



AVEVA LFM NetView Deployment Guide

AVEVA LFM NetView Version: 4.2.2.0

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1. Introduction

AVEVA LFM NetView provides secure, on-demand access to laser scan data for asset management and project execution. More than an online viewing package, it provides tools that allow users to work collaboratively with laser scan data over the Internet, including integration with Google Maps. LFM NetView can also be deployed into a local environment, allowing users all the benefits of LFM NetView within a company intranet.

This guide is for anyone who wants to deploy LFM NetView to a Cloud Platform, Virtual Machine (VM), or a Local Server.

The intention of this guide to provide you with the steps and procedures required for successfully deploying the LFM NetView project and communicating with AVEVA LFM Support to complete the deployment.

2. Licencing and Prerequisites

2.1. Licencing

The creation and deployment of an LFM NetView project spans across several of AVEVA's LFM products. Below is the table which shows the different processes, the products used, and the licence features required:

| PROCESS | PRODUCTS UTILISED | LICENSE FEATURE REQUIRED |
|-------------------------------------|---|-------------------------------------|
| Scan Conversion | LFM Server: Gateway Mode | LFM Gateway |
| Dataset Generation | LFM Server: Gateway Mode | LFM Gateway, LFM Generator |
| User Control and Floorplan Creation | LFM Server: Server Mode | LFM Server |
| LFM NetView Publishing | LFM Server: Server Mode | LFM Server, LFM Netview Creator |
| SQL DB Setup | LFM Server: Server Mode | LFM Server |
| LFM NetView | LFM Server: Server Mode & LFM NetView Service | LFM Server, LFM Server NetView Link |

2.2. Prerequisites

2.2.1. Graphics Card

LFM NetView resources publication requires a reasonably powerful graphics card with the very latest drivers. It has been developed using NVIDIA graphics cards, and LFM recommends using these where possible for optimum performance and reliability.

For more information on this requirement, please see the [LFM NetView Project Publishing Guide](#).

2.2.2. Internet Connection for Prerequisites

One major aspect you will need to consider is whether the server/machine you are deploying the LFM NetView project to has an active internet connection. This is because LFM NetView requires key 3rd party components to function correctly which AVEVA are not allowed to distribute. This is not an issue when a valid internet connection is present as the LFM NetView Configuration Wizard will download these 3rd party components and apply them to the system before performing the LFM NetView install.

However, if there is no internet connection available (or the local server has inbound or outbound rules in place to prevent general internet access) the 3rd party components will need to be actively applied in advance of running the LFM NetView Configuration Wizard. If the local server/machine does not have an internet connection, please make sure to read section 5.1. *Install the Prerequisites*.

The advanced installation of these components is not the responsibility of AVEVA and we would advise contacting your IT Department for support in this process. The components which need to be installed in advance are:

- Installable by DISM (Deployment Image Servicing and Management):
 - .NET 3.5 (NetFx3)
 - IIS-WebServer-Role
- Installable using Windows Features (or PowerShell Install-Windows Feature):
 - .NET-Framework-Features
 - Web-Net-Ext
 - Web-Net-Ext45
- Installable using Windows Update (Recommended)
 - Windows Update Patch – KB2999226
 - Windows Update Patch – KB4055266 – This installs .NET 4.5.2 Framework on the server machine, which is mandatory

Note: It is mandatory to restart the machine once the above recommended prerequisites are installed successfully.

3. Machine Specification and Methods of Authentication

3.1. Recommended Hardware Specification

- 4 cores – 2.0Ghz or Higher processor
- 8GB Memory
- A clean install of the operating system
- Gigabit network

- Disk space – At least 1 hard drive with sufficient space to install the LFM NetView components and store the LFM Server dataset, the LFM NetView Project and the SQL Database:
 - As a guide, a 44-scan sample project is ~50GB – (allow 1.25GB per scan as a rough estimate)
 - The required AVEVA LFM components will take up a further 5GB.
 - The operating system will take up ~25GB.
 - Therefore, a 100GB hard drive would be sufficient to host a 45-scan project, leaving about 15GB headroom on the disk.
 - **If this hosting machine is used to support several larger projects, the LFM project laser data can be stored on a dedicated storage machine (data storage requirements covered above) and the data loaded across the network on demand. Similarly, enterprise customers would typically have a separate SQL DB server supporting multiple project data storage.**

3.2. Software Specification

- Windows Server 2016 (also Windows Server 2012 R2)
- Microsoft SQL Database – SQL Server 2012, 2016 and 2017
- IIS 8.5 *
- .NET 3.5 (NetFx3) *
- IIS WebServer Role *
- .Net Framework Features *
- Web-Net-Ext *
- Web-Net-Ext45 *
- In common with other secure web-based applications Hypertext Transfer Protocol Secure (HTTPS) will be required. This will require the implementation of a Secure Sockets Layer (SSL) and Certificates.
- The access to add users to an SQL server instance. This deployment guide provides details of using SQL Server Express as part of the implementation
- Sentinel Licensing (automatically installed)

* These items are automatically installed as part of the LFM NetView deployment if corporate IT does not have a custom Windows Update Server. These items are skipped if they are already present.

Note: If you wish to link LFM Netview to an AVEVA NET project, LFM NetView and AVEVA NET should be implemented onto separate machines. Please refer to the AVEVA NET requirements guide for AVEVA NET software and hardware requirements.

3.3. Methods of Authentication:

LFM NetView offers two ways of authenticating users: Single Sign-On (SSO) and Project Authentication. If you wish to deploy a Landing Site, you must use Single Sign-On (SSO) as your authentication method.

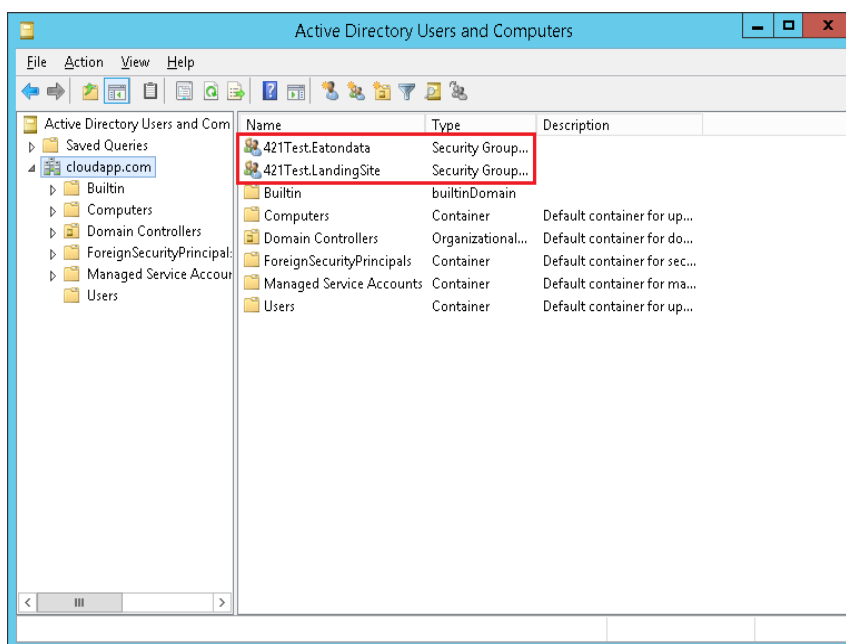
3.3.1. Single Sign-On Authentication:

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 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. Your IT Department will need to setup the Active Directory Domain Services (ADDS) for this purpose.

Note: If you wish to use SSO without a landing page you will need to create a group using the LFM NetView project name in the Active Directory Users and Computers called ***Group-prefix.NetViewprojectname***. You will need to add/create authorised users in this group.

If you wish to use SSO with a Landing Page you will need to create an additional group called ***Group-prefix.Landingsite***. You will need to add/create authorised users in these groups.

An example of this setup is shown below.



Note: The user who is part of windows user group and wants to access the project by windows authentication as a part of SSO, he should have read access to NetView "Client" folder which is usually in C:\LFM NetView, "Project" folder of NetView resources and "LandingSite" folder which we usually create in C:\ drive.

Note: These groups should be in place before the commencement of the deployment as they will be used during the LFM NetView Configuration Wizard (see section [7. Running LFM NetView Config. Wizard with a Landing Site](#)).

3.3.2. Project Authentication:

This method of user 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. These users should be created before publishing the LFM NetView project.

4. Preparing and Publishing the LFM NetView Project

Before commencing the deployment, you will need to have published your LFM NetView resources. At the time of writing, it is recommended that the user uses LFM Server 4.4.2.12 or later. The workflows for taking your data from source scans through to LFM NetView publication and Google Maps resource generation are covered within other documents which can be quickly accessed using the links below:

- [Scan Conversion](#)
- [LFM Server Dataset Generation](#)
- [LFM NetView Publishing](#)
- [GIS Integration .xml file production](#) (See section: "Google Maps Integration")

5. Preparing the Environment for Deployment

You should now have your LFM NetView project data published from LFM Server and ready to be transferred to the targeted deployment environment. The following sections will detail the steps to follow to deploy LFM NetView with your data.

5.1. Install the Prerequisites

As discussed earlier, there are key 3rd party components which need to be installed in advance if there is no internet connection available for the local server/machine being deployed to. If the local server/machine has an internet connection, this section is not applicable to you – please proceed to the next section.

However, if there is no internet connection available (or the local server has inbound or outbound rules in place to prevent general internet access) the 3rd party components will need to be actively applied before running the LFM NetView Configuration Wizard. Please now complete the installation of the following components (contact your IT Department for assistance if required):

- Installable by DISM (Deployment Image Servicing and Management):
 - .NET 3.5 (NetFx3)
 - IIS-WebServer-Role
- Installable using Windows Features (or PowerShell Install-Windows Feature):
 - .NET-Framework-Features
 - Web-Net-Ext
 - Web-Net-Ext45
- Installable using Windows Update (Recommended)

- Windows Update Patch – KB2999226
- Windows Update Patch – KB4055266 – This installs .NET 4.5.2 Framework on the server machine, which is mandatory.

Note: It is mandatory to restart the machine once the above prerequisites have been installed successfully.

5.2. Moving Your Data to the Target Deployment Environment

At this stage, you will need to move your data to the targeted deployment environment. The output folder from the LFM NetView publication should contain Dataset and Project folders – move these to the Cloud Platform, VM or Local Server.

It is advisable to store the data on a Virtual Hard Drive (VHD) for Cloud and VM deployments, and dedicated internal drives for Local Servers. This is to separate the data from the OS, but still offers fast access speeds.

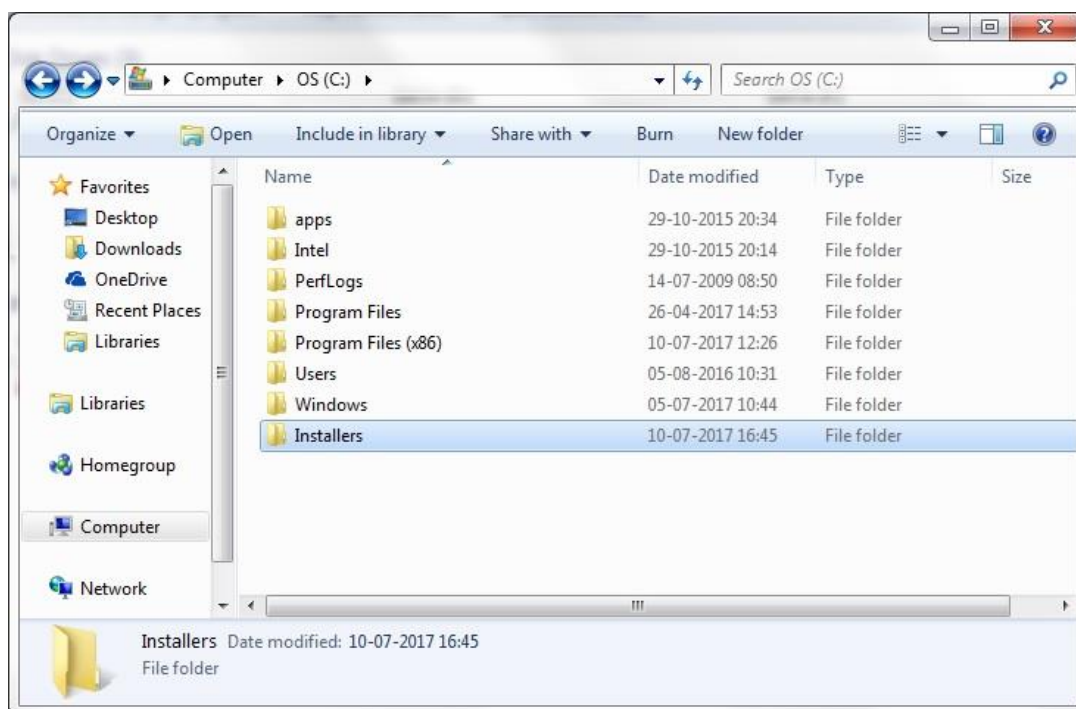
5.3. Obtain the Install Components

Firstly, create a folder to store the required installers. Next, visit the [AVEVA LFM Downloads](#) page to download the LFM NetView Config Wizard installer for LFM NetView. You will also require the Chef Client installer (Chef Client Version 12.21.26) which can be downloaded from <https://downloads.chef.io/products/infra/stable?v=12.21.26>.

Your installer folder should now contain:

- Chef Client v12.21.26
- LFM NetView Config Wizard

You will also require access to a Microsoft SQL Server Database at later stages. Please ensure an instance of Microsoft SQL Server (2008 onwards) is installed on the deployment machine, or is accessible from the deployment machine.



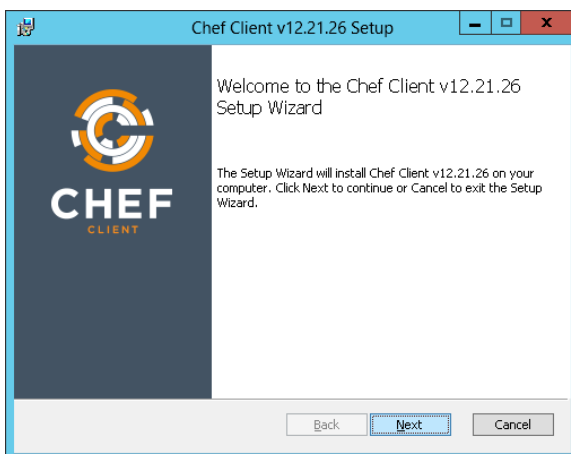
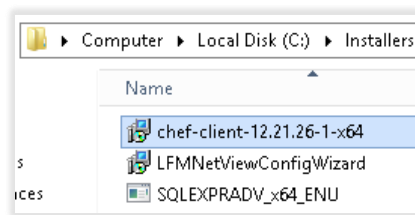
6. Commence the Installation

6.1. Chef Installation

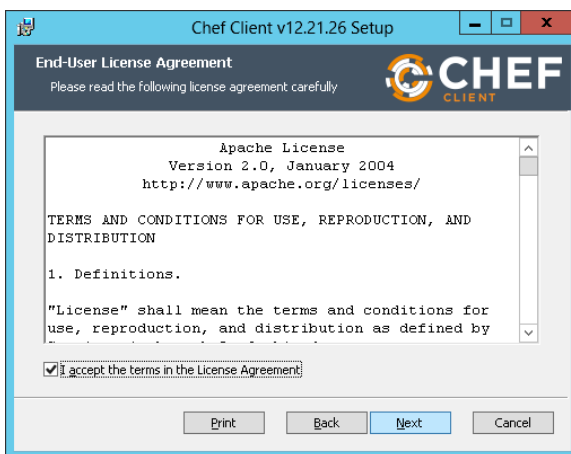
Note: Please ensure that you use the Chef Client Version 12.21.26

Chef is a 3rd party tool which allows AVEVA to deploy LFM NetView components in an efficient and automated way. In order for LFM NetView to make use of Chef, it first must be installed on the deployment machine.

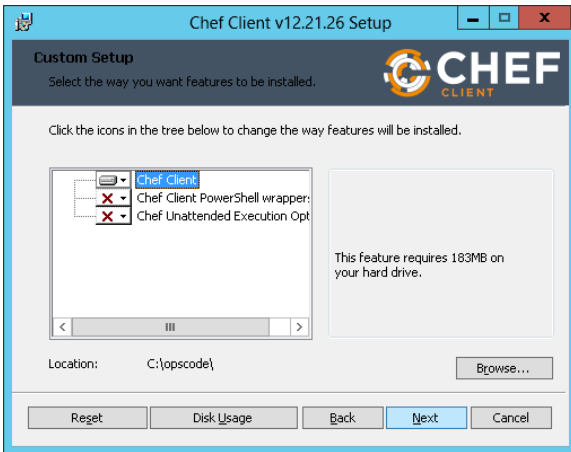
Double click on the installer for Chef to begin the process.



Click *Next* to proceed.

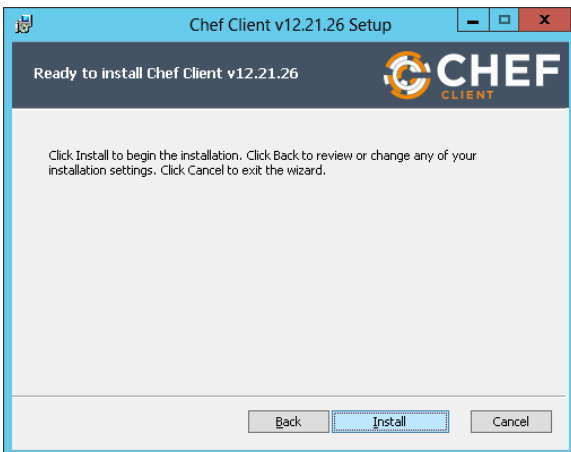


Read and understand the licence agreement. If you accept the agreement tick *the I accept the terms in the License Agreement* checkbox and click *Next* to proceed.

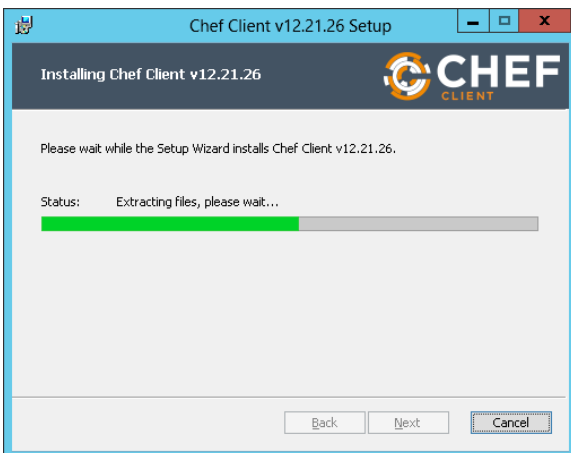


Select only the Chef Client option for installation. Ensure that the *Chef Client PowerShell wrappers* or the *Chef Unattended Execution Options* options are not installed. You can define the install location by clicking the *Browse* button. The default location is **C:\opscode**.

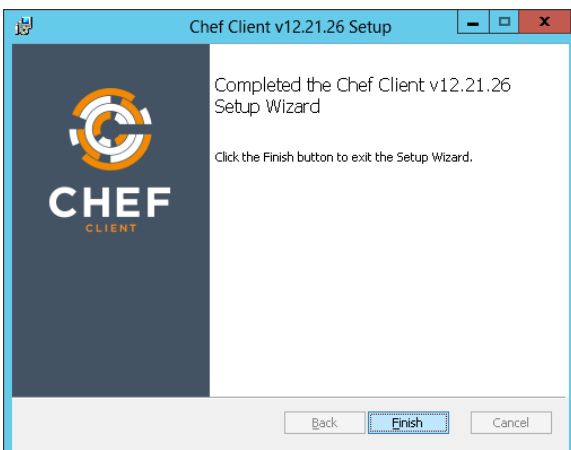
Click *Next* to proceed.



Click *Install* to begin the installation process.



A progress bar tracking the installation will then appear.



Once the process has finished, click *Finish*.

6.2. SQL Server Installation


LFM Server and LFM NetView will be configured to save measurements, mark-up and users in a Microsoft SQL Server Database. If you already have access to a dedicated SQL Server instance, this can be used.


The process of installing Microsoft SQL Server is not within the scope of this document, but instructions can be found on the [Microsoft website](#).

At this stage, you must have a compatible version of Microsoft SQL Server installed on either the local machine or an accessible network location.

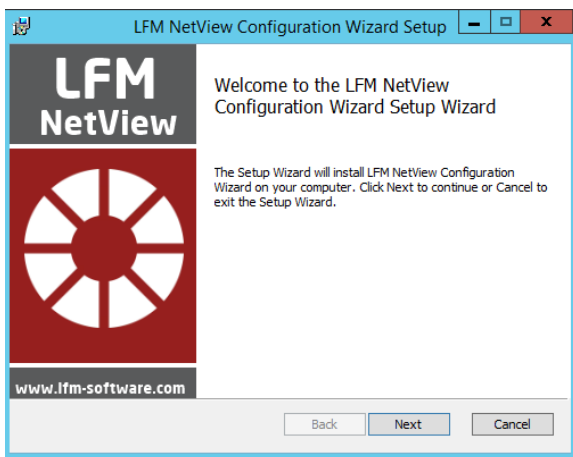
6.3. LFM NetView Configuration Wizard Installation

The next component to install is the LFM NetView Configuration Wizard. The wizard is the component which will gather key information from you to deploy LFM NetView on your system.

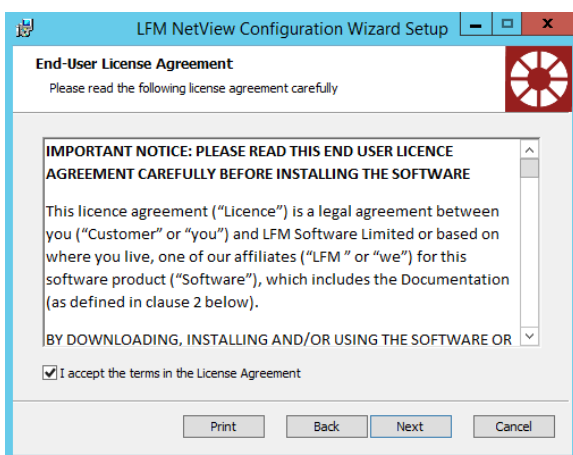
 chef-client-12.21.26-1-x64.msi

 LFMNetViewConfigWizard.msi

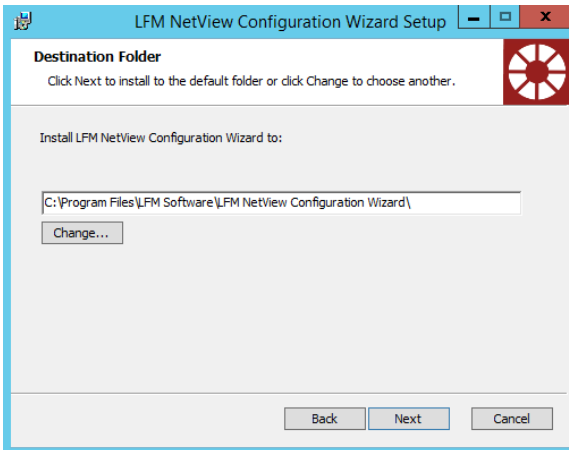
Double click on the installer for the LFM NetView Configuration Wizard – the version you install may vary, but we advise using the latest installer available on the [AVEVA LFM Downloads](#) page.



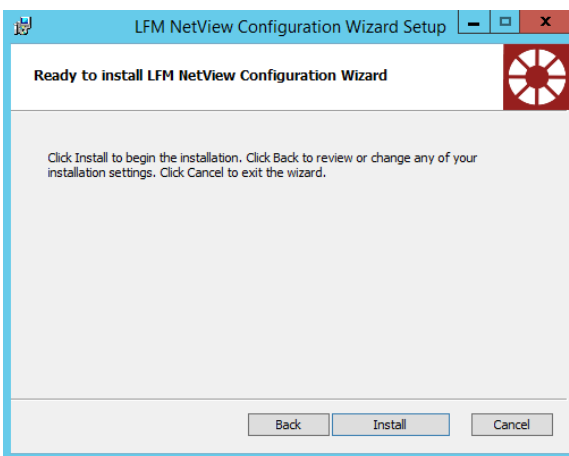
Click *Next* to proceed.



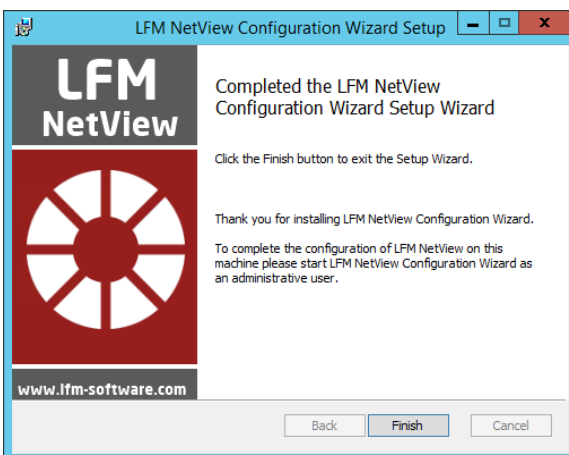
Read and understand the License Agreement. If you accept the agreement tick the *I accept the terms in the License Agreement* checkbox and click *Next* to proceed.



The default install location for the configuration wizard is *C:\Program Files\LFM Software\LFM NetView Configuration Wizard*. If you would like to alter the install location, click *Change* and select the desired location. Otherwise click *Next* to proceed.



Click *Install* to install the LFM NetView Configuration Wizard to the defined location.



Once the process has completed, click *Finish*.

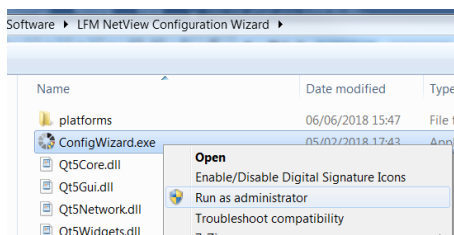
7. Running the LFM NetView Config Wizard with Landing Site

This section contains the steps to run the LFM NetView Config Wizard with Landing Site. If you do not wish to use Landing Site please see section [8. Running the LFM NetView Config. Wizard without a Landing Site.](#)

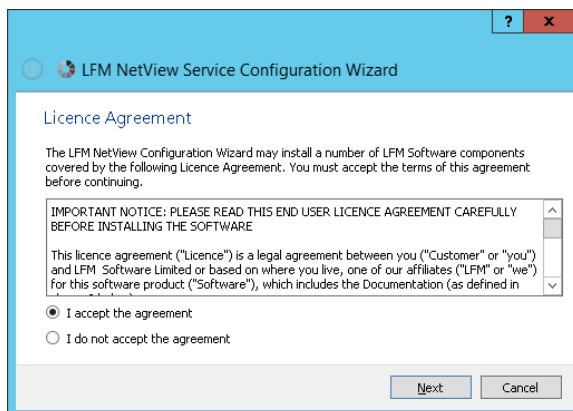
Note: If you wish to deploy Landing Site, you **must** use Single Sign-On (SSO) as your authentication method.

With your LFM NetView project data in place on an attached VHD, it is now time to perform the deployment steps by running the LFM NetView Configuration Wizard.

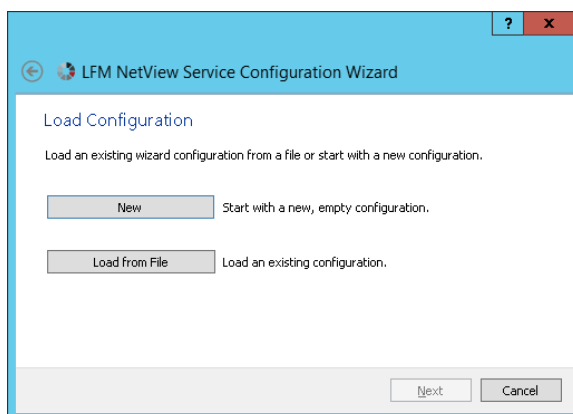
Navigate to location where the Configuration Wizard is installed, by default this is *C:\Program Files\LFM Software\LFM NetView Configuration Wizard*.



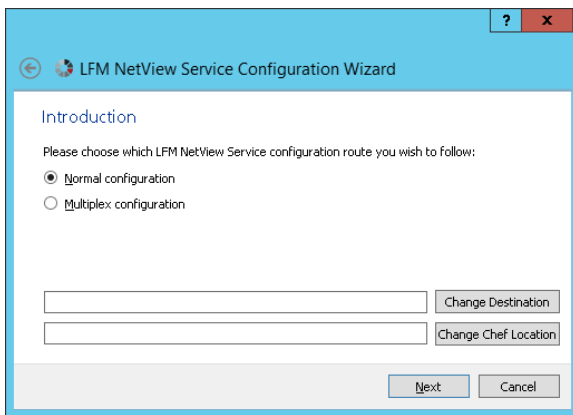
Right-click on the ConfigWizard.exe file and click *Run as Administrator*.



The LFM NetView Service Configuration Wizard will now appear. On the first page, you will be presented with the Licence Agreement. Read and understand the License Agreement. If you accept the agreement tick the *I accept the agreement* option and then click *Next* to proceed.



The next page of the Configuration Wizard will allow you to load an existing configuration setup from a file or start a new one. In this case click *New*.

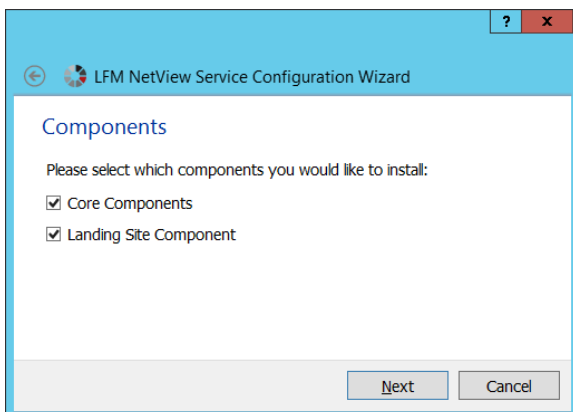


After choosing a new configuration, you will be presented with the option to deploy either a Normal Configuration or a Multiplex Configuration.

- A normal configuration is used to deploy the LFM NetView components onto the targeted environment where the data is located. This option is the typical choice in most deployments.
- A Multiplex Configuration should be selected when utilising a Nexus architecture for LFM NetView deployments to setup the front-end Nexus machine. This option is rarely used and is typically only used when AVEVA LFM Support deploy projects onto their own architecture.

In this case, select *Normal Configuration*.

You also have the option to change the install locations of LFM NetView Service and Chef – this may be required if your company IT utilises setups like “app drives”. Either leave the defaults selected, or change the install locations, then click Next to proceed.



The next page gives you a list of components you would like to install. The components are *Core* and *Landing Site*. These are further broken down below.

- **Core Components:** These include the IIS WebServer, IIS Objects handler, LFM Server 4.4.2.x, LFM NetView Service and the ODBC configurations.
- **Landing Site Component:** This includes the Google Maps Landing Site where the installed components will be the new website under IIS webserver. This is authenticated using only SSO.

As this section covers a deployment with a Landing Site, please ensure both the Core Components and Landing Site Components are ticked. Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure the webserver

Enter the host-address and port you wish to use for the LFM NetView webserver

Protocol: HTTP Secure (HTTPS)

Address: 421deployment.cloudapp.net

Port: 443

Project Name: Eatondata

Select Project: F:\Publish data\Project

Select Authentication Type: ☒ Single Sign-On ☐ Project Authentication

* Windows Authentication must be used with Landing Site

Next Cancel

The next page asks you to configure the webserver; this **page is extremely important** as it defines the web addresses for the project as well as where LFM NetView Service can find certain data resources. Fill this page in as appropriate.

- **Protocol: HTTP Secure (HTTPS - Default Port 443).** We would advise to use HTTPS protocol as this is secure, though it requires a certificate to approve access. Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP, the protocol over which data is sent between your browser and the website that you are connected to. The 'S' at the end of HTTPS stands for 'Secure'. It means all communications between your browser and the website are encrypted. HTTPS is often used to protect highly confidential online transactions like online banking and online shopping order forms.
- **Address:** This is the address for the deployment machine in the forms:
 - Physical machine or VM on a local network: MachineName.DomainName.com
 - Cloud platform: CloudMachineName.CloudPlatformAddress.com
- **Port: 443,** For HTTPS protocol the default port will be 443
- **Project Name:** Name given to the project which will be used in the URL for accessing the LFM NetView project (See section: “13. Project Landing Page URL’s”).
- **Select Project:** Path to the folder which contains the .Proj file created during project publication. This will be in the *Project* folder in the location where your data is stored.
- **Select Authentication Type:**
 - **Single Sign-On (SSO):** This is used by Windows users to login to the project using their Windows credentials. This can only be used when the protocol being used is HTTPS (with or without a Landing Site). SSO must be used if a Landing Page is to be implemented. Therefore, as we have ticked the Landing Site component, we can only choose SSO for this option (Project Authentication will be greyed out).

LFM NetView Service Configuration Wizard

Windows Authentication

Please configure the settings for windows authentication

Token Lifetime: 1 hours

Group Prefix: 421Test.

Next Cancel

If you have selected SSO as your authentication method, the next page will ask the user to provide the Token Lifetime. This is the duration for which a user can go without having to re-enter their credentials in order to log into a project. The token is valid for 1 - 12 hours depending on your requirements.

You will also need to enter the Group Prefix as discussed in section 3.3.1 – Single Sign-On.

LFM NetView Service Configuration Wizard

Configure networking for LFM NetView Service

Choose the address and port you wish LFM NetView Service to listen for requests on:

☐ Listen on a specified address

☒ Listen on any address

Address: 421deployment.cloudapp.net

Port: 8080

Next Cancel

The next page asks for you to define the networking details for LFM NetView Service. Usually it is only necessary to change these defaults if IIS and LFM NetView Service are to be implemented in separate deployment locations. Under such circumstances, the firewall configurations would also need to be modified to permit access.

In this case however, the defaults seen in the following screenshot can be accepted.

Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure LFM Server connection for LFM NetView Service

Port Range: 6130 - 6135

Connection timeout: 15 minutes

Next Cancel

The next page asks for you to define the connection details for LFM NetView Service. Again, the defaults can be accepted as shown.

Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure the licence server for use by LFM Server

☒ Specify licence server?

Licence server: localhost

Next Cancel

The next page asks you to supply the location of the licence server for LFM Server. Please enter the name of your licence server machine here, or if the licence server will run locally enter *localhost* as the licence server.

Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure the database connections used by LFM NetView Service

Enter the connection string and credentials for the database you wish LFM NetView Service to connect to:

Database Server: 421DEPLOYMENT

Use Windows Authentication: ☐

Database Username: LFMUser

Database Password:

Confirm Password:

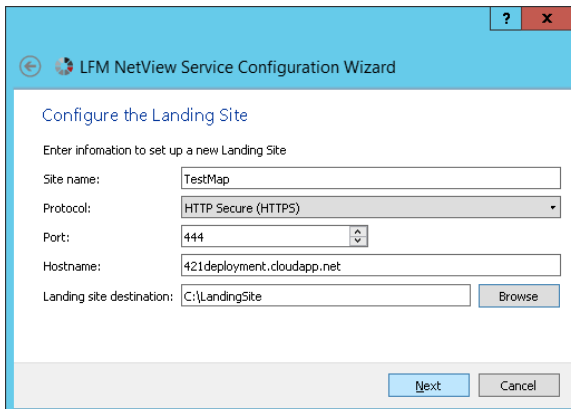
Next Cancel

The next page requires you to set up the database connection settings for LFM NetView Service to access the SQL Database. The SQL DB is where LFM NetView saves things such as measurements, mark-up, etc.

- **Database Server:** This is the address for your SQL DB – depending on where SQL Server has been setup, the input here will vary:
 - SQL Server is on the same machine as this deployment: SQLInstance name
 - SQL Server is on another machine in the network: SQLInstance name, 1433
 - Cloud platform: CloudPlatformVMName.CloudPlatform.net/com, 1433
- **Use Windows Authentication:** This checkbox will tell LFM NetView Service to log into the SQL DB as the user account. In this case, we want to use a specific user so leave it unchecked.
- **Database Username:** Enter your SQL DB username.
- **Database Password:** Enter your SQL DB password.

Note: The Database Server entry is case sensitive.

Click *Next* to proceed.



The screenshot shows a window titled "LFM NetView Service Configuration Wizard" with a sub-header "Configure the Landing Site". Below this, it says "Enter information to set up a new Landing Site". The form has the following fields:

- Site name: Text box containing "TestMap"
- Protocol: Dropdown menu showing "HTTP Secure (HTTPS)"
- Port: Spin box showing "444"
- Hostname: Text box containing "421deployment.cloudapp.net"
- Landing site destination: Text box containing "C:\LandingSite" with a "Browse" button next to it.

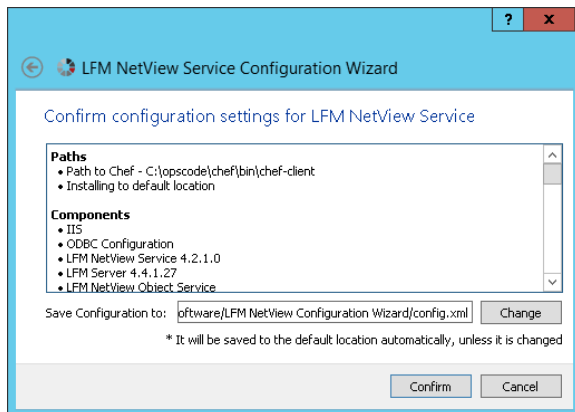
 At the bottom of the form are "Next" and "Cancel" buttons.

If you have opted to install the Landing Site component, this page is used to configure the Landing Site which is used to integrate the LFM NetView project with Google Maps. Further information about each of these fields is detailed below.

- **Site name:** Give a sample site name you would like to use for the Landing site.
- **Protocol:** All projects will make use of HTTPS as this is secure, but will require a certificate to approve access. Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP, the protocol over which data is sent between your browser and the website that you are connected to. The 'S' at the end of HTTPS stands for 'Secure'. It means all communications between your browser and the website are encrypted. HTTPS is often used to protect highly confidential online transactions like online banking and online shopping order forms. As we are integrating LFM NetView with Google Maps it is advised for you to use HTTPS to have a secured connection.
- **Port:** This will be the port for the Landing Site which gets created in the IIS WebServer. If port 443 is already taken, you can specify another port e.g., 444. Please make sure the firewall port is open for a HTTPS connection for the machine where you are deploying. It is also possible to have a separate machine with only a Landing Site on it and different LFM NetView projects can be linked to it. Please contact AVEVA LFM at lfm.support@aveva.com for more information about this setup.
- **Hostname:** This is the address for the deployment machine in the forms:
 - Physical machine or VM on a local network: MachineName.DomainName.com
 - Cloud platform: CloudMachineName.CloudPlatformAddress.com

- **Landing site destination:** Create a new folder with the desired name (e.g. LandingSite) in your local drive and give that location here. A successful completion of the Config Wizard will create the necessary files required for the Landing Site.

Note: Once deployed, the user must send their Google Maps landing site URL to lfm.support@aveva.com to authorise access to the site. Without this authorisation the Landing Site will not function.



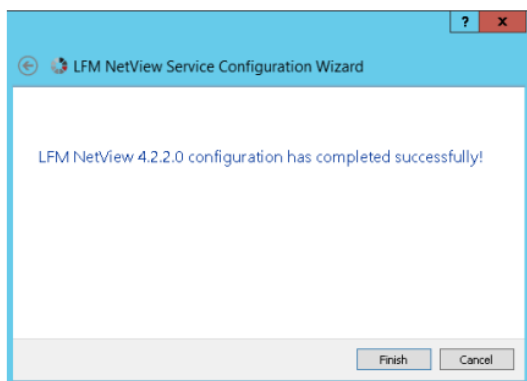
The next page will give you a detailed overview of the options and information you have provided throughout the wizard. Read through the details to make sure everything is correct.

It also allows you to save out the details of your configuration to a default location unless you change it. This will allow you to:

- Import your preferences to the Configuration Wizard if you need to run the process again on another deployment.
- Send your preferences to lfm.support@aveva.com if you need any support with your configuration.

Once you are ready to proceed, click the *Confirm* button to begin the deployment.

A progress bar will then appear showing the progress of the deployment. This process usually takes between 5-10 minutes for most deployments.



Once the process has completed successfully, click **Finish**. If for any reason the process fails, please see the logging information provided and contact lfm.support@aveva.com to get help with your deployment.

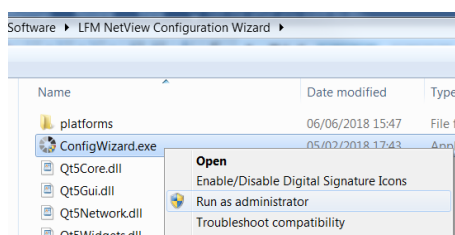
8. Running the LFM NetView Config. Wizard without a Landing Site

This section contains the steps to run the LFM NetView Config Wizard without a Landing Site. Please ensure that you uncheck the Landing Site component in the Components window of the Configuration wizard as explained below.

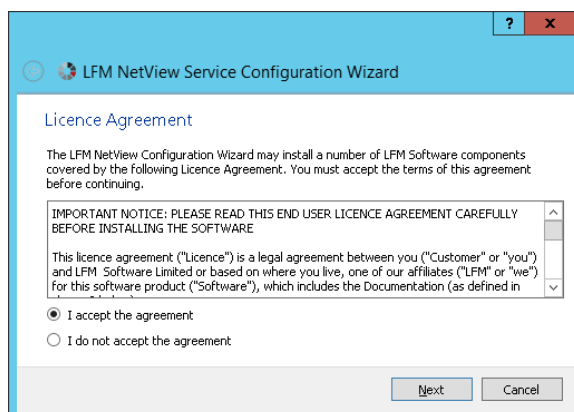
Note: Projects deployed without a Landing Site can use either Project Authentication or Single Sign-On (SSO).

With your LFM NetView project data in place on an attached VHD, it is now time to perform the deployment steps by running the LFM NetView Configuration Wizard.

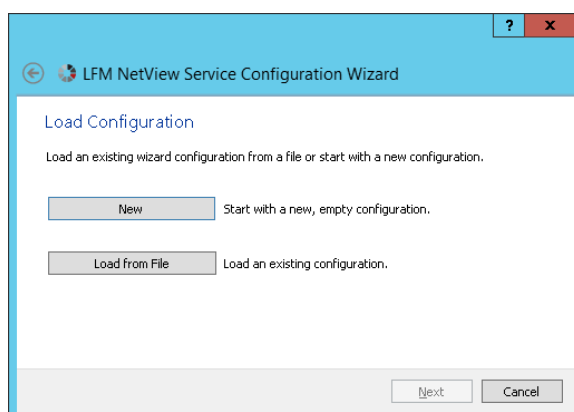
Navigate to location where the Configuration Wizard is installed, by default this is *C:\Program Files\LFM Software\LFM NetView Configuration Wizard*.



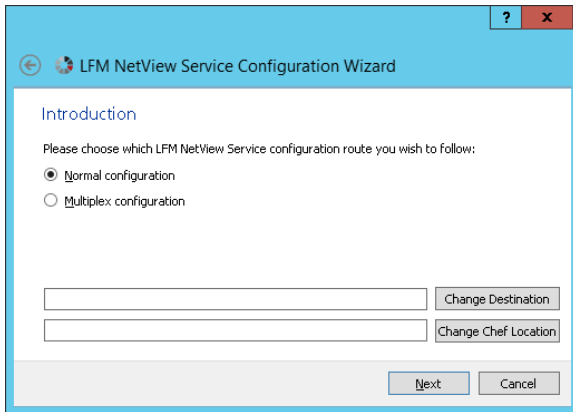
Right-click on the ConfigWizard.exe file and click *Run as Administrator*.



The LFM NetView Service Configuration Wizard will now appear. On the first page, you will be presented with the Licence Agreement. Read and understand the License Agreement. If you accept the agreement tick the *I accept the agreement* option and then click *Next* to proceed.



The next page of the Configuration Wizard will allow you to load an existing configuration setup from a file or start a new one. In this case click *New*.

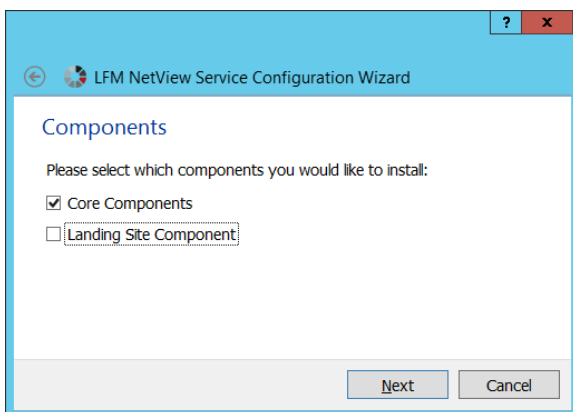


After choosing a new configuration, you will be presented with the option to deploy either a Normal Configuration or a Multiplex Configuration.

- A normal configuration is used to deploy the LFM NetView components onto the targeted environment where the data is located. This option is the typical choice in most deployments.
- A Multiplex Configuration should be selected when utilising a Nexus architecture for LFM NetView deployments to setup the front-end Nexus machine. This option is rarely used and is typically only used when AVEVA LFM Support deploy projects onto their own architecture.

In this case, select *Normal Configuration*.

You also have the option to change the install locations of LFM NetView Service and Chef – this may be required if your company IT utilises setups like “app drives”. Either leave the defaults selected, or change the install locations, then click Next to proceed.



The next page gives you a list of components you would like to install. The components are *Core* and *Landing Site*. These are further broken down below.

- Core Components: These include the IIS WebServer, IIS Objects handler, LFM Server 4.4.2.x, LFM NetView Service and the ODBC configurations.
- Landing Site Component: This includes the Google Maps Landing Site where the installed components will be the new website under IIS webserver. This is authenticated using only SSO.

As this section covers a deployment without a Landing Site, please untick the Landing Site Component. Click Next to proceed.

LFM NetView Service Configuration Wizard

Configure the webserver

Enter the host-address and port you wish to use for the LFM NetView webserver

Protocol: HTTP Secure (HTTPS)

Address: 421deployment.cloudapp.net

Port: 443

Project Name: Eatondata

Select Project: G:\WPublish\Project Browse

Select Authentication Type: ☐ Single Sign-On ☒ Project Authentication

Next Cancel

The next page asks you to configure the webserver; **this page is extremely important** as it defines the web addresses for the project as well as where LFM NetView Service can find certain data resources. Fill this page in as appropriate.

- **Protocol: HTTP Secure (HTTPS - Default Port 443).** HTTPS protocol is mandated as this is secure, though it requires a certificate to approve access. Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP, the protocol over which data is sent between your browser and the website that you are connected to. The 'S' at the end of HTTPS stands for 'Secure'. It means all communications between your browser and the website are encrypted. HTTPS is often used to protect highly confidential online transactions like online banking and online shopping order forms.
- **Address:** This is the address for the deployment machine in the forms:
 - Physical machine or VM on a local network: *MachineName.DomainName.com*
 - Cloud platform: *CloudMachineName.CloudPlatformAddress.com*
- **Port: 443,** For HTTPS protocol the default port will be 443
- **Project Name:** Name given to the project which will be used in the URL for accessing the LFM NetView project (See section: “13. Project Landing Page URL’s”).
- **Select Project:** Path to folder which contains the .Proj file created during project publication. This will be in the *Project* folder in the location where your data is stored.
- **Select Authentication Type:** When not implementing a Landing Site, two types of authentication can be used:
 - **Single Sign-On (SSO):** This is used by windows user to login to the project rather than the usual project credentials. This can only be used with the protocol being HTTPS for both with or without Landing Site.
 - **Project Authentication:** If the Landing Site component is unchecked from the components list, the user can choose Project Authentication which uses the Users and Permissions set up inside the LFM Server project. Here the user can choose either HTTPS/HTTP, based on your requirements.

In this example we will use Project Authentication.

LFM NetView Service Configuration Wizard

Project Authentication

Please configure the settings for project authentication

Password File: G:\WPublish\Project\passwords.pwd Browse

Next Cancel

The next page asks you to locate the passwords file for the project which is needed to configure the settings for the project authentication. Please browse to and select the passwords.pwd file which will be located in the published LFM NetView project folder.

Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure networking for LFM NetView Service

Choose the address and port you wish LFM NetView Service to listen for requests on:

☐ Listen on a specified address

☒ Listen on any address

Address: 421deployment.cloudapp.net

Port: 8080

Next Cancel

The next page asks for you to define the networking details for LFM NetView Service. Usually it is only necessary to change these defaults if IIS and LFM NetView Service are to be implemented in separate deployment locations. Under such circumstances, the firewall configurations would also need to be modified to permit access.

In this case however, the defaults seen in the following screenshot can be accepted.

Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure LFM Server connection for LFM NetView Service

Port Range: 6130 - 6135

Connection timeout: 15 minutes

Next Cancel

The next page asks for you to define the connection details for LFM NetView Service. Again, the defaults can be accepted as shown.

Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure the licence server for use by LFM Server

☒ Specify licence server?

Licence server: localhost

Next Cancel

The next page asks you to supply the location of the licence server for LFM Server. Please enter the name of your licence server machine here, or if the licence server will run locally enter localhost as the licence server.

Click *Next* to proceed.

LFM NetView Service Configuration Wizard

Configure the database connections used by LFM NetView Service

Enter the connection string and credentials for the database you wish LFM NetView Service to connect to:

Database Server: 421DEPLOYMENT

Use Windows Authentication: ☐

Database Username: LFMUser

Database Password:

Confirm Password:

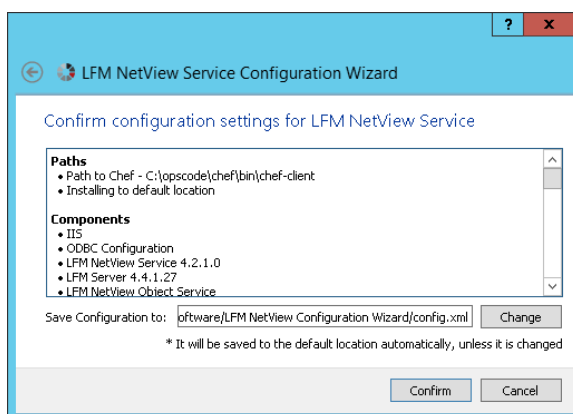
Next Cancel

The next page requires you to set up the database connection settings for LFM NetView Service to access the SQL Database. The SQL DB is where LFM NetView saves things such as measurements, mark-up, etc.

- **Database Server:** This is the address for your SQL DB – depending on where SQL Server has been setup, the input here will vary:
 - SQL Server is on the same machine as this deployment: SQLInstance name
 - SQL Server is on another machine in the network: SQLInstance name, 1433
 - Cloud platform: CloudPlatformVMName.CloudPlatform.net/com, 1433
- **Use Windows Authentication:** This checkbox will tell LFM NetView Service to log into the SQL DB as the user account. In this case, we want to use a specific user so leave it unchecked.
- **Database Username:** Enter your SQL DB username.
- **Database Password:** Enter your SQL DB password.

Note: The Database Server entry is case sensitive.

Click *Next* to proceed.



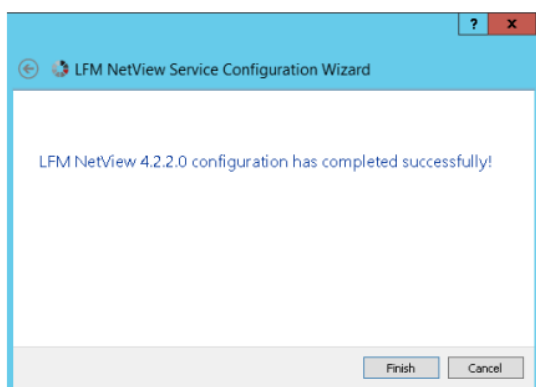
The next page will give you a detailed overview of the options and information you have provided throughout the wizard. Read through the details to make sure everything is correct.

It also allows you to save out the details of your configuration to a default location unless you change it. This will allow you to:

- Import your preferences to the Configuration Wizard if you need to run the process again on another deployment.
- Send your preferences to lfm.support@aveva.com if you need any support with your configuration.

Once you are ready to proceed, click the *Confirm* button to begin the deployment.

A progress bar will then appear showing the progress of the deployment. This process usually takes between 5-10 minutes for most deployments.

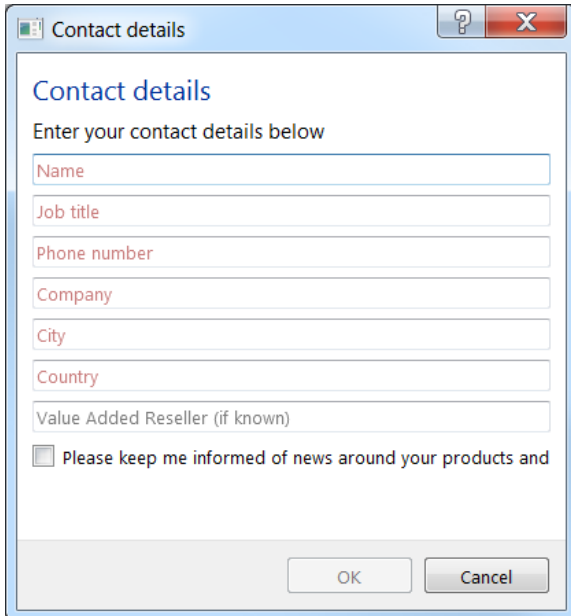


Once the process has completed successfully, click **Finish**. If for any reason the process fails, please see the logging information provided and contact lfm.support@aveva.com to get help with your deployment.

9. Obtain and Implement a Sentinel License file

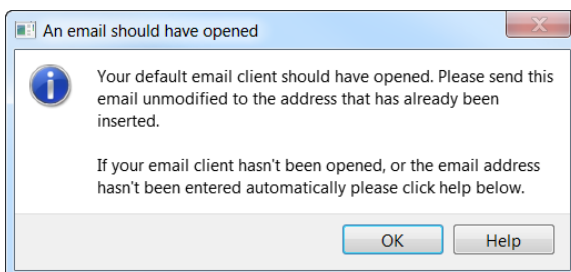
9.1. Request a New Commercial License

To request a new commercial license, run the LFM Server application and click the *Please send me my new commercial license* button on the dialog that appears.



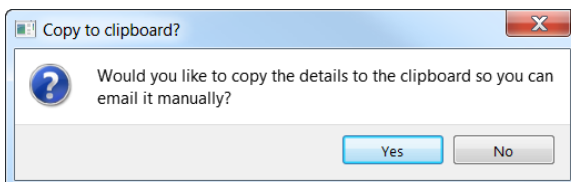
The image shows a Windows-style dialog box titled "Contact details". It has a blue header bar with a question mark icon and a close button (X). The main area is white with a blue title "Contact details" and a subtitle "Enter your contact details below". Below the subtitle are several text input fields: "Name", "Job title", "Phone number", "Company", "City", "Country", and "Value Added Reseller (if known)". At the bottom left, there is a checkbox labeled "Please keep me informed of news around your products and". At the bottom right, there are two buttons: "OK" and "Cancel".

The form shown left will appear. Enter the relevant details and click *OK*.



The image shows a Windows-style dialog box titled "An email should have opened". It has a blue header bar with an information icon (i) and a close button (X). The main area is white with a blue title "An email should have opened" and a subtitle "Your default email client should have opened. Please send this email unmodified to the address that has already been inserted." Below the subtitle, there is a paragraph of text: "If your email client hasn't been opened, or the email address hasn't been entered automatically please click help below." At the bottom right, there are two buttons: "OK" and "Help".

As it is unlikely that the machine you are deploying to will have an email client installed, please click the *Help* button on the dialog which appears (shown left).



The image shows a Windows-style dialog box titled "Copy to clipboard?". It has a blue header bar with a question mark icon and a close button (X). The main area is white with a blue title "Copy to clipboard?" and a subtitle "Would you like to copy the details to the clipboard so you can email it manually?". At the bottom right, there are two buttons: "Yes" and "No".

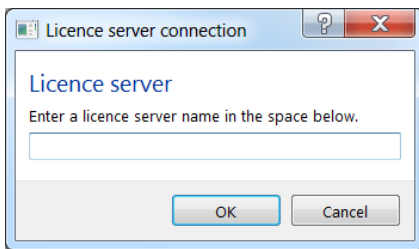
Click *Yes* to copy the required machine details to the clipboard. You can then paste these details into a simple text file which can then be saved and sent to a machine that has an email client installed. Please copy the machine details into a new email and send them to lfm.license@aveva.com. It is useful to add further information such as your AVEVA LFM Value Added Reseller (if you have one), the name of the project and the Purchase Order number (if known).

Once you have received your commercial license, please see section [9.3. Installing a New License File](#) for instructions on how to install your license.

9.2. Connect to an Existing License Server

If a license server and valid license are already available (either on your local machine or on a network machine), click the *I need to connect to my license server* button.

The dialog shown left will appear. Enter the machine name or IP address of the machine where the existing license is hosted and click *OK*.

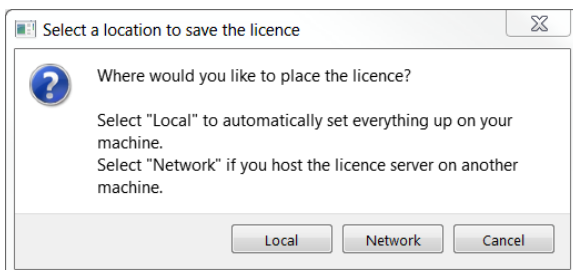


If the machine entered has a valid LFM license available, LFM Server will start.

9.3. Installing a New License File

Once you have received your new license file from the AVEVA LFM Licensing Team, please save this to any location on the deployment machine. Restart LFM Server and select *I would like to install a license file*. You will be asked to grant Administrator privileges which are required to install the license file.

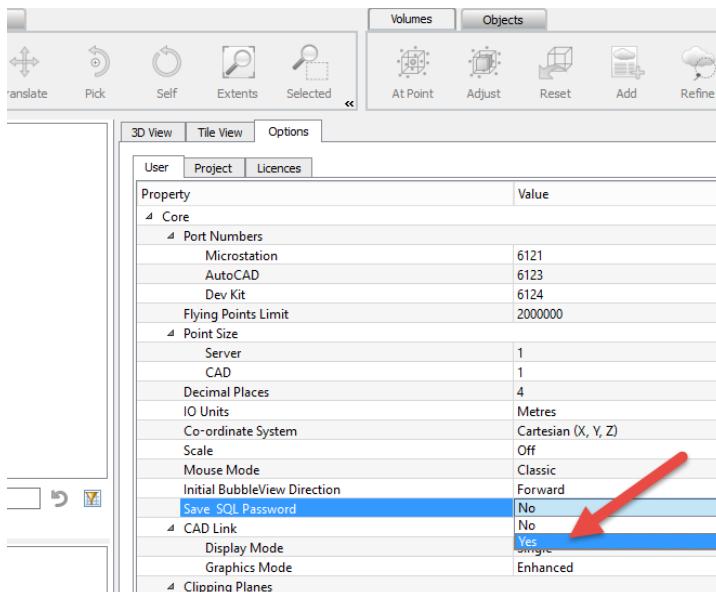
Browse and select your license file.



Choose *Local* to automatically install the license to the deployment machine

Once the license has been successfully installed, LFM Server will start. Open the LFM Server project file (located in the published LFM NetView > dataset folder). As this is the first time that the LFM Server project has been opened on the deployment machine, you will be prompted for the location of the dataset (.lfd) file. Browse to and select the .lfd file (located in the published LFM NetView > dataset folder).

10. Connecting LFM Server to the SQL Database

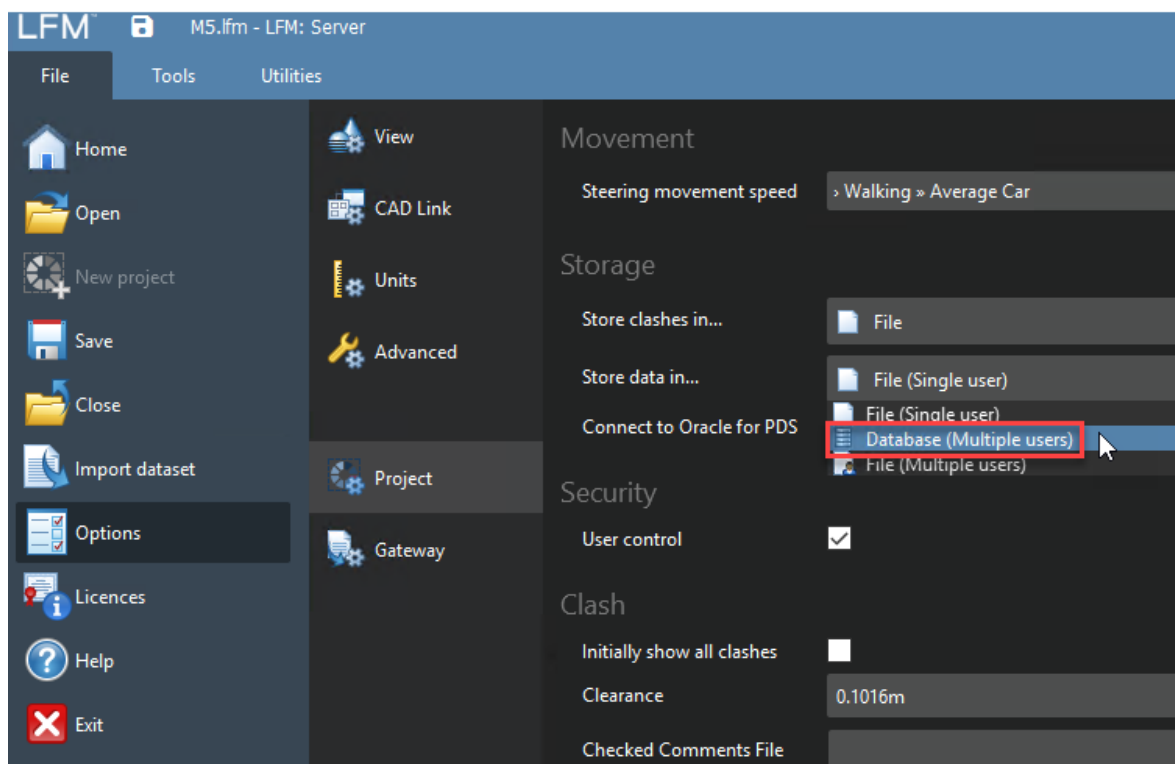


Once the project is fully loaded in LFM Server: Server Mode, check that the user option *Save SQL Password* is set to *Yes* as shown below. This step is required so that LFM NetView Service can open the project without requiring any user input.

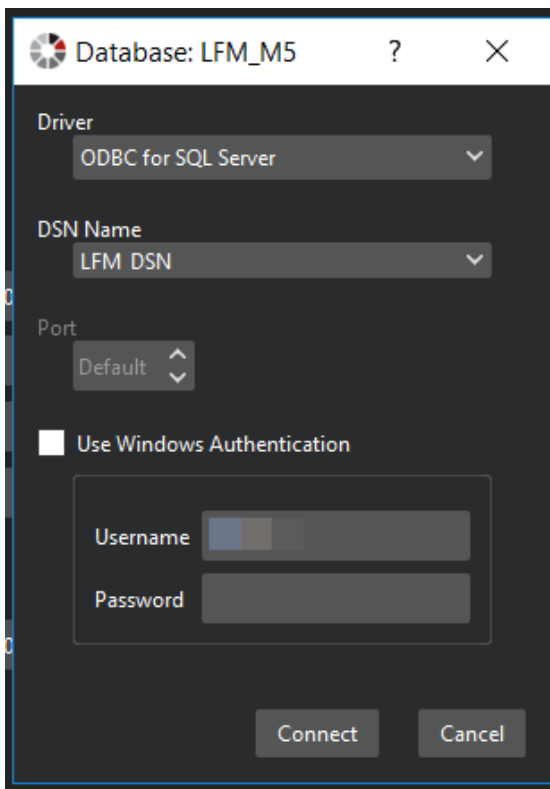
Note: Ignore this step if you are using LFM Server 5.2.0.0 or later versions.

This option is only available in LFM Server 5.1.0.1 and prior versions.

Next, in the Options > Project tab set *Store Data in*, to *Database (MultiUser)* as shown below.



This will show the Database dialog which will ask you to provide the Database login information in order to switch the project into storing data in the SQL DB.



Driver: This should be set to ODBC for SQL Server

DSN Name: Select LFM_DSN from the drop-down list. The DSN connections were setup by the Configuration Wizard as shown earlier

Use Windows Authentication: As we are accessing the SQL DB with specific user credentials, leave this unchecked

Username and Password: Enter your SQL DB login details.

Once all the details are filled in click *Connect*. LFM Server will begin writing the project information to the SQL DB. Once the connection is made the status bar at the bottom of the LFM Server interface will indicate the progress of this step.

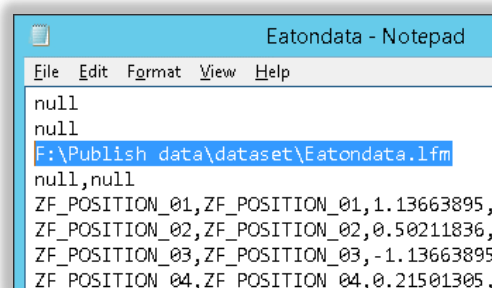
Once this process has completed (when the progress bar disappears), close project and exit LFM Server.

Note: After clicking Connect, this dialogue box will popup twice at the start and once more at the end of database setup.

11. Edit the .proj File

As it is highly likely that the project (.proj) file was created on a different machine, this file only has a reference to where the LFM Server project was on the publishing machine. Therefore, you will need to update this file with the location of the LFM Server project file (.lfm) now it has been moved onto the project hosting machine.

Locate the .proj file (within the Project folder where you have copied the data to) and edit the line that points to the .lfm file. Ensure that this is pointing to the correct location.



Once you have edited the file please save and close it. The deployment process is now complete.

12. Project Landing Page URL's

LFM NetView projects are accessed using a browser (currently supported by Microsoft Edge, and Google Chrome). The URL for the newly created LFM NetView site comprises of a two-step login:

1. Accessing the LFM NetView Project Landing Page
2. Accessing the LFM NetView Project

12.1. Accessing the LFM NetView Project Landing Page

The format of the Project Landing page URL differs across various platforms, below are the URL formats.

12.1.1. URL for the Project Deployed on a Local Server or VM

- `https://DomainName/netview.html`

12.1.2. URL for the Project Deployed on a Cloud Platform

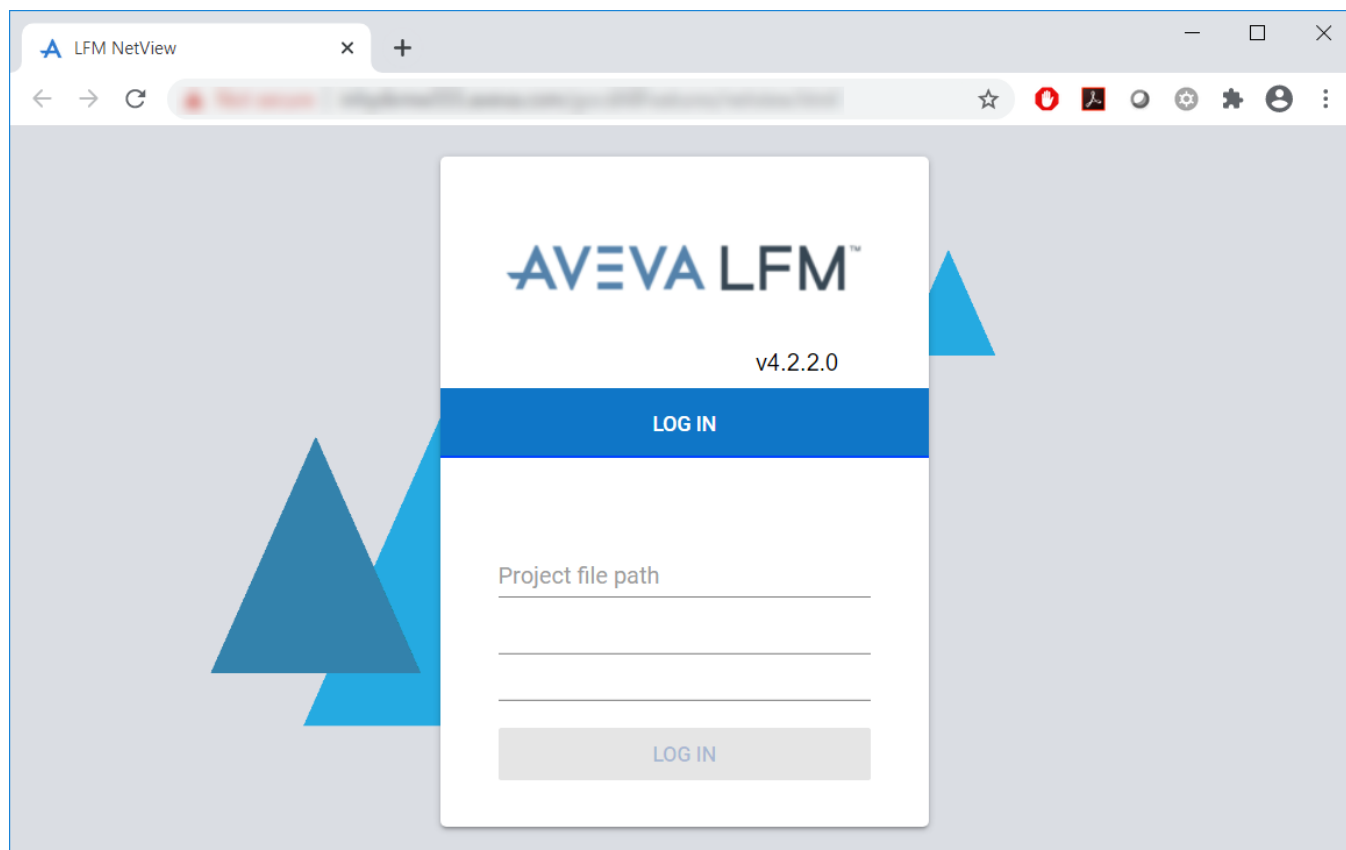
- *Project deployed on Microsoft Azure's Standalone Machine*
 - `https://CloudPlatformVMName.CloudDomain.net/netview.html`
- Project deployed behind a Nexus Machine (this setup is typically only used by AVEVA LFM). You need to add the project name to the Microsoft Azure standalone deployed project URL as shown below.
 - `https://CloudPlatformVMName.CloudDomain.net/ProjectName/netview.html`

The `DomainName` and `CloudPlatformVMName` parts refer to the deployment location (local server, local VM, or Cloud platform)

The sections of the URL shown in **black** are static and remain the same for all LFM NetView deployments.

- The `ProjectName` part refers to the name entry that was made during the *Configure the WebServer* process on the nexus machine (this setup is typically only used by AVEVA LFM).

In the example below the project has been deployed on a cloud platform on Microsoft Azure. The URL for the project would be as shown in the screenshot below.



12.2. Accessing the LFM NetView Project

The project file path will be the *Project Name* that you've given while running the LFM NetView Configuration Wizard for the projects deployed on the either local VM or on Cloud.



The role of SSO comes into play after the first login to the LFM NetView project. Initially, the user should login as shown above. When the user refreshes the project, or accesses the same project in a different tab, the browser will allow the user to login directly without having to give the credentials as shown left. If you log out of the project your SSO authentication token will be deleted and you will need to re-enter your credentials to log back into the project (at which point you will get a new SSO authentication token).

The token expiry depends on the duration mentioned in the *LFM Token Lifetime* field of the Configuration Wizard. After the expiry, the user must login using their credentials and the token will refresh. This is the same for all project users.

13. Google Maps Landing Page URL's

The Google Maps Landing Page for the deployed LFM NetView project can be accessed using the following URL format.

Note: Once deployed, the user must send their Google Maps landing site URL to lfm.support@aveva.com to authorise access to the site. Without this authorisation the Landing Site will not function.

13.1. Accessing the Google Maps Landing Page

The format of the Google Map Landing page URL differs across various platforms, below are the URL formats.

13.1.1. Deployed on a Local Server or VM

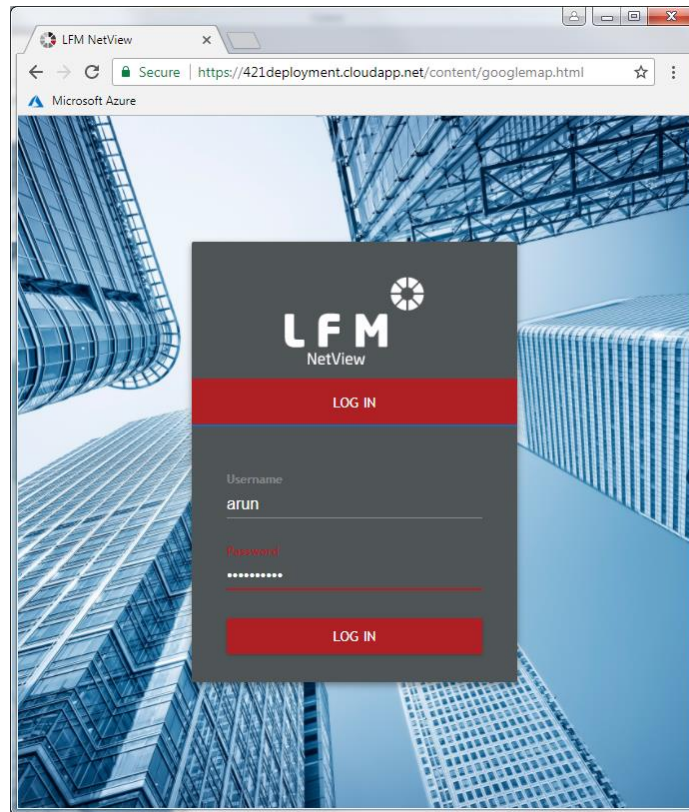
<https://DomainName/content/googlemap.html>

13.1.2. Deployed on a Cloud Platform

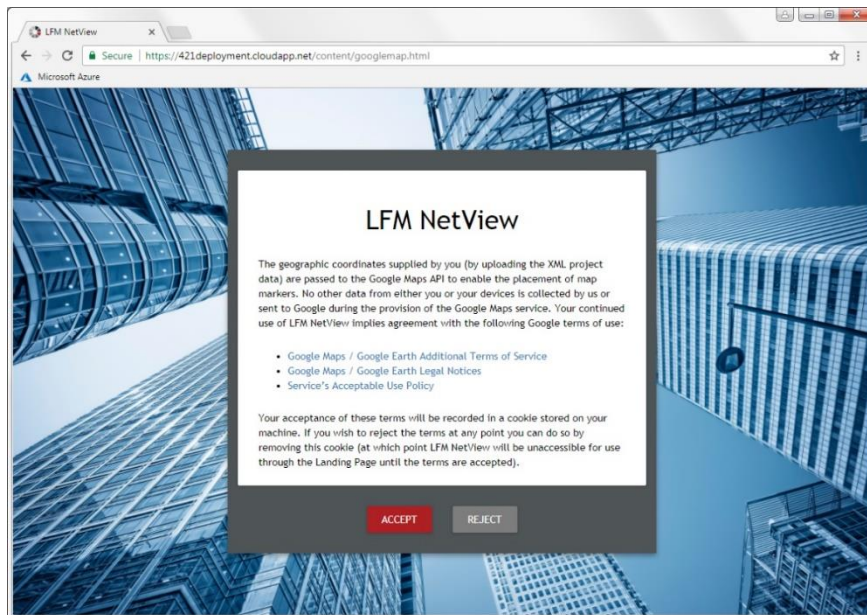
<https://CloudPlatformVMName.CloudDomain.net/content/googlemap.html>

- The *DomainName* and *CloudPlatformVMName* parts refer to the deployment location (local server, local VM, or Cloud platform)
- The sections of the URL shown in **black** are static and remain the same for all LFM NetView deployments.

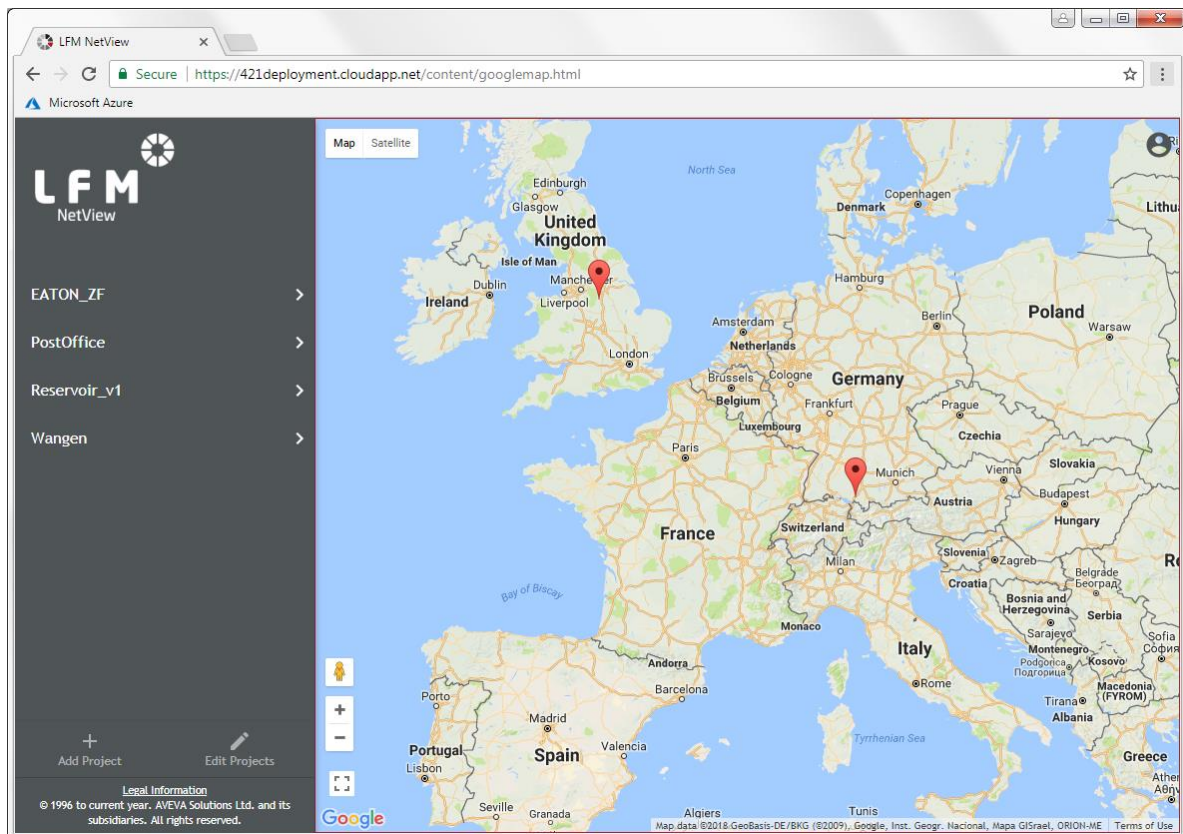
In the example below the landing site has been deployed on the cloud platform on Microsoft Azure. The URL for the Landing Site would be as shown in the screenshot below.



Upon accessing the Landing Page URL you will be presented with the terms of use for both LFM NetView and Google Maps. Read and understand the terms of use. If you accept the terms of use click *Accept*.

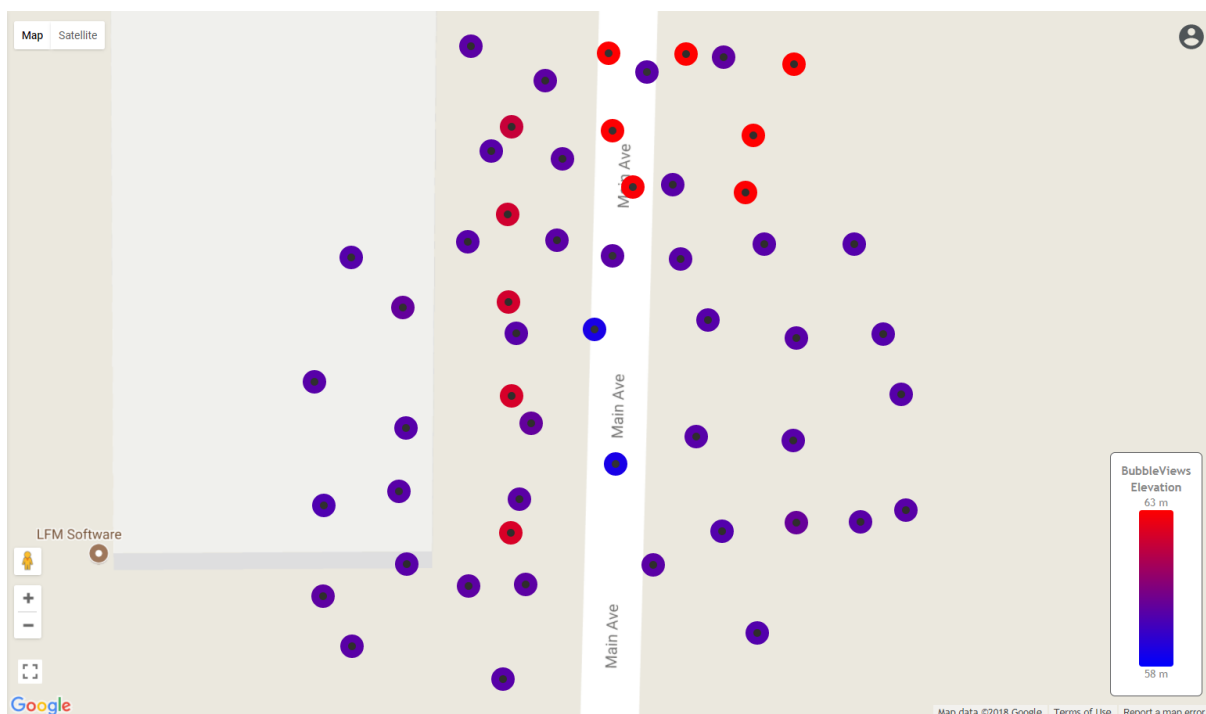


Upon logging in to the landing page, an instance of Google Maps will be displayed with a marker showing the location of each project on the Landing Page. The projects will also be listed in the Sidebar.

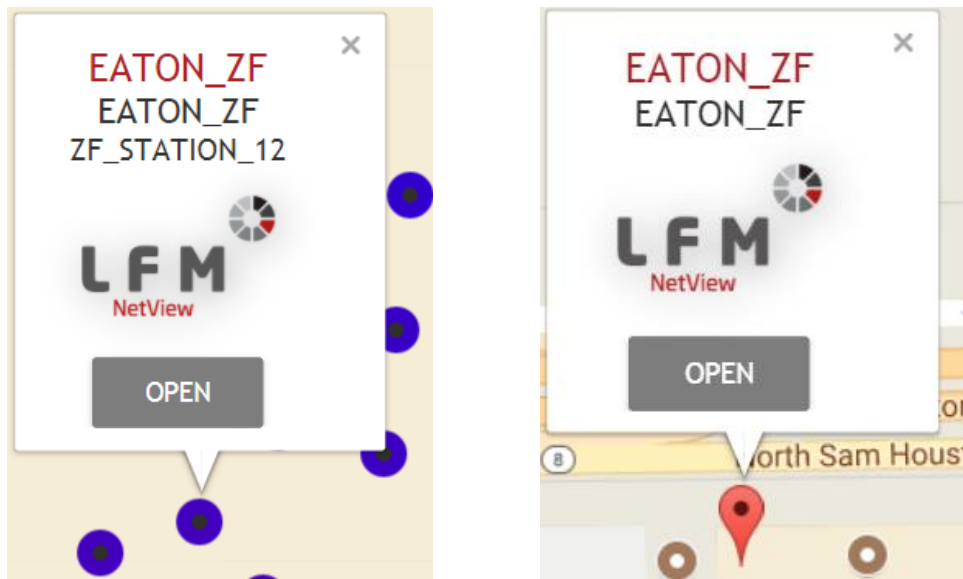


Each of the datasets can be located either by manually zooming in to one of the dataset markers, or by selecting the relevant project and dataset in the sidebar.

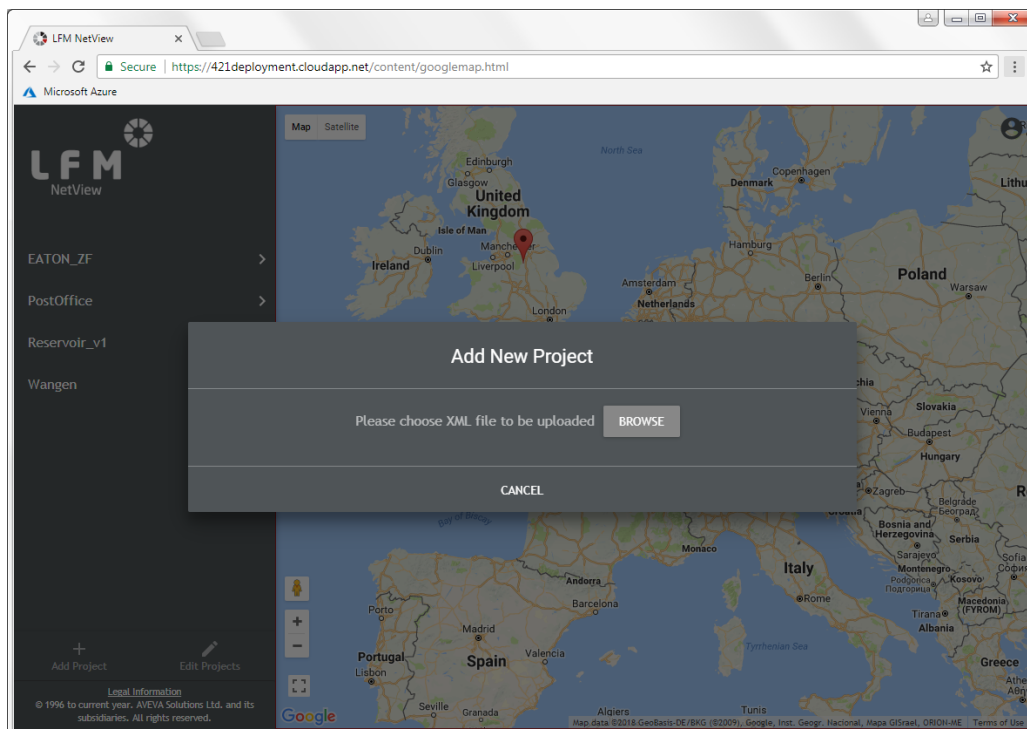
On zooming into a dataset, each of the individual scan positions within that project will be displayed on the map. The scan markers will be coloured based on the elevation of that scan. A key is provided at the bottom right of the page to show which colour relates to which elevation.



Clicking on a project/dataset/scan marker will bring up a dialog that displays the details of that project/dataset/scan. Pressing the Open button will load the login page for the associated project.

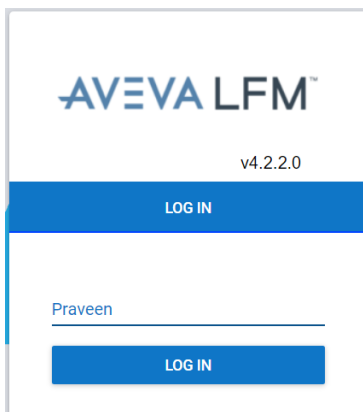
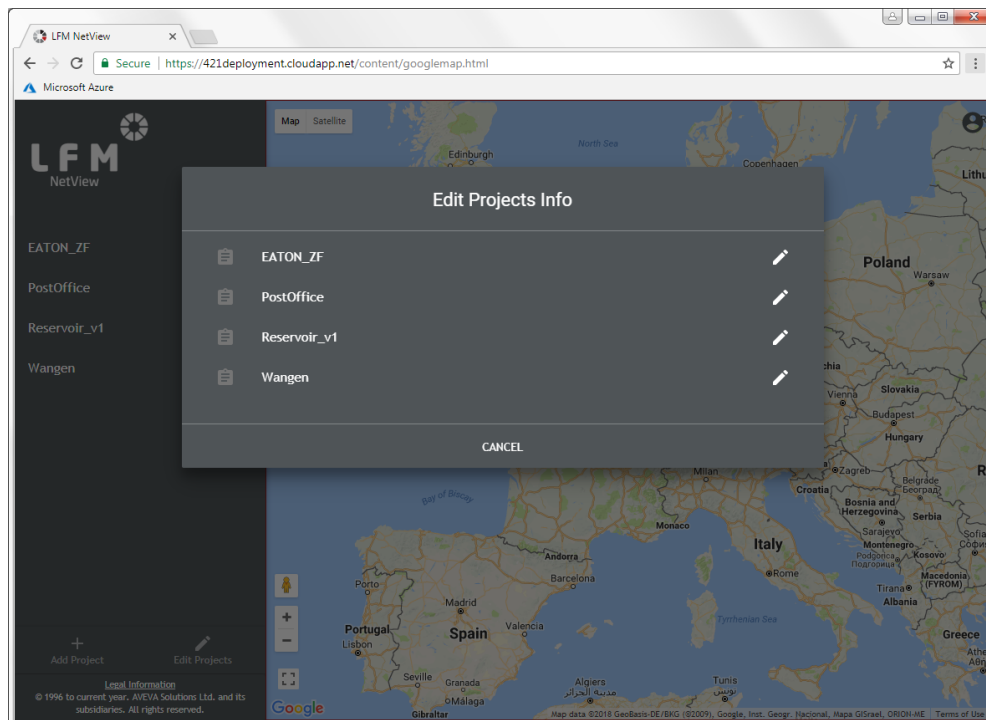


The user can add deployed LFM NetView projects to the Landing Site by clicking on the *Add Project* icon available at the bottom of the sidebar and selecting the .xml file for that project as shown in the below screenshot.



The procedure for generating the XML file is covered in the *LFM NetView Project Publishing Guide* which is available in the LFM Server Help Guides.

The user can also edit project information (e.g. changing the project URL) by clicking on the *Edit Projects* icon available at the bottom of the side bar as shown in the below screenshot.



The role of SSO comes into play after the first login to the LFM NetView project. Initially, the user should login as shown above. When the user refreshes the project, or accesses the same project in a different tab, the browser will allow the user to login directly without having to give the credentials as shown left. If you log out of the project your SSO authentication token will be deleted and you will need to re-enter your credentials to log back into the project (at which point you will get a new SSO authentication token).