1274-SW-00002

DiscoMan User Guide

Lamp discovery and configuration tool

V4.1

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Introduction

DiscoMan is the discovery and management tool for the easiest setup and configuration of Raytec lamps.

A major improvement over the existing discovery tool, users can now setup multiple lamps at the same time, providing significant time savings during commissioning. It is also now much easier to rename lamps, or assign them to a group, meaning you can quickly create clusters of lamps to reflect their location on-site. Meanwhile, single lamp setup is still just as straightforward, retaining the simple look and feel of the existing discovery tool.

Users can now also configure settings such as the lamp mode, photocell and external input triggers, HTTPS certificates, all through DiscoMan. No longer does this need to be done individually via each lamp's web interface.

DiscoMan is the all-in-one tool designed to make the setup and configuration of Raytec lamps, simple, quick, and easy.

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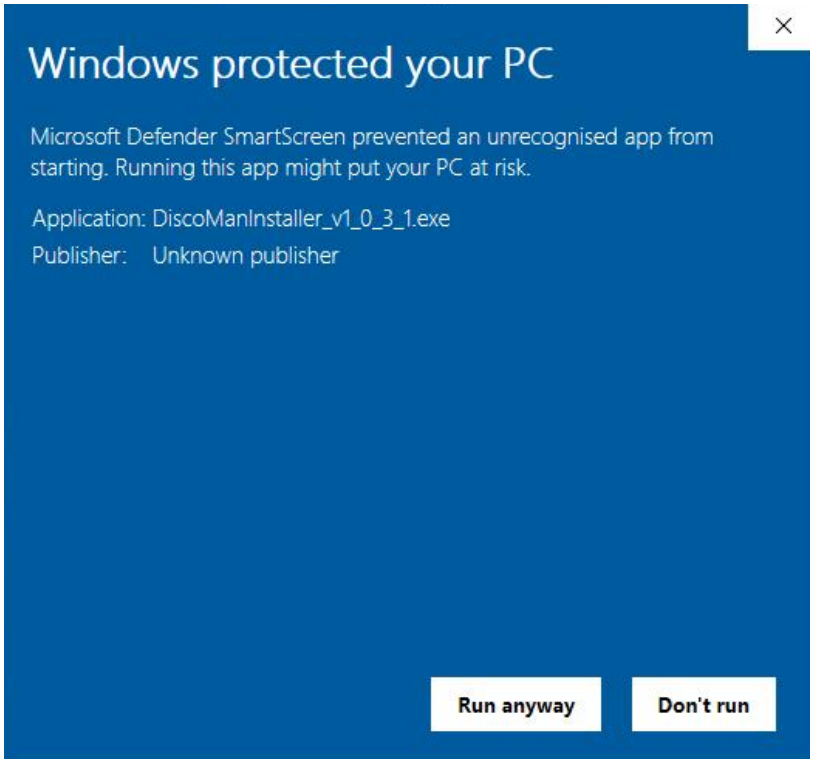
System requirements

- Windows 10 or 11
- .NET Framework 4.8

Installation note

You may see the following warning when running the DiscoMan installer:



If you have downloaded the DiscoMan Installer from the Raytec website, click "*Run anyway*".

If you have obtained the installer from elsewhere, we would advise you discard it and download the installer from the Raytec website, www.raytecled.com

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Quick Start

The DiscoMan Tool is split into features that can be used without lamp administrator credentials and those that require them. These are annotated on the action bar below:

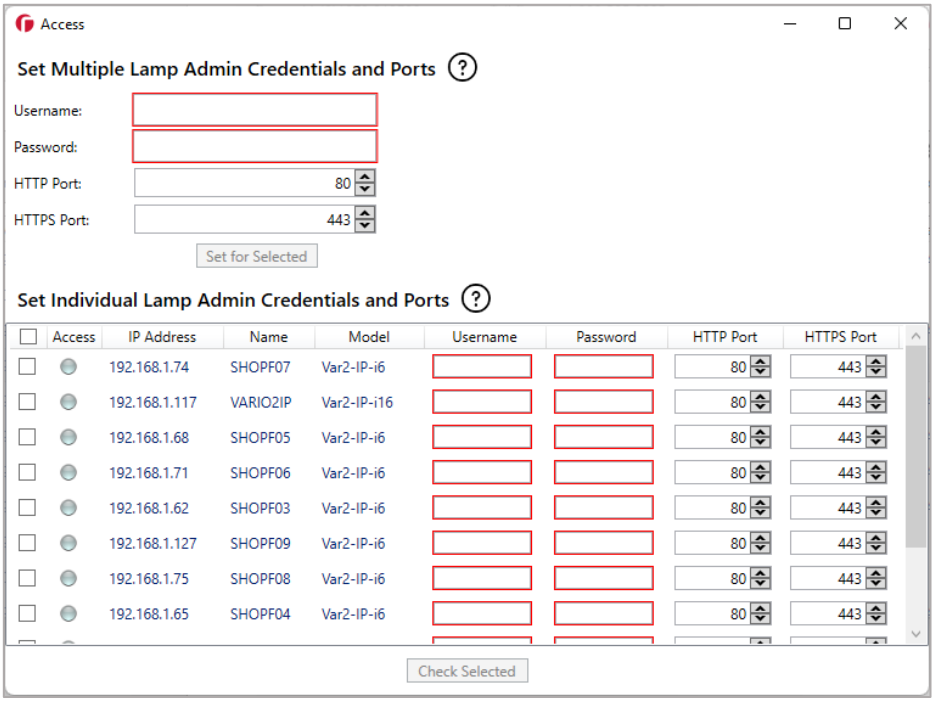
Unauthenticated action

Authenticated action

Lamps can be addressed using the *Addressing* tab and this doesn't need authentication.

Naming, Config, Certificates, Credentials and Firmware Upload actions requires access to the Lamp(s). DiscoMan mimics the user using the lamp's web interface to complete these actions therefore these actions need to be authenticated.

DiscoMan makes it easy to provide administrator credentials for one or more lamps through the Access feature, on clicking *Access* you will see the following screen.



The Access Dialog allows users to supply the administrator credentials for one or more lamps and allows users to set the HTTP and/or HTTPS ports to reflect how they are set up on the lamp.

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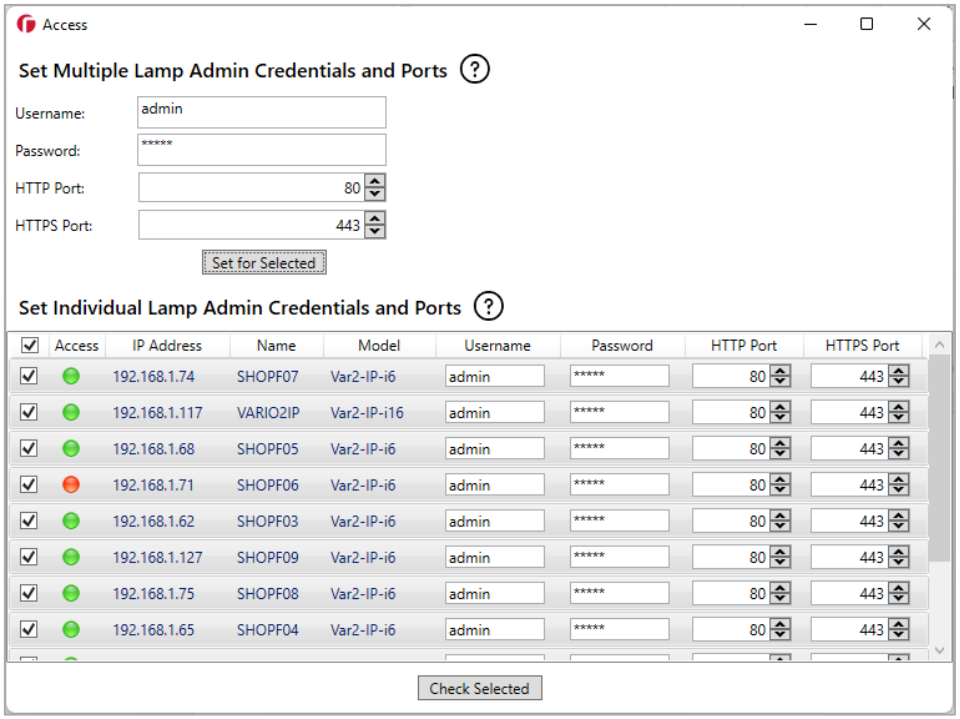
On entering the correct administrator credentials for the lamp, the Access column will display a green status next to the lamps. If credentials are incorrect, or you supply operator credentials, then you will see a red status next to the lamp.



WARNING: It is important to note that the credentials you provide will persist for the run of DiscoMan, they are not stored external to the application and as such if you restart DiscoMan then you will have to add the credentials again.
Credentials supplied here are for DiscoMan to access the lamp, this does not set the credentials on the lamp, the Credentials feature exists for this.
As part of new security measure, the default credentials are not accepted here.

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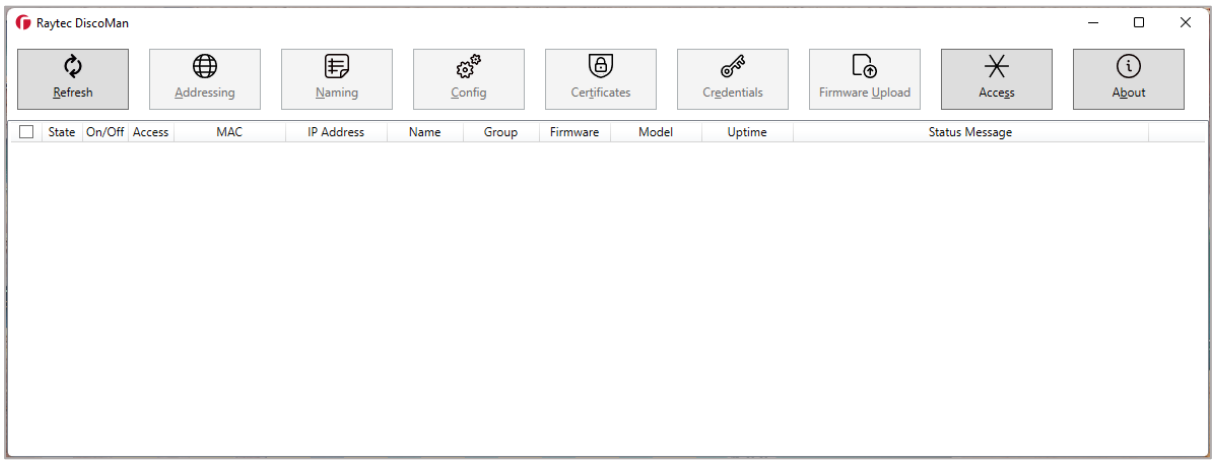
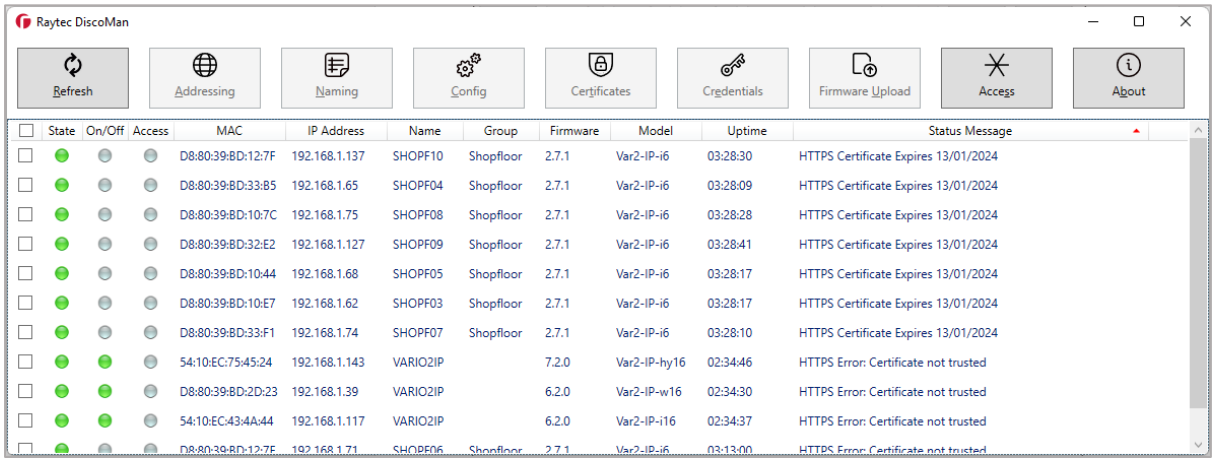
Hello, DiscoMan

On starting DiscoMan, you will see that it has a very similar look and feel to the Discovery Application:



Click *'Refresh'* and you should see your lamps appear.



The 'State' column can be one of three colors:

- Unable to get a connection to the lamp. This occurs when other Raytec Software is running, or the machine is on a different subnet to the lamp.
- Successful connection to lamp and no faults.
- Successful connection to lamp but lamp has an input voltage or LED fault (see *'Diagnostics'* webpage of the lamp to find out more information)

The *'On/Off'* column shows a green LED when the lamp is on and grey if it is off. DiscoMan must have a connection to the lamp to be able to report this information.

The *'Access'* column displays whether admin credentials have been set for the lamp, it can be one of three colors:

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- User has yet to attempt to set admin credentials on the lamp
- Valid admin credentials have been supplied for the lamp and authenticated actions can be performed on this lamp.
- Invalid admin credentials have been supplied for the lamp and authenticated actions cannot be performed on this lamp.

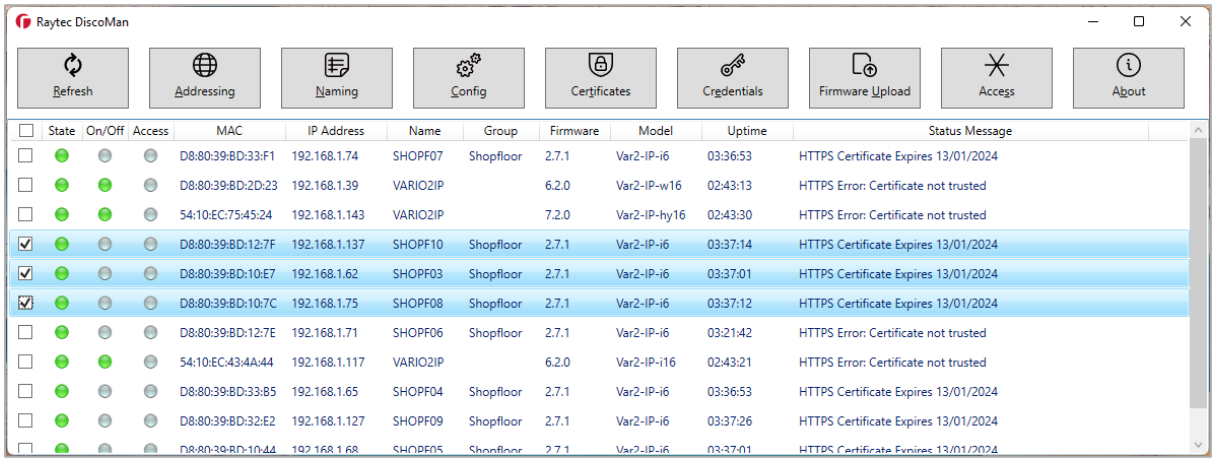
Lamp Selection

In the Discovery Application you could only select one lamp at a time, DiscoMan allows you to select multiple lamps to take advantage of its mass configuration, update and control features.

You have two options to select lamps: checkboxes or keyboard shortcuts

Checkboxes

You will see a checkbox next to each discovered lamp, this is to allow the user to select one or more lamps at a time.



Users also have the option to select all lamps using the checkbox located in the column header (highlighted below):

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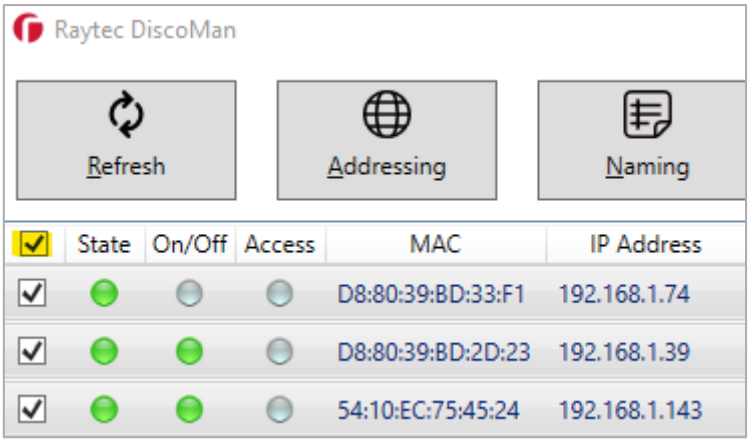


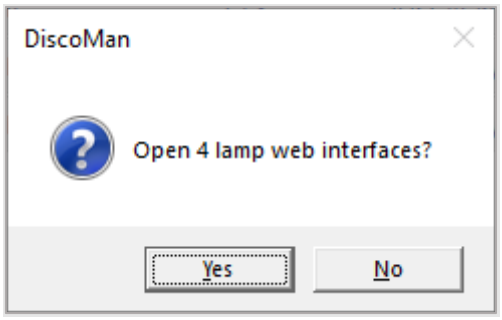
Keyboard shortcuts

If you are familiar with keyboard shortcuts then you can also use these here:

- Shift + Up/Down cursor key selects multiple lamps
- Ctrl + A will select all lamps

Lamp web interface

If you double-click on a lamp, you will be taken to the web interface of that lamp. You can also select multiple lamps and hit enter to open multiple web interfaces. You will be presented with a dialog asking if this is what you want to do.



If you have changed the HTTP and/or HTTPS ports in *Access* then the lamp web interface will open at the configured port. If the lamp has a valid HTTPS certificate it will be opened at the secure web interface i.e. https://<ip_address>

You may have noticed that once you have selected one or more lamps, the buttons at the top of DiscoMan become available.

The Action Bar

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When you have selected one or more lamps, the action bar becomes available.

The Addressing, Naming, Config, Certificates, Credentials and Firmware Upload buttons are context-sensitive, they will show one dialog when you have one lamp selected and another when you have multiple. These will be covered in the following sections but for now, this is what you can do here:

Addressing *– Change the IP address and subnet mask of a lamp or set the lamp to obtain its IP address from a DHCP server*

Naming *– Rename the lamp and change the group name*

Config *– Anything you can change on the settings and advanced settings pages of the lamp's web interface you can also change here. For example, you can change the lamp mode and tweak the photocell and external input triggers*

Certificates *– Generate your own Certificate Authority (CA) or import an existing CA to sign HTTPS certificates for the lamp and upload these certificates to the lamp.*

Credentials *– update the admin and operator passwords*

Firmware Upload *– Update the firmware of the lamp*

Some of the actions above require the user to provide the admin credentials for the lamp.

Lamps can be addressed using the *Addressing* tab and this doesn't need authentication.

Naming, Config, Certificates, Credentials and Firmware Upload actions requires admin credentials. DiscoMan mimics the user using the lamp web interface to complete these actions therefore these actions need to be authenticated.

Use the *Access* button to provide lamp admin credentials.

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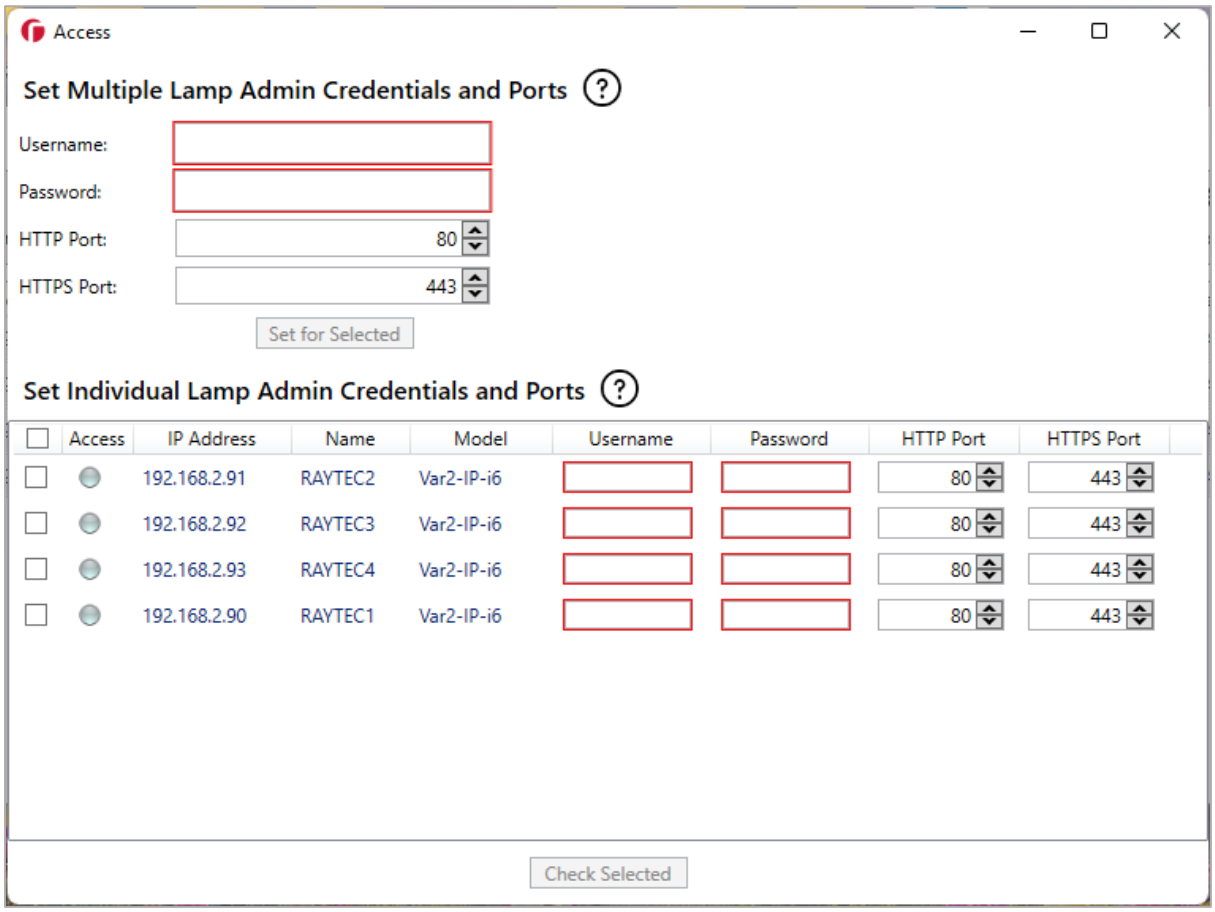
Access

Access is a new feature of DiscoMan that allows users to use Certificates, Config, Credentials and Firmware Upload actions at any time.
Naming, Certificates, Config, Credentials and Firmware Upload actions are not available like Addressing action. DiscoMan is only able to perform these actions by mimicking the user using the web interface of the lamp, therefore these actions need to be authenticated.

The *Access* button is always available and isn't context-sensitive, it will always display all lamps. Click '*Access*' after you have discovered some lamps.



You have the option to set the admin credentials for one or more lamps at a time. You can also set the HTTP and/or HTTPS port for the lamp(s) to ensure DiscoMan obtains a connection to the lamp.

WARNING: *This does not set the admin credentials or HTTP/HTTPS ports on the lamp. This feature attempts to login to the lamp with the credentials and ports provided to allow the user to use the authenticated actions like Naming, Certificates, Config, Credentials and Firmware Upload. As part of new security measure, the default credentials are not accepted here.*

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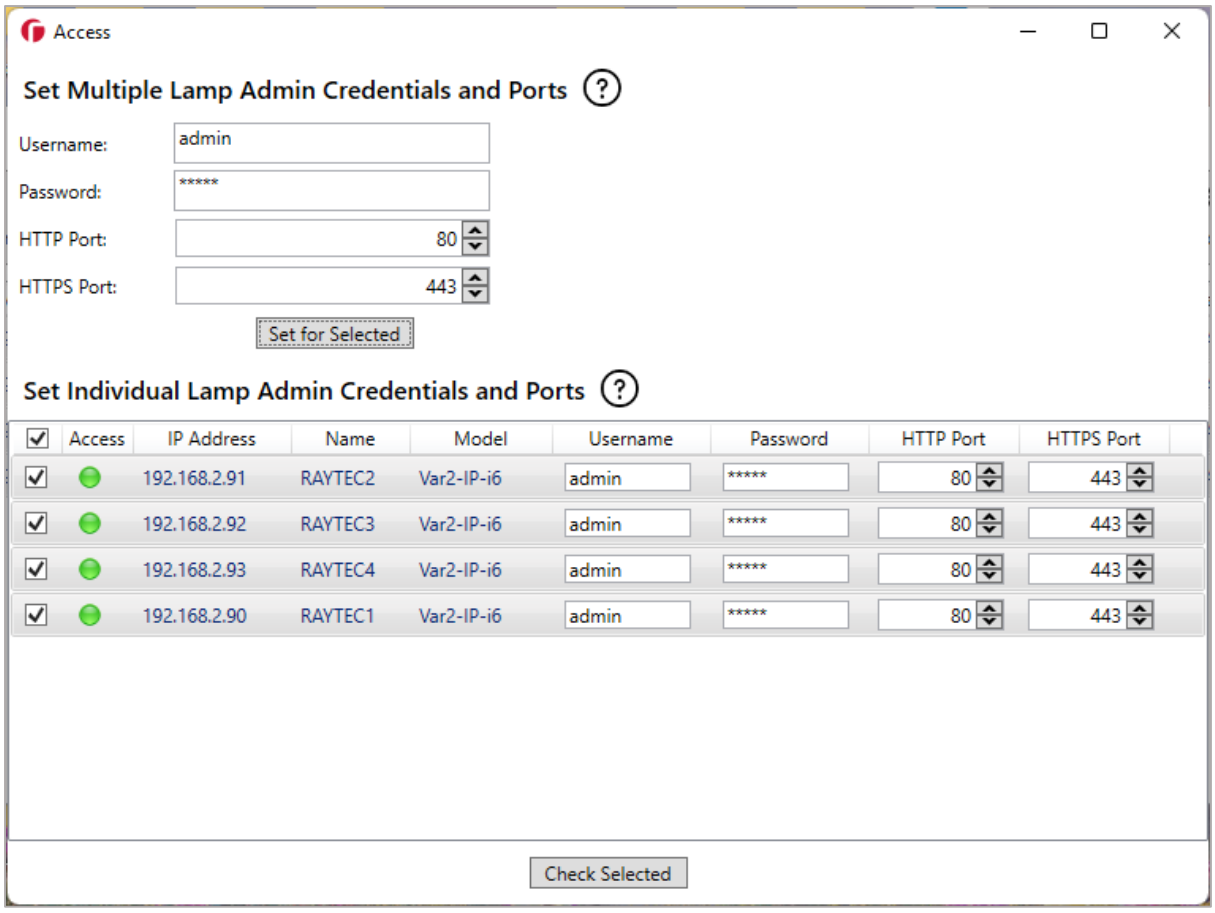
Enter the correct admin credentials and you should see the Access status turn yellow initially whilst the log in is in progress, and then green.



Once you have a green status in the *Access* column of the lamp, you can use authenticated actions on the lamp.

WARNING: *DiscoMan does not store these credentials external to the application. The credentials provided will remain whilst DiscoMan is running but once you close it down and restart it, you will have to provide the credentials again.*

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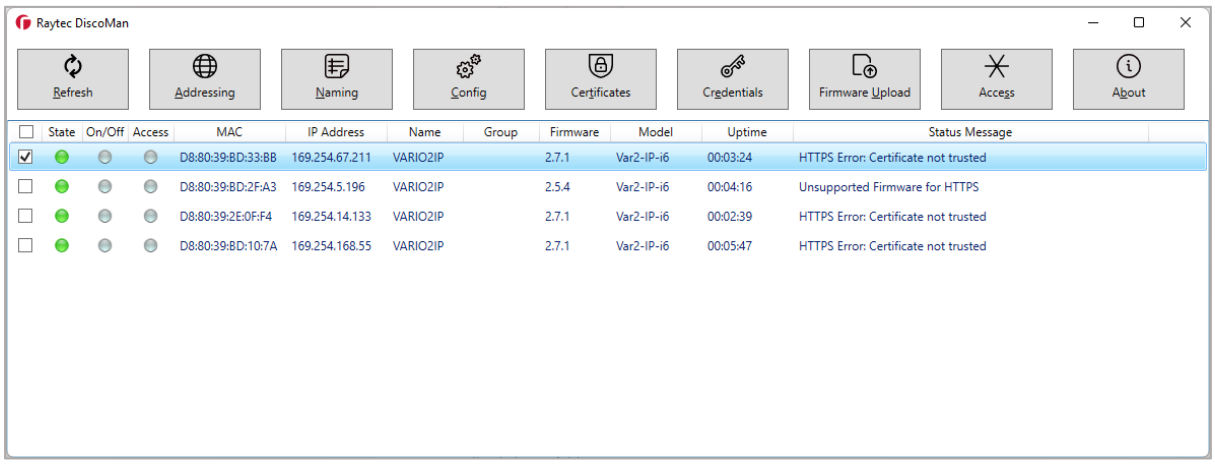
Single Lamp Setup

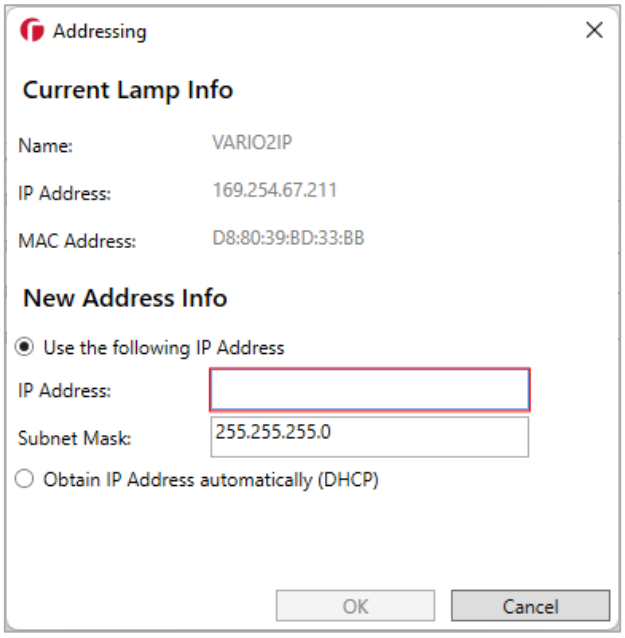
This section will show the dialogs raised from the action bar when you have one lamp selected.

Firstly, select your lamp.



Single Lamp Addressing

Click *'Addressing'* and you should see the following dialog:



Action dialogs for single lamps display information about the selected lamp, an area to change settings and buttons to confirm changes or close the dialog.

You can set a static IP address on the selected lamp or obtain one from a DHCP server.

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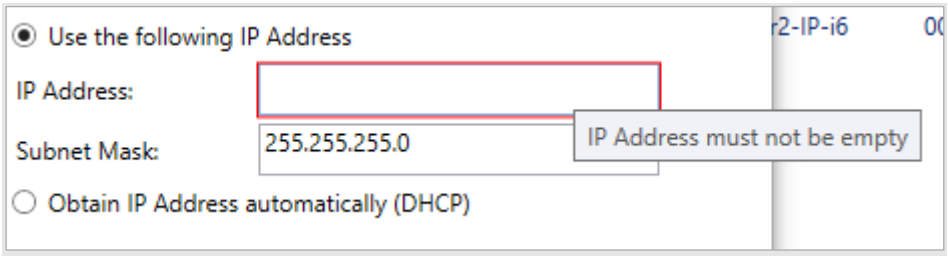
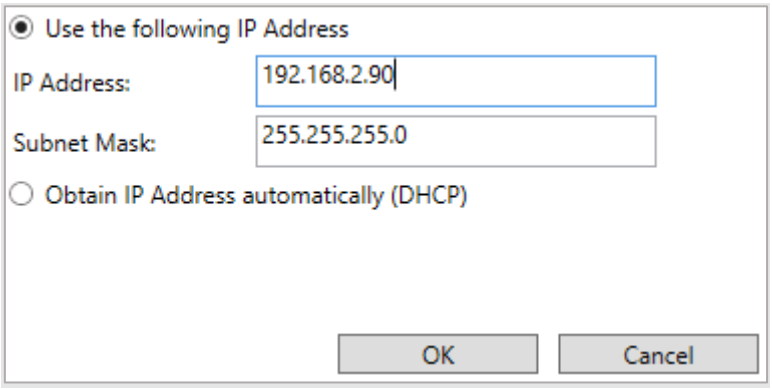
Static Addressing

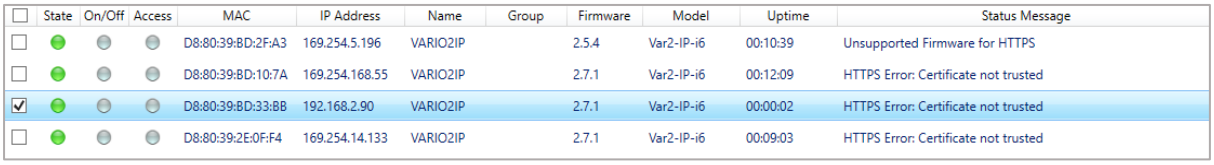
This is the default option on opening the addressing action dialog, you will see that the IP Address field is highlighted red to denote an error, on hovering over the text box the error is revealed:



The same validation is applied to both the IP Address and Subnet mask fields; they cannot be empty, and they must contain a valid IP Address. Enter an IP address and the "*OK*" button should become available.



Click "*OK*" and then click "*Refresh*" on the main DiscoMan screen to see the change.

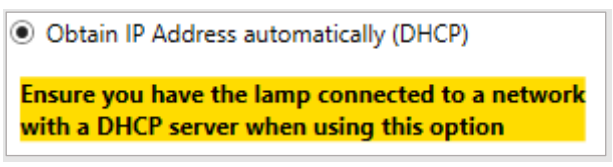


State	On/Off	Access	MAC	IP Address	Name	Group	Firmware	Model	Uptime	Status Message
			D8:80:39:BD:2F:A3	169.254.5.196	VARIO2IP		2.5.4	Var2-IP-i6	00:10:39	Unsupported Firmware for HTTPS
			D8:80:39:BD:10:7A	169.254.168.55	VARIO2IP		2.7.1	Var2-IP-i6	00:12:09	HTTPS Error: Certificate not trusted
☑			D8:80:39:BD:33:BB	192.168.2.90	VARIO2IP		2.7.1	Var2-IP-i6	00:00:02	HTTPS Error: Certificate not trusted
			D8:80:39:2E:0F:F4	169.254.14.133	VARIO2IP		2.7.1	Var2-IP-i6	00:09:03	HTTPS Error: Certificate not trusted

The lamp needs to restart after an IP address change. This is reflected in the Uptime column.

DHCP (Automatic address setting)

If you opt to have the lamp's network settings set by a DHCP server, you need to ensure that you have a DHCP server on the network, this warning is shown when selecting this option:



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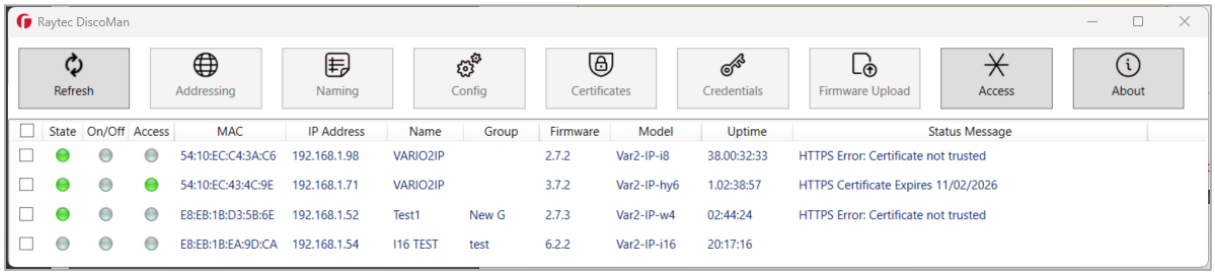
The *'OK'* button is enabled immediately when selecting this option as the user doesn't have to provide any further information.

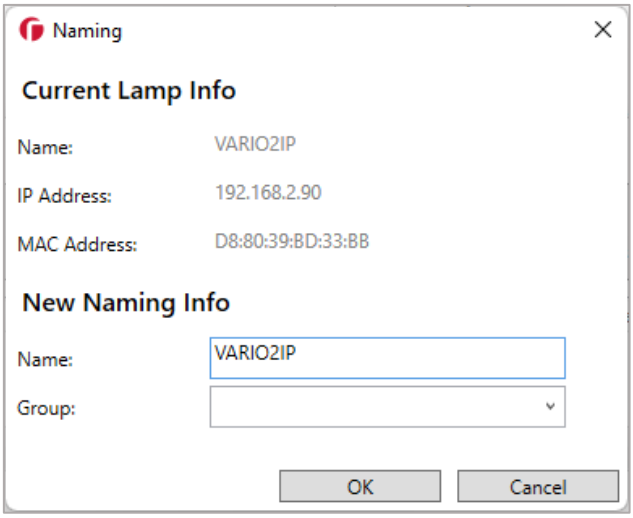
On clicking "*OK"* and then "*Refresh"*, the lamp's new IP address will be displayed much in the same way as shown for *Static Addressing* earlier.

Single Lamp Naming

Ensure that the lamp you select to rename has got a green status next to them in the '*State'* and '*Access'* Column.



Click *'Naming'* and you should see the following dialog:



The selected lamp's information is displayed at the top of the dialog.

The *'Name'* and *'Group'* fields are pre-populated with the selected lamp's information.

You will notice that the *'Group'* field does not have a red outline to denote an error when it is empty, this is because there is no requirement to have a group name on a lamp. The lamp must have a name however and if you clear the *'Name'* field, you will get a red outline on the field, the *'OK'* button will be disabled, and you'll get the following error message on hovering over the field.

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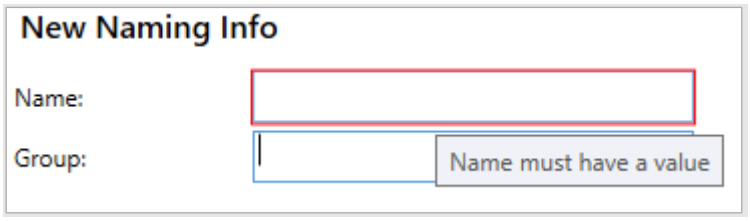
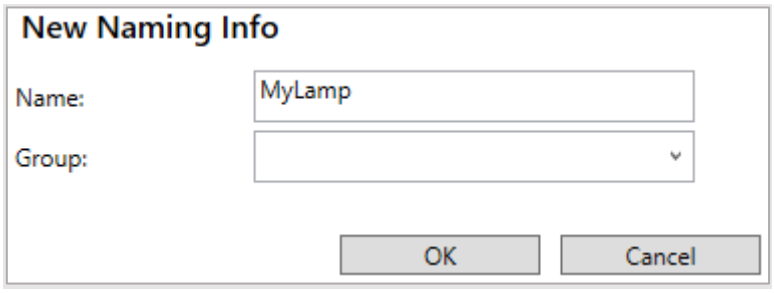
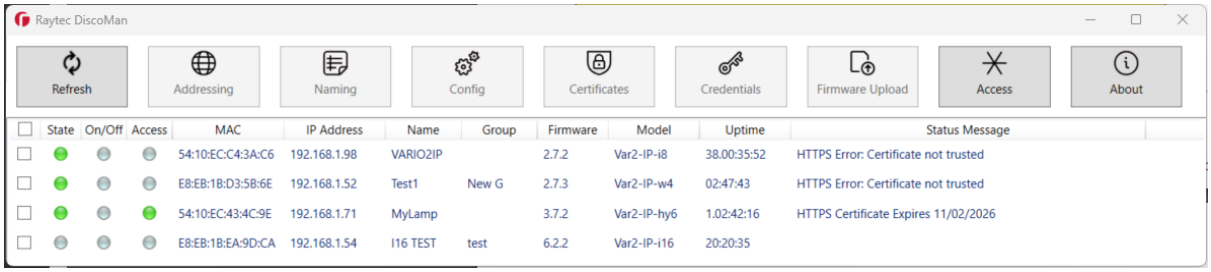


Enter a name for the lamp and the "*OK*" button will become enabled.



Click "*OK*" and then "*Refresh*" on the main DiscoMan screen to see the change.



WARNINGS: *Naming is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section for details on how to supply the lamp's admin credentials to DiscoMan.*

If the selected lamp doesn't have a green status in the 'State' column on the main DiscoMan screen, the name change will fail as this indicates that DiscoMan doesn't have a connection to the lamp.
If you run into this error, please ensure no other Raytec Software is open on the network and that your machine and the lamp are configured to be on the same subnet.

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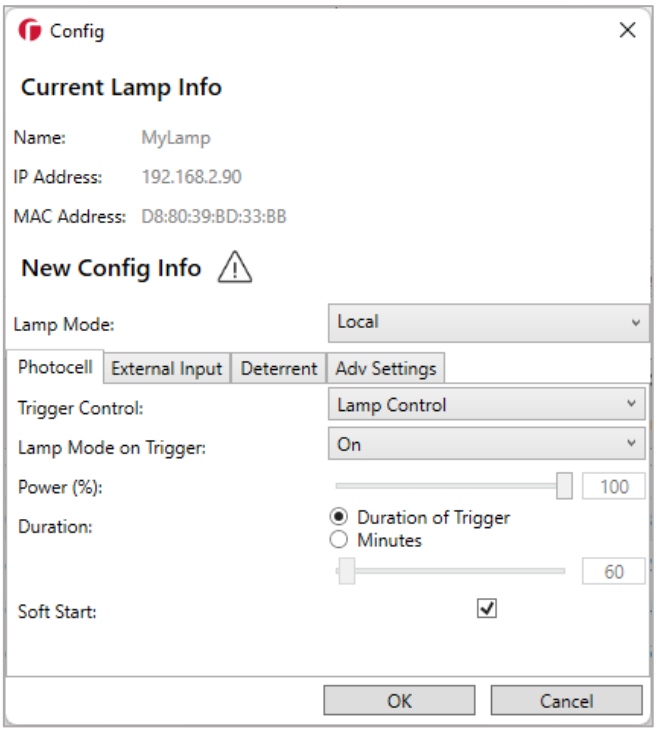
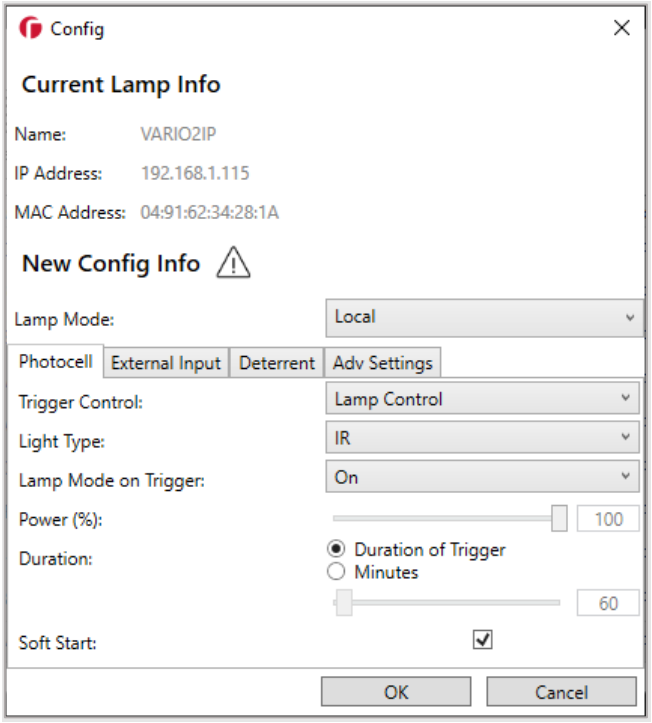
Single Lamp Config

Click *'Config'* and you should see the following dialog:



If you have selected a hybrid illuminator you will see a *'Light Type'* field on both Photocell and External Input tabs.



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This dialog allows you to configure any settings you see on the *'Settings/Groups'* and *'Adv Settings'* web pages and the layout has been retained for familiarity although tabs have been used so that users aren't overloaded with information.

The Config dialog's *'OK'* button is available as soon as you open the dialog, you could click *'OK'* at this point to send the default lamp configuration to the lamp.

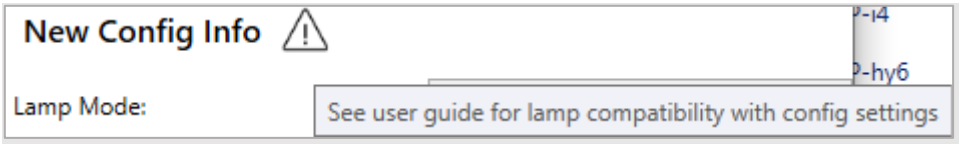
INFORMATION: *The settings shown on the dialog are the default settings for a lamp, these are not the current settings of the selected lamp.*

If you choose a non-local mode from the *'Lamp Mode'* combo box, i.e. VMS or HTTP modes, then the *'Photocell', 'External Input'* and *'Deterrent'* tabs will disappear. This occurs because the settings on these tabs relate to the photocell and external input triggers,

and these are irrelevant when lamp control has been delegated to a VMS or the lamp is configured to be controlled solely by HTTP commands.

See appendix A for an exploded view of the tabs, fields and values available.

You may have noticed a warning triangle on the config dialog, on hovering your cursor over this you will see the following message:



See Appendix B in this document for lamp compatibility with the config settings in DiscoMan.

WARNINGS: *Config is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section for details on how to supply the lamp's admin credentials to DiscoMan.*

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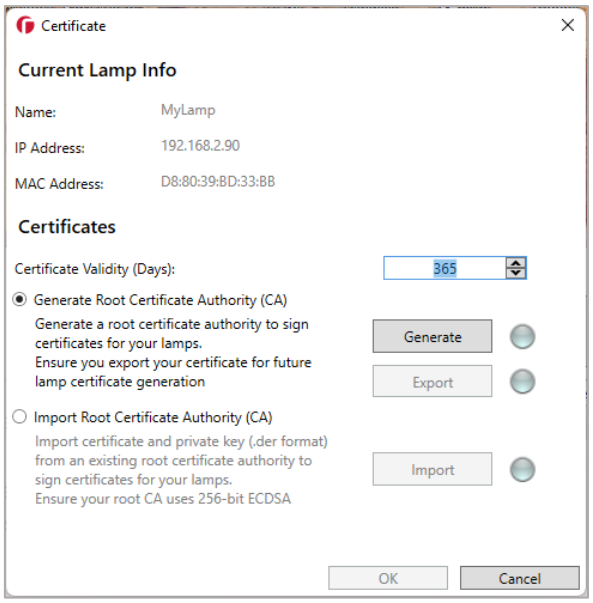
Single Lamp Certificates

Click *'Certificates'* and you should see the following dialog:



As of the firmware versions below, you can upload HTTPS certificates to your lamps to enable secure network communication via HTTPS.

Lamp	Firmware
Vario2 IPPoE	>= v2.7.1
Vario2 Hybrid IPPoE	>= v3.6.9
Vario2 16 IPPoE	>= v6.2.0
Vario2 Hybrid 16 IPPoE	>= v7.2.0

The *'Certificates'* dialog allows the user to generate a new Certificate Authority (CA) or import an existing CA to sign HTTPS certificates for lamps.

Generate Root Certificate Authority (CA)

Use this option to generate a new Certificate Authority (CA) to sign certificates for your lamps. You can choose an expiry date between 1 week and 10 years.

On generating the root CA, you must export the CA files prior to being able to hit *'OK'*, which creates a certificate for the lamp using the generated root CA and uploads the newly created certificate to the lamp.

There are additional steps to ensuring that machines on your network trust the generated CA which are beyond the scope of this document. See our Raytec HTTPS Setup Guide, which can be found in your DiscoMan release package alongside this user guide, for further guidance.

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Import Root Certificate Authority (CA)

This option asks the user for two files:

1. Root CA file in .der format
2. Private key file in .der format

You will find yourself in one of two scenarios if you are using this option:

1. You initially generated a root CA through DiscoMan and have more lamps that you would like to secure.

   In this instance, you just need to import the Certificate.der and private.der files that you exported when generating the root CA. DiscoMan can then use these to sign certificates for your added lamps.

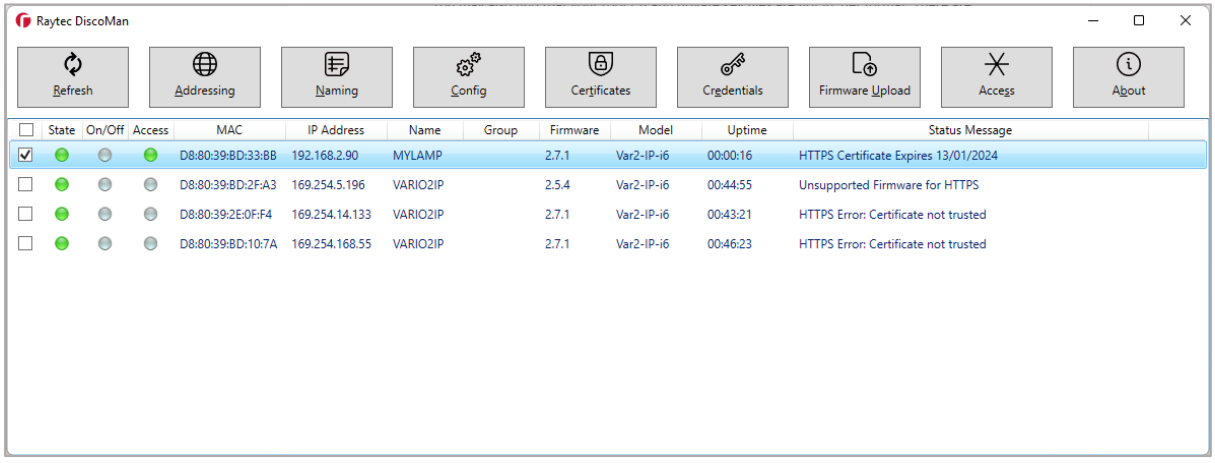
2. You have an existing CA that wasn't generated through DiscoMan

   In this instance, you must ensure that the encryption algorithm used by your CA is **ECDSA** and that the size of your private key is **256 bits**. Other encryption algorithms and private key sizes are not supported.

   You may also find that your root CA and private key files are not in .der format. There are tools that can convert from most certificate-related file formats to .der however these are beyond the scope of this document.

   Once you have imported your CA, DiscoMan can sign certificates for your lamps on behalf of your CA.

Once you have generated or imported a valid CA and clicked *'OK'*, hit *'Refresh'* and the Status Message for the lamp should state when it's HTTPS Certificate expires.



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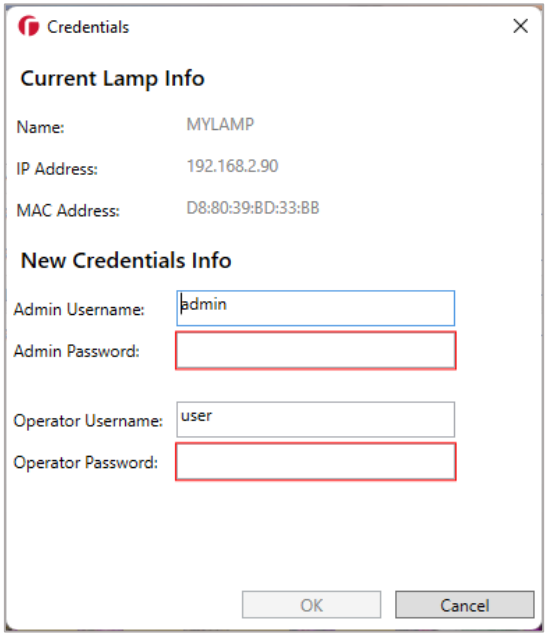
The lamp needs to restart after a certificate upload. This is reflected in the Uptime column.

If your status message column states *"HTTPS Error: Certificate not trusted"* then you need to ensure that your computer trusts the root CA used. See our HTTPS Setup Guide for details on how to do this.

WARNINGS: *Certificate is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section for details on how to supply the lamp's admin credentials to DiscoMan.*

Single Lamp Credentials

Click *'Credentials'* and you should see the following dialog:



The *'Credentials'* dialog allows you to set the username and password for admin and operator accounts.

On loading the dialog, both password fields have a red outline because they are empty. They also show this red outline if you enter 'password' as the password as this is the default password and must be changed.

The usernames can be changed from admin and user to something else, but they must be set otherwise you will see a red outline and the *'OK'* button will be disabled.

WARNINGS: *Credential is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section for details on how to supply the lamp's admin credentials to DiscoMan.*

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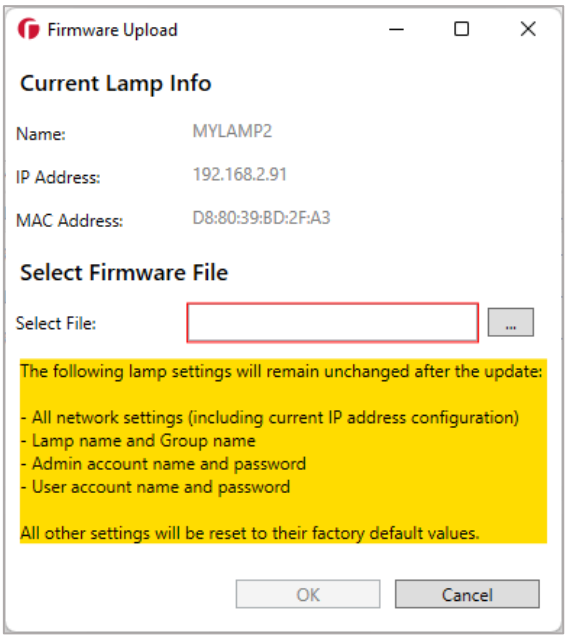
Single Lamp Firmware Upload

Click *'Firmware Upload'* and you should see the following dialog:



The *'Firmware Upload'* dialog allows users to select a firmware file to be uploaded to the selected lamp.

On loading the dialog, the *Select File* text box is outlined red because a file has yet to be selected. You must select a valid file for the type of lamp you are updating, i.e.

- You must select a firmware file beginning with "*Var2_IPPoE"* for single wavelength lamps.
- You must select a firmware file beginning with *"Hybrid_IPPoE"* for hybrid lamps.

The latest firmware can be downloaded from the software section in our Website.
www.raytecled.com

Once you have selected a valid file and clicked *'OK'* you will see the message *Firmware Update Requested* for the selected lamp in the status message column. After a few seconds, all buttons apart from *About* on the action bar will be disabled and a 1 minute countdown begins in the status column.

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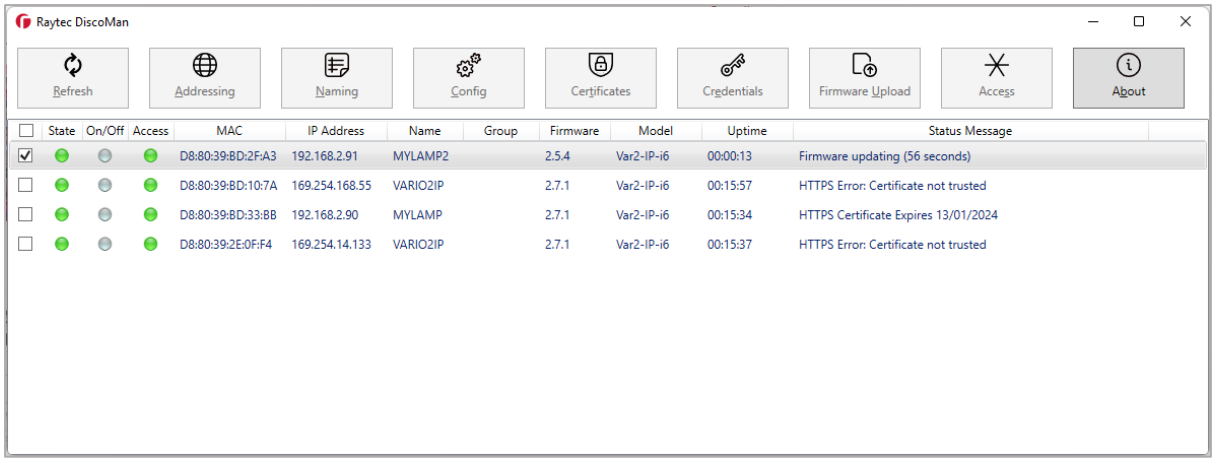
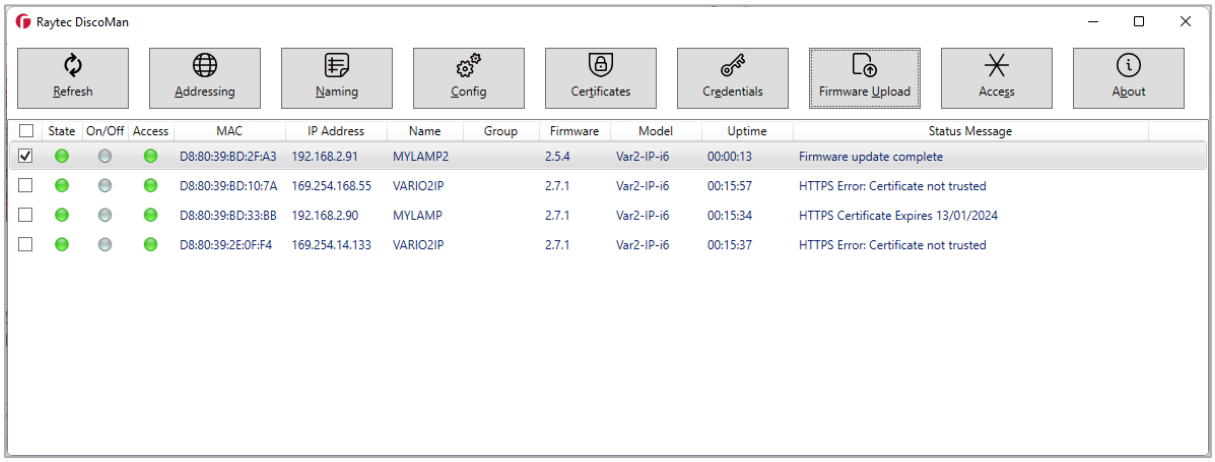
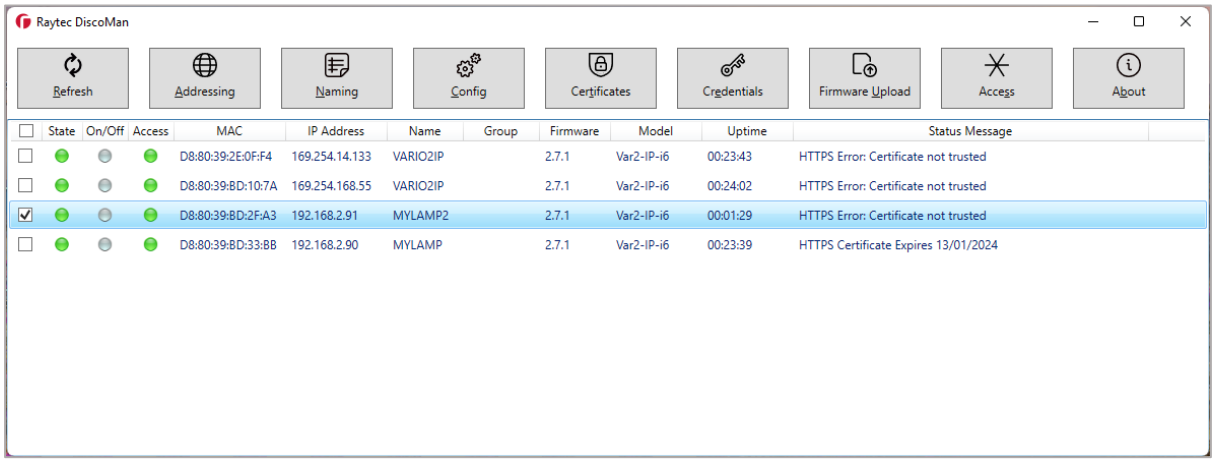


Once the firmware update is completed, the status message states *Firmware update complete* and all buttons become available once again.



Click *'Refresh'* and you should see the firmware column now displays the new firmware version next to the lamp. The lamp must restart at the end of this process so you will see this reflected in the *Uptime* column.



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The lamps credentials, IP address, name and group name remain unchanged after the firmware update.

You will have to re-configure the settings and advanced settings (those seen on the Config action in DiscoMan) as these are lost during a firmware upload.

WARNINGS: *Firmware Upload is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section later in this document for details on how to supply the lamp's admin credentials to DiscoMan.*

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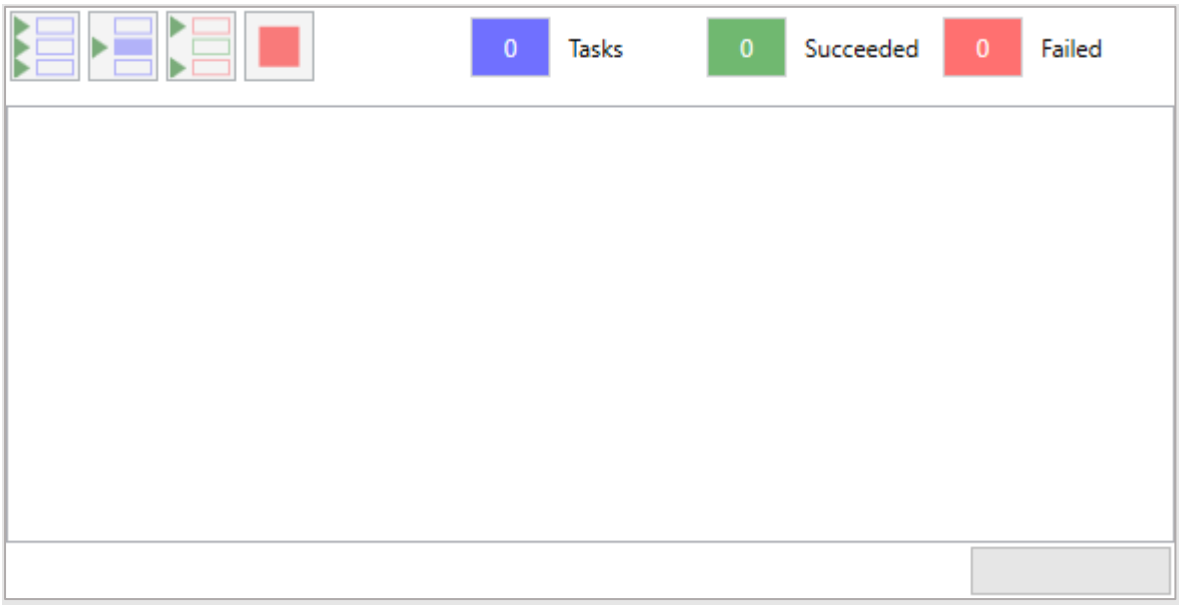
Multiple Lamp Setup

Before getting into the multiple lamps updating dialogs, it is worth explaining the task-based system it uses first as this is used on each dialog.

The task system looks like this:



The buttons at the top left are task actions, they are detailed below.

Play All Tasks
Plays all outstanding tasks

Play Selected Task
Plays the selected task

Replay Failed Tasks
Re-runs failed tasks. Failed tasks are unusual but a quick 'Replay Failed Tasks' should see the task completed successfully on the first replay attempt.

Stop
Stops the running of tasks after the current one completes

After clicking *'Create Tasks'* on each of the dialogs, the task list will be populated with tasks.

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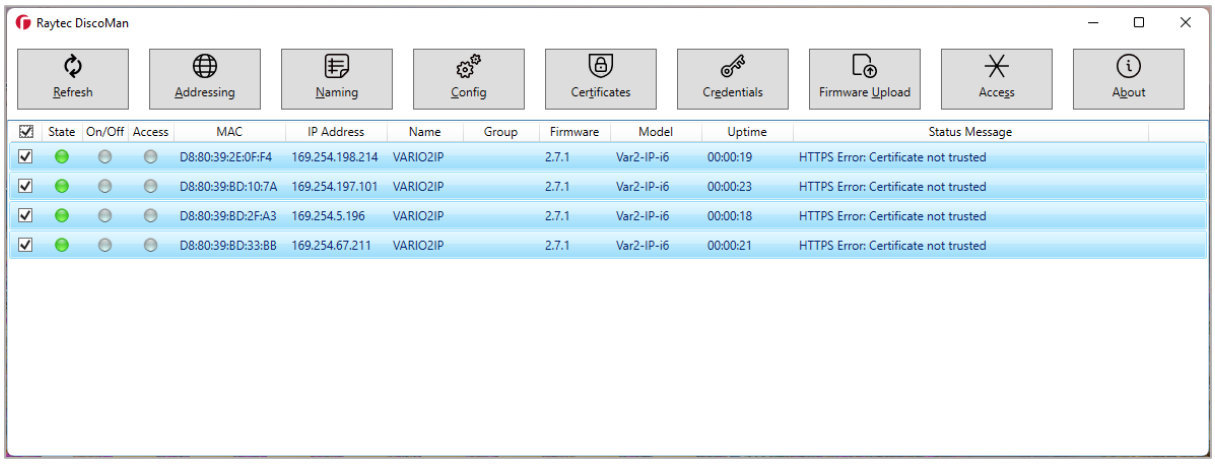
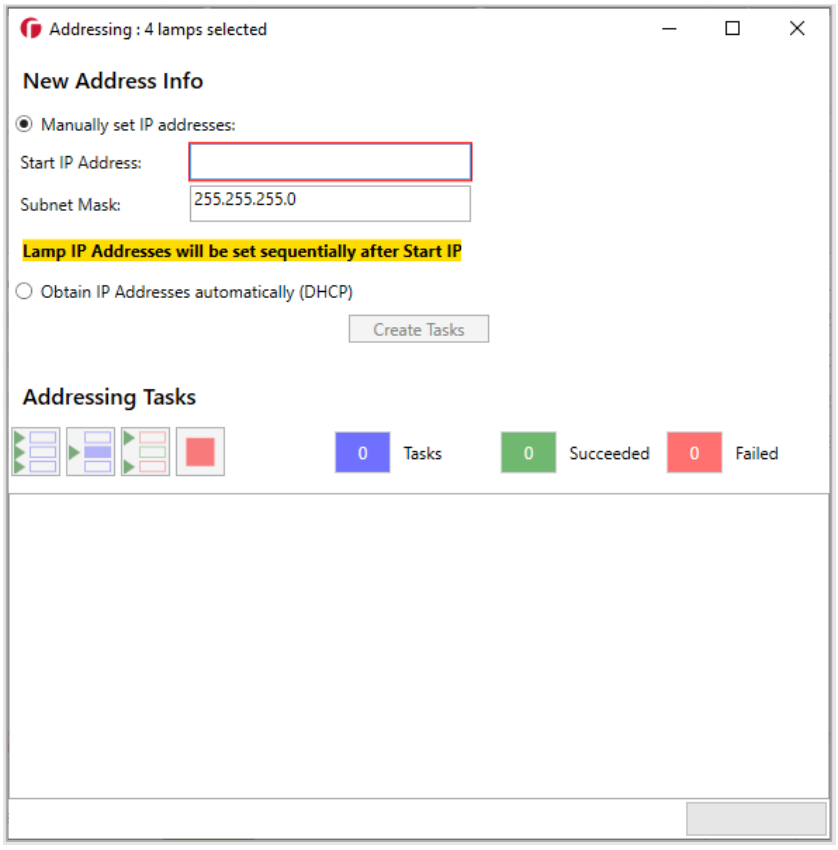
Multiple Lamp Addressing

Select multiple lamps.



Click *'Addressing'* and the dialog for multiple lamps addressing pops up and shows how many lamps you will address in its title bar.



The validation on the IP address fields is the same as Single Lamp Addressing in that they can't be empty, and they must be valid IP addresses.

You can set the IP Address of multiple lamps manually or via DHCP.

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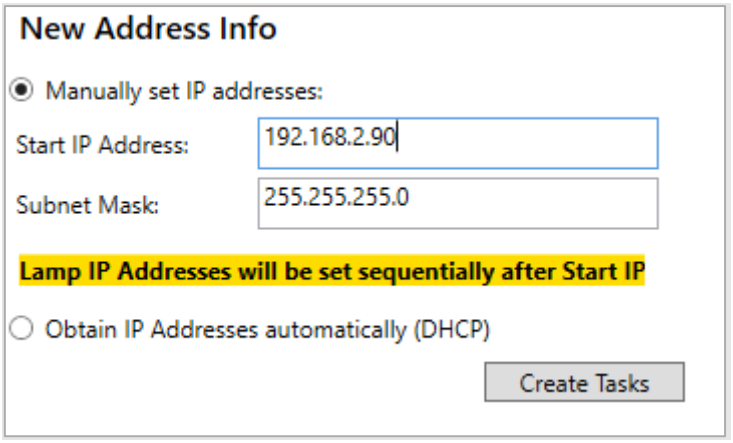
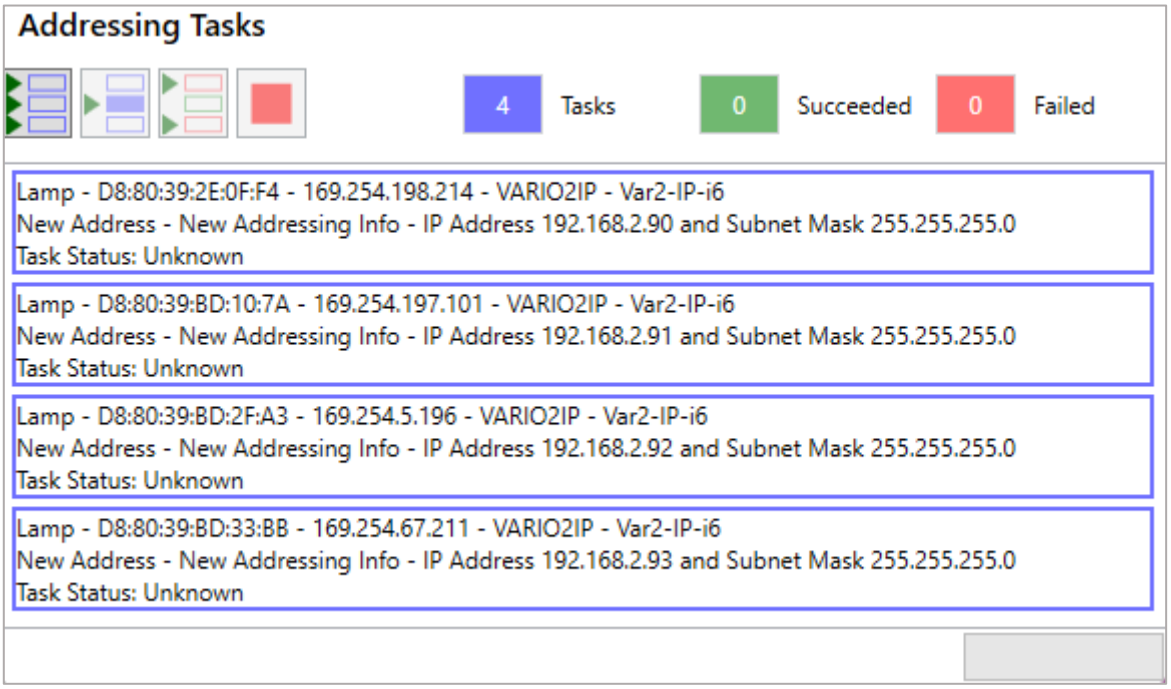
Multiple Lamp Addressing – Manually set IP Addresses

When the field states manual here it just means that they won't be set automatically by a DHCP server.

The note underneath this radio button states that IP Addresses will be set sequentially after the Start IP Address, type in your Start IP address and change the subnet mask if you need to.



Click "*Create Tasks*" and tasks will be created to change the address of the selected lamps.



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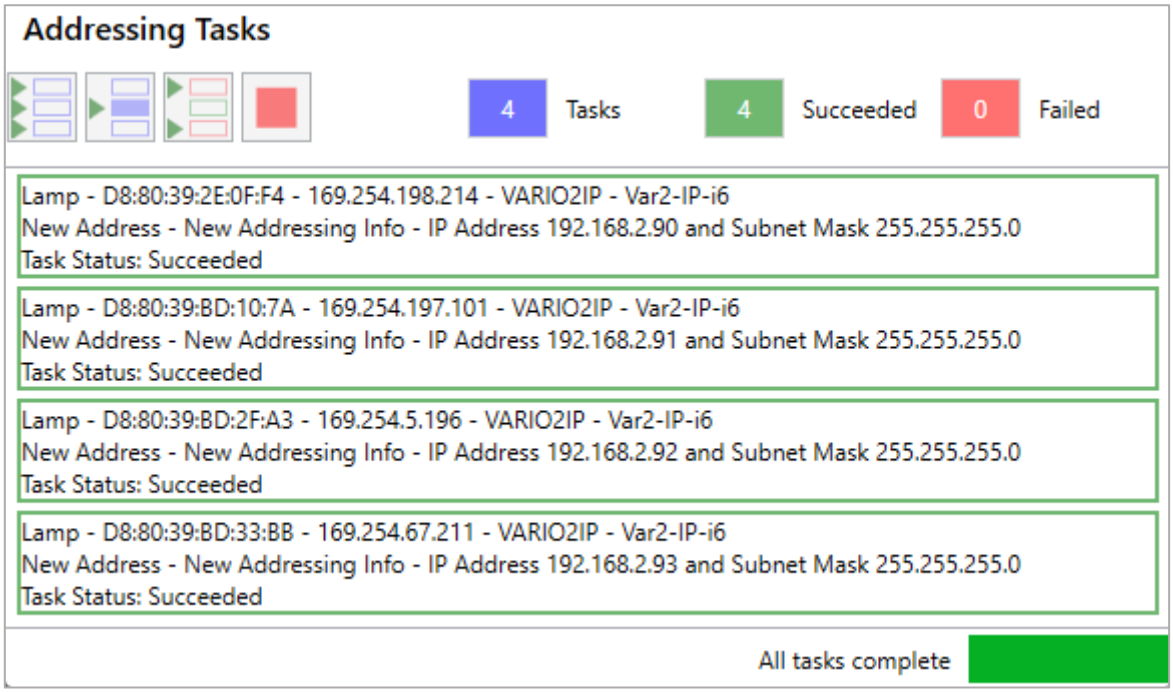
Each task details what it is going to do and which lamp that setting will be applied to.

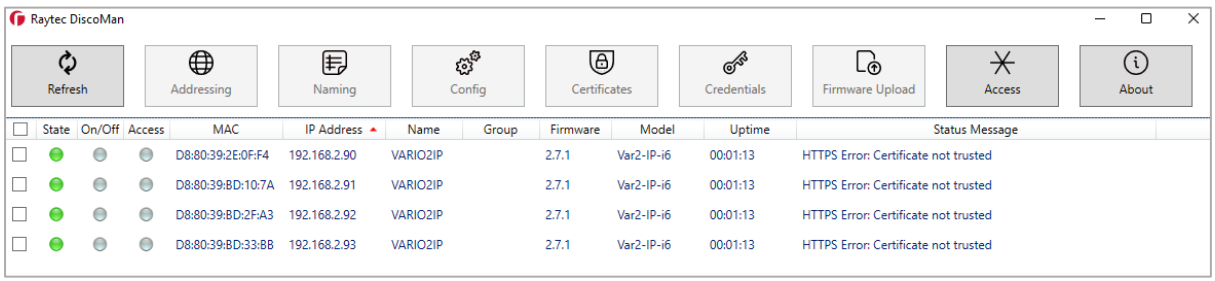
When a task is created it will have a blue outline to denote that it is to be run. A green outline indicates a task completed successfully and red shows that the task failed.

If you are happy with the settings you see in the task list, hit *'Play All Tasks'* 



The mass addressing should complete without any problems as the process doesn't require a connection to the lamp to set the IP address and subnet mask.

Close the dialog and click *'Refresh'* on the DiscoMan main screen, the lamps should have been given the specified IP addresses.



Multiple Lamp Addressing – DHCP

To have the selected lamps network settings be set by a DHCP server, select this option and the *'Create Tasks'* button will become enabled immediately.

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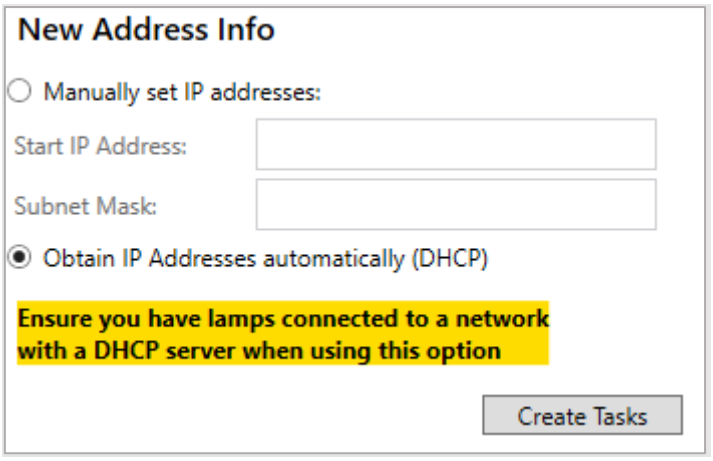
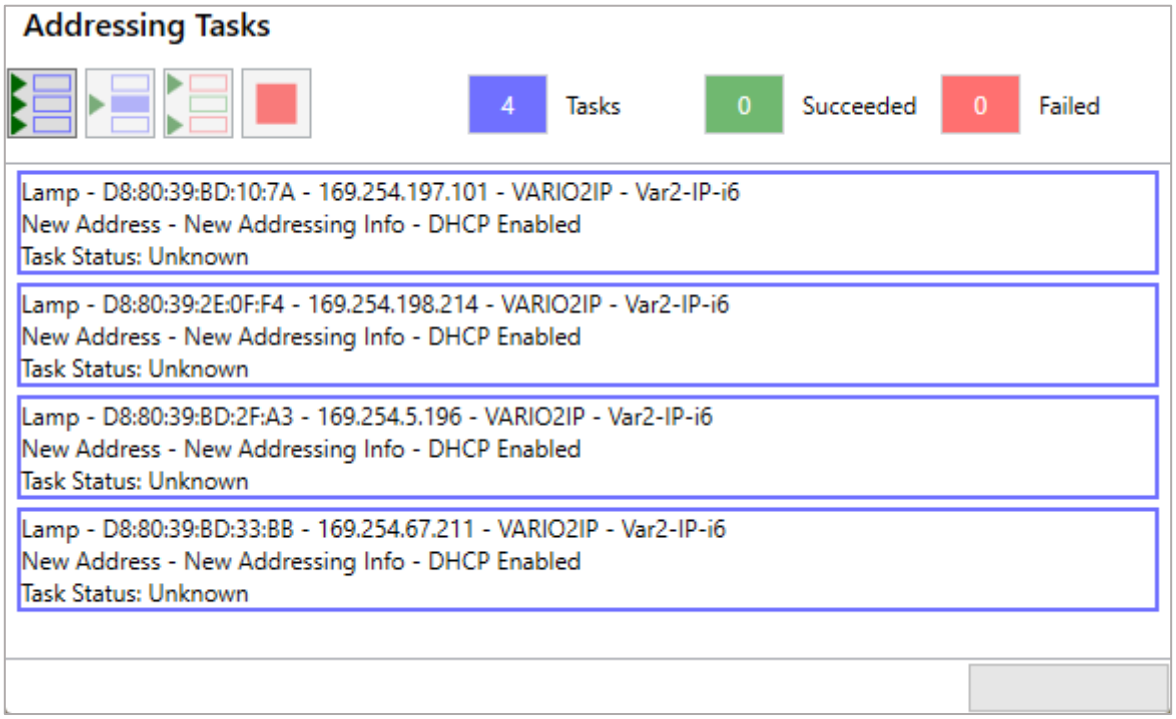


On clicking '*Create Tasks*' you will see something like the following.



Since the program has no means of knowing what IP addresses will be assigned to the lamp it just states '*DHCP Enabled*'.

Click '*Play All Tasks*' and each lamp will have its IP address assigned by the DHCP server. Close the dialog and click *'Refresh'* on the DiscoMan main screen, the lamps should have IP addresses assigned by the DHCP server.

WARNINGS: *Ensure that you have a DHCP server on the network before selecting this option as you can lose the connection to the lamps if you do this without a DHCP server with the only means of recourse being a hard reset of the lamp.*

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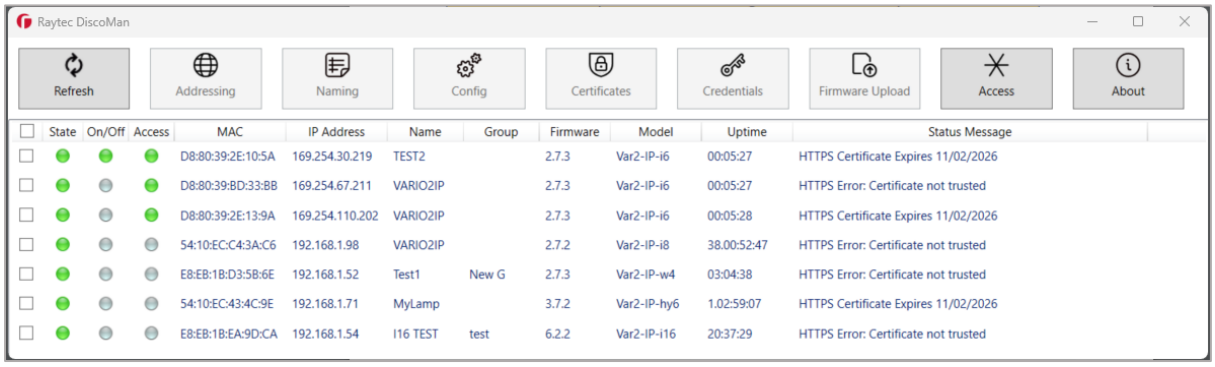
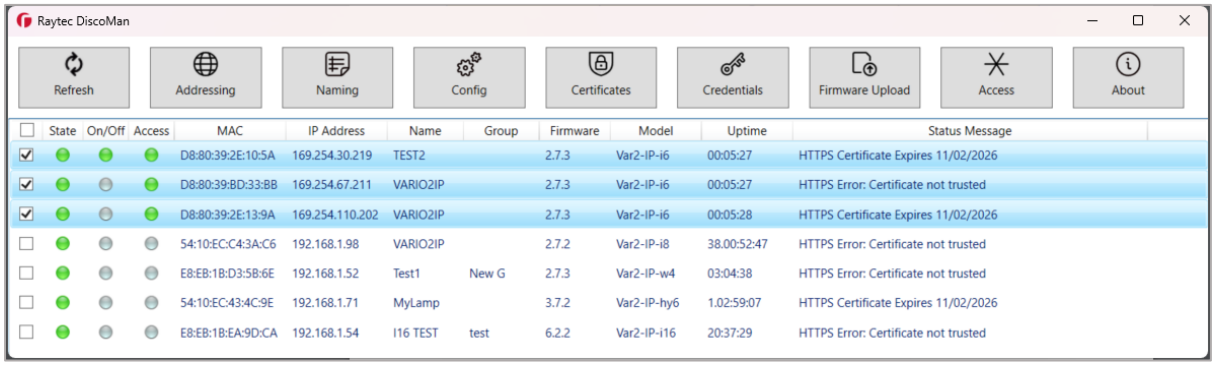
Multiple Lamp Naming

Ensure that the lamps you select to rename have a green status next to them in the '*State' and 'Access'* column.



This indicates that DiscoMan has a connection and access to the lamp which it requires to rename it. If you see a grey status in 'State' column, ensure other Raytec Software is not running and make sure your machine is configured to be on the same subnet as the lamp(s).

Next, select multiple lamps.



Click *'Naming'* and the dialog for multiple lamp naming pops up and shows how many lamps you will be renaming in its title bar.

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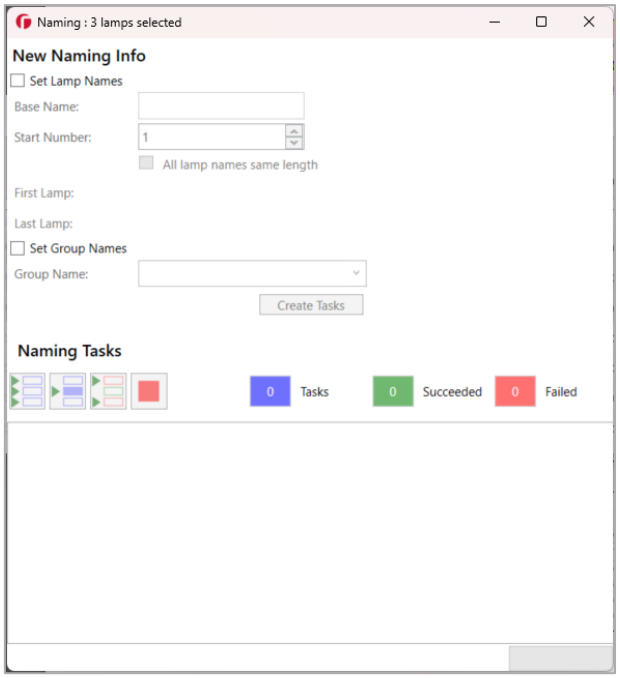
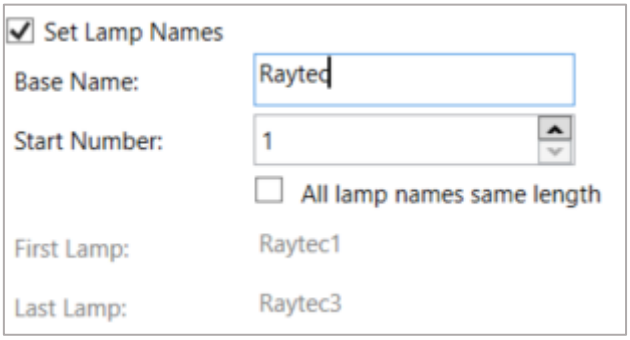


The multiple lamp naming dialog allows you to set multiple lamp names and/or groups on lamps.

If you'd like to set lamp names, check *'Set Lamp Names'* and enter a base name:



As you type in the base name, you'll see the *'First Lamp'* and *'Last Lamp'* update automatically with a preview of the names of the first and last lamps.

If you have many lamps that go into more than one digit you can tick *'All lamp names same length'* to force all lamp names to be the same length. This is done by zero-padding the earlier names. For example, we have 3 lamps in our example setup, if we start the numbering from 8 then we see the following first and last lamp:

Checking *'All lamp names same length'* will change this to appear as follows:

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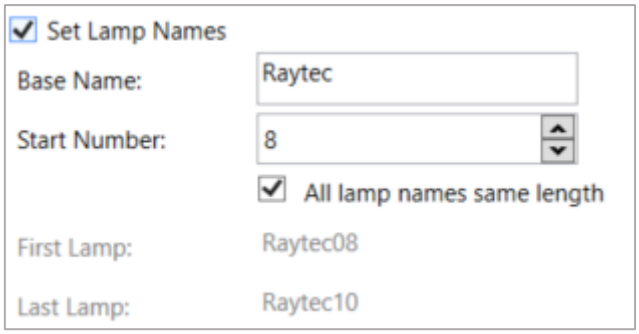


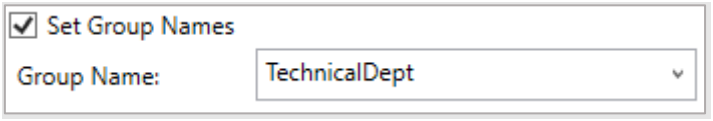
One thing to note, the base name doesn't even need to be set here if you simply want to name your lamps with a number, however we'd advise you give them a small description to aid in differentiating between lamps of different wavelengths.

If you'd like to update group names on the lamps check the *'Set Group Names'* check box.

From here you have two options:

1. Enter a new group name – note, this can be empty. This can be used to clear the existing group names on lamps.
2. Choose an existing group name – the editable combo box contains all group names of discovered lamps so you can quickly add a new lamp to a group without worrying about any typos.

Enter a new group name.



Click *'Create Tasks'* and you will see lamp and group rename tasks.

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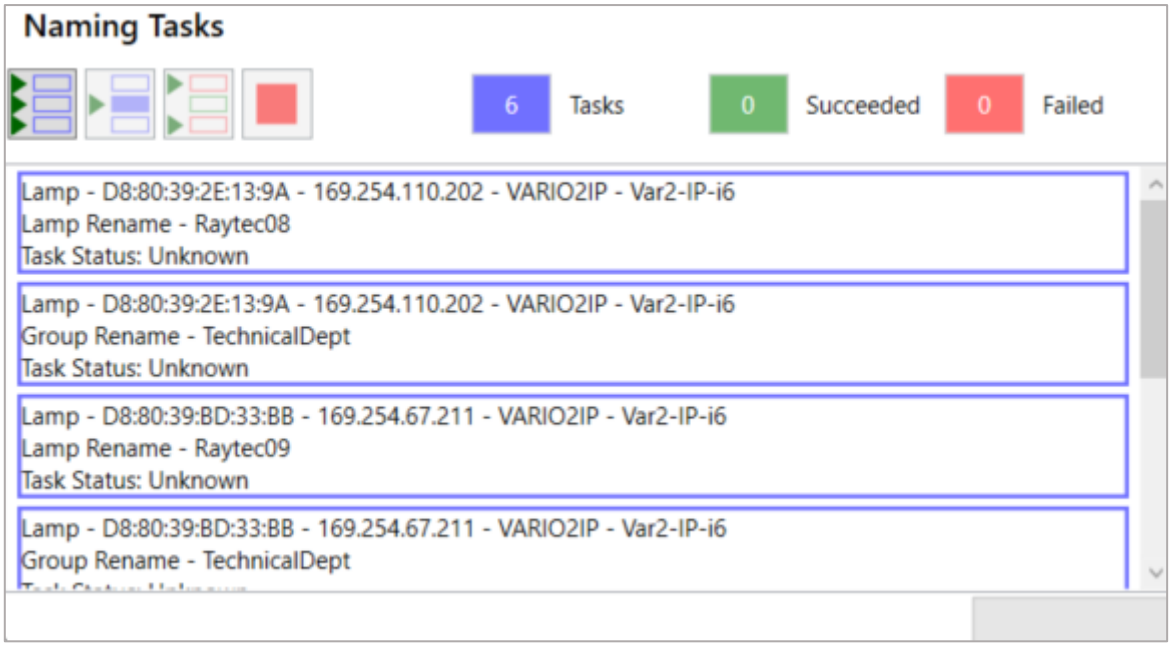
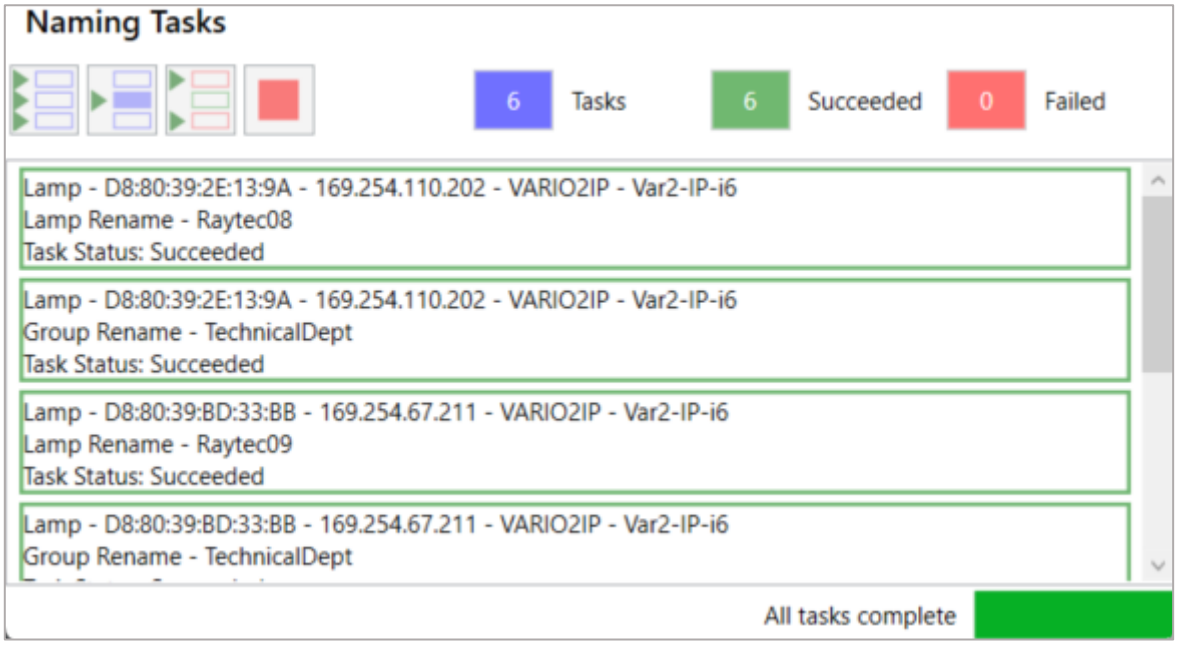


Tasks are created for both lamp renames and changes to lamp group names. If you opt to change both you will see X number of tasks where X is the number of selected lamps multiplied by 2 (a naming task and a group rename task for each lamp)

If you are happy with the settings you see in the task list, hit *'Play All Tasks'* 



Close the dialog and click *'Refresh'*, you should see that all the lamps have had their name and group changed.

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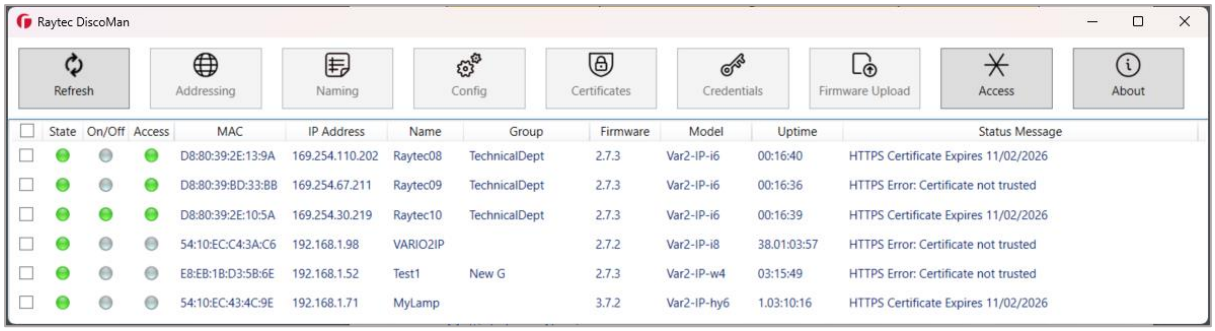

The program will start the sequential naming from the lowest IP address it can find so the configuration is kept neat and logical, in the example above 169.254.110.202 has the first name and 169.254.30.219 has the last one.

WARNINGS: *Naming is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section for details on how to supply the lamp's admin credentials to DiscoMan.*

If any selected lamp has a grey status in the 'State' column on the main DiscoMan screen, the name change will fail as this indicates that DiscoMan doesn't have a connection to the lamp. In this instance, ensure no other Raytec Software is running on your network and then click on Replay Failed Tasks 

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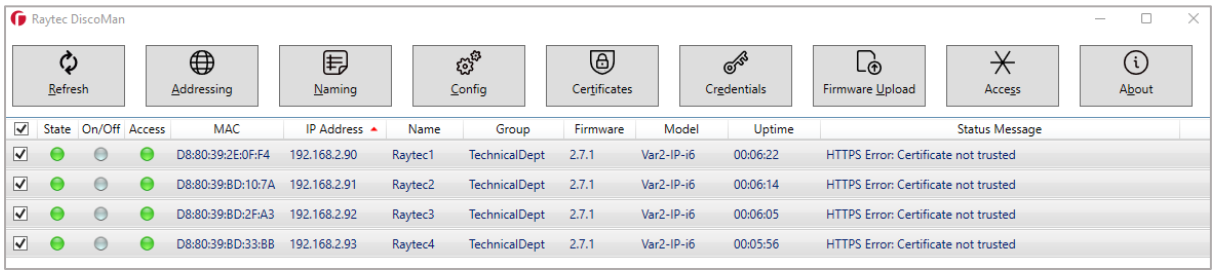
Multiple Lamp Certificates

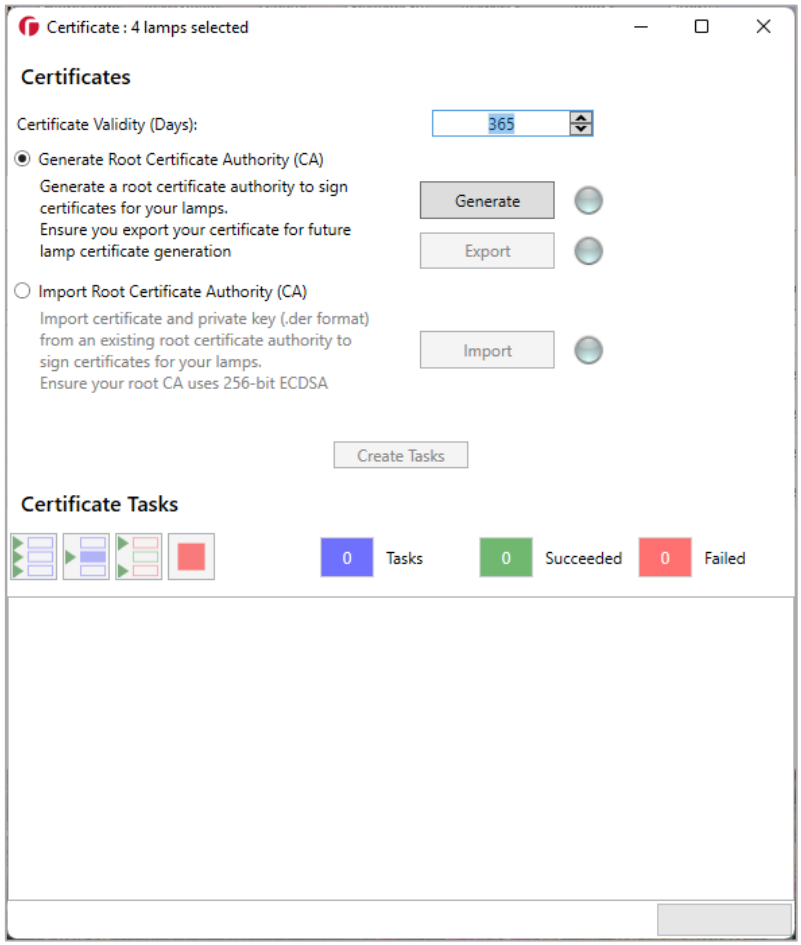
As of the firmware versions below, you can upload HTTPS certificates to your lamps to enable secure network communication via HTTPS.

Lamp	Firmware
Vario2 IPPoE	>= v2.7.1
Vario2 Hybrid IPPoE	>= v3.6.9
Vario2 16 IPPoE	>= v6.2.0
Vario2 Hybrid 16 IPPoE	>= v7.2.0

Select multiple lamps.



Click *'Certificates'* and the dialog for multiple lamp certificates pops up and shows how many lamps you will be renaming in its title bar.



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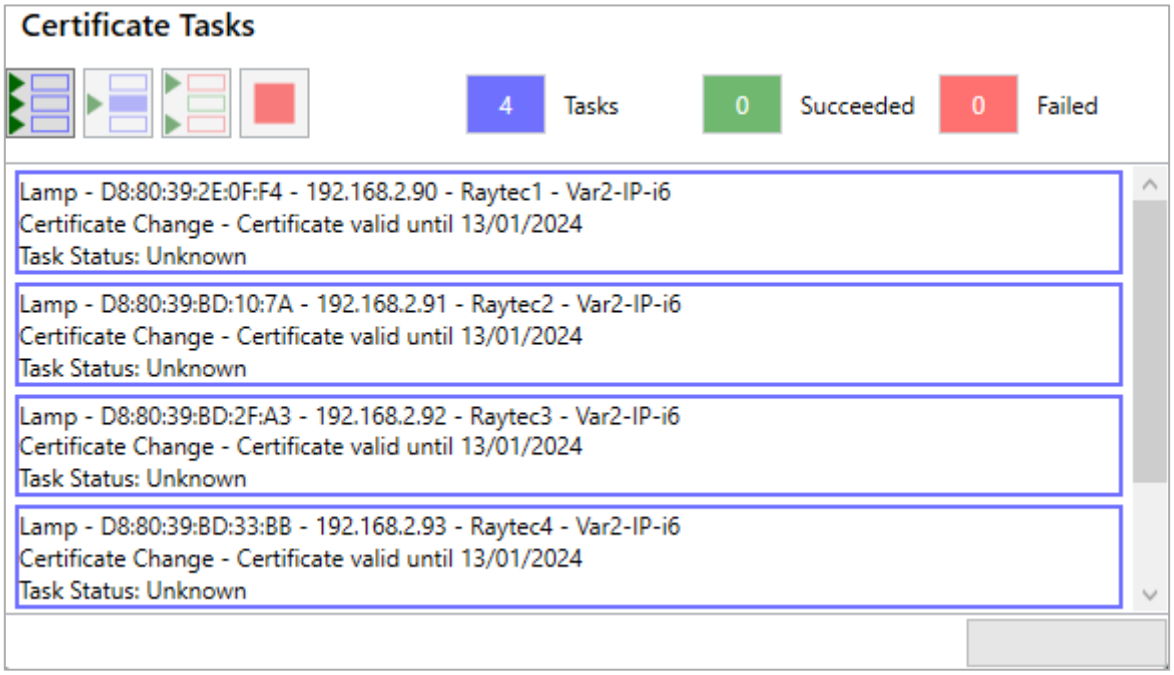
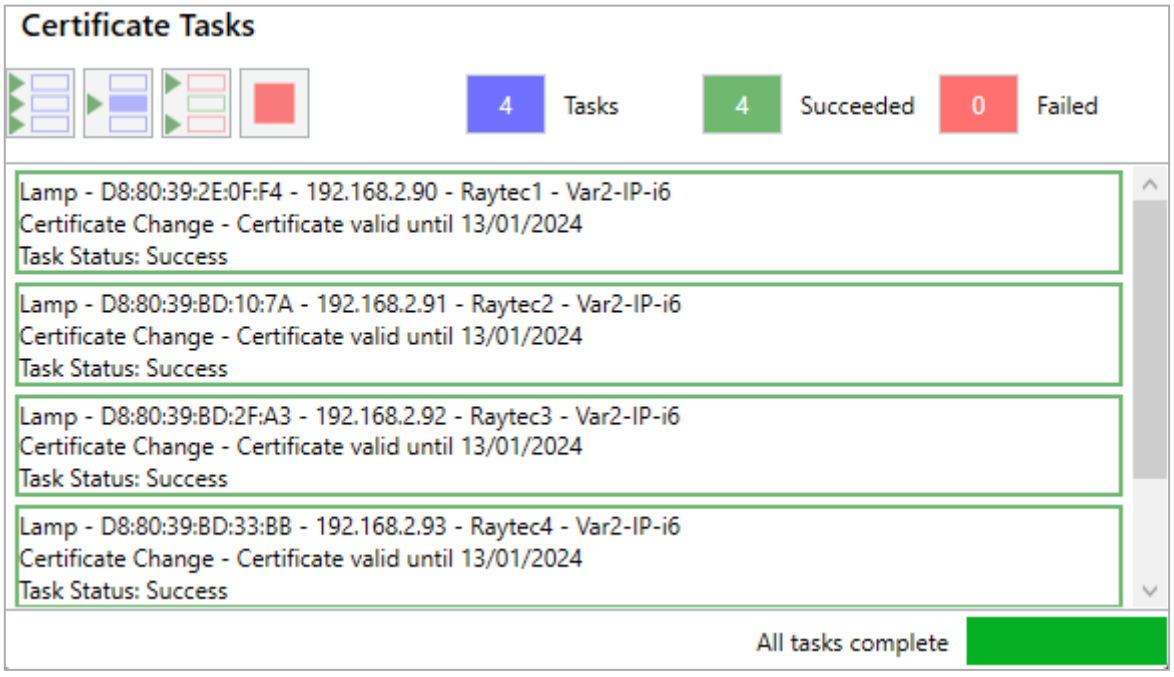
The *'Certificates'* section is the same as you have seen on the Single Lamp Certificates dialog.

Either generate a new CA or import an existing one (see *Single Lamp Certificates* section for details on the difference between these) and click *'Create Tasks'*



The tasks show the expiry date of the certificate that you have used. Click on *'Play All Tasks'*  to run the certificates tasks.



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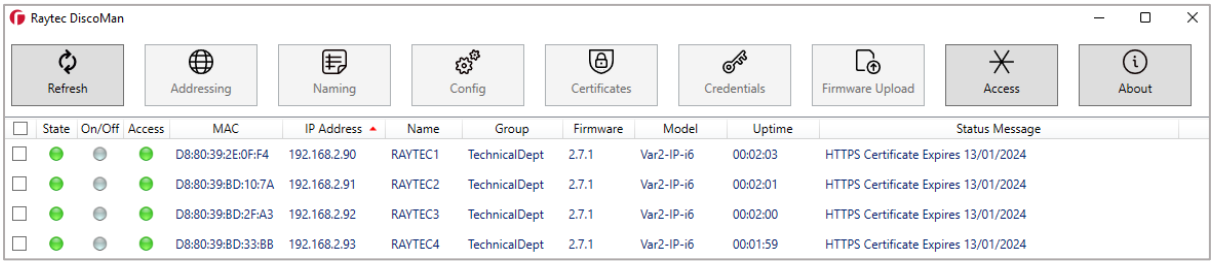
Close the dialog and click *'Refresh'*, you should see the certificate expiry in the status message column for the lamps you have updated. The task performs a restart after the certificate upload. This is reflected in the Uptime column.



If your status message column states *"HTTPS Error: Certificate not trusted"* then you need to ensure that your computer trusts the root CA used. See our Raytec HTTPS Setup Guide for details on how to do this.

WARNINGS: *Certificate is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section for details on how to supply the lamp's admin credentials to DiscoMan.*

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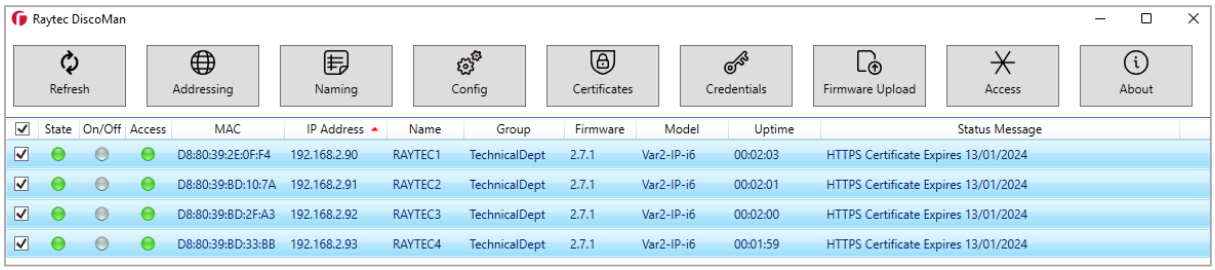
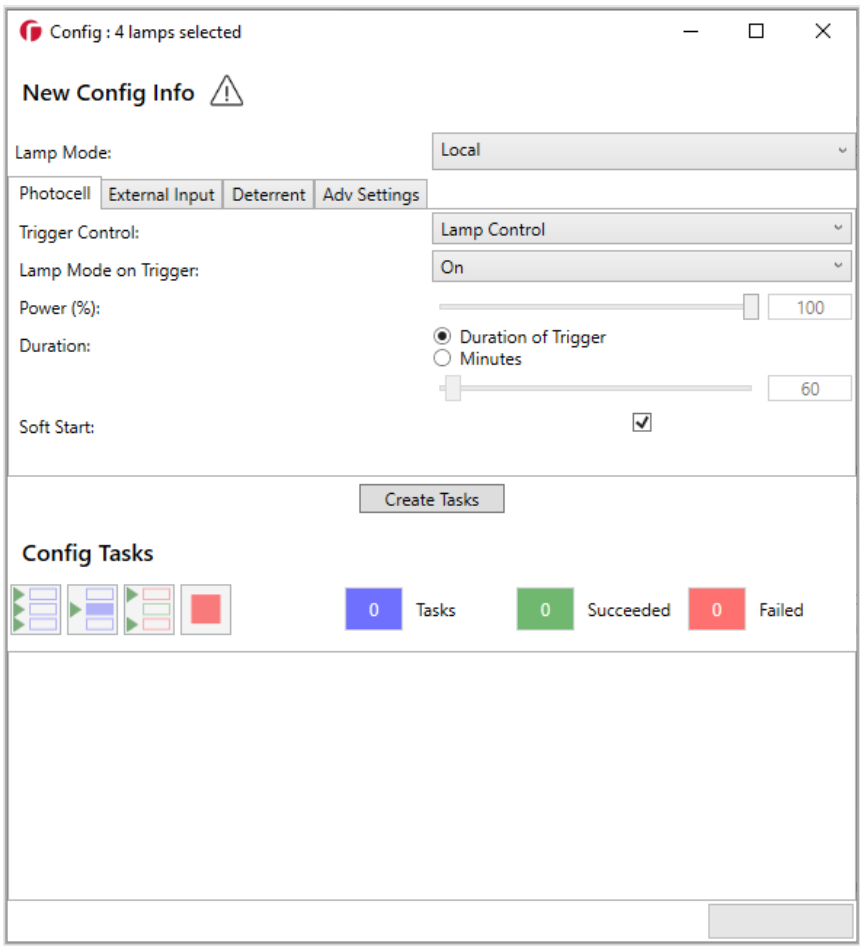
Multiple Lamp Config

Select multiple lamps.



Click *'Config'* and the dialog for multiple lamp config pops up and shows how many lamps you will be configuring in its title bar.



The *'New Config Info'* on this dialog is the same as you have seen on the Single Lamp Config screen. Change the configuration to how you desire your lamps to function and click *'Create Tasks'*

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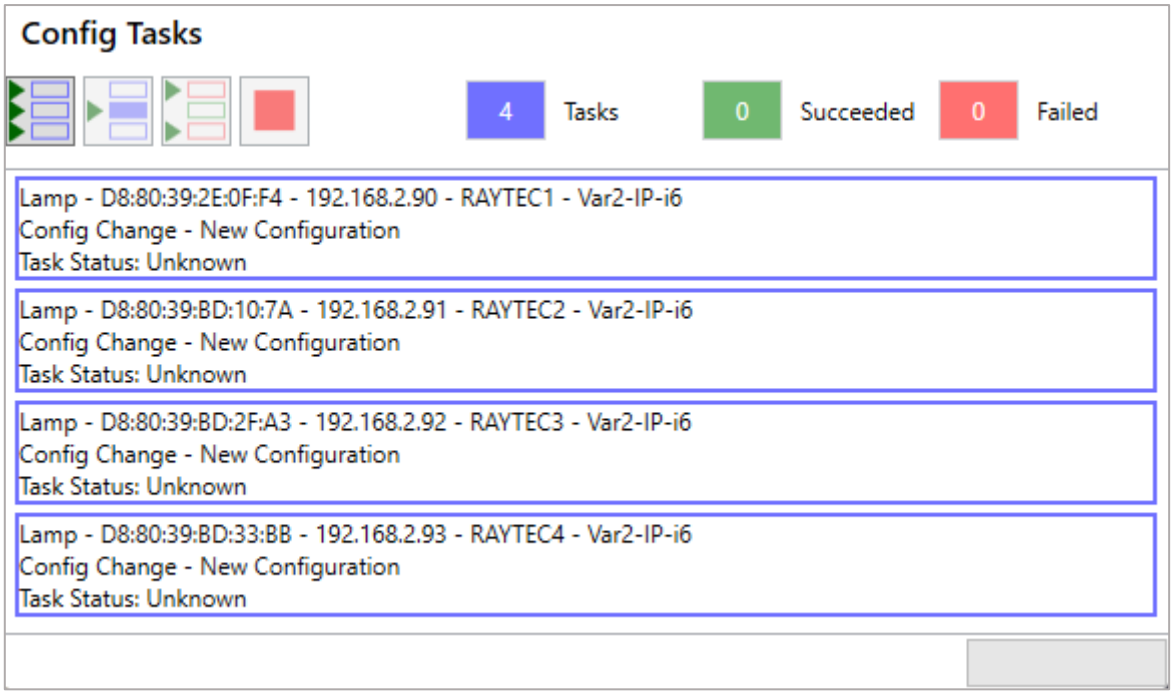


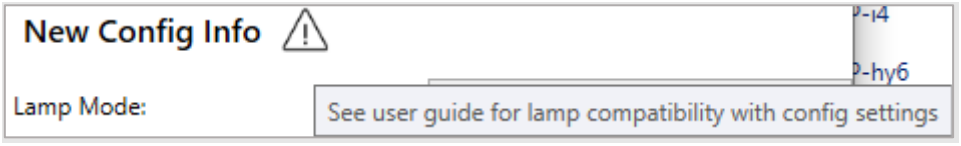
Since the config can be quite complex, the task does not mention what has changed but rather states *'New Configuration'*.

For Config, it can be useful to select a task and click 'Run Selected Task'  as the user can then test the updated lamp to see if it functions correctly and if so, they can then click 'Play All Tasks'  to run the remaining tasks.

WARNINGS: *If you have single-wavelength lamps and hybrid lamps you won't be able to configure these at the same time (and you'll get an error message if you attempt this)*

The hybrid has a Light Type field for photocell and external input triggers which means these must be configured separately from single-wavelength lamps.

You may have noticed a warning triangle on the config dialog, on hovering your cursor over this you will see the following message:



See Appendix B in this document for lamp compatibility with the config settings in DiscoMan.

WARNINGS: *Config is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section in this document for details on how to supply the lamp's admin credentials to DiscoMan.*

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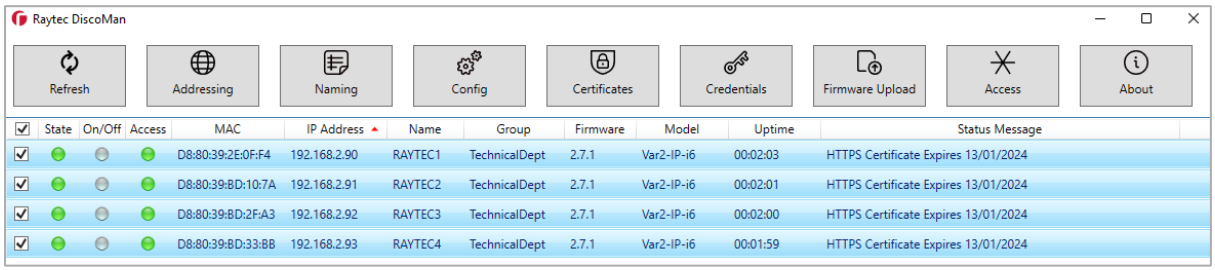
Multiple Lamp Credentials

Select multiple lamps.



Click *'Credentials'* and the dialog for multiple lamp credentials pops up and shows how many lamps you will be changing the credentials on in its title bar.

The '*New Credentials Info'* is the same as the Single Lamp Credentials info with the same validation in place; fields mustn't be empty, and the password cannot be 'password'.

Enter the credentials that you would like to set on your lamps and click '*Create Tasks*'

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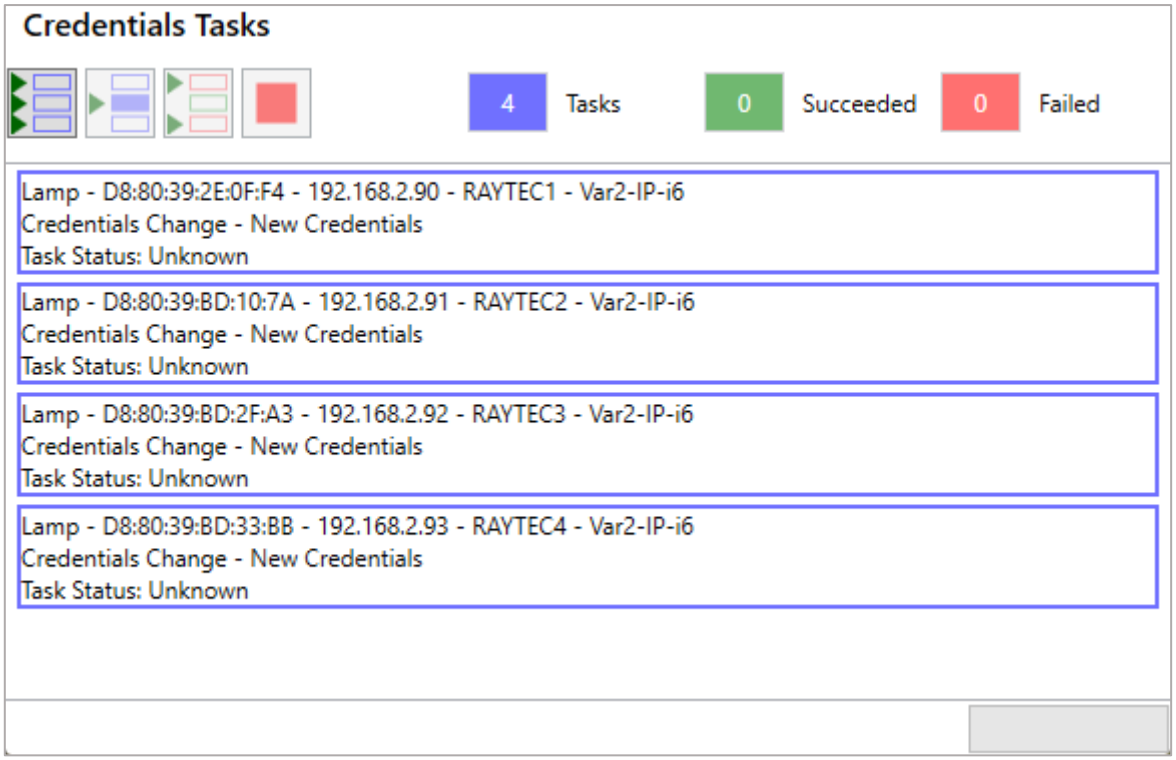
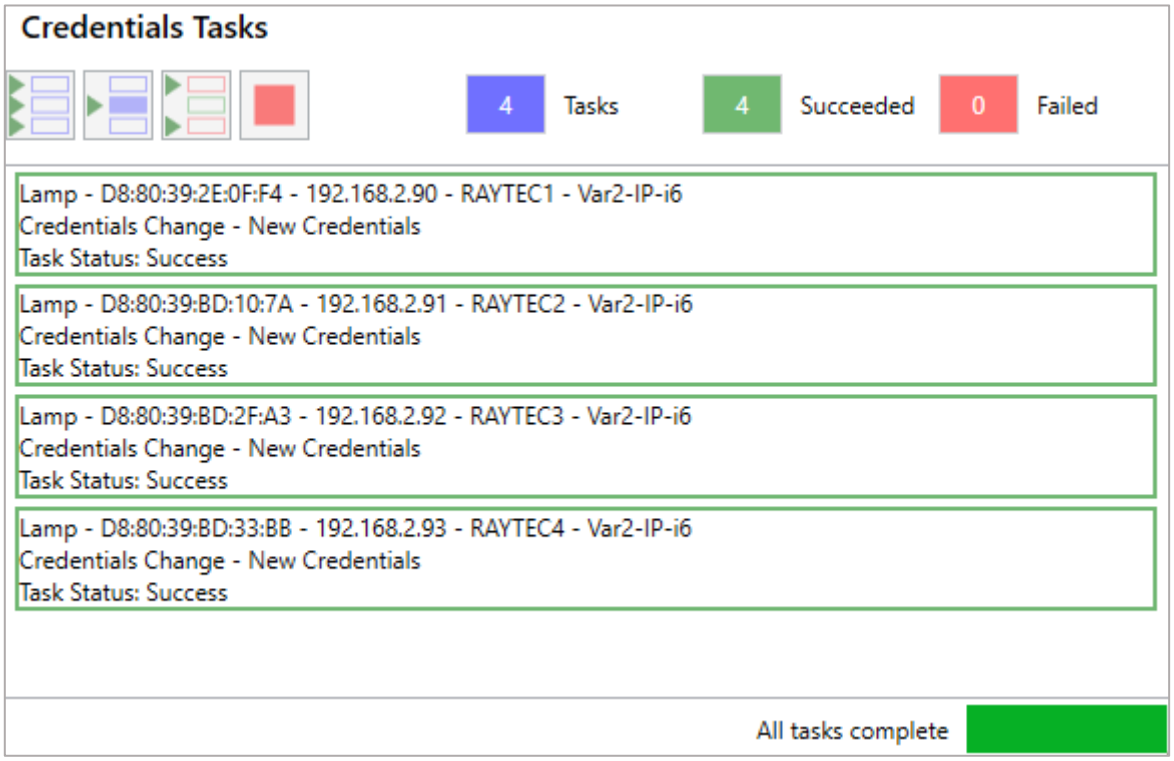


In a similar vein to the Multiple Lamp Config dialog the tasks do not explicitly specify what is being set.

Click on *'Play All Tasks'*  to run the credentials tasks.



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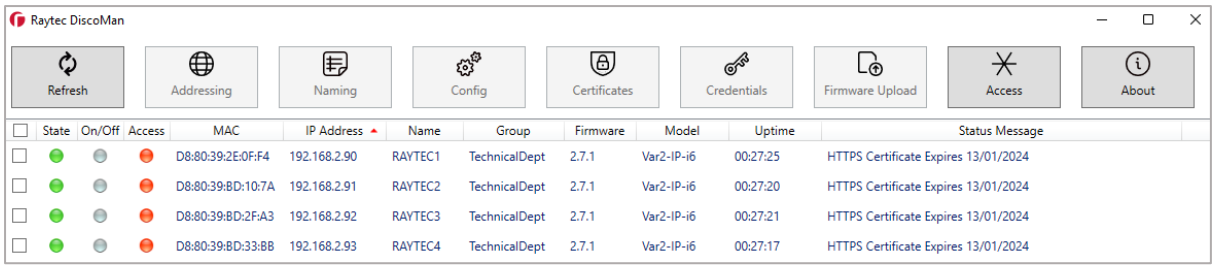
On closing the dialog and clicking *'Refresh'*, you will notice the *Access* column shows a red status for all lamps you just updated.



This is because the admin credentials that you previously set for the lamp via *Access* are no longer valid. If you wish to use Config, Certificates or Firmware Upload actions after changing the credentials, you will need to set the new admin credentials in *Access*.

WARNINGS: *Credentials is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section in this document for details on how to supply the lamp's admin credentials to DiscoMan.*

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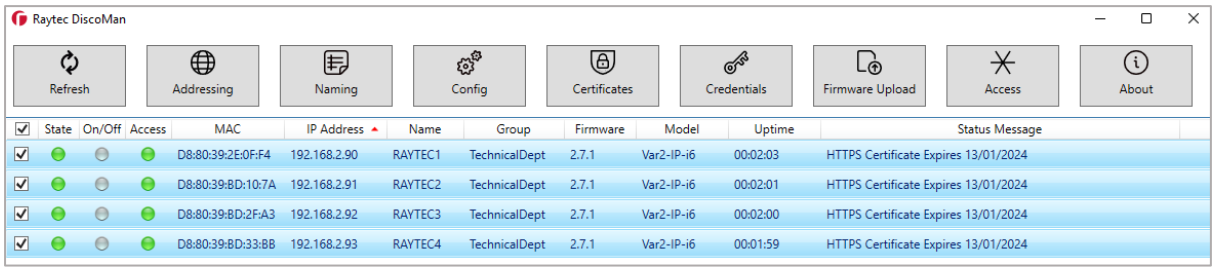
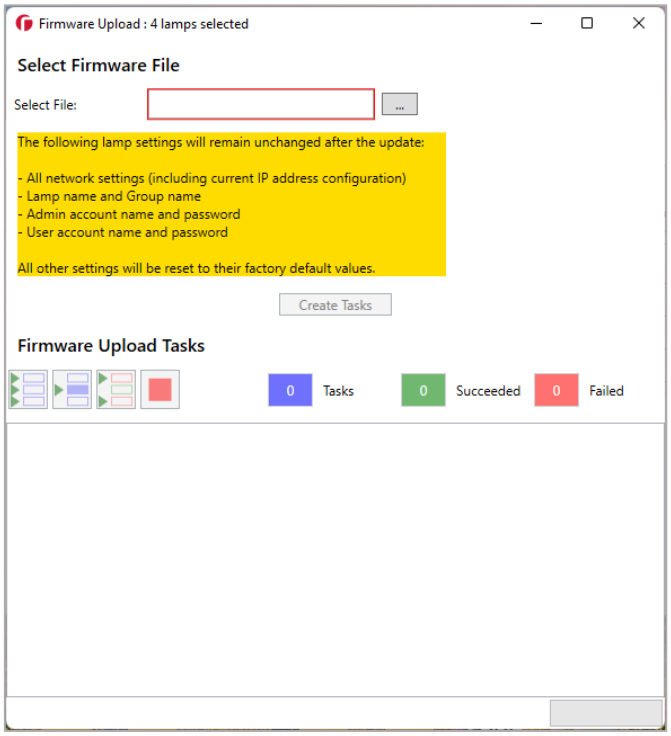
Multiple Lamp Firmware Upload

Select multiple lamps.



Click *'Firmware Upload'* and the dialog for multiple lamp firmware upload pops up and shows how many lamps you will be changing the firmware on in its title bar.



The *'Select Firmware File'* on this dialog is the same as you have seen on the Single Lamp Firmware Upload screen.

Upload a valid firmware file for the lamps selected and click *'Create Tasks'*

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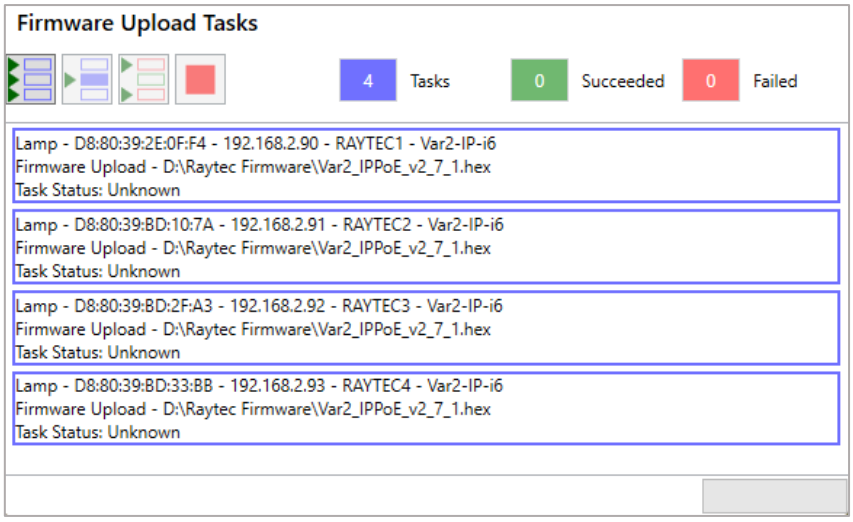
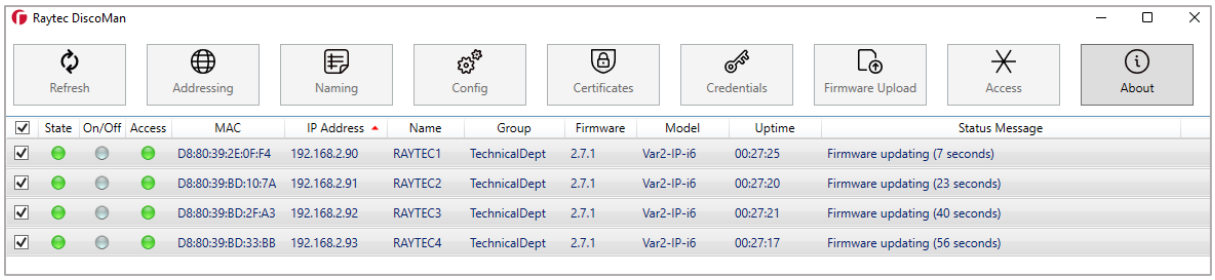


WARNINGS: *If you have single-wavelength lamps and hybrid lamps you won't be able to update these at the same time (and you'll get an error message if you attempt this)*

There are different firmware files for these lamps as they differ slightly in operation.

On clicking *'Run All Tasks'*, the firmware upload will be performed on each lamp sequentially, after all tasks have succeeded you can close the dialog and view the progress of each firmware upload in the status message column.



All buttons except *About* will remain disabled until the last firmware upload has completed.

On clicking *'Refresh'* the new firmware version will be displayed in the Firmware column. A restart occurs during this action and the Uptime for the lamp will reflect this.

The lamps credentials, IP address, name and group name remain unchanged after the firmware update.

WARNINGS: *You will have to re-configure the settings and advanced settings (those seen on the Config action in DiscoMan) as these are lost during a firmware upload.*

Firmware Upload is an authenticated action and requires the user to supply admin credentials through Access prior to attempting to use it. See Quick Start section or Access section in this document for details on how to supply the lamp's admin credentials to DiscoMan.

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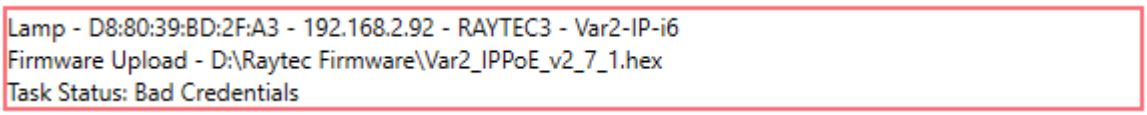
Troubleshooting

1. I can't find my lamps.
    - *Are you blocking UDP traffic on port 52055? This should have been opened by DiscoMan (locate the Raytec Discovery Protocol rule in Windows Firewall) but do ensure it isn't blocked.*
    - *Ensure, you are operating on the same network. Sometimes, the Lamp(s) may have setup to a different network.*
2. Why are my tasks failing?

    There are different reasons for tasks failing based on what tasks you are running:
    - *Unauthenticated Tasks – Addressing, Access action requires that the lamp State status is 'green'. If the lamp state is 'grey' the task will fail stating 'Bad connection'.*
    - *Authenticated Tasks – Naming, Certificates, Config, Credentials and Firmware Upload actions require that you first provide the lamps admin credentials via Access. Lamps must have a green status in the Access column for these actions to run successfully.*
    - *Unsupported feature – The Certificates action is only supported on our latest lamps, check that your firmware matches or is newer than those listed below.*

Lamp	Firmware
Vario2 IPPoE	>= v2.7.1
Vario2 Hybrid IPPoE	>= v3.6.9
Vario2 16 IPPoE	>= v6.2.0
Vario2 Hybrid 16 IPPoE	>= v7.2.0

    The task status can be used to see additional task failure information.



3. I can't update all my lamps at once.
    - *Check that the lamps you have selected are all single-wavelength illuminators or all hybrid illuminators. You cannot mix these when using Config or Firmware Upload.*
4. I'm getting errors on trying to import my own Certificate Authority (CA) files to the Certificates dialog.
    - *Ensure that the encryption algorithm used by your own CA is **ECDSA** and the size of your private key is **256 bits***
    - *If this is the case and you still have issues, please contact Raytec.*

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5. The status of the lamp is showing *HTTPS Error: Certificate not trusted*

   This can come about in a few scenarios:

   - *Have you uploaded a certificate? By default, the lamp has a self-signed certificate but this needs to be changed at the earliest opportunity if you want to use HTTPS as it won't be trusted by your machine.*
   - *If you have uploaded a certificate, ensure that the root certificate file that you have generated/uploaded is trusted by the machine that you are running DiscoMan on. If you need guidance on how to do this, see the Raytec HTTPS Setup Guide.*
   - *Ensure that your certificate hasn't expired, if this is the case you will need to generate/import a new one.*
   - *After uploading the certificate, close all the tabs and refresh the DiscoMan to see the changes. It takes a few seconds to get the new certification status.*

   If you still have issues after checking the above, please contact Raytec.

6. When I Imported a Certificate, the certificate expiry date was a day less than when originally used.

   - *When a certificate is uploaded, and the expiry date is a day lesser. This is because we operate at a day's level and when we calculate expiry by subtracting current date, we get a value less than the original one. This is because we may go slightly passed expiry if we use same number of days.*

7. I can't access the web interface of my lamp after updating to the latest firmware.

   - *On upgrading from Vario2.5 IPPoE to the latest HTTPS firmware, you will see a small change to the network settings: There is no longer a secondary HTTP port, and you can't disable port 80.*
   - *The latest firmware allows users to configure the HTTP Port so if you had configured a secondary HTTP port on your Vario2.5 IPPoE lamp prior to upgrading, this will become the configured HTTP port. Try navigating to the lamp with your secondary HTTP port added to the end of the IP address.*

   If you still can't access your lamp after trying this, please contact Raytec.

8. I get a HTTPS Error: Request timed out on my lamp running firmware supporting HTTPS

   - *This issue usually comes about when you have changed the HTTPS port.*
   - *To alleviate this issue, go to Access and set the correct HTTPS port when providing admin credentials (Note: you will get a red status here). Close the Access dialog and hit 'Refresh', you should now see the expiry status message for your lamp and Access should have a green status.*

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9. Lamp's web Interface keeps refreshing and I couldn't access anything on the web page
    - *This issue is very rare, and this is to do with web browser. To fix this issue, close and open the browser again or you can also open the lamp's web interface in a different browser if you wish to do so.*

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Appendix

A - Config exploded view

Tab	Field	Values
Photocell	Trigger Control	Inactive Lamp Control Group Control – Send and Receive Group Control – Receive only
	Light Type	IR WL
	Lamp Mode On Trigger	Off On
	Power (%)	20% to 100%
	Duration	Duration of trigger or 30-720 minutes (steps of 30 minutes)
	Soft start	On/Off
External Input	Trigger Control	Inactive Lamp Control Group Control – Send and Receive Group Control – Receive only
	Light Type	IR WL
	Lamp Mode On Trigger	Off On Deter
	Power (%)	20% to 100%
	Duration	Duration of trigger or 1-60 minutes (steps of 1 minute)
	Soft start	On/Off
Deterrent	Deter Pattern	Wave Hi-Lo SOS
	Deter Frequency	Slow Medium Fast
Adv Settings	Manual Override Countdown	10 15 20 30 60 120 240 480
	External Input	Volt free TTL
	External Input Active State	Short Circuit / Low Open Circuit / High

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	External Output	Disable Photocell Only Photocell AND Ext I/P Ext I/P Photocell OR Ext I/P Photocell AND NOT Ext I/P Fault
	External Output Active State	Short Circuit / Low Open Circuit / High
	Photocell Sensitivity	5 to 65 lux

B - Config Lamp Compatibility

As new products have been released and new features have been added, this means that DiscoMan is only fully compatible with our latest lamps. DiscoMan can still be utilized for older lamps, see below for compatibility.

It should be noted that all lamps can also be configured normally using their individual web interfaces.

Full Compatibility

Vario2.5 IPPoE and Vario2.5 Hybrid IPPoE and above.

Almost Full Compatibility

Vario2 IPPoE *All versions* Vario2 Hybrid IPPoE *All versions* Vario IPPoE *v1.3.1*	The external output options in Advanced Settings had *"Photocell AND NOT Ext. I/P"* and "*Fault*" added in Vario2.5 IPPoE and Vario2.5 Hybrid IPPoE. Attempting to set these options for the external output on lamps listed on the left-hand side will set the external output to *"Disable"* for the units.

Partial Compatibility

Vario IPPoE *v1.2.7*	The settings and advanced settings pages where the same page in this release so advanced settings cannot be set via DiscoMan on lamps running this firmware.
Vario IPPoE *v1.1.X*	The lamp mode cannot be set on lamps running this firmware using DiscoMan as there is a checkbox for lamp mode to select Local/VMS (this releases pre-dated VMS + Local, HTTP and HTTP + Local modes)

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