



AVEVA LFM NetView Upgrade Guide

LFM NetView Version: 4.2.2.0

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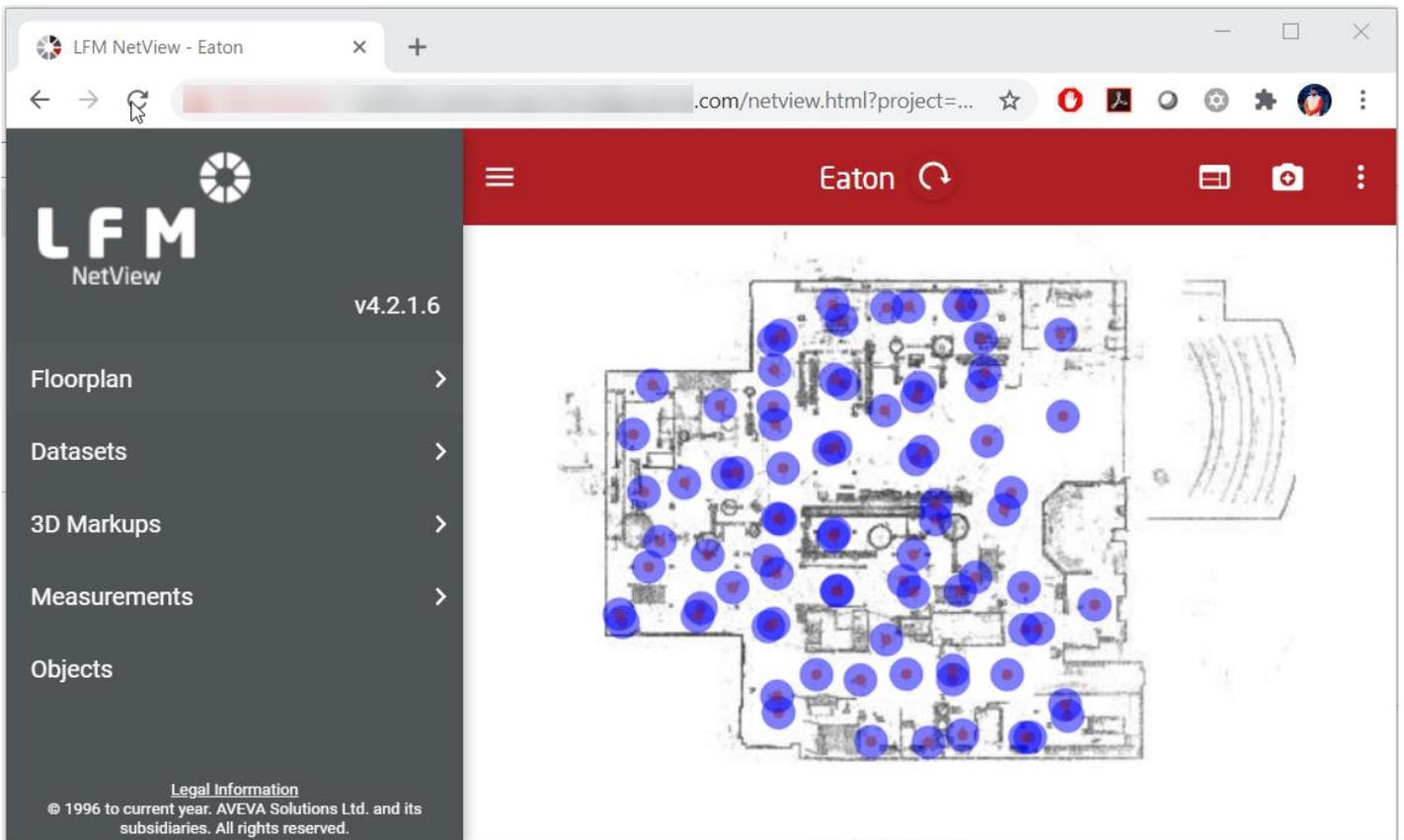
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1. Introduction

The intention of this guide is to provide the reader with an upgrade path from earlier versions of LFM NetView to version 4.2.2.0. This guide will use an LFM NetView 4.2.1.6 project being upgraded to LFM NetView 4.2.2.0 as an example.

2. Preparation Prior to the Upgrade

Before commencing with the upgrade, ensure that your existing implementation is functioning as designed, do this by accessing the LFM NetView project and successfully taking a point reading.



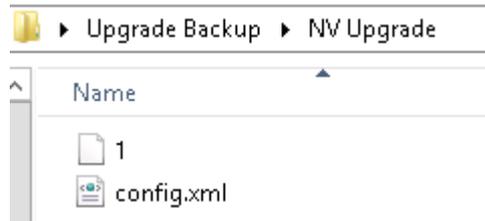
If this returns a valid position, the measurement will appear in the sidebar which indicates that the key components are in place and are functioning correctly. You can now proceed with the upgrade.

If you are unable to obtain a valid point reading this indicates that there is an issue with the existing deployment. Please contact your AVEVA LFM Value Added Reseller or lfm.support@aveva.com for help resolving any issues with the existing deployment **before beginning the upgrade**. Once any issues have been diagnosed and fixed, the upgrade can commence.

2.1. Back up the Existing Configuration

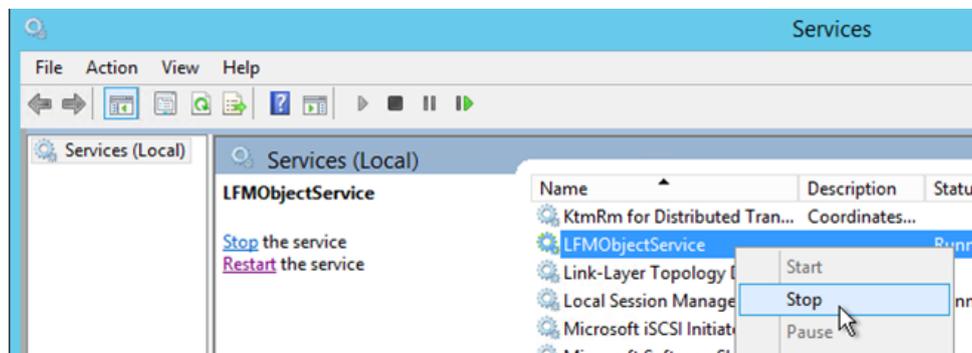
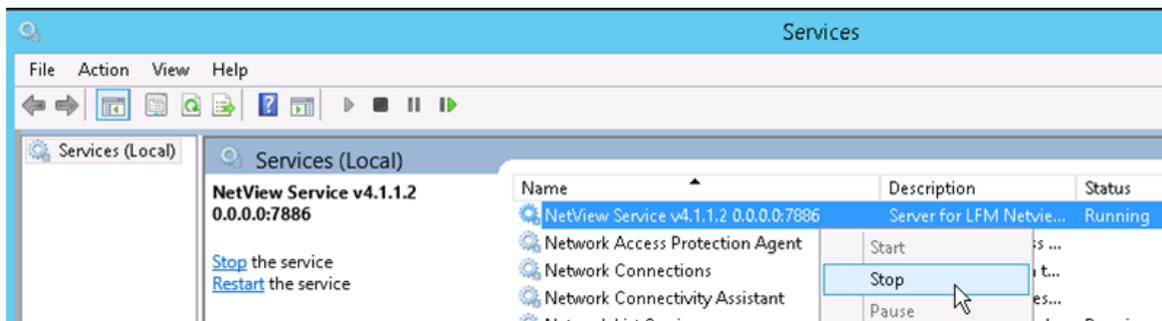
Log on to the LFM NetView server machine that you are going to upgrade using an administration account.

Take a backup of the LFM NetView Service **config.xml** file and the **1** file from *C:\Program Files\LFM Software\LFM NetView Service (version)* folder, and store them in a safe location.



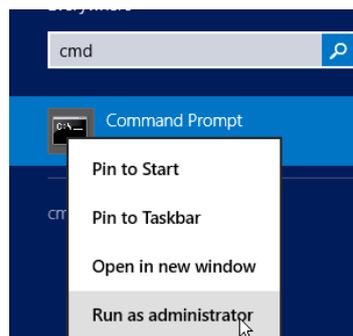
2.2. Remove the Old Windows Services

Run the Services application and stop the **NetView Service** and the **LFM Object Service**.



The above snapshots are for reference purposes only

Open a command prompt using *Run as Administrator*.



De-register the existing LFM NetView Service and LFM Object Service using the commands below.

Note: Your version/port numbers may differ.

Note: *Object Service* is available in *LFM NetView 4.2.1.0 and prior versions*. If you are upgrading from LFM NetView 4.2.1.6 to 4.2.2.0, you will not find Object Service.

```
sc delete " NetView Service v4.2.1.6 0.0.0.0:8080"
```

and...

```
sc delete "LFM Object Service"
```



```
C:\Users\>sc delete "NetView Service v4.1.0.1 0.0.0.0:8080"
[SC] DeleteService SUCCESS

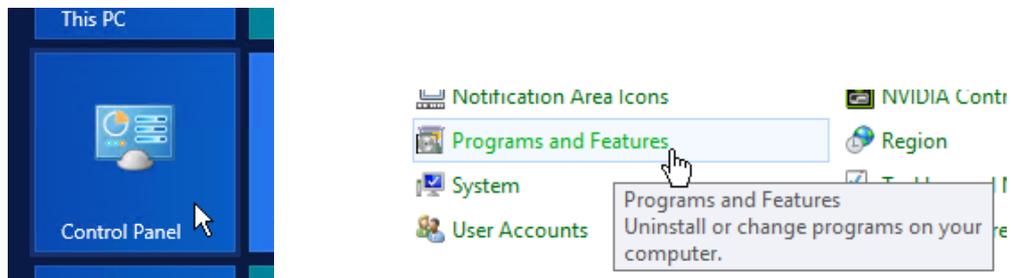
C:\Users\>sc delete "LFM Object Service"
[SC] DeleteService SUCCESS

C:\Users\>
```

This snapshot is for reference purposes only

2.3. Uninstall the Old Components

From the *Windows Control Panel* select *Programs and Features*.



Uninstall the following:

1. LFM 4.x.x.x
2. LFM NetView 4.x.x.x
3. LFM Object Service
4. LFM NetView Service

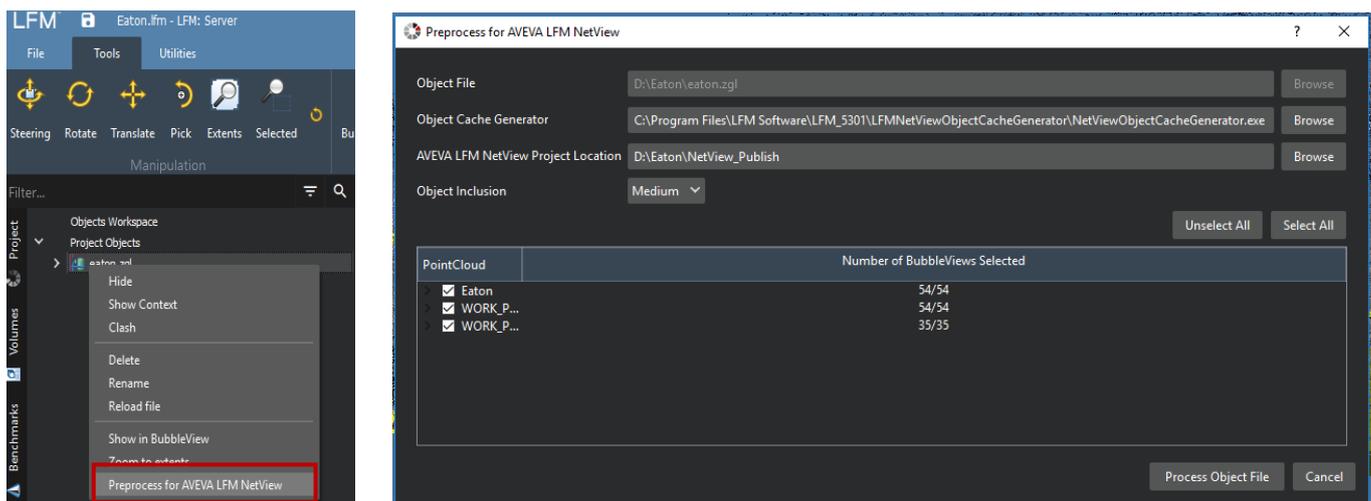
For example (note your versions may differ):



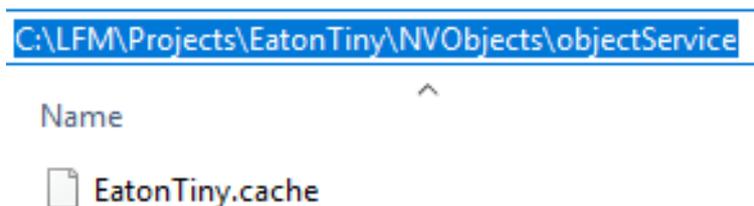
2.4. Object Service Considerations

Earlier versions of the LFM Object Service provided a facility to directly stream a 3D .zgl file to the LFM NetView BubbleViews. Later versions require the creation of additional deliverables to be placed into a cache folder. In order to create the new cache file please note that the process is detailed in the *LFM Server Home guide* that is delivered with the LFM Server product. However, the key steps are also available below...

Run the latest version of AVEVA LFM Server and open your LFM Server project. Select the *Objects* tab and right click on the .zgl model to show. Select the Preprocess for LFM NetView option from the .zgl right click menu.



This process should create the new .cache file for use with LFM NetView 4.2.2.0. The name of the .cache file should match the name of the LFM Server project.



The above image is for reference purposes only

2.5. Project Authentication or Single Sign-On

LFM NetView 4.2.1.0 onwards supports Single Sign-On to control access to the LFM NetView project. If you are switching from using the existing Project Authentication to Single Sign-On, there are several steps which must be in place first. The options to continue with Project Authentication or to switch to Single Sign-On are discussed below.

2.5.1. Continue with Project Authentication

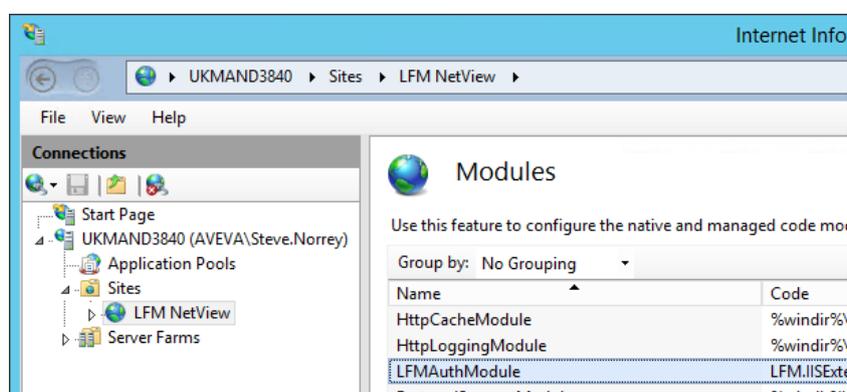
Project Authentication utilises the user accounts created inside the LFM Server project. Each user will have their own username and password which is not linked to Active Directory. Using this method, each user will be required to log in each time they want to access a project. This process is controlled using an IIS Module called *LFMAuthModule*.

If you wish to continue using Project Authentication, ensure that you select the *Project Authentication* option when you run the LFM NetView 4.2.2.0 Config Wizard during the upgrade. If you wish to switch to Single Sign-On please follow the instructions below instead.

2.5.2. Single Sign-On

Single sign-on (SSO) is a session and user authentication service that permits a user to use one set of login credentials (username and password) to access multiple applications. The user is asked to login on first connection to LFM NetView and is then given an authentication token for a certain period of time (this period of time is defined during deployment in the LFM NetView Config Wizard). Whilst the authentication token is still valid the user does not need to enter their credentials again in order to access further authorised LFM NetView projects. When the token expires, the user will be asked for their credentials again which will re-new the authentication token. If you decide to switch from *Project Authentication* to *Single Sign-On* you will need to have several things in place before you start the upgrade as mentioned below. These items are discussed in more detail in section [6.1. Preparation for Upgrading to Single Sign-On](#).

- You will need to have a Windows Authentication Security group created for each of the projects that you host on your LFM NetView Server. You will be asked for the group prefix when using the *Config Wizard*.
- You will need to add the users to each of the groups, so that they can gain access to the project.
- You will need to know what duration to apply to the access tokens that will be used to permit subsequent access. A range between 1 and 12 hours can be permitted.
- You will need to manually remove the *LFMAuthModule* module in order to avoid any conflict between the two authentication methods. Running the LFM NetView 4.2.2.0 Config Wizard and selecting *Single Sign-On* will automatically implement a replacement module in IIS.



- Finally, the Single Sign-On Authentication method defaults to https and it is recommended that this protocol is used.

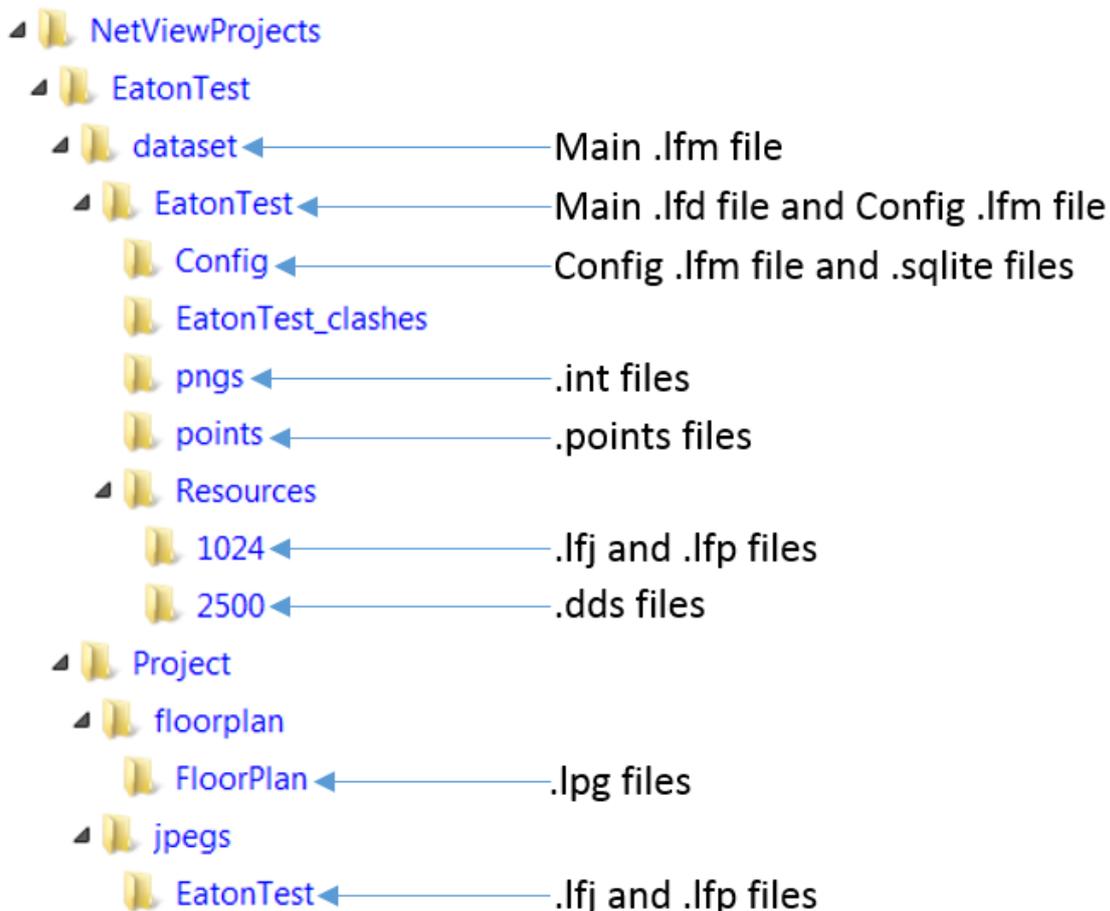
2.6. Accounting for Security Software

If your server has security software installed, it is possible that this could conflict with the running of the PowerShell scripts used for the upgrade. **Please check prior to commencing the upgrade if your Server has any such software installed.** If you have such software in place it should be disarmed for the duration of the upgrade. If you have Cylance installed, please see the section on *Accounting for Cylance* in the appendix.

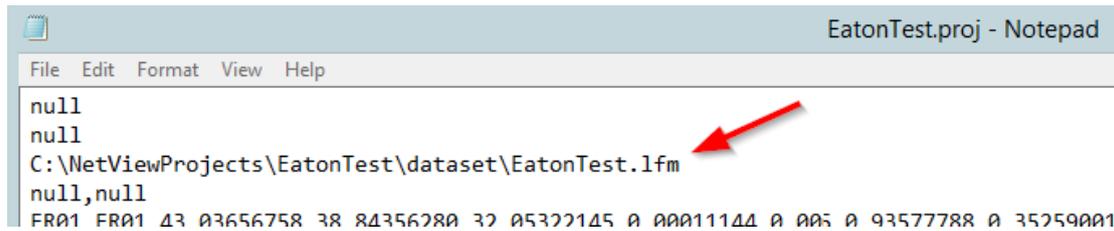
2.7. Modify the Structure of the Existing LFM NetView Project (if it predates LFM NetView 4.2.0.0)

LFM NetView versions 4.2.0.0 and later have been designed to support projects containing multiple datasets. Therefore, if your dataset predates this version, it is necessary to modify the project data structure and edit the .proj file to reference the .lfm rather than the .lfd file. This is covered in the steps below. If your dataset does not predate LFM NetView 4.2.0.0 please proceed to the next section.

- In the dataset folder which contains the .lfd file, create a folder with the name of the dataset and put everything **except the .lfm file** in the newly created folder.
- In the jpegs folder within the project folder, also create a folder with the name of the dataset and put everything in it.
- The following diagram, shows the main file types found in each folder.



- Navigate to and open the existing **.proj** file. Edit this so it refers to the **.lfm** file rather than the **.lfd**

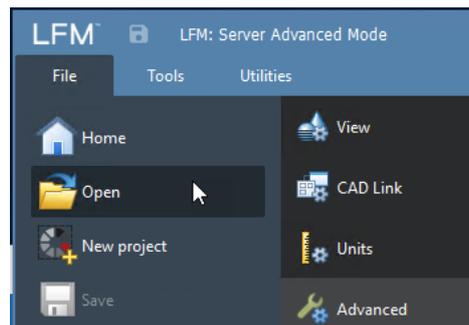


The **.lfm** file must be in the **dataset** (original location) folder. As the location of the **.lfd** file has changed you will need to open LFM Server to relocate the **.lfd** file as described below.

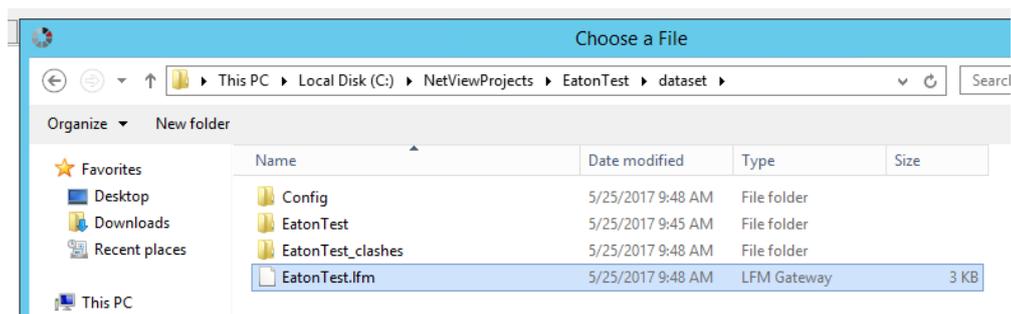
- Run LFM Server.



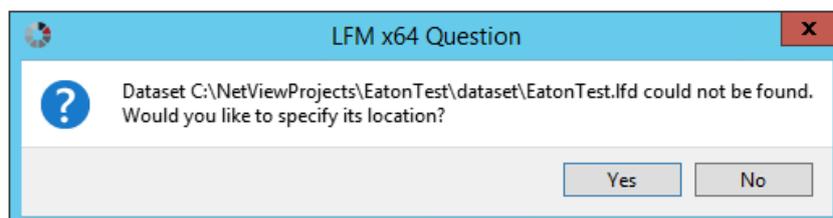
- Select *Open*.



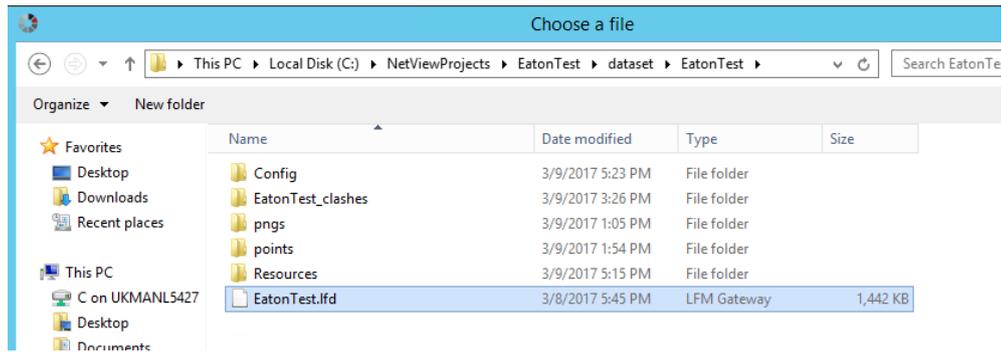
- Select the **.lfm** file.



- The dataset will be unable to locate the **.lfd** file so select **Yes** on the dialog box shown below.



- Navigate to and select the **.lfd** file.



- Exit LFM Server.

3. Prepare the Server for Upgrade

3.1. Obtain the Required Upgrade Software

Obtain the installers for the following components and copy them to the LFM NetView server that you wish to upgrade.

LFM NetView 4.2.2.0	https://www.aveva.com/en/Services_and_Support/AVEVA_Product_Support/
Chef Client 12.21.26 (Windows)	https://downloads.chef.io/chef/stable/12.21.26

Once these installers are present on the LFM NetView server machine, follow the steps below.

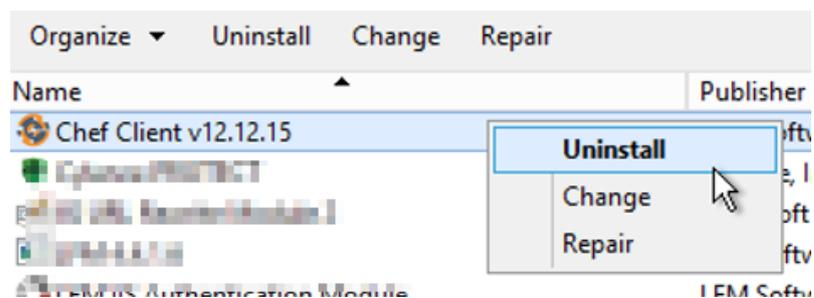
3.2. Prepare the Chef Client

Log on to the LFM NetView Server machine that you are going to upgrade using an administration account.

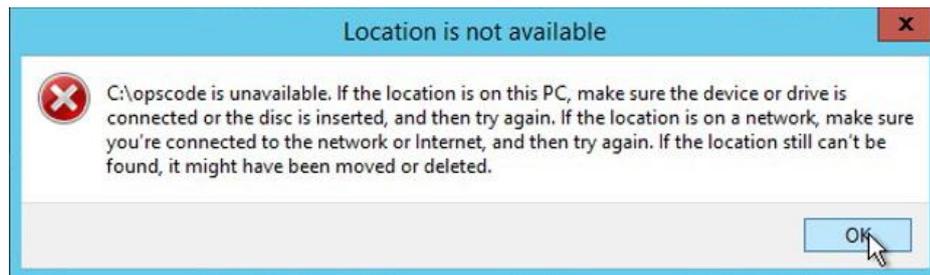
LFM NetView 4.2.1.6 and later versions are designed to be installed using Chef Client 12.21.26, therefore the Chef Client will need to be upgraded first if it using older versions.

3.2.1. Update your Current Chef Client

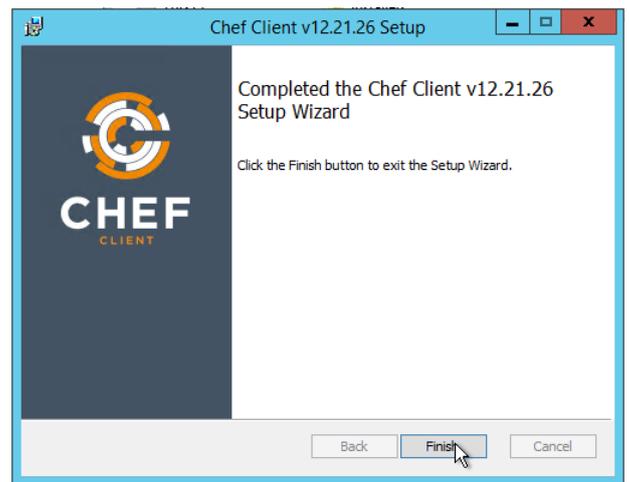
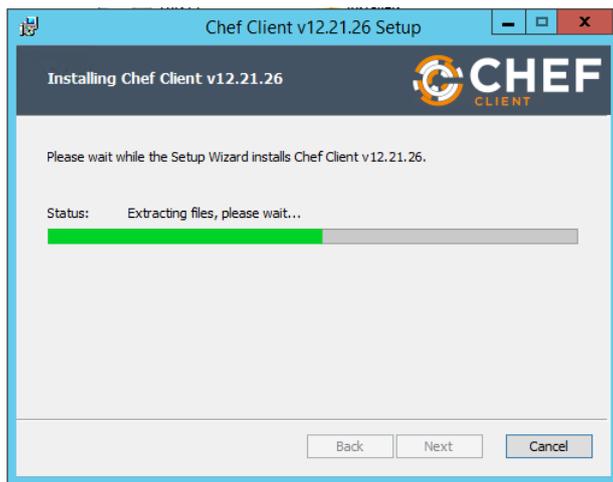
In the Windows *Add/Remove Programs* dialog, right click on the Chef Client and select *Uninstall*.



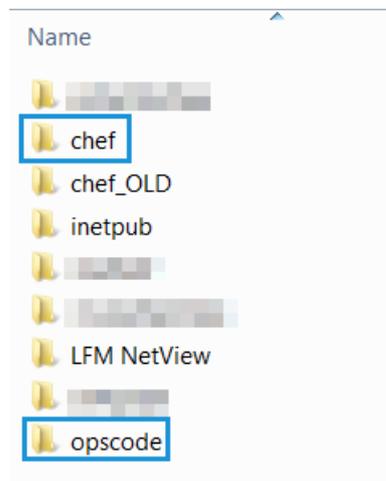
If you see the message shown below, simply click *OK* on this dialog.



Remove or rename the *C:/chef* folder and install **version 12.21.26** of the Chef Client.

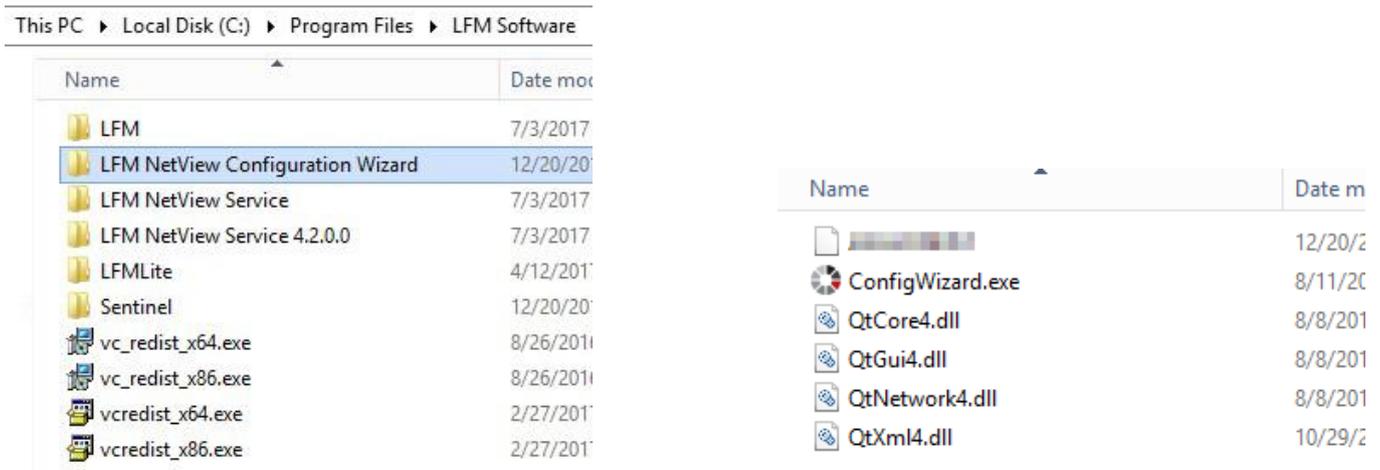


The *opscode* and *chef* folders are now reinstated.



3.3. Install the LFM NetView 4.2.2.0 Config Wizard

When installing the Config Wizard it will overwrite the previous version of this component.



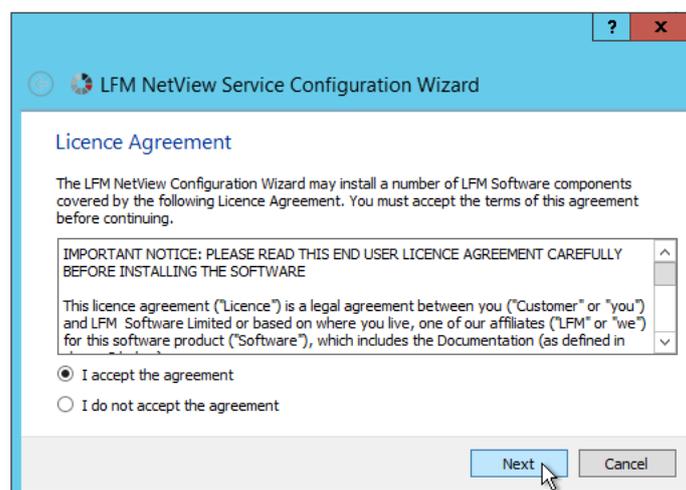
4. Run the LFM NetView 4.2.2.0 Config Wizard – Retaining Project Authentication

In this example, the Config Wizard will be executed on a project that is currently using Project Authentication which will continue to use Project Authentication after the upgrade. If you wish to switch from Project Authentication to Single Sign On, please see section [5 - Run the LFM NetView 4.2.2.0 Config Wizard – switch from Project Authentication to Single Sign-On](#)

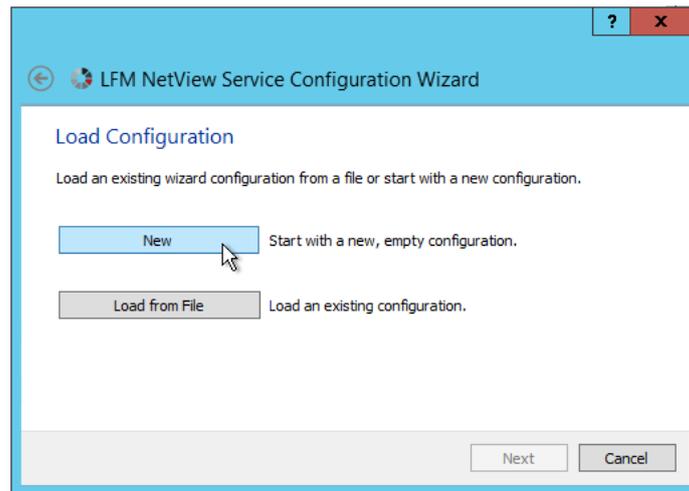
Before implementing the new components, make sure that *Chef v12.21.26 has been installed* and *any requirements regarding security software* have been applied. Failure to do so is likely to result in the PowerShell Scripts failing.

Please note the information provided to the Config Wizard is that of the project that has already been implemented on the LFM NetView server machine.

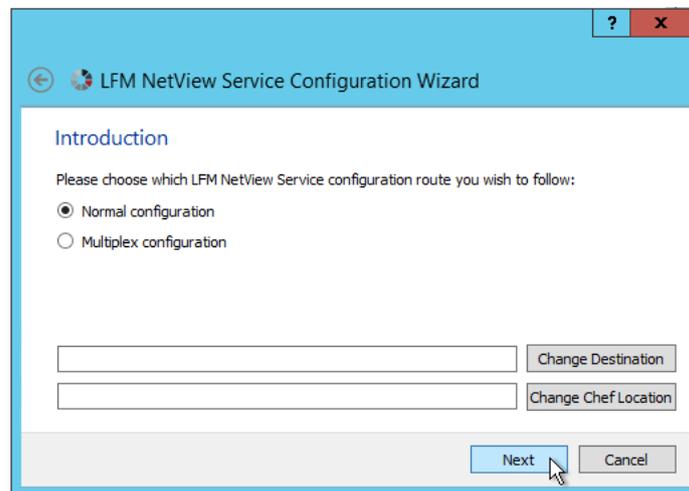
- Run the Config Wizard.



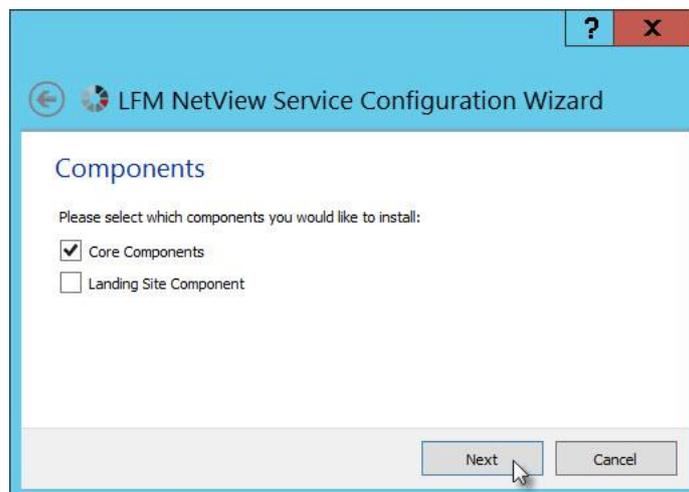
- Select *New*.



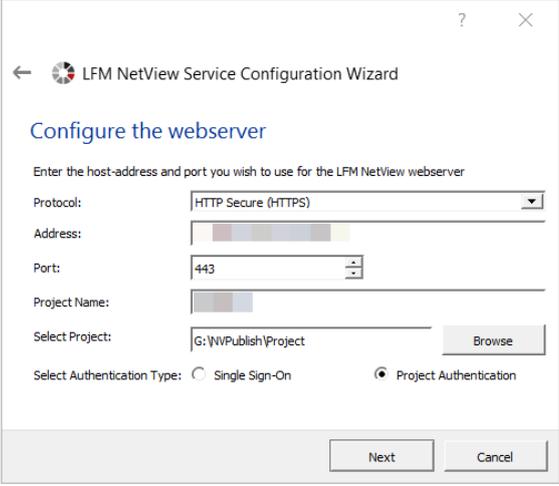
- Select *Normal Configuration*.



- Select *Core Components*.



- Provide the details of the existing project and select *Project Authentication*.

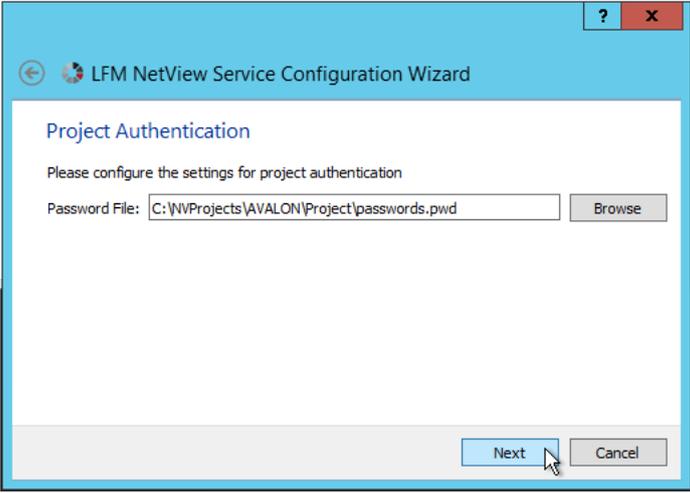


The screenshot shows the 'Configure the webservice' step of the LFM NetView Service Configuration Wizard. The window title is 'LFM NetView Service Configuration Wizard'. The main heading is 'Configure the webservice'. Below the heading, there is a prompt: 'Enter the host-address and port you wish to use for the LFM NetView webservice'. The form contains the following fields and options:

- Protocol: HTTP Secure (HTTPS) (dropdown menu)
- Address: [Redacted]
- Port: 443 (spin box)
- Project Name: [Redacted]
- Select Project: G:\NVPublish\Project (text box) with a 'Browse' button
- Select Authentication Type: Single Sign-On, Project Authentication

At the bottom of the window, there are 'Next' and 'Cancel' buttons.

- Provide the *passwords.pwd* location.

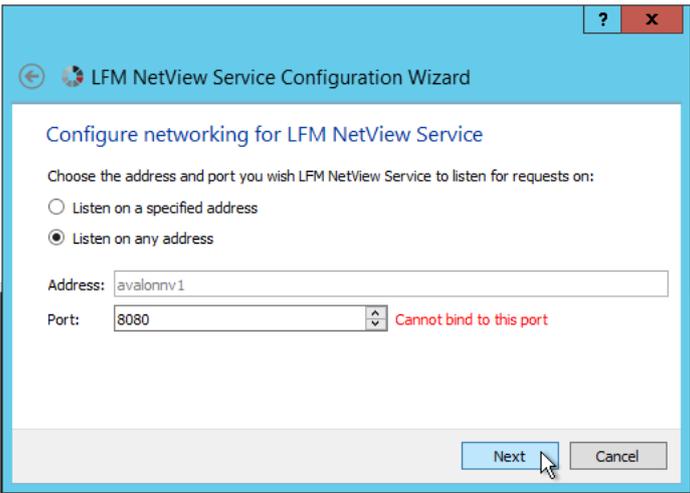


The screenshot shows the 'Project Authentication' step of the LFM NetView Service Configuration Wizard. The window title is 'LFM NetView Service Configuration Wizard'. The main heading is 'Project Authentication'. Below the heading, there is a prompt: 'Please configure the settings for project authentication'. The form contains the following fields and options:

- Password File: C:\NVProjects\AVALON\Project\passwords.pwd (text box) with a 'Browse' button

At the bottom of the window, there are 'Next' and 'Cancel' buttons.

- Select Listen on *any address*.

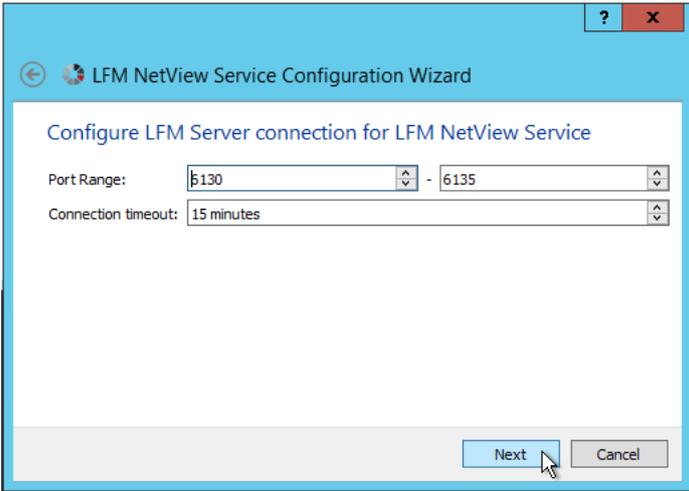


The screenshot shows the 'Configure networking for LFM NetView Service' step of the LFM NetView Service Configuration Wizard. The window title is 'LFM NetView Service Configuration Wizard'. The main heading is 'Configure networking for LFM NetView Service'. Below the heading, there is a prompt: 'Choose the address and port you wish LFM NetView Service to listen for requests on:'. The form contains the following fields and options:

- Listen on a specified address:
- Listen on any address:
- Address: avalonnv1 (text box)
- Port: 8080 (spin box) with a red error message: 'Cannot bind to this port'

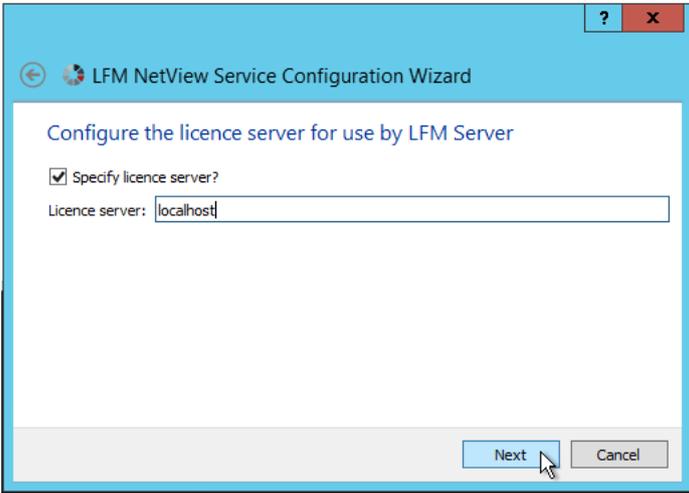
At the bottom of the window, there are 'Next' and 'Cancel' buttons.

- Leave the default values and select *Next*.



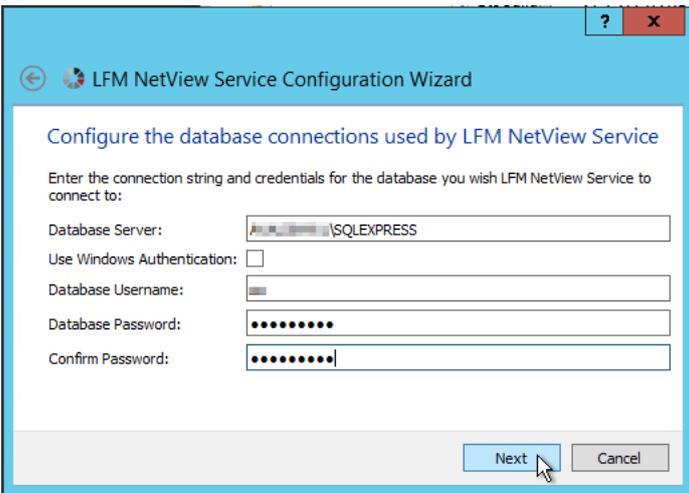
The screenshot shows the 'Configure LFM Server connection for LFM NetView Service' step of the wizard. It features two input fields: 'Port Range' with values '6130' and '6135', and 'Connection timeout' set to '15 minutes'. 'Next' and 'Cancel' buttons are at the bottom right.

- Specify where the license file is held. If this is on the same machine you are using enter *localhost*.



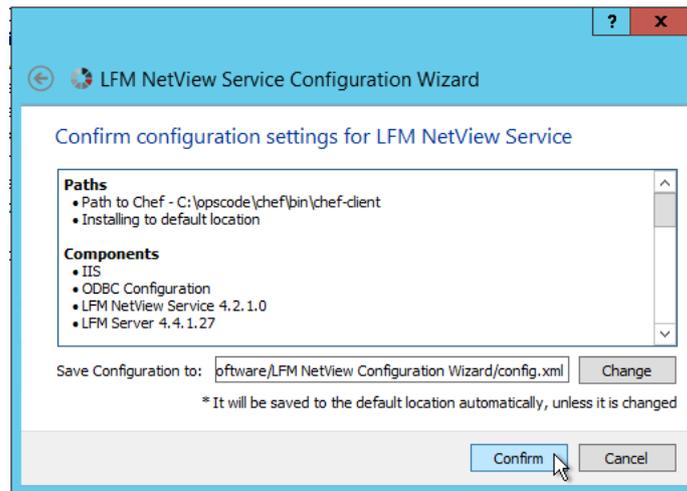
The screenshot shows the 'Configure the licence server for use by LFM Server' step. A checkbox labeled 'Specify licence server?' is checked. Below it, the 'Licence server' field contains the text 'localhost'. 'Next' and 'Cancel' buttons are at the bottom right.

- Provide the SQL DB credentials.

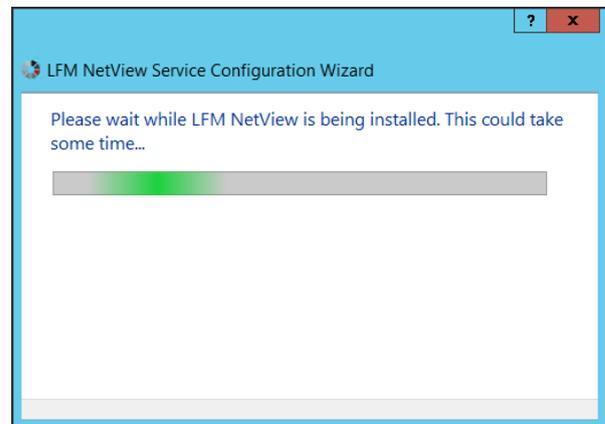
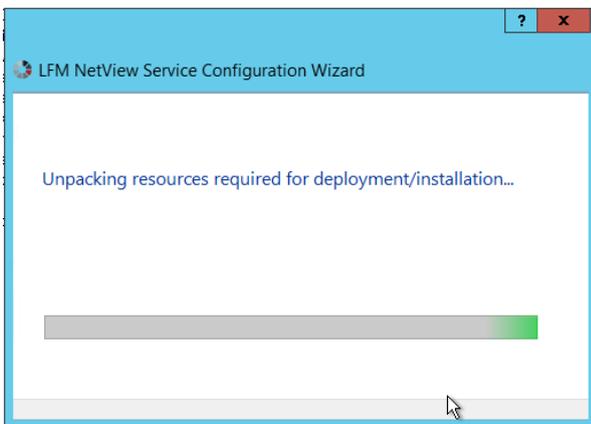


The screenshot shows the 'Configure the database connections used by LFM NetView Service' step. It includes the instruction: 'Enter the connection string and credentials for the database you wish LFM NetView Service to connect to:'. The fields are: 'Database Server' (containing 'SQLSERVER\SQLEXPRESS'), 'Use Windows Authentication' (unchecked), 'Database Username' (with a masked input), 'Database Password' (with masked input), and 'Confirm Password' (with masked input). 'Next' and 'Cancel' buttons are at the bottom right.

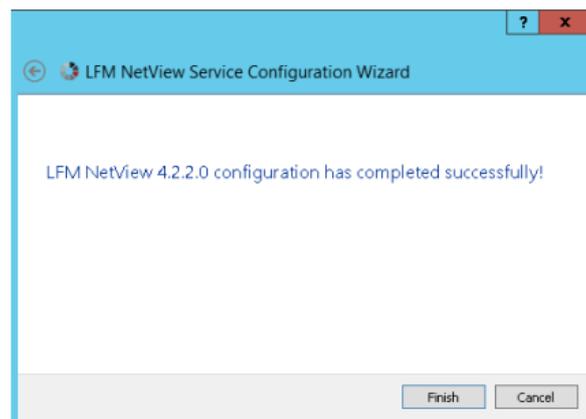
- Select the folder to save the configuration file to and click *Confirm*.



- The upgrade will now begin.



- The upgrade is now complete.



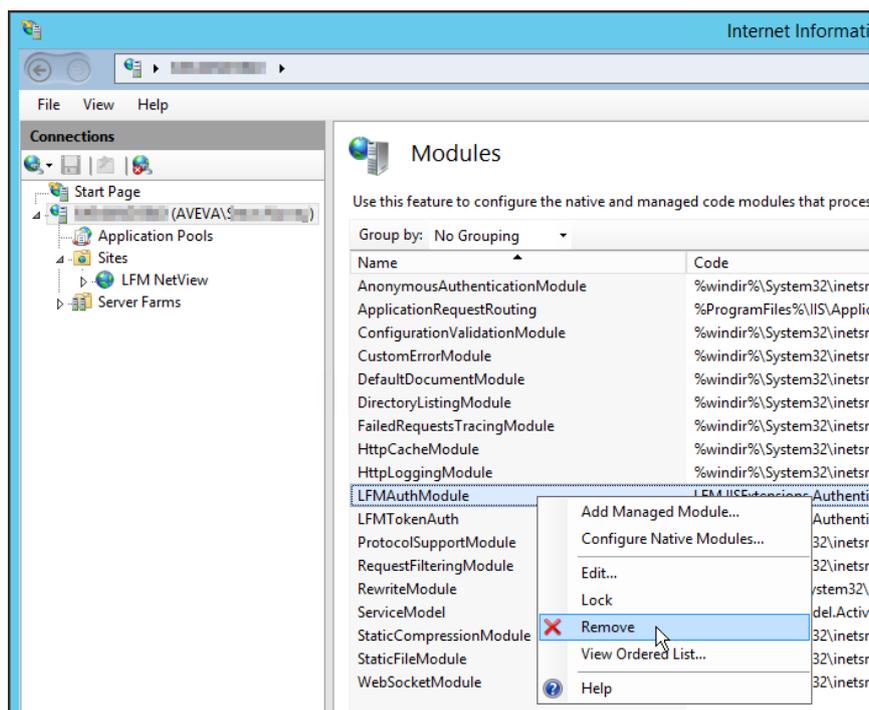
This should complete the upgrade and project should now be tested. See [Test the Upgraded LFM NetView Project](#).

5. Run the LFM NetView 4.2.2.0 Config Wizard – switch from Project Authentication to Single Sign-On

5.1. Preparation for Upgrading to Single Sign-On

Prior to upgrading an existing project using Project Authentication to one that supports Single Sign-On (SSO) ensure that the following are in place:

- In order to implement LFM NetView with the Single Sign-On feature, it is advised that the LFM NetView project uses the HTTPS protocol. Ensure that an SSL certificate has been added (check the bindings) or alternately you can add a self-signed one for testing purposes (at the Server level).
- Create a Security group in *Windows Authentication* and add the users that you wish to access the project. Note, the name of the Security group should be made up of the GroupPrefix and the name of the LFM NetView .proj file (**GroupPrefix+ProjectID**). For example, a Security group called **Lon.Eaton** could be used for a group containing London based personnel (Lon.) who require access to a project called Eaton. Individual users requiring access to the LFM NetView project should be added to the newly created security group.
- When switching to SSO, the Config Wizard will present the **Token Lifetime** and the **Group Prefix** as entries to complete. The Token Lifetime can be set from 1 - 12 hours. This means that the users will provide their login credentials once and will not be required to supply them again until the Token expires.
- When using SSO a new Module is implemented in IIS and is used to grant or deny access. Failure to comply will result in rejection and you will not be able to access the LFM NetView project.
- When switching to Single Sign-On Authentication you should remove the existing **LFMAuthModule** from IIS. This was used to support LFM NetView using Project Authentication and will conflict with the module that supports SSO.

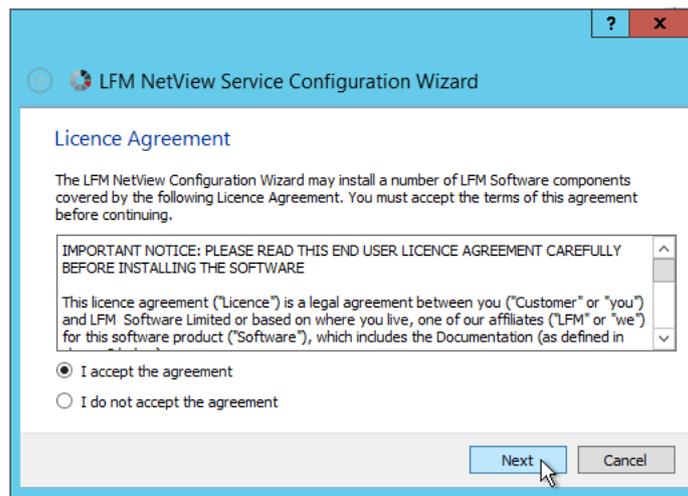


5.2. Running the Config Wizard to Switch to Single Sign-On

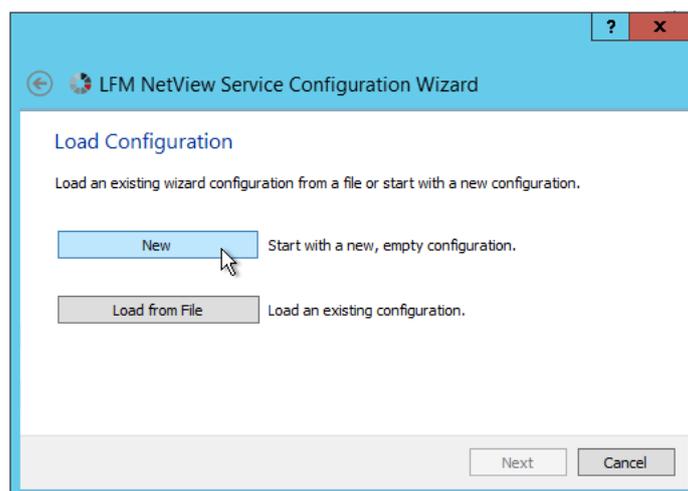
In this example, the Config Wizard will be run on a project that is currently using Project Authentication and, following the upgrade, will be switched to SSO. Before implementing new components, ensure that ***Chef has been upgraded*** and any ***requirements regarding security software*** have been applied. Failure to do so is likely to result in the Chef Scripts failing.

Before commencing, please ensure you have read and implemented the preparation steps in section [5.1 – Preparation for Upgrading to Single Sign-On](#).

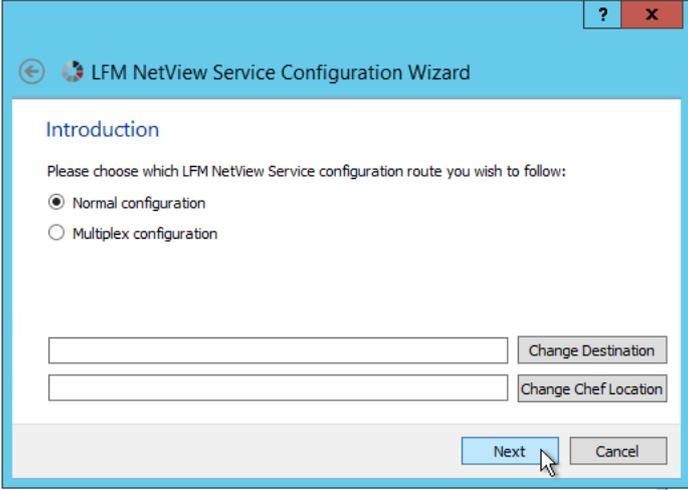
- Run the Config Wizard as an administrator.



- Select *New*.

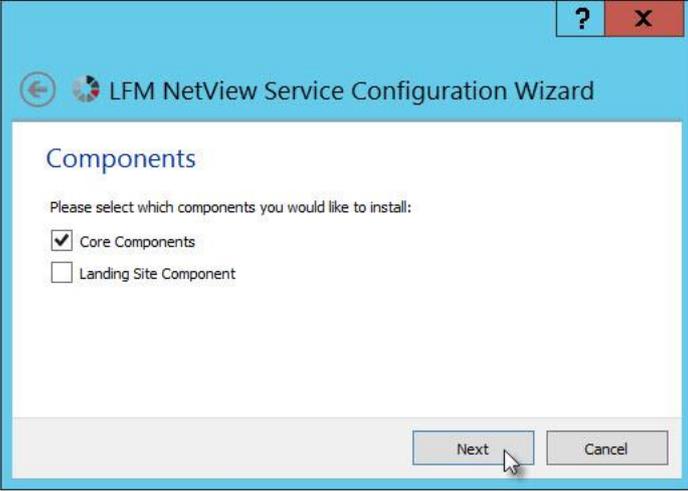


- Select *Normal Configuration*.



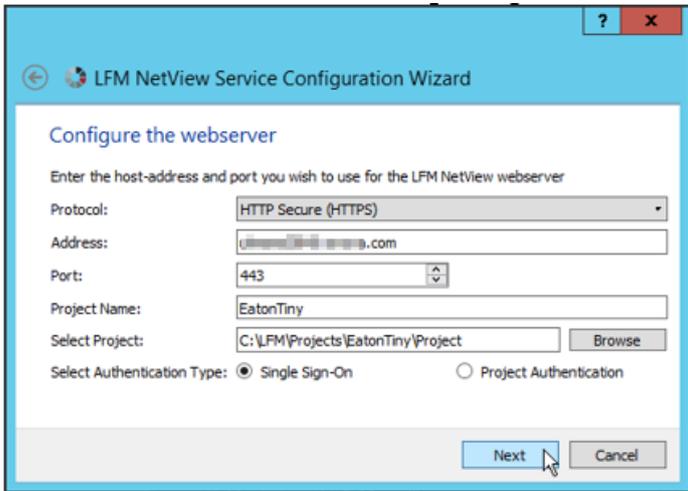
The screenshot shows the 'Introduction' screen of the LFM NetView Service Configuration Wizard. The title bar reads 'LFM NetView Service Configuration Wizard'. The main heading is 'Introduction'. Below it, the text says 'Please choose which LFM NetView Service configuration route you wish to follow:'. There are two radio button options: 'Normal configuration' (which is selected) and 'Multiplex configuration'. Below these options are two empty text input fields. To the right of the first field is a 'Change Destination' button, and to the right of the second field is a 'Change Chef Location' button. At the bottom right, there are 'Next' and 'Cancel' buttons. A mouse cursor is pointing at the 'Next' button.

- Select the *Core Components*.



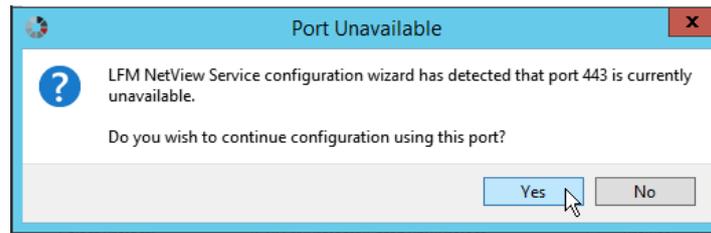
The screenshot shows the 'Components' screen of the LFM NetView Service Configuration Wizard. The title bar reads 'LFM NetView Service Configuration Wizard'. The main heading is 'Components'. Below it, the text says 'Please select which components you would like to install:'. There are two checkbox options: 'Core Components' (which is checked) and 'Landing Site Component' (which is unchecked). At the bottom right, there are 'Next' and 'Cancel' buttons. A mouse cursor is pointing at the 'Next' button.

- Add the details and select *Single Sign-On*.

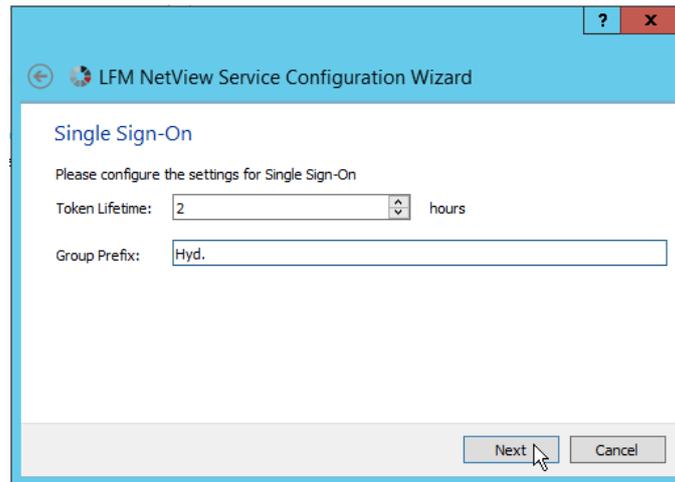


The screenshot shows the 'Configure the webservice' screen of the LFM NetView Service Configuration Wizard. The title bar reads 'LFM NetView Service Configuration Wizard'. The main heading is 'Configure the webservice'. Below it, the text says 'Enter the host-address and port you wish to use for the LFM NetView webservice'. There are several fields: 'Protocol' (dropdown menu set to 'HTTP Secure (HTTPS)'), 'Address' (text input field containing 'url.com'), 'Port' (dropdown menu set to '443'), 'Project Name' (text input field containing 'EatonTiny'), 'Select Project' (text input field containing 'C:\LFM\Projects\EatonTiny\Project' with a 'Browse' button to its right), and 'Select Authentication Type' (radio button options for 'Single Sign-On' (selected) and 'Project Authentication'). At the bottom right, there are 'Next' and 'Cancel' buttons. A mouse cursor is pointing at the 'Next' button.

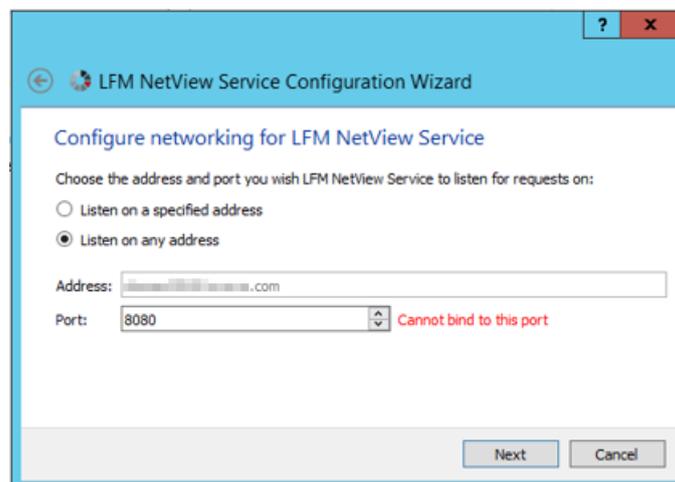
- Click Yes.



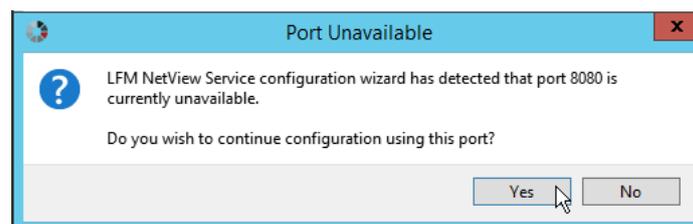
- Provide the Token time and Group Prefix.



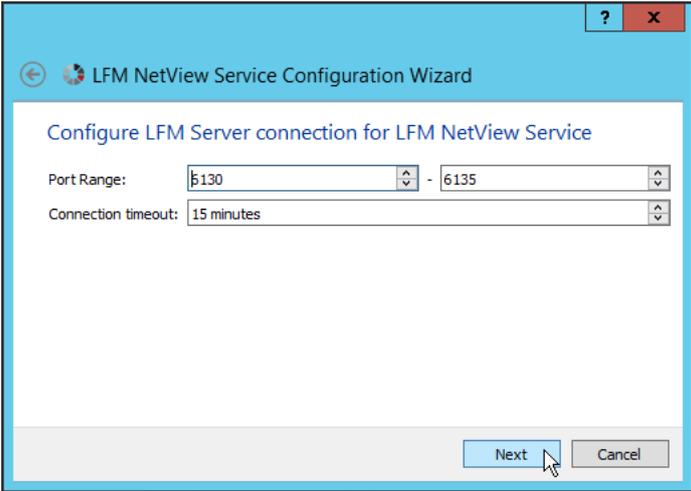
- Provide the information for the LFM NetView Service.



- Press Yes.

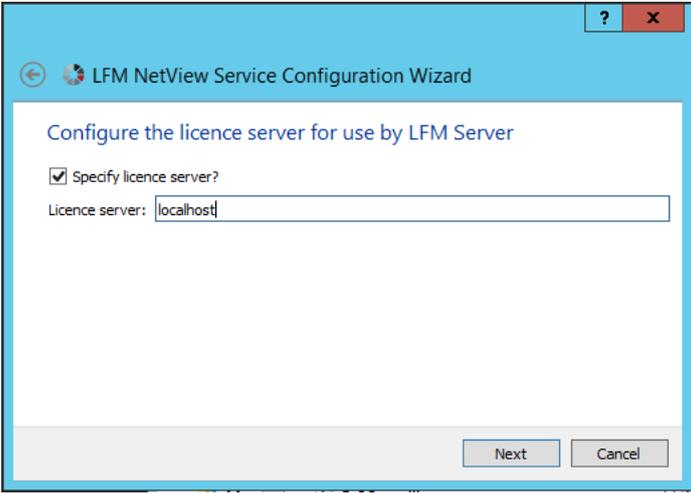


- Provide further details for the LFM NetView Service.



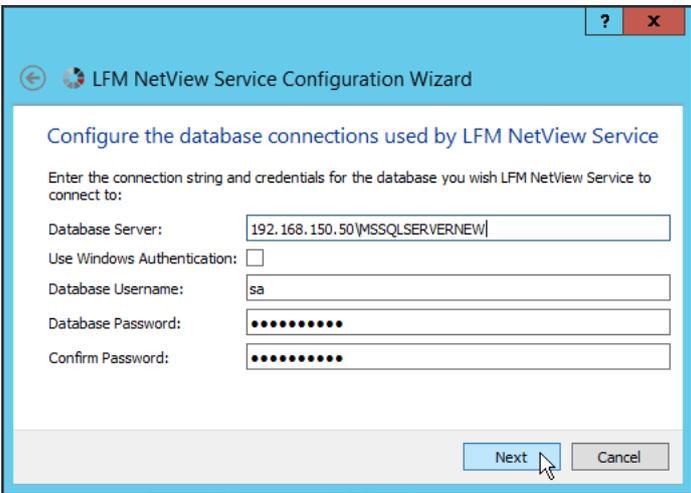
The screenshot shows the 'LFM NetView Service Configuration Wizard' window. The title bar includes a help icon and a close button. The main content area is titled 'Configure LFM Server connection for LFM NetView Service'. It contains two input fields: 'Port Range' with values '6130' and '6135' separated by a hyphen, and 'Connection timeout' set to '15 minutes'. At the bottom right, there are 'Next' and 'Cancel' buttons.

- Specify where the license file is held. If this is on the same machine you are using enter *localhost*.



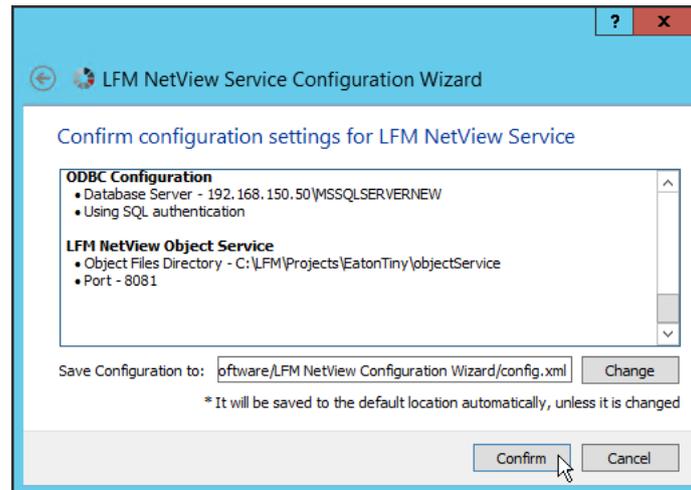
The screenshot shows the 'LFM NetView Service Configuration Wizard' window. The title bar includes a help icon and a close button. The main content area is titled 'Configure the licence server for use by LFM Server'. It contains a checked checkbox labeled 'Specify licence server?' and a text input field for 'Licence server' containing the text 'localhost'. At the bottom right, there are 'Next' and 'Cancel' buttons.

- Provide the SQL Database details.

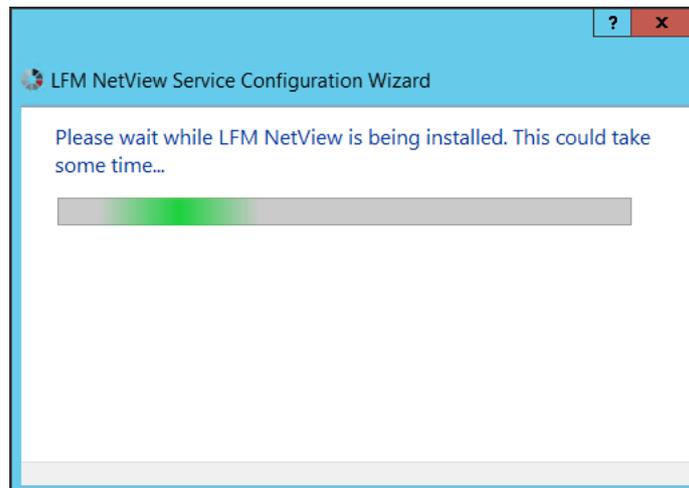


The screenshot shows the 'LFM NetView Service Configuration Wizard' window. The title bar includes a help icon and a close button. The main content area is titled 'Configure the database connections used by LFM NetView Service'. It contains the instruction 'Enter the connection string and credentials for the database you wish LFM NetView Service to connect to:'. Below this are four input fields: 'Database Server' with the value '192.168.150.50\MSSQLSERVERNEW', 'Use Windows Authentication' with an unchecked checkbox, 'Database Username' with the value 'sa', and 'Database Password' and 'Confirm Password' fields both containing masked characters (dots). At the bottom right, there are 'Next' and 'Cancel' buttons.

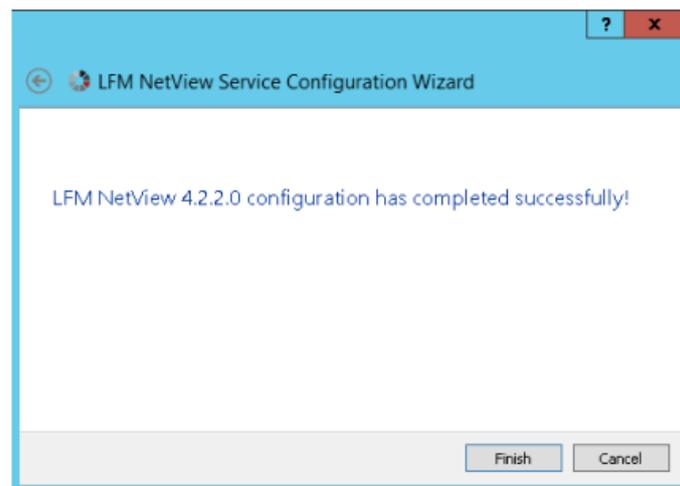
- Select the folder to save the configuration file to and click *Confirm*.



- The upgrade will now begin.



- The upgrade is now complete.



6. Test the Upgraded LFM NetView Project

The upgrade process is now complete. Before testing the new version of LFM NetView, please ensure that the cache of the browser on the client machine has been cleared. Also ensure that any **precautions that were taken regarding security software** and the operation of the Chef Client are returned to their default settings.

It should now be possible to run the LFM NetView project, Note that the URL takes the following form:
https://DomainName/netview.html

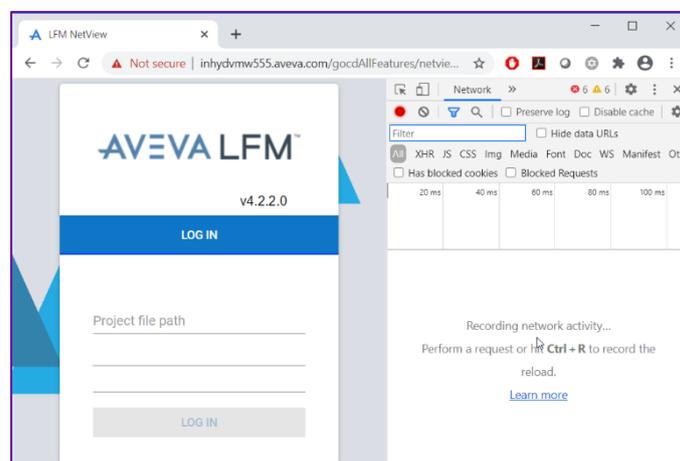
If logging in to a project using *Project Authentication* you will be required to provide the familiar twin authentication components when presented with the two login forms. You will also need to supply your Project name (the complete path to the project file or .proj is not required).

If you are logging into a project that has switched to the *Single Sign-On* method of authentication, you will just need to supply your Project name (once again the complete path to the project file or .proj is not required), followed by your corporate username (the short form is all that is required – *my.name* rather than *my.name@company.com*) and your corporate password.



Observe the version numbers that are presented in the LFM NetView interface, if old version numbers are presented, it is likely that the browser cache requires clearing. When the version looks correct and you are able to successfully take a point measurement, it will confirm that the upgrade has been completed successfully.

If you have problems with accessing the project, it is helpful to select **F12** on your browser and select the **Network** tab. This can help you to solve issues when trying to access the LFM NetView project.

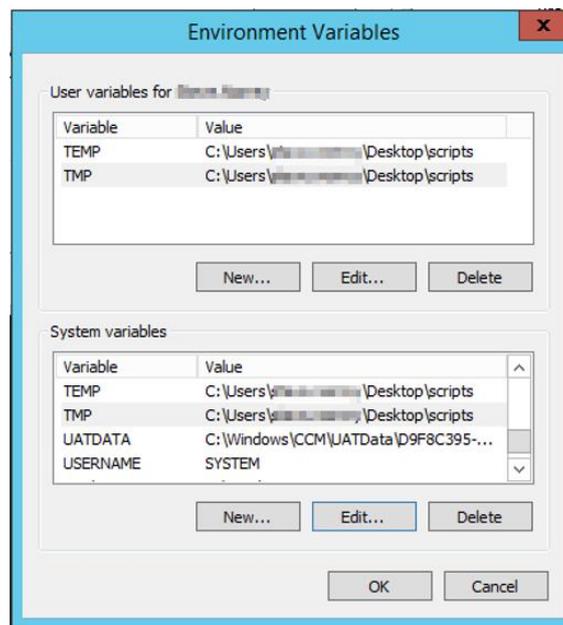


7. Appendix

7.1. Issues when Implementing on a Machine Containing CylanceProtect

When implementing or upgrading onto a machine that is using CylanceProtect it is necessary to make some temporary changes to the Environment Variables in order to accommodate CylanceProtect.

Make a note of the current values for the User and System, *TEMP* and *TMP* variables. Then edit these variables to point to a folder called *scripts* on the Desktop. Once this change is made restart the server.



Remember to change these variables back to their previous values once the upgrade is complete.

8. LFM NetView 4.2.2.0 Release Notes

The product release notes can be obtained from the following location:

<https://lfmproducts.blob.core.windows.net/lfmtemporaryaccessinstaller/AVEVA%20LFM%20NetView%20Release%20Notes%20-%20v4.2.2.0.pdf>