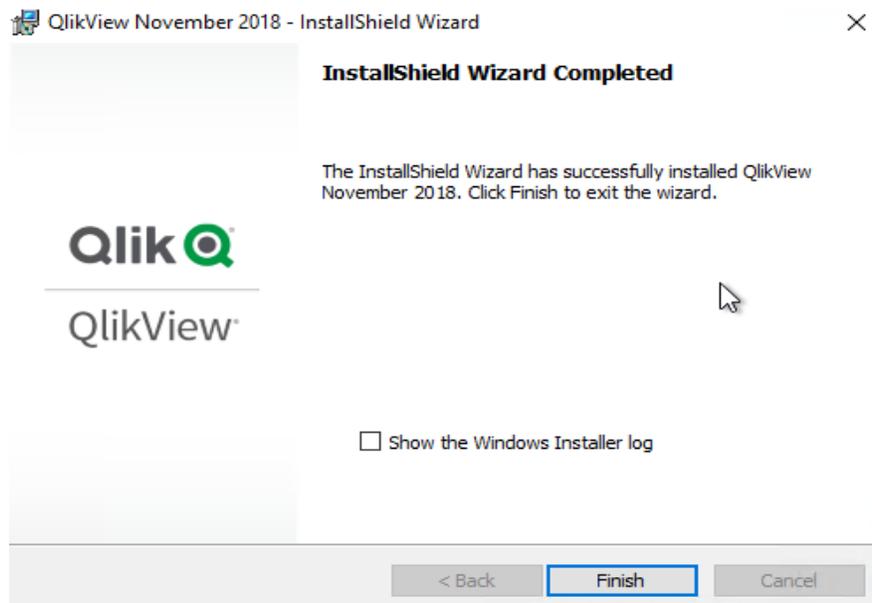
Click Install to begin the installation



15. The installation will begin



16. Once the install is complete, you will be presented with the following screen. You can check the box to see the install log if you wish. You will notice that it recommends that you restart the machine, please do so. This is important to make sure that the security group is created and that things are properly configured.



- Once the server has been rebooted, it is time to move on to the configuration to get things up and running.

4.3.3 Configuring Second Server In Cluster

- Once the server has rebooted, make sure the QlikView Server Service has started. Please note during the server install, a QlikView Directory Service was installed as well. This is fine as we will use this later in the configuration. Make sure its service is running as well.
- Open the QlikView Management Console on the "primary" server.
- For this next step, you need to have your control number ready.
- Navigate to System – Setup – QlikView Server – General tab

The screenshot shows the QlikView Management Console configuration window for a QlikView Server cluster. The window is titled "QlikView" and has a "System" tab selected. The "Setup" sub-tab is active, showing a tree view on the left with "QVS@jcmvm-cluster 1" selected. The main area shows the "General" tab for the cluster configuration. The "Cluster" section has the following fields:

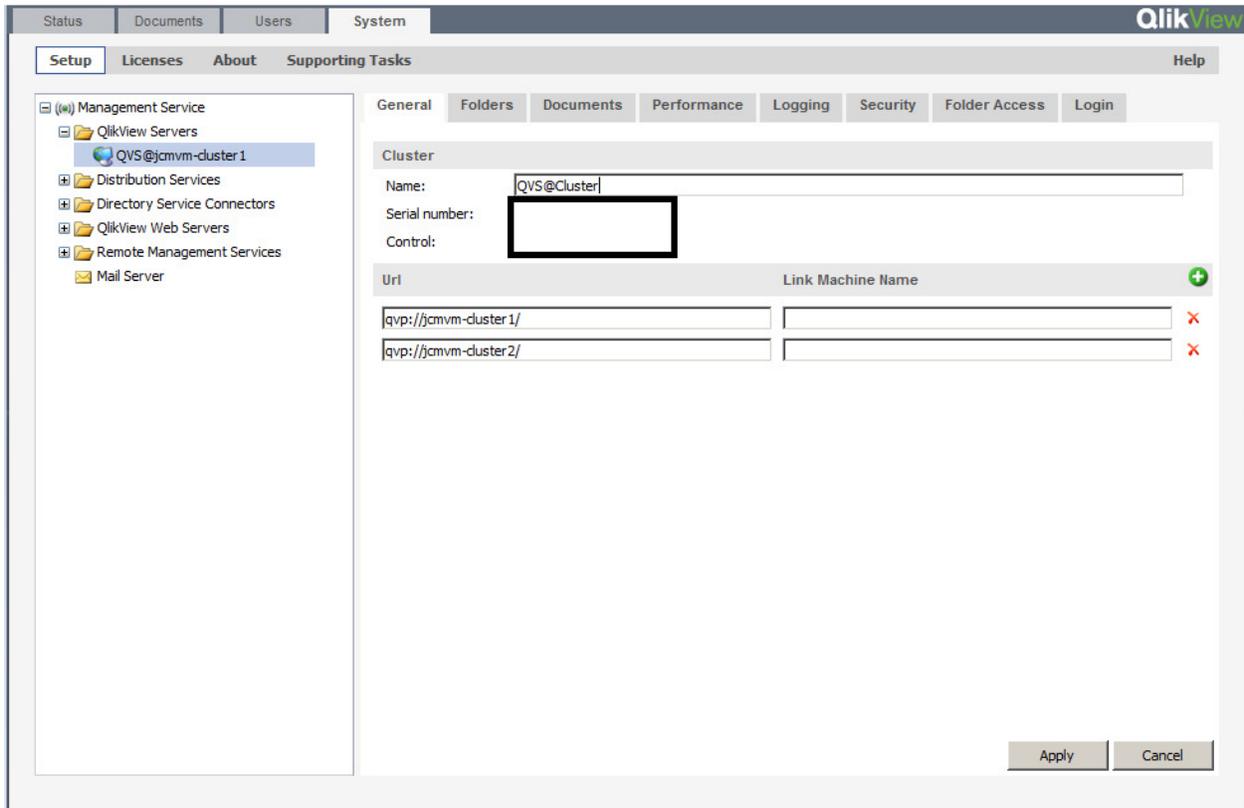
- Name: QVS@jcmvm-cluster 1
- Serial number: [Redacted]
- Control: [Redacted]

Below the "Cluster" section, there is a table with two columns: "Uri" and "Link Machine Name". The "Uri" field contains "qvp://jcmvm-cluster1/". A green plus icon is visible next to the "Link Machine Name" field, indicating where to click to add a second server line.

- The serial number will be filled in, however, to add the second server in the cluster you will have to enter the Control number.
- Click the green plus  to add a second line for the new server.
- In the URL field enter `qvp://<servername>`
 - `<servername>` = the name of your server
- In the Name field under Cluster change the name to `QVS@Cluster`.

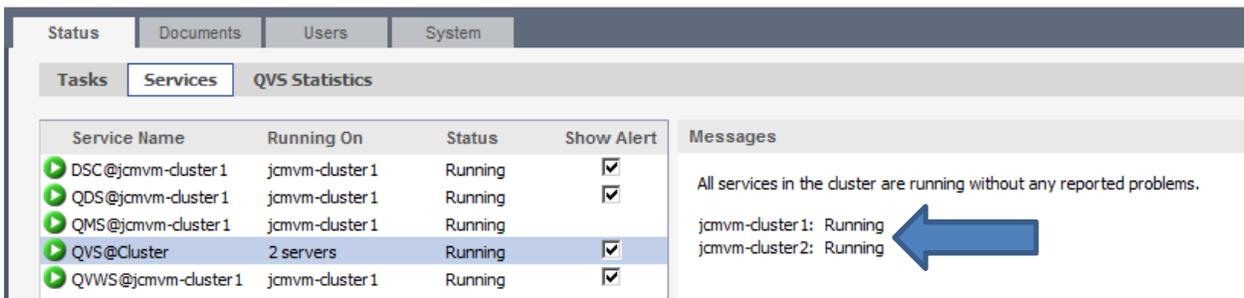


9. Your screen should look similar to the figure below, keep in mind the Serial Number and Control number are blanked out.

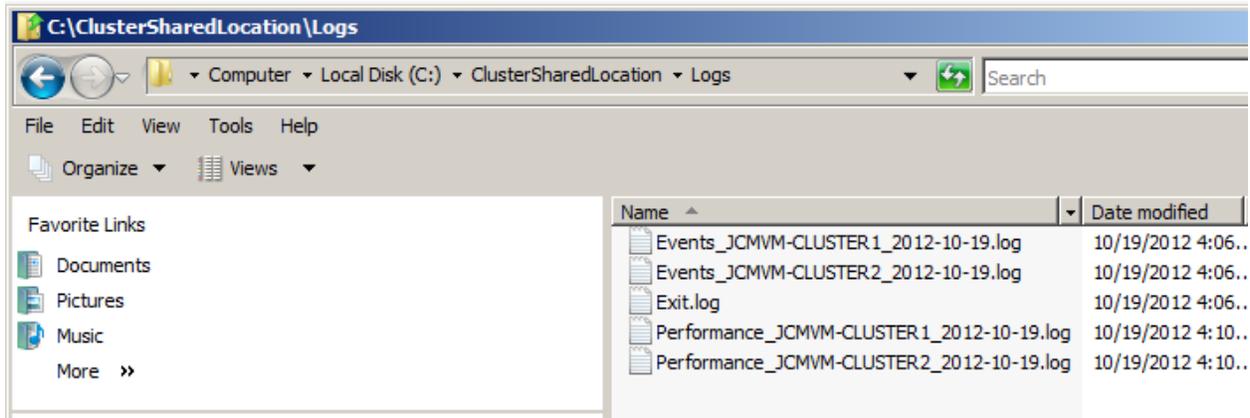


10. Click Apply, you will be asked to allow the server to restart.

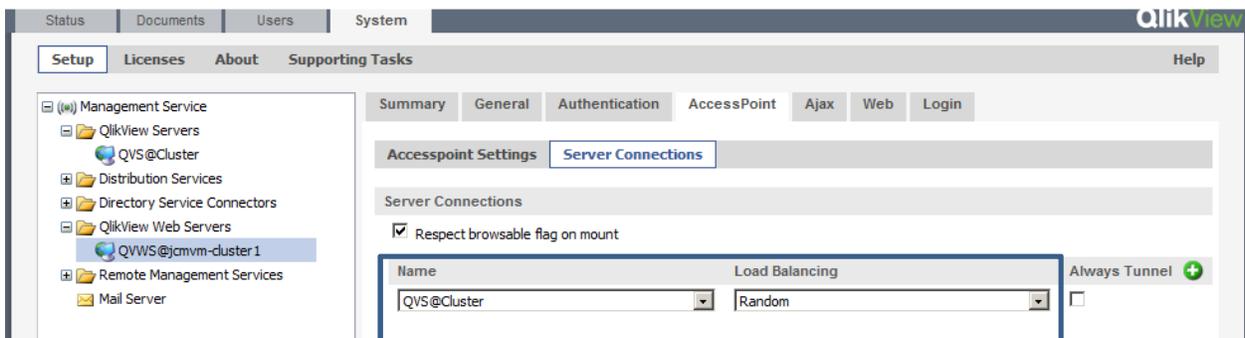
11. In the QMC, navigate to Status – Services. Click on the QVS@Cluster in the list. In the right hand pane, you will see the two servers show connected.



12. Looking at the Log folder, you will now see that there are Event and Performance logs for each server under the shared folder.



13. In QMC, navigate to System – Setup – Qlikview Web Server – AccessPoint tab – Server Connections menu. Ensure that the new QVS@Cluster name is selected, and since we are dealing with a cluster, choose the type of load balancing you wish to use. See QlikView Server Reference manual for further details.

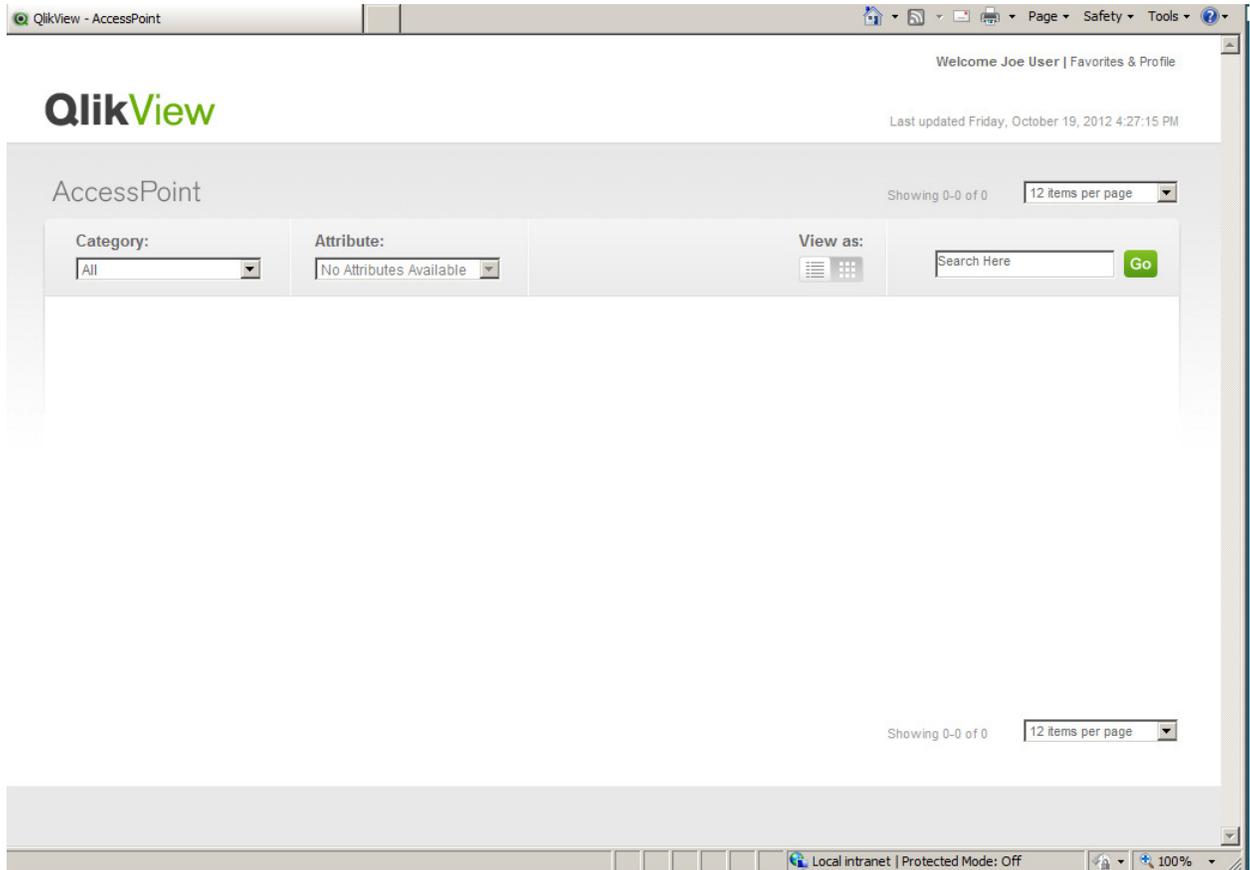


14. Congratulations, you have just configured a Qlikview Server Cluster!



4.4 Testing The Cluster

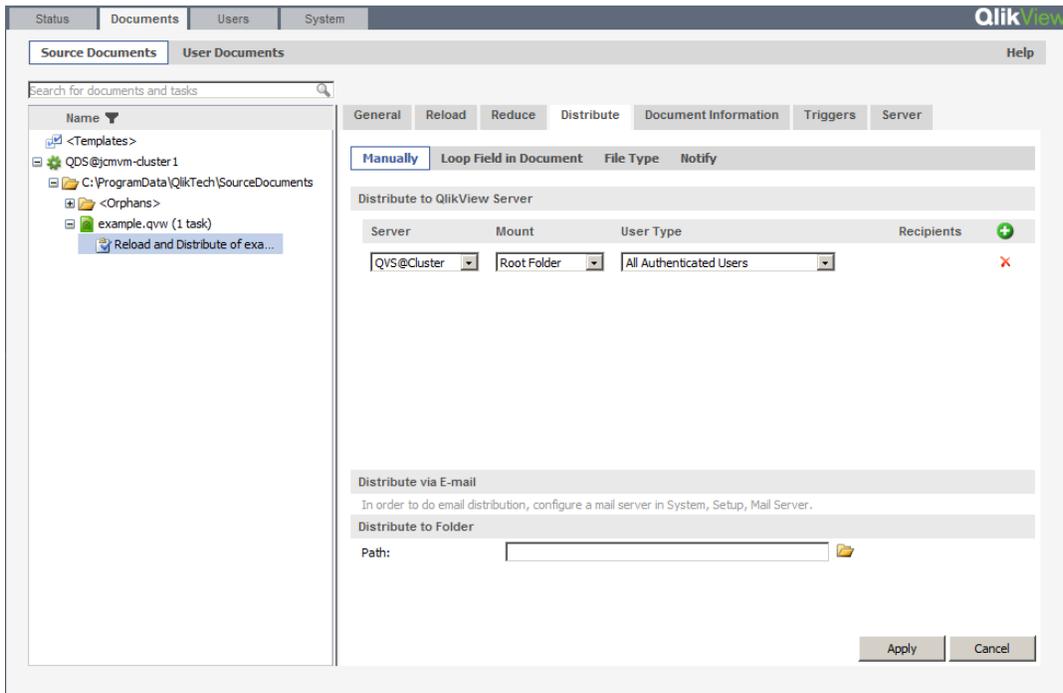
1. At this point we have green lights on all services including the QlikView Server Cluster.
2. Open an Internet Explorer web browser, and enter the following URL:
`http://jcmvm-cluster1/qlikview/index.htm`
3. Once the page loads, you should see something similar to the figure below:



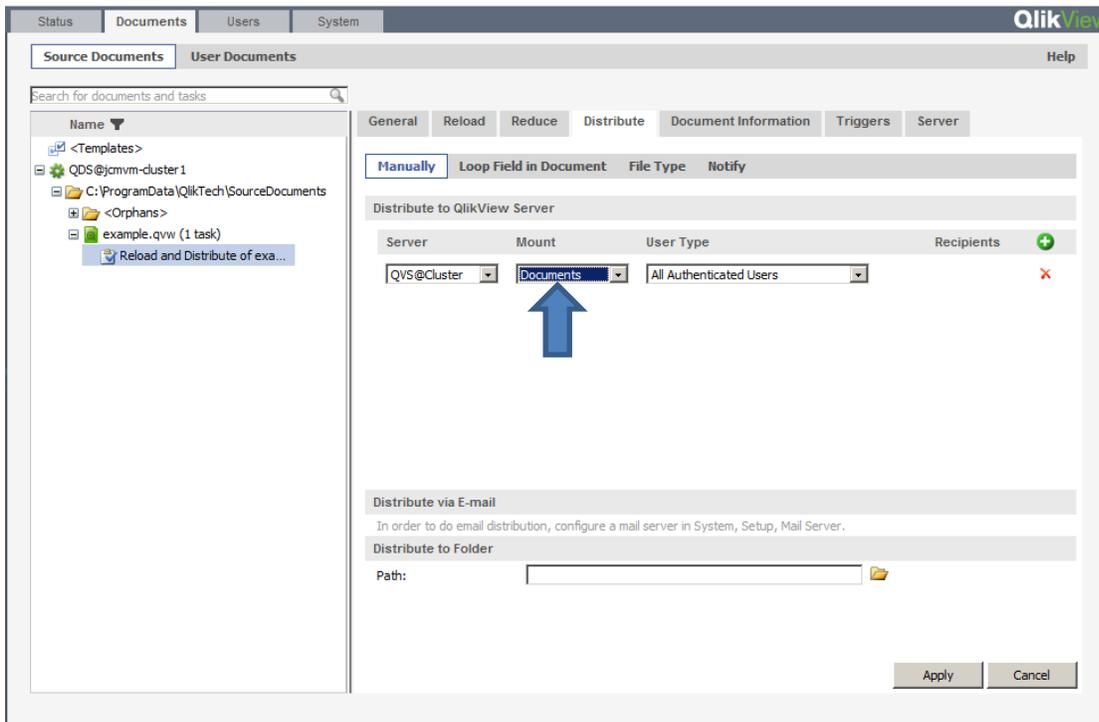
4. We are logged in, but we see no documents. Remember, we changed the folder where our documents reside. So we need to move them there or do a new distribution to the new folder. Since we want only PGO files in the Root folder, we need to modify the current task that is configured, to point to the new Folder Mount that was created.



5. In QMC navigate to Documents- Source Documents – Expand the tree to get to the example.qvw.



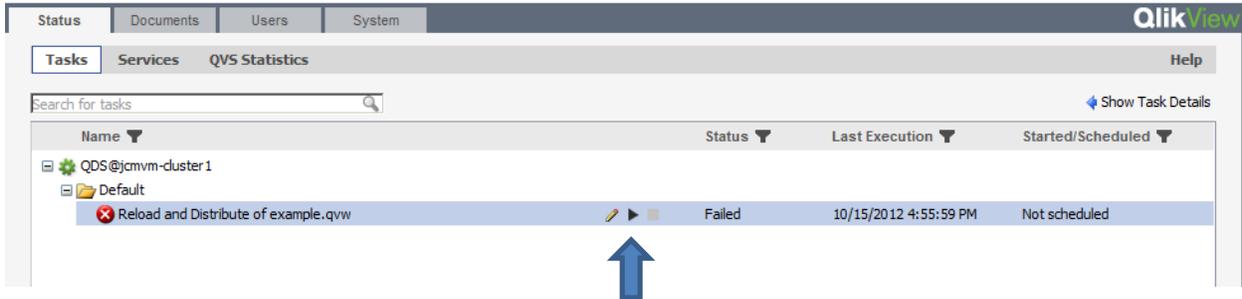
6. Click on the task that is configured under the example.qvw. Then navigate to the Distribute tab. Under the drop down for the Mount, change from Root Folder to Documents. Your screen should look similar to the one below.



- Click Apply to save the change.

7. Navigate to the Status tab and expand the tree to show the example.qvw task.

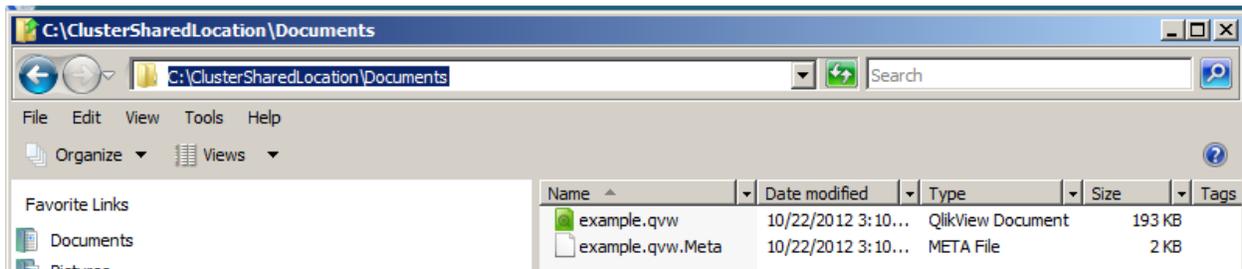
8. Run the Task.



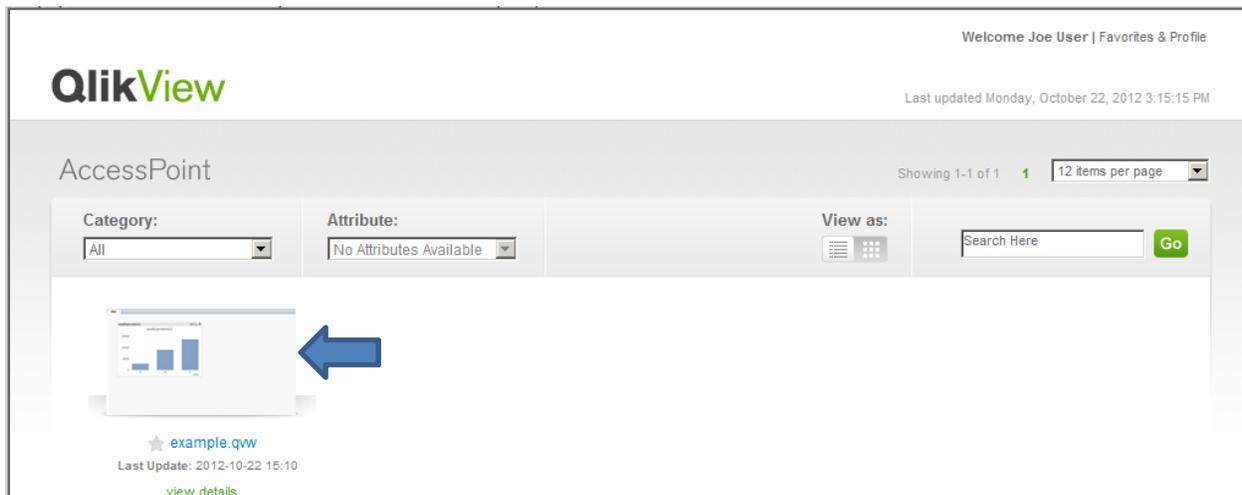
9. Once the task has run, open the Documents folder that was created or the folder mount:

a. C:\ClusterSharedLocation\Documents

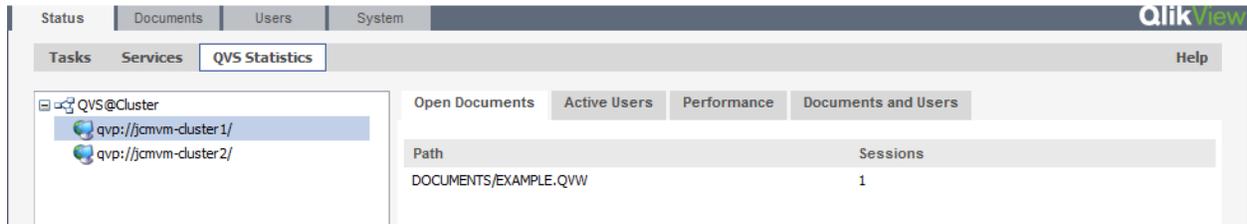
10. In this folder you should see a copy of the newly distributed example.qvw.



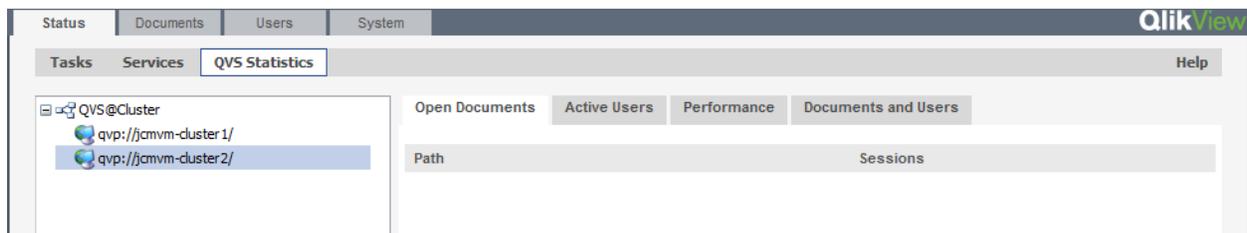
11. Now, if you Navigate to the AccessPoint page, you should see the document.



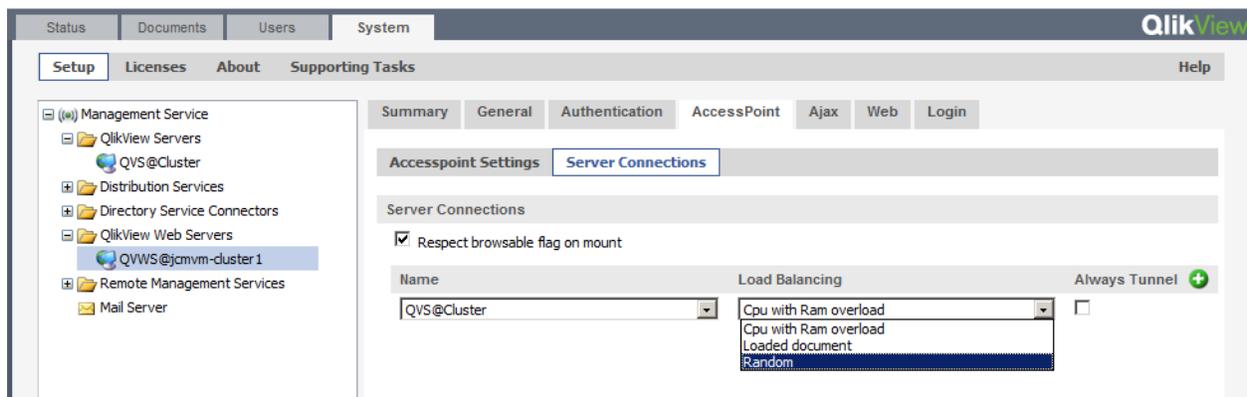
12. Click on the example.qvw to open it.
13. Once the QVW is open, in QMC navigate to: Status – QVS Statistics.
14. You will be presented with a page similar to the one below.



15. Since the server is not over loaded, it is expected that the app will load on the first server in the cluster, as seen above. If you click on the the other server in the list, you will not see a document listed.



16. The server that the document is loaded on is determined by the settings under QlikView Web Server. System – Setup – QlikView Web Server – AccessPoint – Server Connection: Load Balancing section.



- CPU with RAM Overload: the client is directed to the least busy QlikView Server.
- Loaded Document: the client is directed to the QlikView Server in which the requested document is already loaded.
- Random: the client is directed to a QlikView Server randomly.



17. Now that we have things working as expected, we can test that the QlikView Server cluster is working properly.
 - a. On Server1, stop the QVS service.
 - b. Go to the Status - Service tab and you will see that Server1 is Disconnected.

Service Name	Running On	Status	Show Alert
QVS@Cluster	2 servers	1 of 2 running	<input checked="" type="checkbox"/>
DSC@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QDS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QVWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>

Messages

Failed to contact one of the services in the cluster

jcmvm-cluster1: Disconnected ←

jcmvm-cluster2: Running

18. Go back to the AccessPoint that you opened above, if you closed it, that is ok, the principal still applies.
19. Click on the app or try and select something in the chart. You will get a "Lost Connection To Server, reconnecting" message. The document will be reloaded and presented to you.
20. Now go back to the QMC and check the QVS Statistics tab. If you click on Server1, it will load the page, but since that QlikView Server is down, there is no document. However, if you check Server2 you will see it loaded there.

Path	Sessions
DOCUMENTS/EXAMPLE.QVW	1

21. Stop the QVS service on Server2 and start the QVS service on server 1.
 - a. Go to the Status - Service tab and you will see that Server2 is Disconnected.

Service Name	Running On	Status	Show Alert
QVS@Cluster	2 servers	1 of 2 running	<input checked="" type="checkbox"/>
DSC@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QDS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QVWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>

Messages

Failed to contact one of the services in the cluster

jcmvm-cluster1: Running

jcmvm-cluster2: Disconnected ←

22. Go back to the AccessPoint that you opened above, if you closed it, that is ok, the principal still applies.
23. Click on the app or try and select something in the chart. You will get a "Lost Connection To Server, reconnecting" message. The document will be reloaded and presented to you.



24. Now go back to the QMC, and check the QlikView Server Statistics tab. If you click on Server1, it will load the page, but since that QlikView Server is down, there is no document. However, if you check Server2, you will see it loaded there.

The screenshot shows the QlikView QVS Statistics page. The 'QVS@Cluster' service is selected, and the 'Open Documents' tab is active, displaying 'DOCUMENTS/EXAMPLE.QWW' and 'Active Users' as '1'.

25. What happens if both QlikView Server services are turned off? You will see the following:

The screenshot shows the QlikView QVS Statistics page with a warning 'QVS@Cluster is down'. A table lists the status of various services:

Service Name	Running On	Status	Show Alert
QVS@Cluster	2 servers	Disconnected	<input checked="" type="checkbox"/>
DSC@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QDS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QVWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>

Messages:

- Failed to contact all services in the cluster
- jcmvm-cluster1: Disconnected
- jcmvm-cluster2: Disconnected

- In the AccessPoint you will see this:

The screenshot shows the QlikView AccessPoint page with a red message box: 'Message: No Server'. The page includes a search bar and filters.

- If you clicked on the app that was loaded, you will get a "No Connection" message on the screen.

26. Go ahead and start the QlikView Server services on box machines to get things running correctly again. It may take a few moments to see both servers connected, you can hit refresh in the browser to see things when they are ready.

Congratulations, you have successfully tested your QlikView Server Cluster.



5 Setting Up A Simple QlikView Publisher Cluster

5.1 Requirements

1. Your QlikView Publisher License must allow for Clustering.

- In the LEF you must have the following line:

NUMBER_OF_XS;X;; Where X is the number of Distribution Services you are allowed to cluster (2 or higher)

2. As with QlikView Server you must have a shared storage location for:

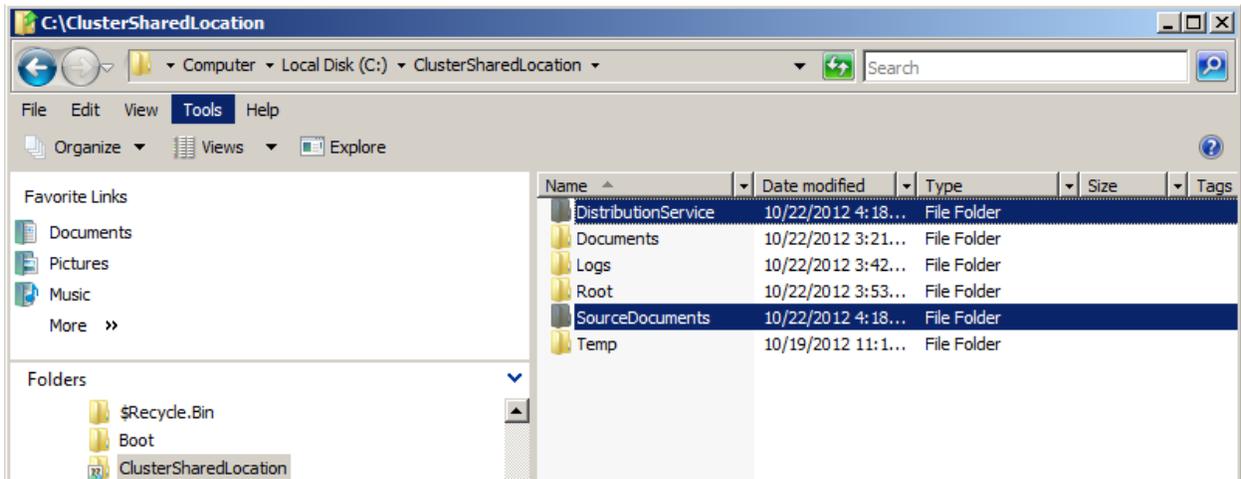
- a. Source Files
- b. Log Locations



5.2 Configuration

5.2.1 Shared Storage Setup

1. Since we are building on the scenarios above, we already have a start for our QlikView Distribution Service (QDS) Shared Locations.
2. Under the Shared Files Location folder (C:\ClusterSharedLocation), create two new folders:
 - a. SourceDocuments
 - b. DistributionService
3. The Share permissions will transfer down to these new folders. Once you are done it should look similar to this:



4. Before we set up the new folder shares in QDS, we need to remove the task on the example.qvw. We are changing the location of the Source Documents, so we need to prepare the system.
 - a. Navigate to Documents – Source Documents: Expand to see the example.qvw, click on the document (not the task).



- b. Click the red **X** in the right hand side of the window and confirm the deletion.

- c. Copy the example.qvw from the default location.
(C:\ProgramData\QlikTech\SourceDocuments) to the new shared location
(C:\ClusterSharedLocation\DistributionService)

5. In the QlikView Management Console (QMC), navigate to System – Setup – Distribution Services – General Tab.

The screenshot shows the QlikView Management Console (QMC) interface. The top navigation bar includes 'Status', 'Documents', 'Users', and 'System'. The 'System' tab is active, and the 'Setup' sub-tab is selected. The left sidebar shows a tree view of services, with 'QDS@jcmvm-cluster1' under 'Distribution Services' highlighted. The main content area shows the 'General' tab for the QDS configuration. The 'Cluster' section has 'Name: QDS@jcmvm-cluster1' and 'Url: http://jcmvm-cluster1:4720/QDS/Service'. The 'Settings for QDS' section includes 'Directory Service Connector: DSC@jcmvm-cluster1', 'Application Data Folder: C:\ProgramData\QlikTech\DistributionService', 'Logging Level: Normal logging', and 'Security: Use SSL For Distribution Service Communication'. The 'Source Folders' section has a checkbox for 'Disable Task Triggers For Document Administrators' and a table with columns 'Path', 'Document Administrators', and 'Alert E-mail'. The 'Path' row shows 'C:\ProgramData\QlikTech\SourceDocuments'.

6. Under the Settings for QDS section, change the Application Data Folder path to the new shared folder location, using the UNC path:

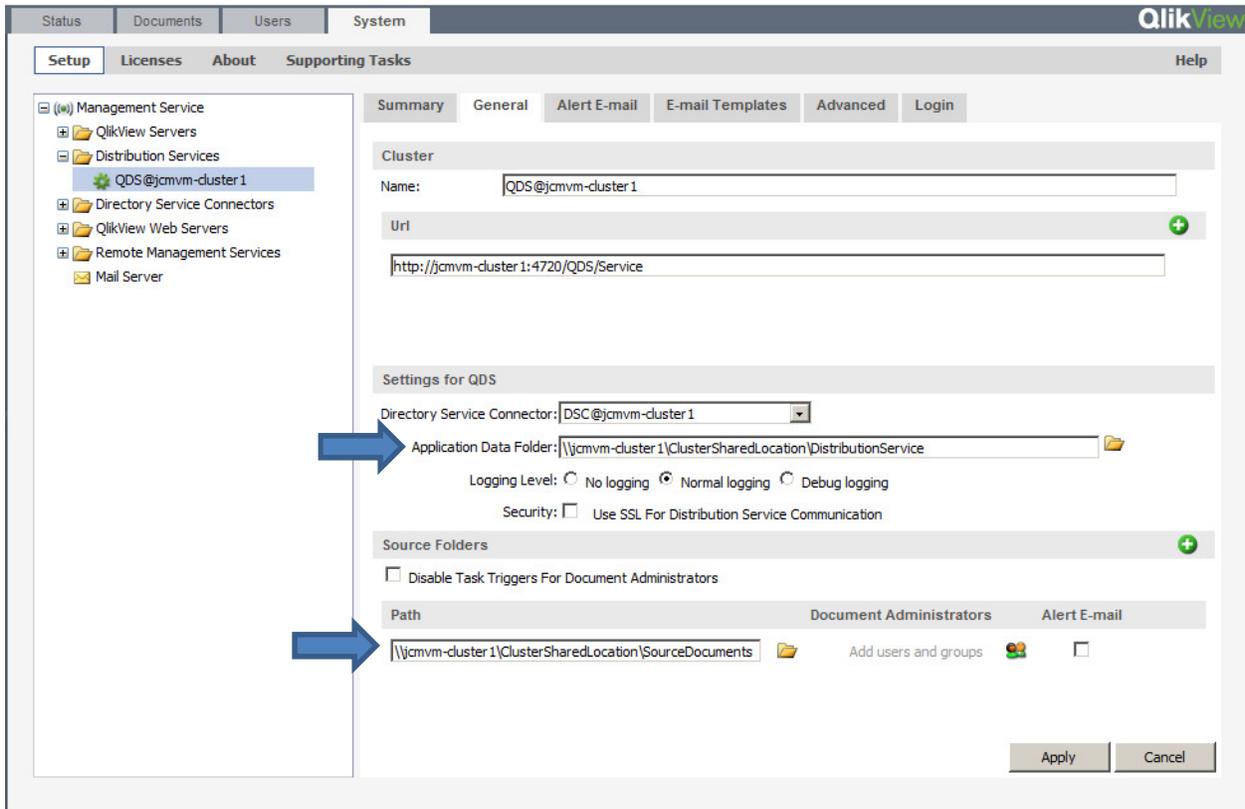
\\<servername>\ClusterSharedLocation\\DistributionService

7. Under the Source Folders section, change the Path to the new share folder location for Source Documents:

\\<servername>\ClusterSharedLocation\SourceDocuments

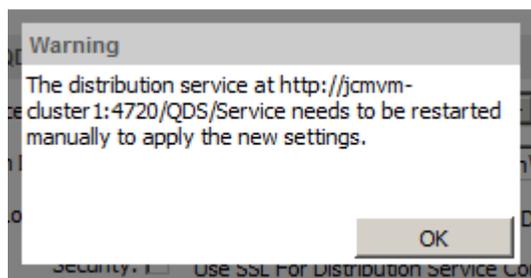


8. Your screen should look similar to the figure below:



9. Click Apply

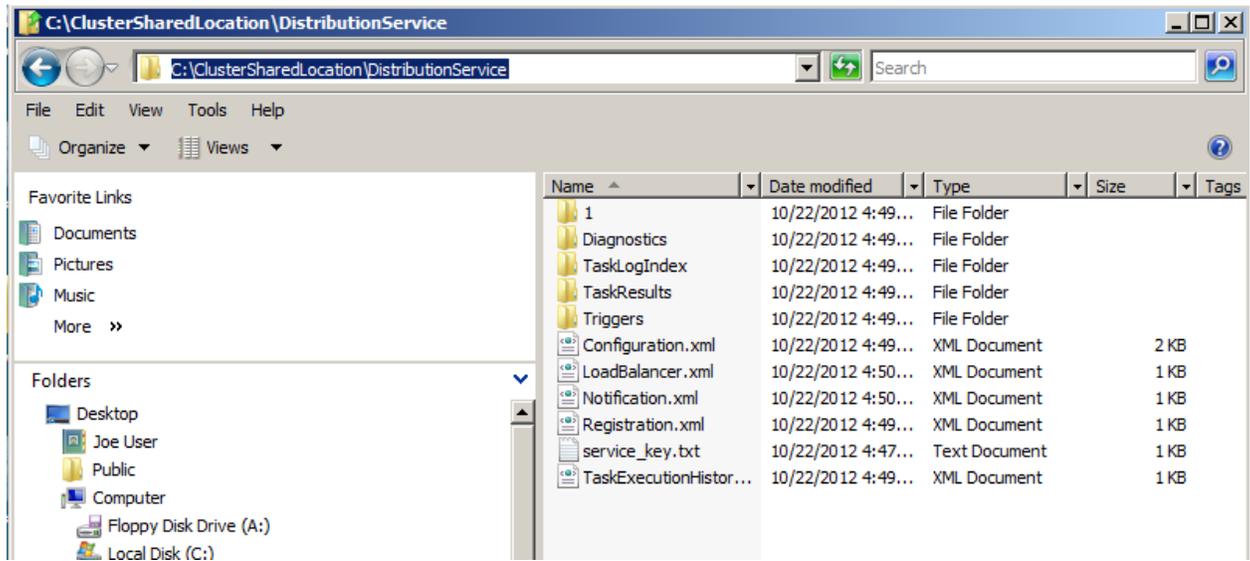
10. You will get a message stating that the distribution service needs to be restarted on the server.



11. Click OK and then restart the QlikView Distribution Service.

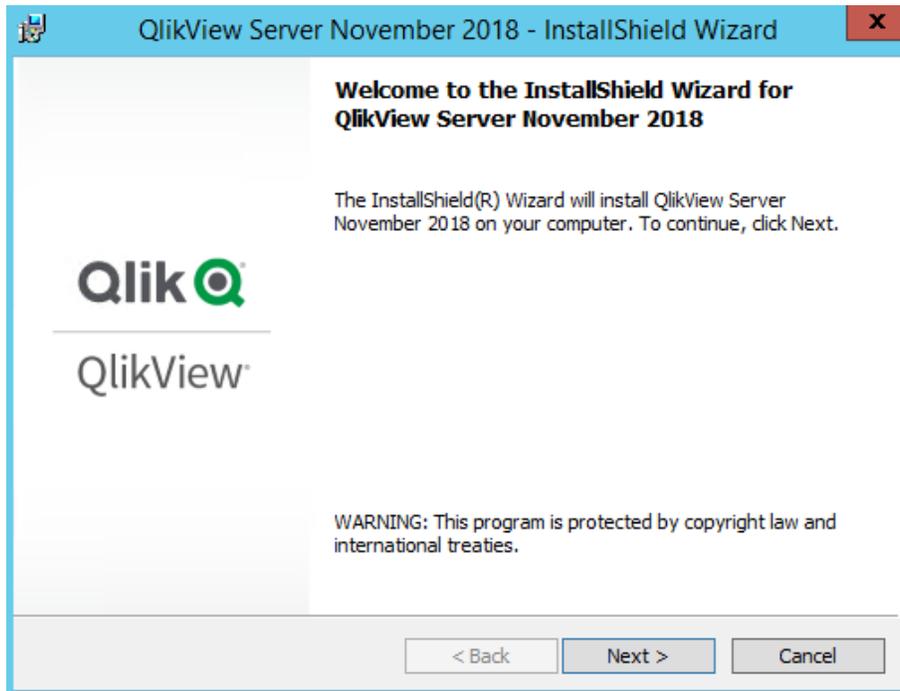


- Once the service is restarted, you will notice that items have been added to the shared folder location for the DistributionService.



5.2.2 Adding Second Distribution Service To The Cluster

1. A Qlikview Distribution Service needs to be added to the secondary server in the cluster.
2. Ensure the user running the installation has local Administrator rights on the machine.
3. Double click the exe to start the installation (In some cases it is best to right-click the exe and select the Run as Administrator option).
4. The InstallShield wizard will extract the files and begin the installation process.



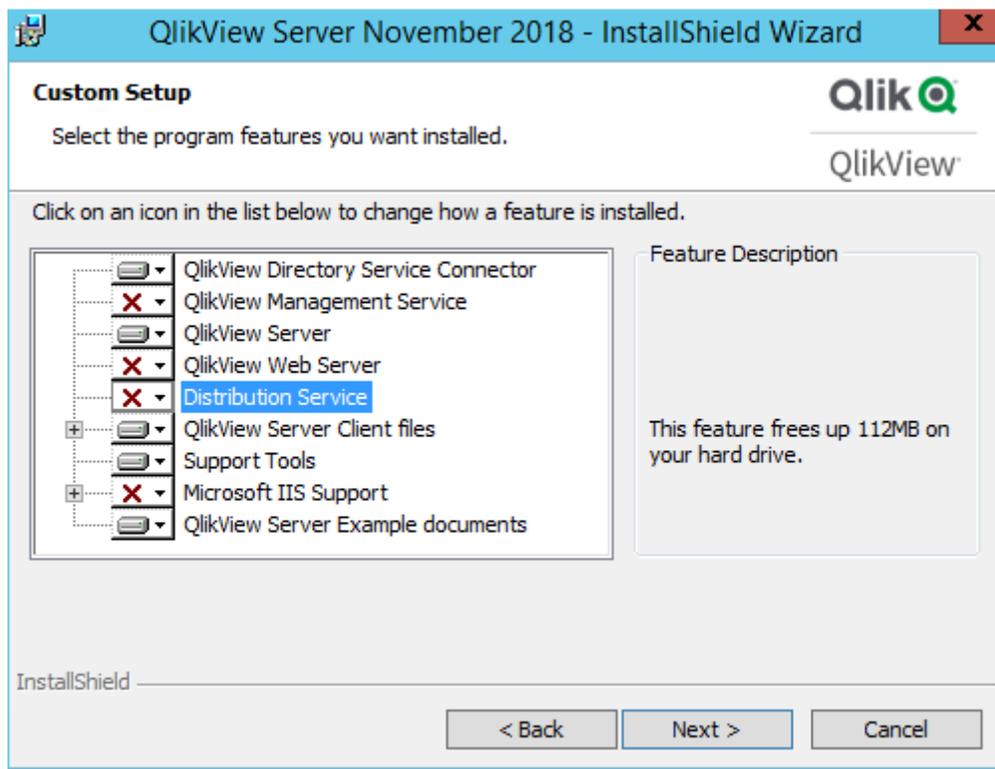
Click Next

5. Since there has been an install on this server, you are presented with a Program Maintenance dialog. You may Modify, Repair, or Remove the program. In this case we will be doing a **Modify**, so that we can add a QlikView Distribution Service. Leave Modify selected and click next.

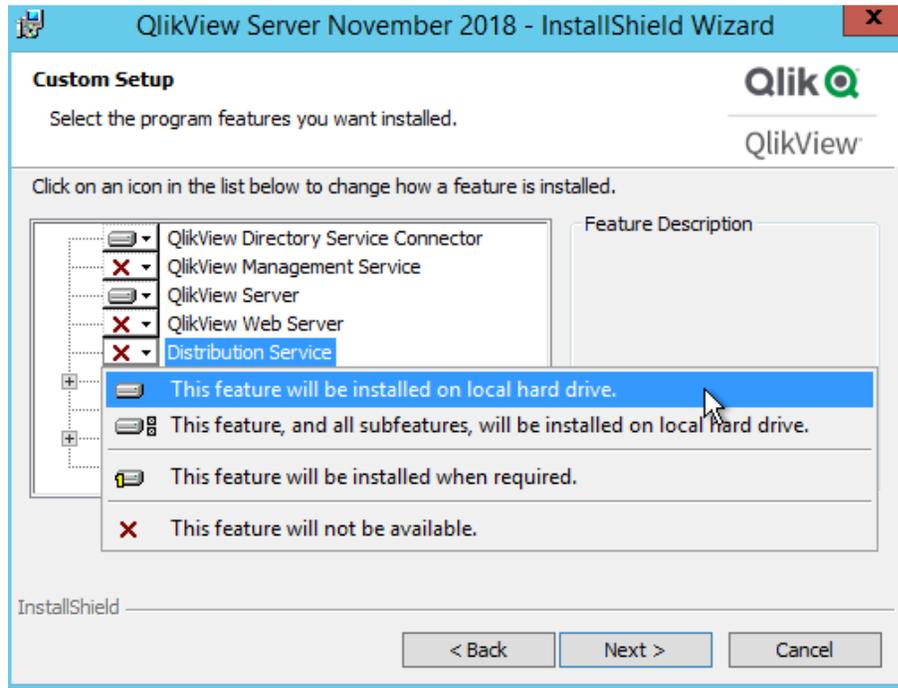




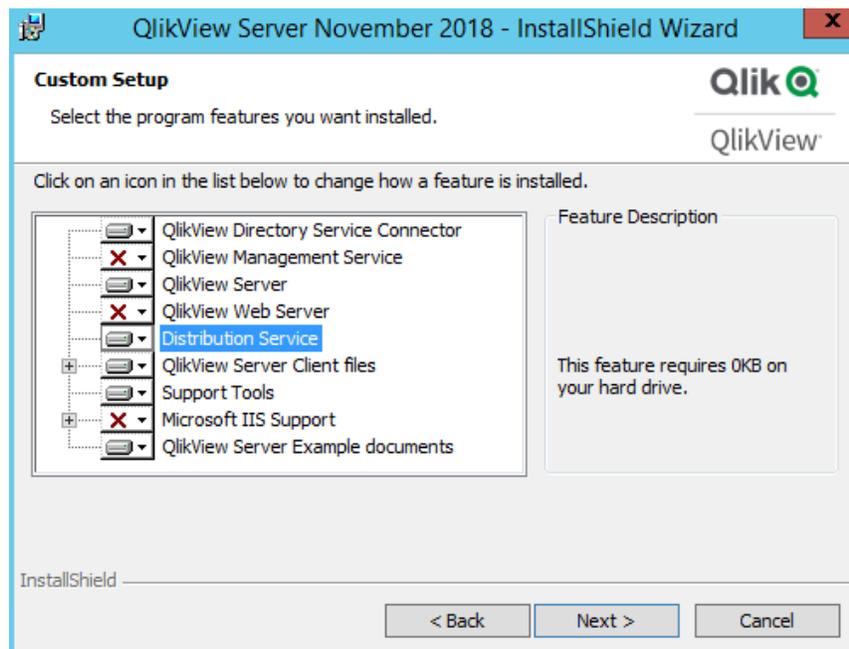
6. You are now presented with a Custom Setup dialog. In this window it will display what you currently have installed on the server.



- We need to add the Distribution Service to this server. As you can see above, it has a red X next to the name. Click the dropdown to show the options for this component.



- Select the second option "This Feature, and all subfeatures, will be installed on the local hard drive." Now the dialog will look like the following. The red X is now gone next to the Distribution Service.



9. Click Next

10. You are presented with the Service Account Logon Information. Enter the username that will be used to run the QlikView Services. The format is <Domain>\<UserName>. If for some reason you need to bypass this step (user is not yet created) then you may check the box to specify the account later. The user that is used for the QlikView Service account must be a local Administrator on the machine. If you are going to specify later, you must put that user in the QlikView Administrators Group that is created during the install as well ([See appendix A](#)).

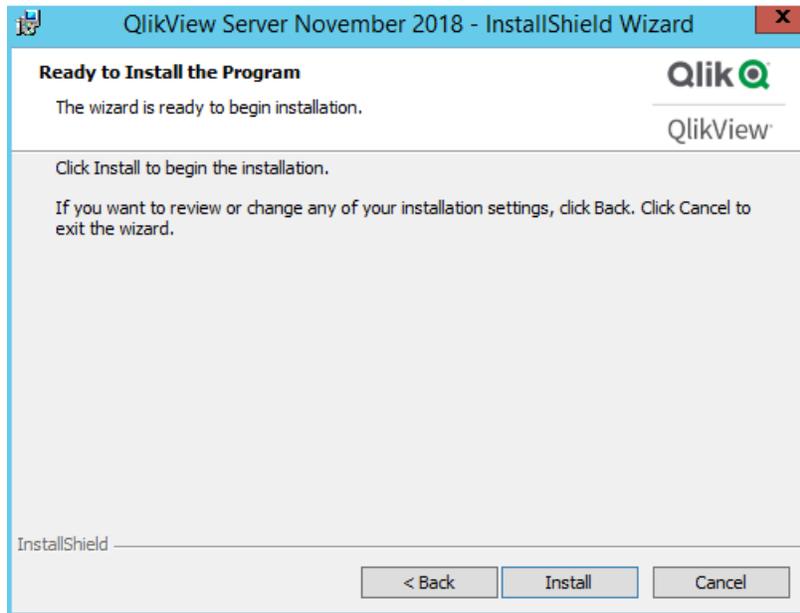
The screenshot shows the 'Logon Information' step of the QlikView Server November 2018 - InstallShield Wizard. The window title is 'QlikView Server November 2018 - InstallShield Wizard'. The QlikView logo is in the top right corner. The main heading is 'Logon Information' with the instruction 'Specify a user name and password'. Below this, a note states: 'Specify the user name and password of the user account that will logon to use this application. The user account must be in the form DOMAIN\Username.' There is a checkbox labeled 'I want to specify the account to be used for the services later.' which is currently unchecked. Below the checkbox, there are two input fields: 'User name:' containing 'domain\username' and a 'Browse...' button to its right; and 'Password:' containing a masked password represented by blue dots. At the bottom of the dialog, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Click Next

11. You will now be prompted to choose between **Digital Certificates** and **QlikView Administrators Group** (default). See the [Online Help](#) for more information regarding Digital Certificates.

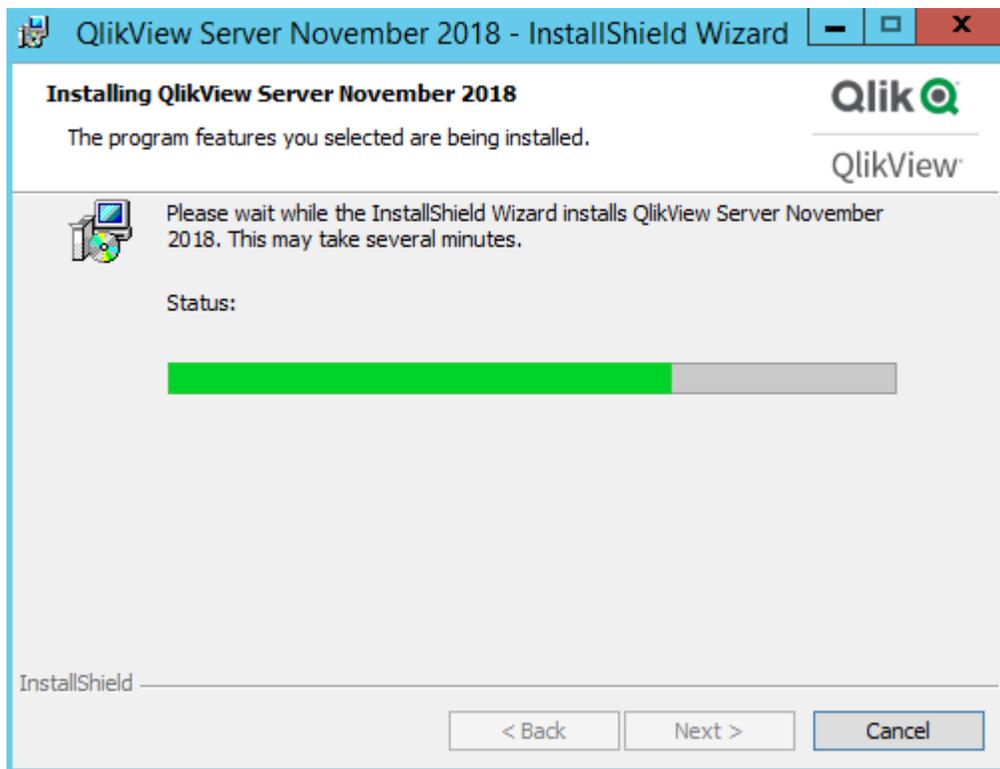
The screenshot shows the 'Service Authentication' step of the QlikView Server November 2018 - InstallShield Wizard. The window title is 'QlikView Server November 2018 - InstallShield Wizard'. The QlikView logo is in the top right corner. The main heading is 'Service Authentication' with the instruction 'Select the QlikView servers authentication method'. There are two radio button options: 'Use digital certificates' (which is unselected) and 'Use QlikView Administrators Group' (which is selected). Below each option is a descriptive paragraph. For 'Use digital certificates', it says: 'Authenticate communication between QlikView servers using digital certificates and SSL. This alternative is recommended in environments where not all servers have access to a common Windows Active Directory or when the security provided by certificate authentication is required.' For 'Use QlikView Administrators Group', it says: 'Authenticate communication between QlikView services based on membership in the local Windows group QlikViewAdministrators. This alternative can be used in environments where all servers that are part of the QlikView installation can authenticate using a common Windows Active Directory.' At the bottom of the dialog, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- At this point, the user name and password are verified for accuracy, if for some reason it does not verify, you will need to ensure the username and password are correct. Once things verify, you are presented with the Ready to Install the Program dialog.

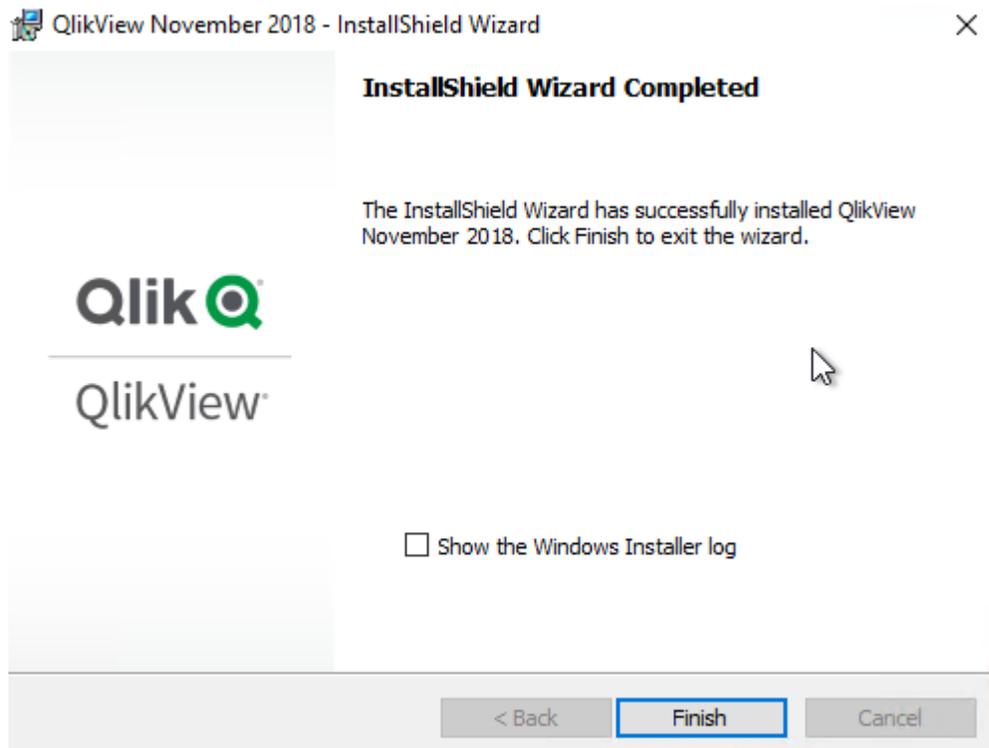


Click Install to begin the installation

- The installation will begin



14. Once the install is complete, you will be presented with the following screen. You may check the box to see the install log if you wish. You will notice that it recommends that you restart the machine, please do so. This is important to ensure the security group is properly created and that the configuration is complete.

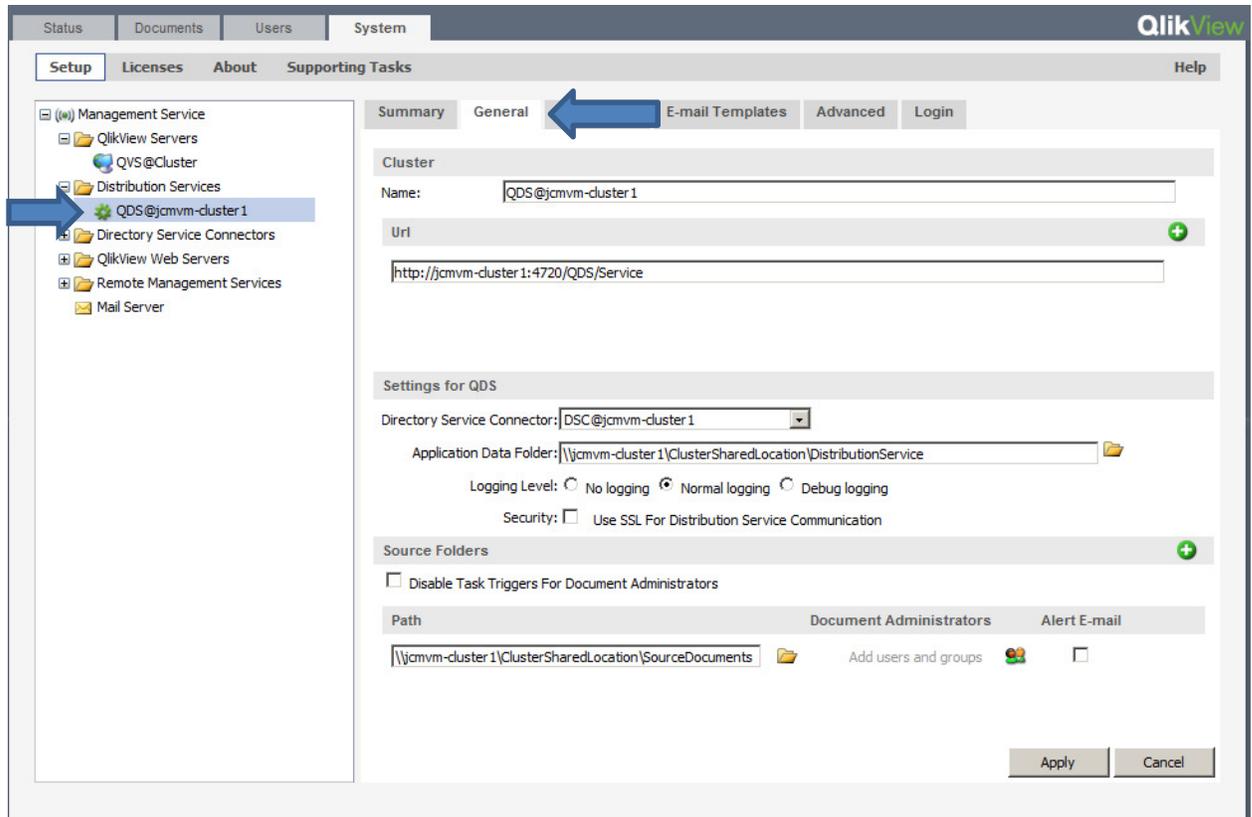


15. Once the server has been rebooted, it is time to move on to the configuration to get things up and running.

5.2.3 Configuring Second QlikView Distribution Service in the Cluster

1. On the Primary server open the QMC.
2. Navigate to System – Setup – Distribution Services- General Tab

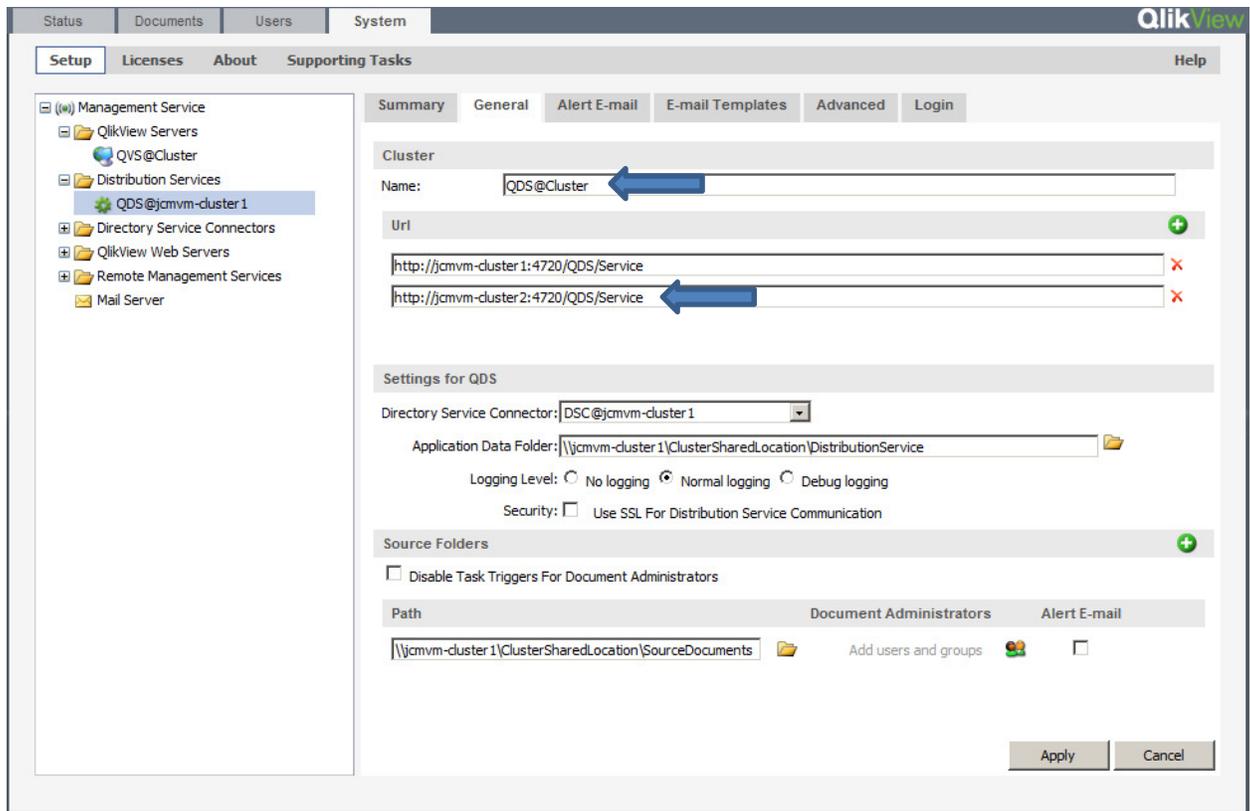




3. Under the Cluster, change the name to QDS@Cluster.

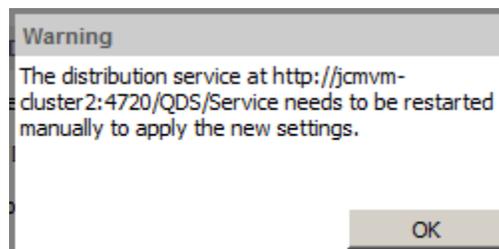
4. Under the URL Section, click the green plus  to add a new line. In the new line, change the server name to match the name of the secondary server. Your screen should look similar to the one below.





5. Click Apply

6. You will receive a message that the distribution service on the secondary server needs to be restarted.



7. In QMC, go to Status – Services, you will notice that the QDS@Cluster has a warning symbol next to it. Click on the QDS@Cluster and in the right hand pane you will see that server2 needs to be restarted.



The screenshot shows the QlikView Services console. The 'Services' tab is active, displaying a table of services. The 'QDS@Cluster' service is highlighted with a yellow warning icon and a status of '1 of 2 running'. The 'Messages' pane on the right shows a message: 'All services in the cluster are running without any reported problems.' Below this, it lists 'jcmvm-cluster1: Running' and 'jcmvm-cluster2: Need Restart'.

Service Name	Running On	Status	Show Alert
QDS@Cluster	2 servers	1 of 2 running	<input checked="" type="checkbox"/>
DSC@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QVS@Cluster	2 servers	Running	<input checked="" type="checkbox"/>
QVWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>

8. Go to the secondary server and restart the Distribution Service.

9. In QMC do a refresh of the Browser, the QDS@Cluster should reset to green and in the right hand side of the window both resources will show a status of running.

The screenshot shows the QlikView Services console after a refresh. The 'QDS@Cluster' service is now highlighted with a green checkmark and a status of 'Running'. The 'Messages' pane on the right shows a message: 'All services in the cluster are running without any reported problems.' Below this, it lists 'jcmvm-cluster1: Running' and 'jcmvm-cluster2: Running'.

Service Name	Running On	Status	Show Alert
DSC@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QDS@Cluster	2 servers	Running	<input checked="" type="checkbox"/>
QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QVS@Cluster	2 servers	Running	<input checked="" type="checkbox"/>
QVWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>

5.2.3.1 Load Balancing Strategies

Load Balancing

The load balancing is determined by an internal ranking system based on the amount of memory available and the CPU use. QlikTech recommends using the default settings, since they have been extensively tested.

To change the default settings, edit the configuration file,

QlikViewDistributionService.exe.config. The key is written in JavaScript:

```
<add key="LoadBalancingFormule" value="(AverageCPULoad*400) +
((MemoryUsage / TotalMemory) * 300) + ((NumberOfQlikViewEngines /
MaxQlikViewEngines)*200) + (NumberOfRunningTasks*100)"/>
```

where:

AverageCPULoad: Average CPU load for all running QVBs.

MemoryUsage: Total memory use for the entire application.

TotalMemory: Total amount of memory on the server.

NumberOfQlikViewEngines: Number of QlikView engines currently used.

MaxQlikViewEngines: Configured value for the maximum number of QlikView engines.

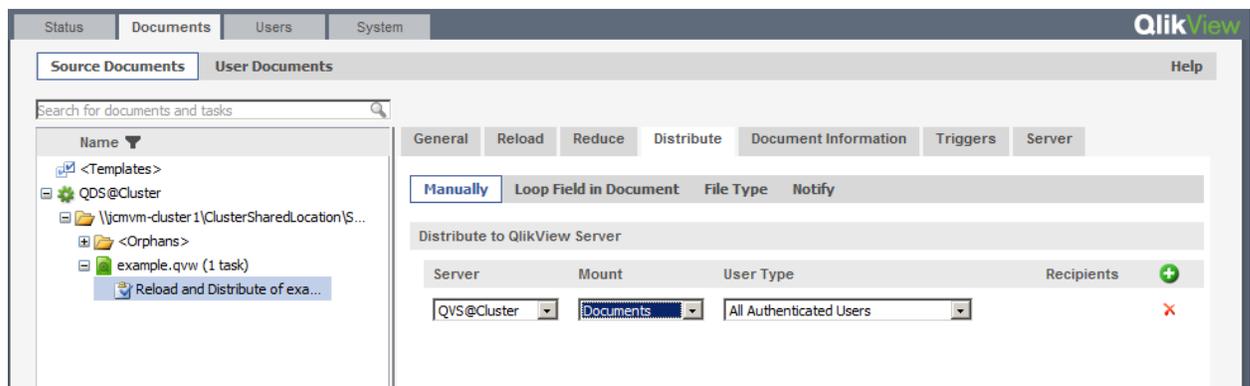
NumberOfRunningTasks: Number of tasks currently running.

5.3 Testing the Cluster

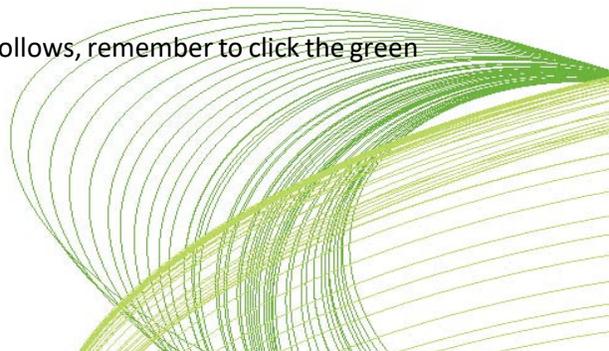


In this case we are not going to test the load balancing of the QDS cluster. However, we will, like the QlikView Server, test the redundancy.

1. Since we removed the task we had configured to take advantage of the new shared locations, a new task must be created.
2. In QMC, navigate to Documents – Source Documents. Expand the tree and click on the example.qvw
3. As we did before, click the green plus in the right hand pane to add a new task.
4. Navigate to the Distribute tab and configure the Distribution as follows:
 - a. Mount = Documents
 - b. User Type = All Authenticated



5. Navigate to the Triggers tab and configure the Trigger as follows, remember to click the green plus.



Configure Trigger

Start the task

Enabled

Once Hourly Daily Weekly Monthly

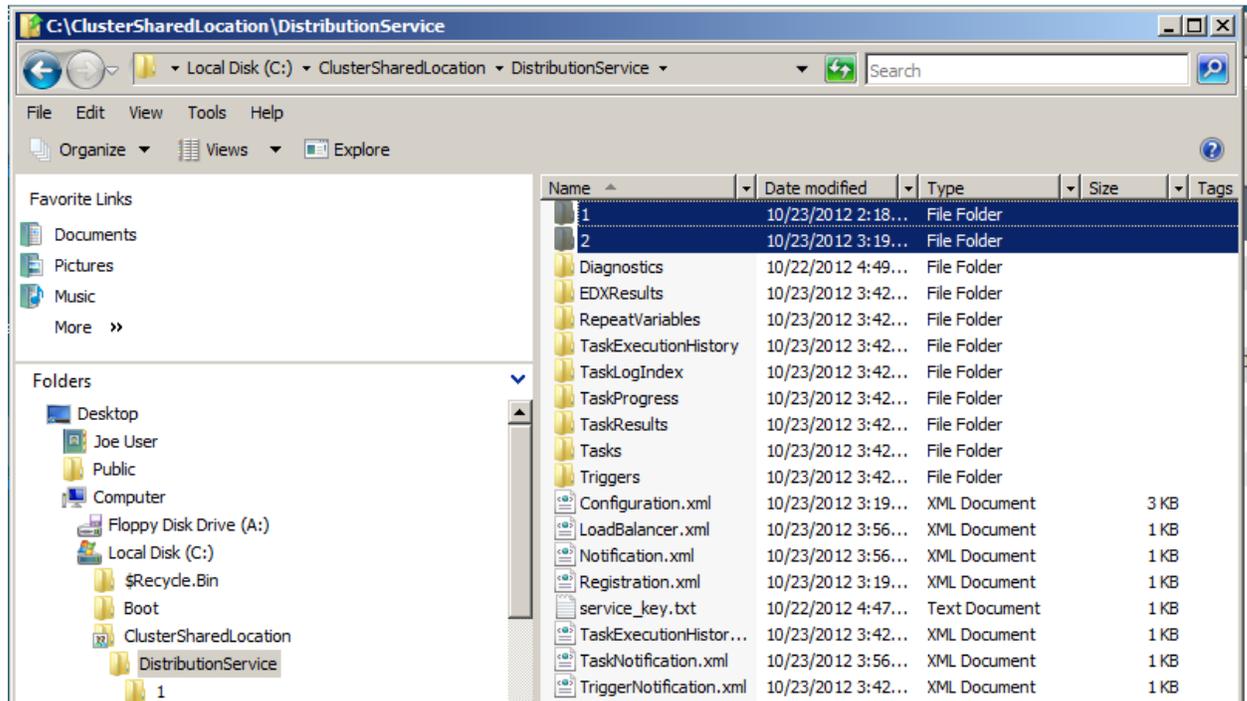
Start at:

No settings needed.

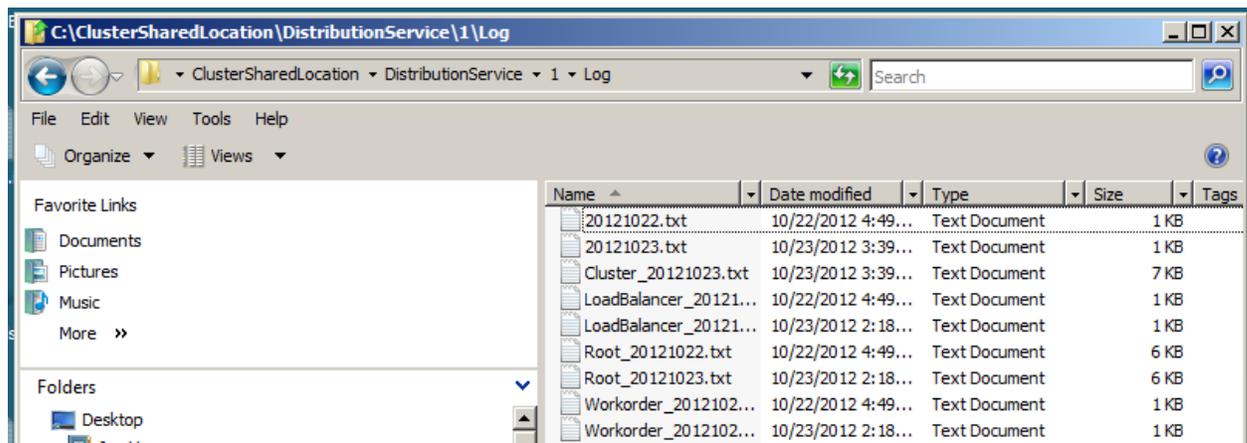
OK Cancel

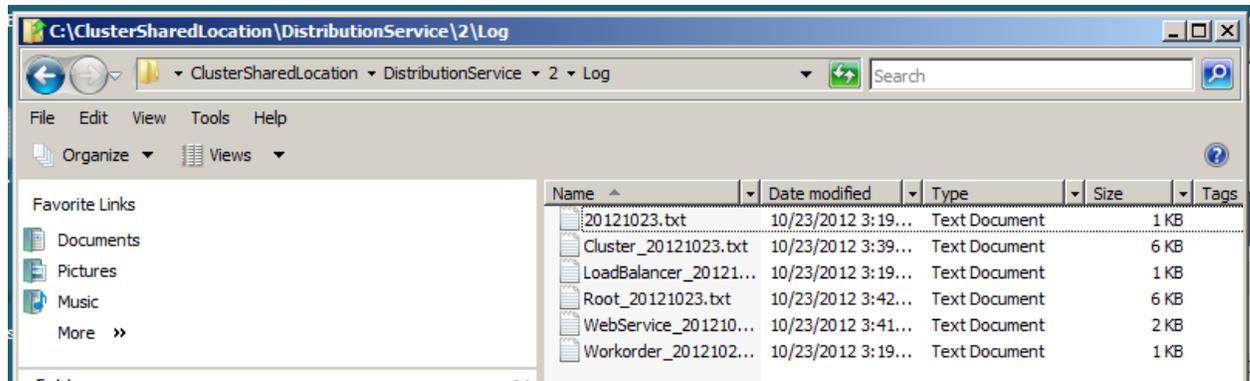
6. Click OK then Apply. For reference see section [3.2.1](#)
7. If you go to the shared folder for the Distribution service you will notice that there are two numbered folders (1 and 2). Where 1 = the primary QDS and 2 = the secondary QDS. Tasks

that run on server 1 will be found in the 1 folder and tasks run on server 2 will be found in the 2 folder.

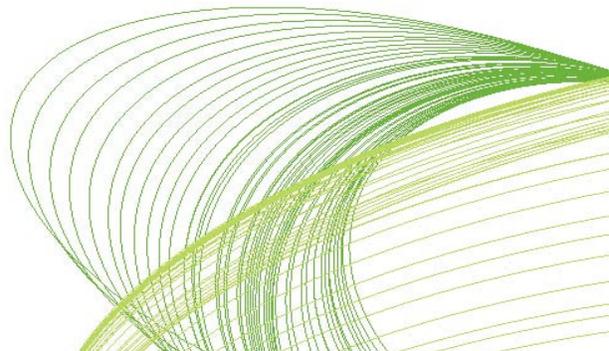
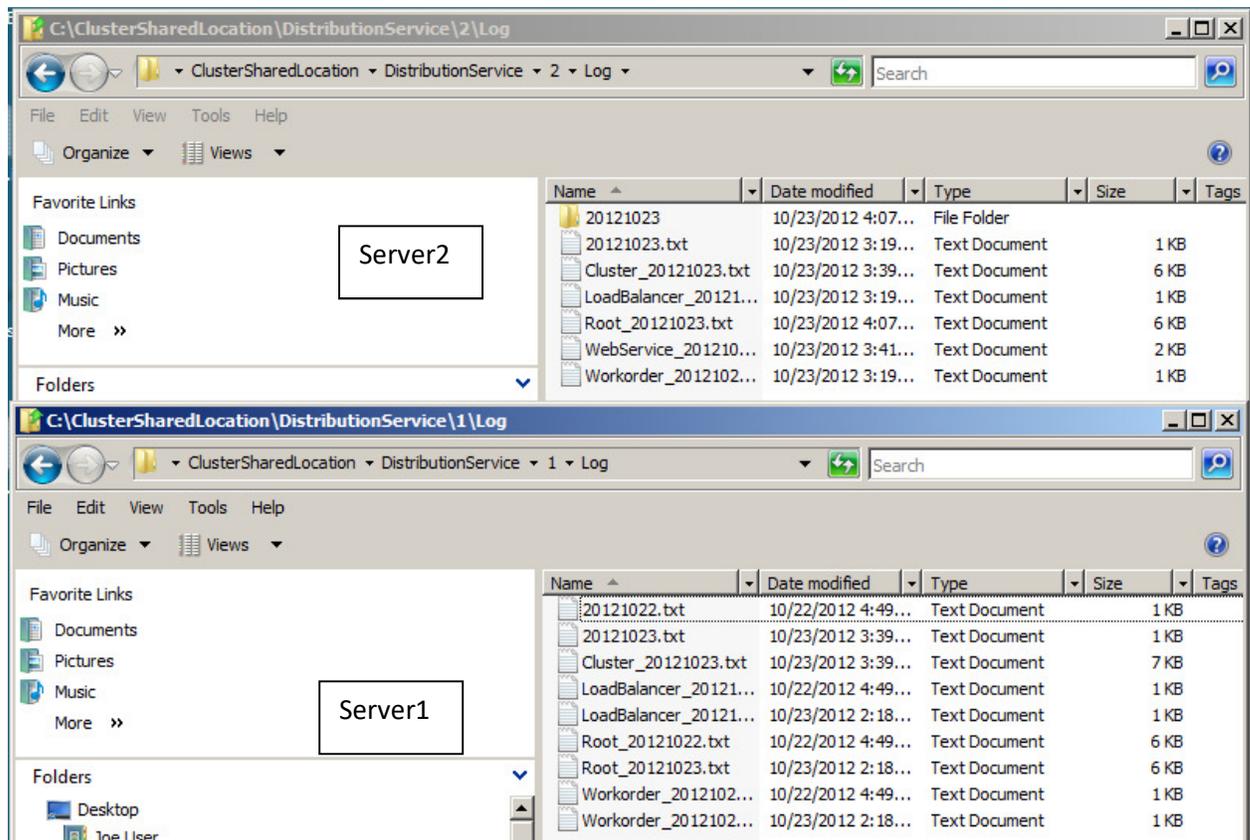


8. If you open either folder at this point, there will not be a subfolder for the current day as no tasks have been run yet.





9. Now that there is a task, we can test the redundancy.
10. Stop the Distribution Service on the Primary server.
11. Run the task (see step 17 on page 32; Section [3.2.1](#)).
12. If you check the log folders again, you will see that Server1 was not running the task, it ran on server2.



13. If you wish, you may stop the service on Server2 and start the service on Server1 and rerun the task. In the Log folder for Server1 you will see a folder created.
14. At this point, ensure the QDS service is running on both servers so we are back to a typical state.

Congratulations, you have configured and tested a QlikView Publisher Cluster!



6 Setting Up A Simple Directory Service Cluster

6.1 Requirements

- A cluster of Directory Service Connectors does not require any specific settings. The difference between clustered and non-clustered DSC's is whether the settings are shared or not.
- No special licensing is required.
- No shared storage is required.

6.2 Configuration

6.2.1 Adding A Second Directory Service Connector

This is the simplest of the services to configure as most of the work has been done for you. When you installed the QlikView Server on the secondary server (Server2), a Directory Service connector was installed to the machine as well.

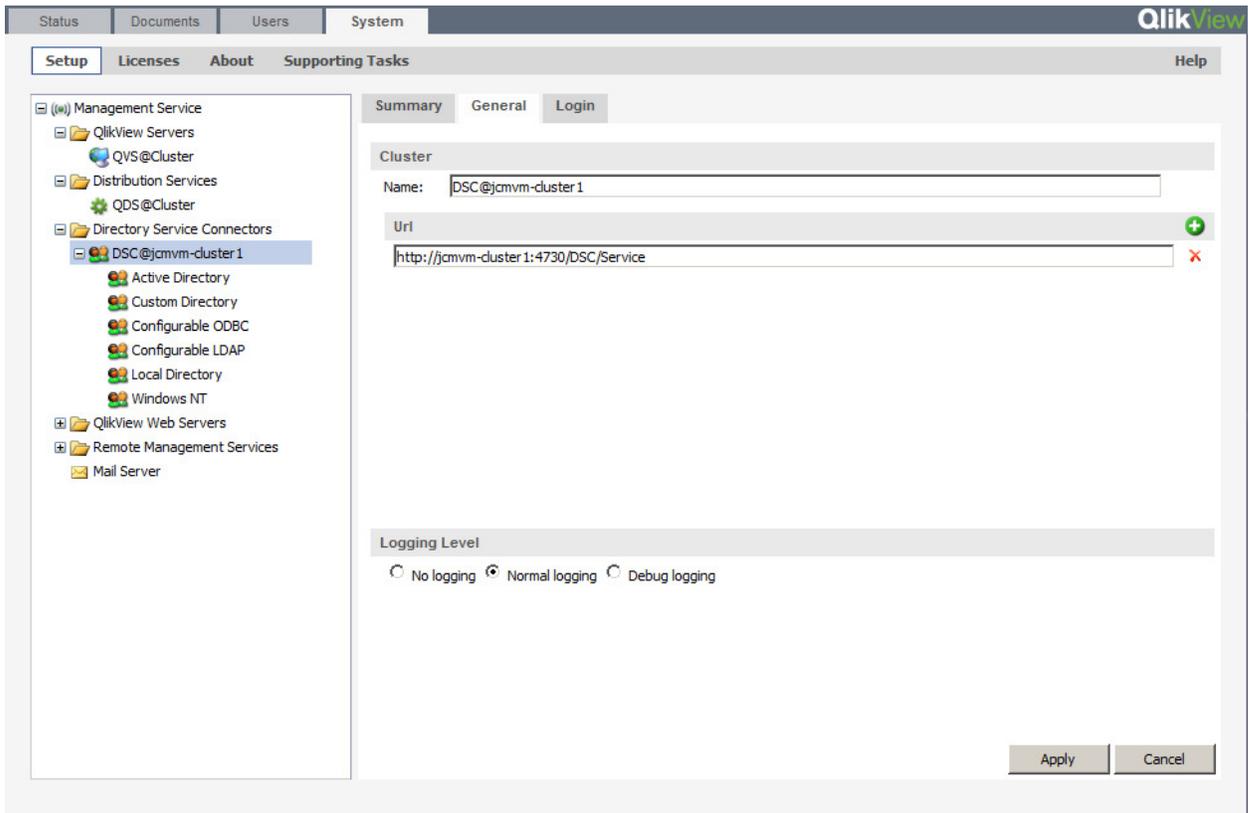
No Extra steps necessary, except to ensure the service is up and running on Server2.

6.2.2 Configuring Second QlikView Directory Service Connector in the Cluster

1. Open the QlikView Management Console (QMC) on the primary server (Server1).
2. Navigate to System –Setup – Directory Service Connector.
3. Click on the DSC@<servername>.



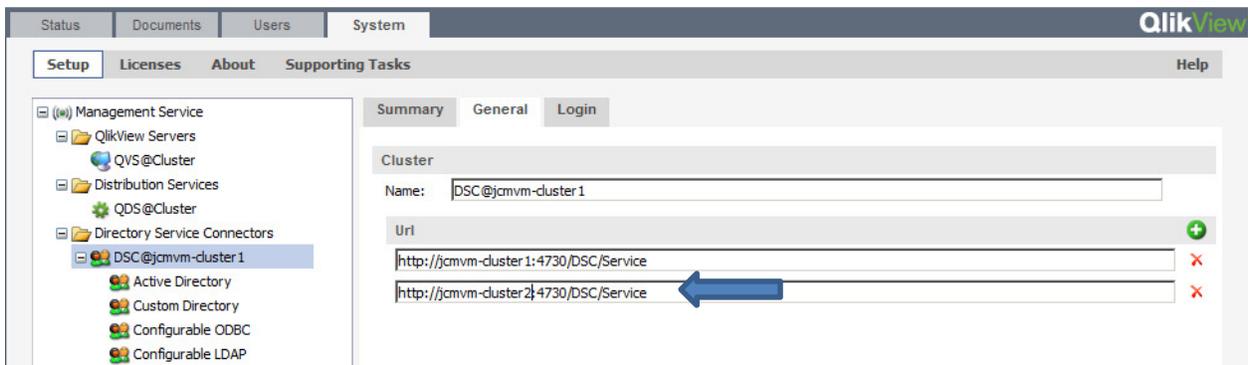
4. Go to the General tab.



5. Change the Name to DSC@Cluster.

6. Under the URL section, click the green plus to add a new line.

7. Change the server name to the secondary server.



8. Click Apply

9. Nothing needs to be restarted.



10. In QMC, navigate to Status – Services, you will see that the Directory Service Connectors are clustered and online.

Service Name	Running On	Status	Show Alert
DSC@Cluster	2 servers	Running	<input checked="" type="checkbox"/>
QDS@Cluster	2 servers	Running	<input checked="" type="checkbox"/>
QMS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>
QVS@Cluster	2 servers	Running	<input checked="" type="checkbox"/>
QWWS@jcmvm-cluster1	jcmvm-cluster1	Running	<input checked="" type="checkbox"/>

Messages

All services in the cluster are running without any reported problems.

jcmvm-cluster1: Running

jcmvm-cluster2: Running

6.3 Testing The Cluster

1. To test the Directory Service Connector (DSC) cluster, search for users.
2. Open QMC and navigate to Users – User Management.
3. In the Search for User box, enter an *. This will search for all users; you may want to narrow the search if your system has a large number of users/groups. The return should look something like the following:

Search for User: *

Search in: All Directories

User	Path	CALs	Server Objects	Groups	Documents	Distributions
Account Operators	jcm\Account Operators					
Administrator	jcm\Administrator					
Administrators	jcm\Administrators					
Allowed RODC Password Replication Group	jcm\Allowed RODC Password Replication Group					
Backup Operators	jcm\Backup Operators					
Cert Publishers	jcm\Cert Publishers					
Certificate Service DCOM Access	jcm\Certificate Service DCOM Access					
Cryptographic Operators	jcm\Cryptographic Operators					
Denied RODC Password Replication Group	jcm\Denied RODC Password Replication Group					
Distributed COM Users	jcm\Distributed COM Users					
DnsAdmins	jcm\DnsAdmins					
DnsUpdateProxy	jcm\DnsUpdateProxy					
Domain Admins	jcm\Domain Admins					
Domain Computers	jcm\Domain Computers					
Domain Controllers	jcm\Domain Controllers					
Domain Guests	jcm\Domain Guests					
Domain Users	jcm\Domain Users					
Enterprise Admins	jcm\Enterprise Admins					
Enterprise Read-only Domain Controllers	jcm\Enterprise Read-only Domain Controllers					
Event Log Readers	jcm\Event Log Readers					
Group Policy Creator Owners	jcm\Group Policy Creator Owners					
Guest	jcm\Guest					
Guests	jcm\Guests					
IIS_IUSRS	jcm\IIS_IUSRS					

Apply



4. As with the QlikView Server, you may turn the Directory Service Connector off on one of the servers, and check to see if you can still look up users. Then bring that server back online, and shut off the other server and search for users. Each time you should return a list of users.
5. Remember to ensure both servers are running after you have completed testing.

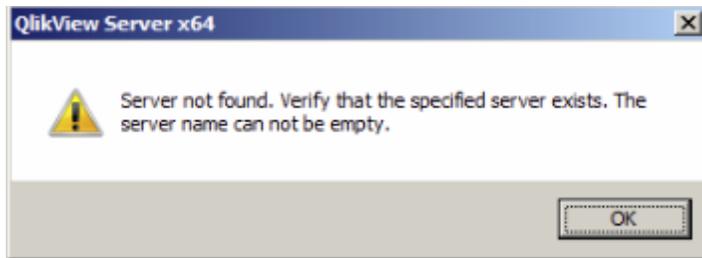
Congratulations, you have setup and configured a Directory Service Connector cluster.



7 Appendix A

When installing QlikView Server, you may experience the following when attempting to set the service account:

- Using Browse... button will only list local server name, not the domain
- Manually providing correct username and password will render a warning:



If possible, NETBIOS can be enabled during the installation and disabled after the installation is finished. This may however not be doable due to security concerns.

If NETBIOS cannot be enabled, the credentials for the service account need to be set manually on the services after the installation is completed.

Another option is to do a command line installation of QlikView Server and provide the following parameters:

- `IS_NET_API_LOGON_USERNAME="Domain\User"`
- `IS_NET_API_LOGON_PASSWORD="password"`
- `IS_NET_API_NET_VALID_USER="1"`

For more information about command line parameters when installing QlikView Server, see the chapter Silent Installation in the QlikView Server Reference Manual.

