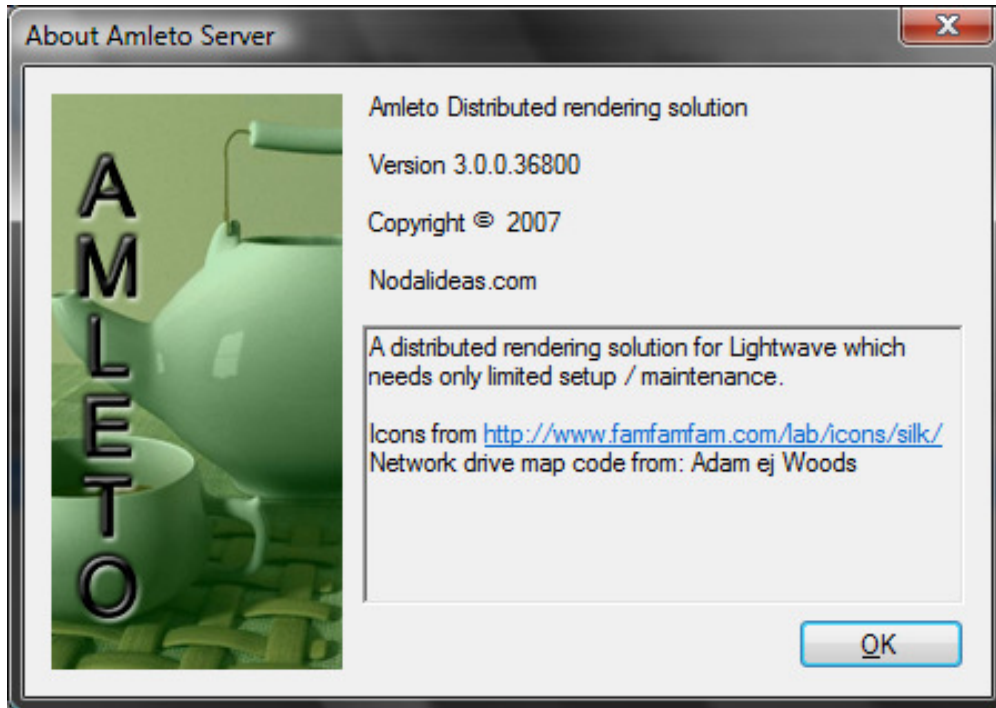


Amleto 3 Manual



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Introduction

Amleto is a tool, which allows the rendering of images (frames) or sequences across a network of several computers simultaneously.

This type of tool is commonly named network controller. The main goal using a network controller such as Amleto is to allow you to speed render process for an animation or even a single image. Amleto is not the only network controller available for Lightwave, but we believe it's one of the easiest if not the easiest to use. The strength of Amleto is the automatic setup of lwsn and automatic transfer of the scene content to the client machines. In most cases, you do not need to perform manual steps to change configuration files or have to setup shared drives on 20 computers.

This is the third major release of Amleto. This release is a full rewrite using the latest technologies offered by the .NET framework. The stability and the speed has been greatly improved with this version, as well as for us the maintainability.

Amleto's communications are now based on a technology called "Remoting" which allows two or more .NET software to communicate / exchange data data. This protocol allows us to communicate with client machines without needing to use shared drives. On top of that we provide a small web-based interface so you can control your network renders remotely.

Setup

Prerequisites

In order to install Amleto you will need a complete installation of Lightwave (version 9 are supported) on the machine you want to user as the server, the AmletoSetup.msi and a valid serial key (a demo key can be requested on our site <http://www.nodalideas.com/register.php>).

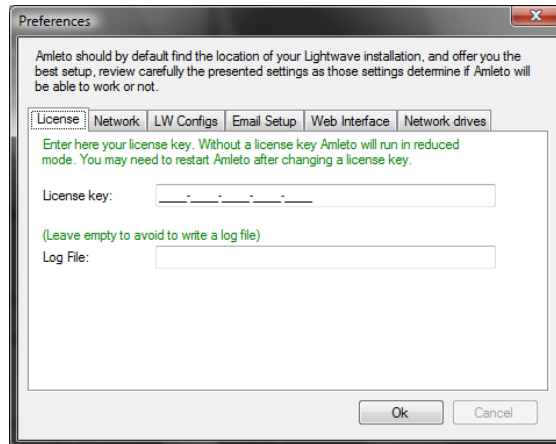
In case you don't have .NET 2.0 already installed on your computer, the installation procedure will request to install it.

Server install

1. On the computer you want to use as server, use the AmletoSetup.msi installation file, and follow the setup guide.

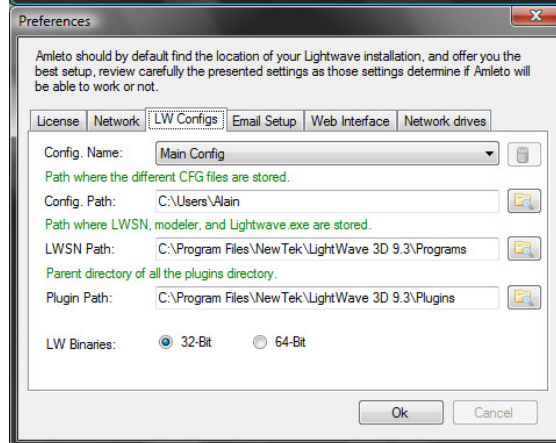
2. Startup the Amleto server interface from the startup menu (Start -> Amleto -> Amleto server interface) on the computer you decided to use a server.

3. A first dialog (like the picture here) will popup asking you to configure the server.



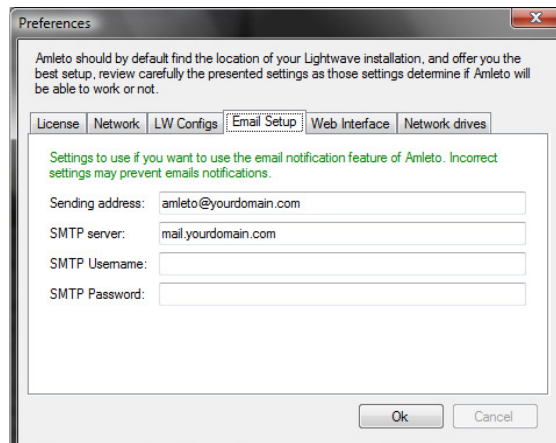
4. Provide there your license key (if you don't provide a license key, or provide a wrong one, Amleto will run in free mode, which limits it's capabilities.)

5. Verify that the Lightwave configuration is correct in the "LW Configs" tab. If not fix it.

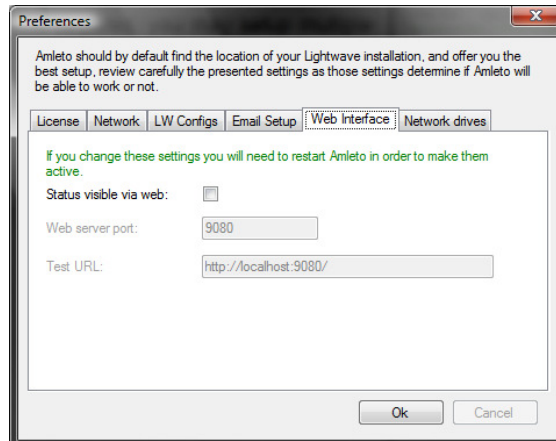


If required, you may setup multiple configurations for example for a 32 bit installation and a 64 bit installation.

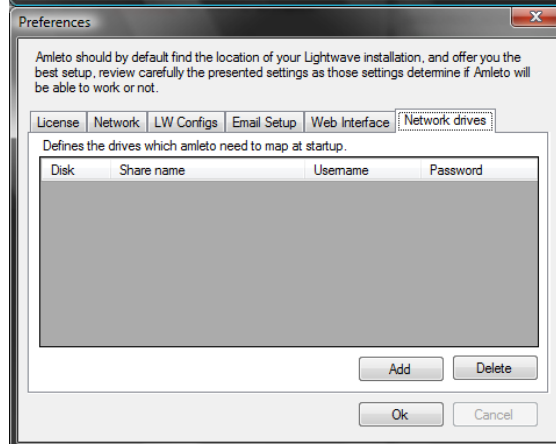
6. (optional) You may also configure the SMTP server, in order to allow Amleto to send emails.



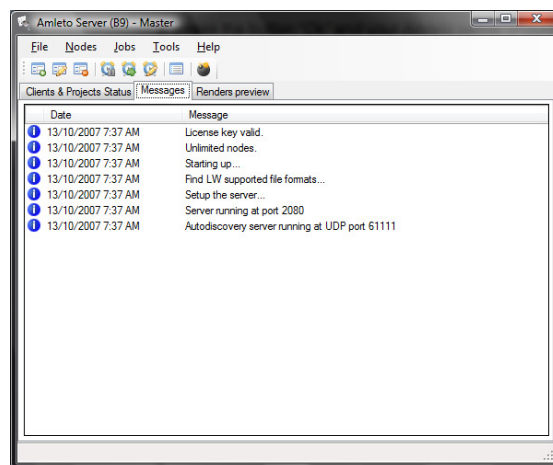
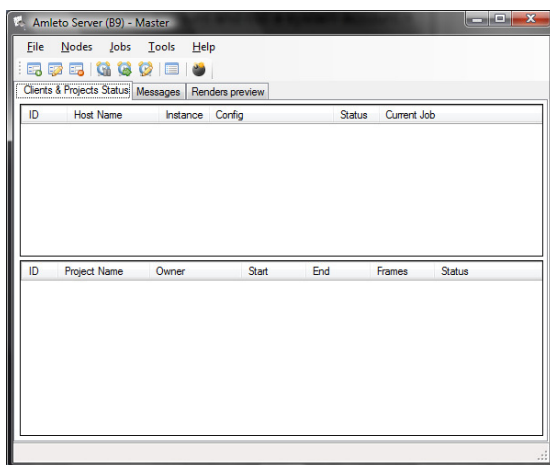
7. (optional) You may enable the web interface, by checking the appropriate check box and specifying a port number.



8. (optional) You may defines shared drives which will be mapped / un-mapped by Amleto. Those shared drives are also mapped by the Amleto server service, however in order to make it work, the service need to be started with a local account and not a system account.



9. Press the button “Ok” and your Amleto server should be ready to work.



You may verify the activity on the Message tab:

Client install

1. By default the AmletoSetup.msi file installs both the server interface and the client interface, if you want to install clients with the graphical user interface on other PC, use the same msi file and choose, during the installation process, to install only the client.

2. As soon as the client starts, it will try to discover where on your network the server is installed. To do so, an UDP broadcast is used. Due to the technology used, the auto-discovery process works **ONLY** on local networks, which mean if your client and your server are separated by a router, they will not see each other automatically. In this case you can specify an IP or host name in the setup dialog (next point).

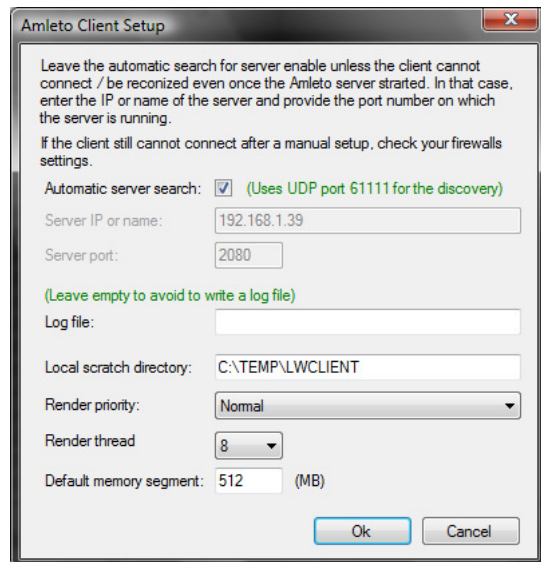
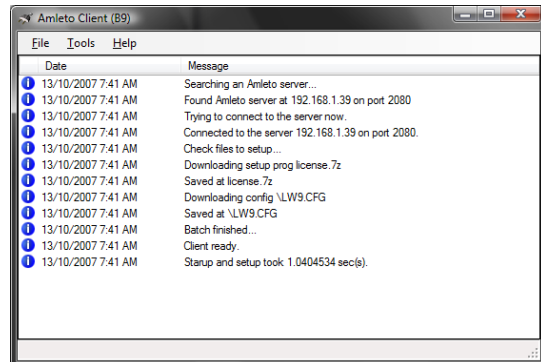
3. **(optional)** If for any reason you need to setup the client, follow this step:

The preferences are found in the menu “Tools”. The panel allows to define how the client connects to the server in case you don’t want or cannot use the auto-discovery mode.

You may specify a log file, in which case all the messages produced on the client will be also logged on the disk.

You may change the “scratch” directory, which defines where the client stores the scenes copies, and it’s different LW installation. Use a directory which you know you can delete at any time.

4. **(optional)** Once you are sure your Amleto client works correctly, you may also try the Amleto client as service. To do so, simply use the “AmletoClientServiceSetup.msi” provided.



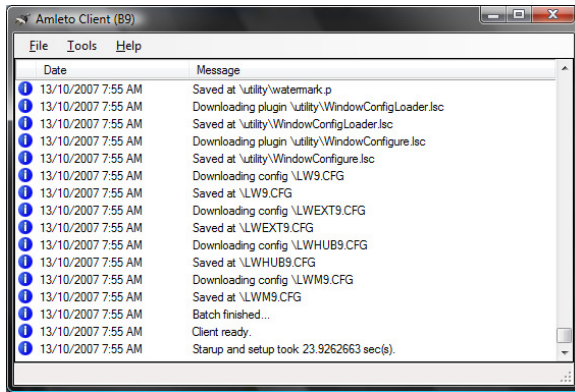
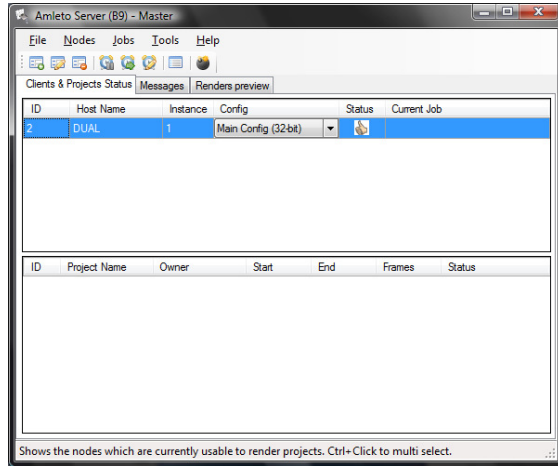
You may define a priority which will be used for the LWSN process. A low priority will ensure the machine will be still responsive for other task, but may slow down the render process.

You may define the number of thread and the default memory segment used by LWSN.

After the installation

If the installation went well on both your client(s) and the server, you should see all nodes on the server, you should see the nodes names appearing in the top list and after a while (about 1 minute on a 100 bit network) a thumbs up icon should be displayed.

Note: the auto install process can take a few minutes as it installs lwsn and plugins onto the remote client, in the mean time you will see a lot of messages on the. This is normal. Wait until the auto install process has finished before going on.



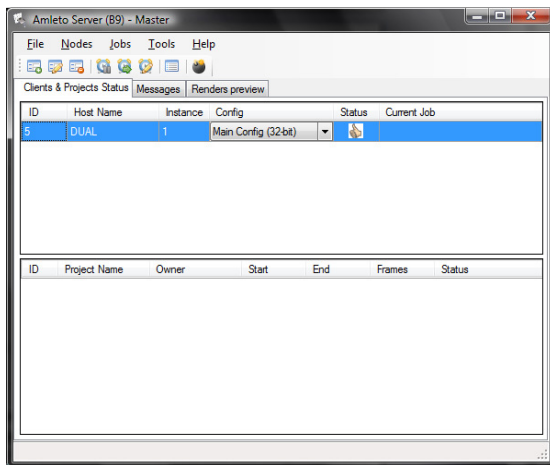
If you do not see the nodes on the server, check either on the client or on the message panel of the server to see if you have any error messages.

After a successful installation, you will see messages similar to the image on the left.

Server interface

The Amleto server can be run either as standalone graphical software, or via a service. In case you run the server as service, you can always access it from any point of the same network by starting a server interface. The server interface will then detect that a server service is running somewhere on the network and connect itself to the server. This allows to open one or multiple graphical interface to control the rendering cluster. You may also use the same functionality if you start the server only via graphical interface without a service installation, however when you close the first graphical interface, the cluster will be stopped.

The title bar of the Amleto server contains either the text “Master” if it is the master of the cluster or “Terminal” if you are just connected to another master.



The graphical user interface of the Amleto server is composed by a top menu, a toolbar and a notebook of 3 tabs.

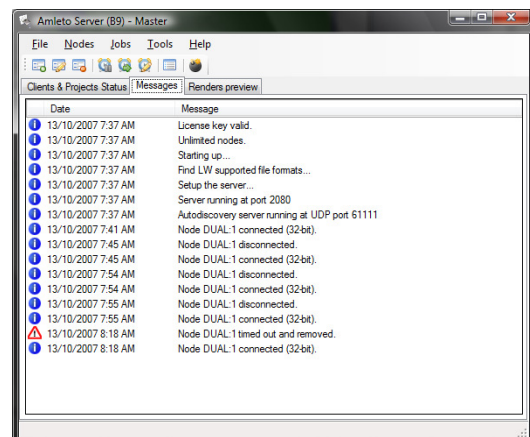
- “Tools” -> “Options” will popup the configuration dialog. This dialog is the one which is displayed the first time the server software is launched. Refer to the installation process for more information about it.
- “File” -> “Exit” will quit the server.
- The Node menu is explained in the “Manage nodes” chapter.
- The Projects menu is explained in the “Manage scenes” chapter.

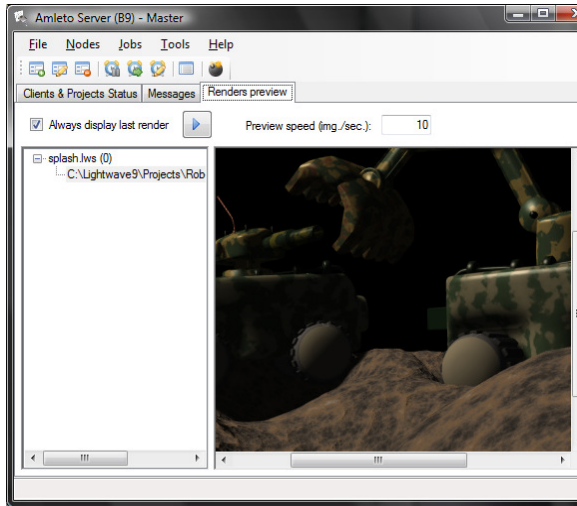
The toolbar contains 8 icons. Passing the mouse over each icons will show a popup showing what’s the function of the particular icon. The same text is displayed in the status bar.

At startup the “Clients & Projects Status” tab will be displayed which contain two lists: the list of currently connected nodes, and the list of scenes to render. Right click on one of those two list will popup a context sensitive menu. Please refer to the “Manage nodes” or “Manage scenes” chapter for more information about those lists.

By clicking on the “Messages” tab, a single list will be displayed containing the last messages the server has to display.

An icon is used to show if the type of message. It will be either an “i” for information or a “!” for an error. The latest messages will appear at the bottom of the list.





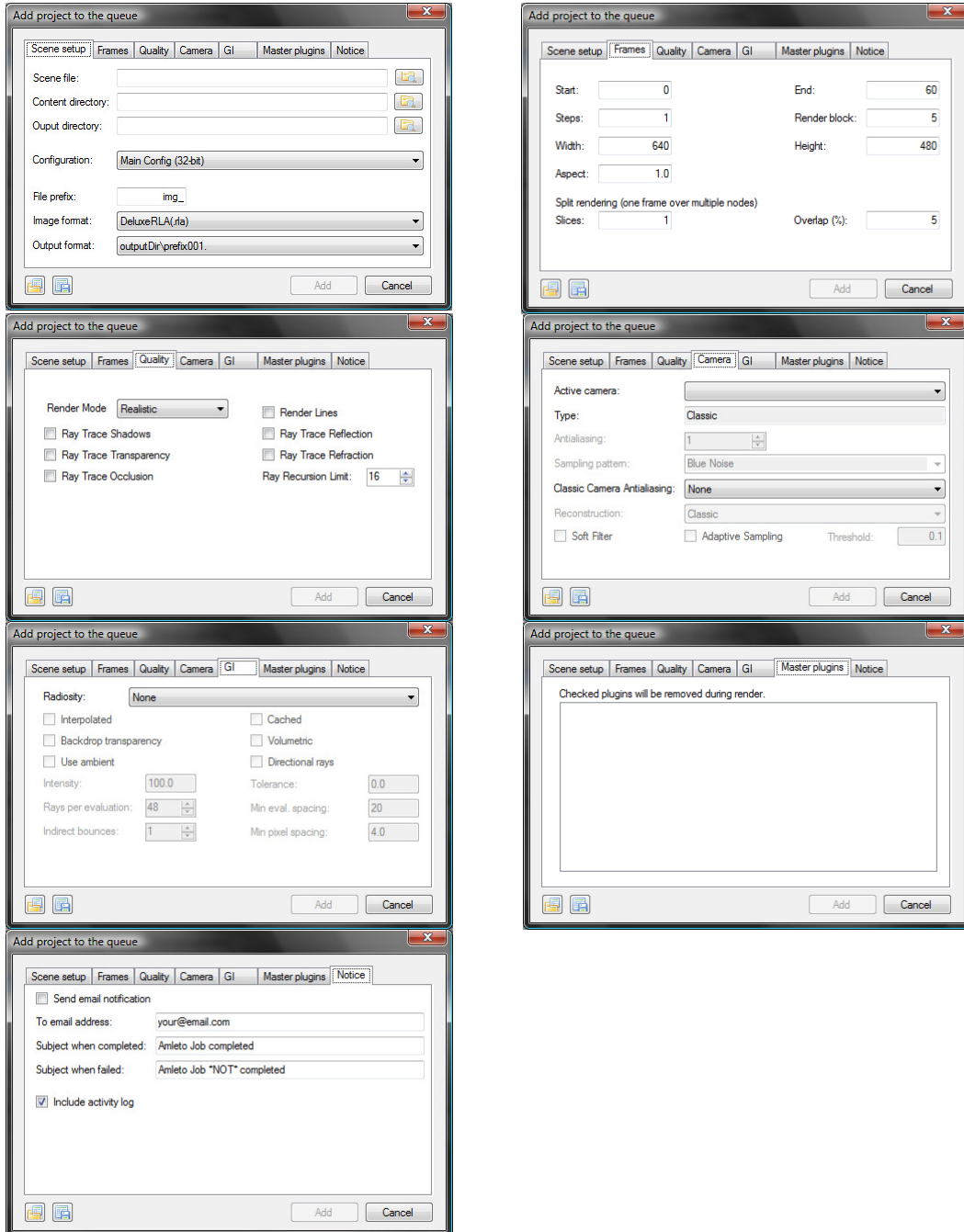
The last tab is the image preview tab. This tab allows you to preview PNG, TIFF, JPEG, GIF and BMP files. On the left side of the panel you will find a tree which lists rendered images by projects. In order to preview one image, select the filename and if the image format is supported you will be able to see the preview of the image on the right side. If the image is larger than the preview window then the scrollbars will appear. You may also see the frames of an animation one after the other to reproduce the movie by pressing the play button.

Render with Amleto

After the setup you would certainly try Amleto, so let's see how you can render something with our product.

Add a scene

On the server interface click on the first icon in the toolbar, or use the menu "Jobs" -> "Add". The different tabs are here after presented.



1. Select first the scene you want to render by clicking the button near the field.

2. The selection of the content directory should be in most case automatic, however this is one of the most important part as if you select the wrong content directory, the chance that the render will not succeed is very high. This needs to be the base of all the files needed for your scene.

That means if you work always with something like “C:\Lightwave\Content\Scene\blabla.lws”, the content directory you should choose would be “C:\Lightwave\Content”, not only the directory where your .lws file is ! Just to make things easier, use the button on the right side of the field in order to select the directory.

3. “Output directory“ defines the directory of rendered files. This can be outside of the content directory and even point to some local directory on the server.

4. “Configuration” defines which LW configuration will be used to render.

5. “File prefix” defines the prefix of the rendered image.

6. “Image format” defines the file format used to save the images. Note that image preview as well as slice reconstructions works only with BMP, PNG, JPEG, TIFF and GIF.

7. “Output format” defines how the file name will look like.

8. “Start” / “End” determines which frames of this scene are to be rendered. If you select the same frame as start frame and end frame it means Amleto will render only one frame and in this case segment rendering will be available.

9. “Steps” determines if Amleto will render all the frames (steps 1) or will skip some frames in the middle.

10. “Render block” is used to specify the number of frame each session of LWSN will render before returning rendered the rendered frames to the server. Using a larger number here speeds up render times as LWSN does not need to reload the content for each scene, but can cause bottlenecks if slower machines are used on the network.

11. “Width” / “Height” defines the image size.

12. “Aspect” defines the aspect ratio of the image.

13. “Slices” (only active if start frame and end frame are the same) will split the image up into the specified number of sections and send each section to a different client to render.

14. “Overlap” is used with segments in order to have a smooth join of those segments.

The tabs “Quality”, “Camera” and “GI” reflect the setting within Lightwave. You may tweak those to increase the render speed or increase the rendering quality.

The tab “Master plugins” defines which master plugin need to be removed from the scene during the render. In most case you don’t need to do it.

The tab “Notify” defines if you want to receive an email once the job is finished.

You may save a particular setup by using the second icon on the bottom left part of the dialog. If you want to reuse a saved setup, use the first icon.

Once this dialog is filled, just press “Ok” and the scene will be added in the list of scenes to be rendered.

How scenes are rendered

Scenes are rendered from the queue in top to bottom order. The scene is sent to any node which is not already rendering a frame, unless the node has been marked as inactive. Once a node has finished rendering, a new render will automatically be allocated to it if there are renders in the queue.

Managing scenes

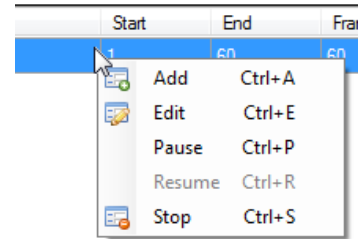
The best way to Manage scenes is to right click on a scene (bottom list of the “Scene and Nodes” tab) in order to popup a contextual menu. You can however use the menus in the normal menu bar.

1. “Add” will display the Add Scene dialog and allows you to add a new scene in the list.

2. “Edit” allows to edit the job settings.


3. “Pause” / “Resume” tells Amleto to avoid skip this job for the moment, or process it again.

4. “Stop” will kill the job.







Managing nodes

Nodes are added or removed from the node list automatically when clients on the remote machines are started and stopped. If there are renders running, new nodes that are added will automatically be used to render the scene.

ID	Host Name	Instance	Config	Status	Current Job
5	DUAL	1	Main Config (32-bit)		

Nodes can be in 3 different states and those states can be seen from the icon near the node:

	This node is ready to be assigned content.
	This node is currently transferring files via the network.
	This node is rendering some frames.
	This node is inactive.

You will then find a number which is an ID of the node, the hostname and the instance Amleto client (shows if you run multiple clients on the same host). You can define the active configuration for the client and see what the client is currently doing.

By right clicking on a node some actions can be performed.

1. "Stop job" stops a current render.
2. "Show messages" displays the messages as you could see them on the client.
3. "Resend config" forces the client to get back the configuration. For example if you added a plugin or you changed a plugin version.
4. "Config" defines which configuration the client will use.
5. "Render priority" defines the LWSN process priority.
6. "Setup activation time" allows to define hours on which the client will not be used for rendering.
7. "Pause" / "Resume" stop using or use again a client for a certain time.
8. "Stop Node" / "Stop All Nodes" kills the Amleto client process.

Web interface

Amleto also offers an embedded web server which allows you to monitor remotely it's activity.

The port number is on which you can access the web server and if the web server is active or not is setup in the server interface.

