nanoleaf V1 Controller Introduction

already defined on the nanoleaf device.

(http://indigodomo.com) that enables you to control nanoleaf devices from Indigo. It enables local LAN control of nanoleaf Devices without having to use an internet connection. The Version 1 series of the plugin is implemented using Indigo Dimmer Devices to control the nanoleaf devices and fully supporting the new built-in RGBW controls in Indigo 7. In addition to the standard controls, the plugin provides a mechanism to discover nanoleaf devices and to set effects

The Autolog nanoleaf Controller is a plugin for the Indigo (version 7+) home automation system

The plugin makes extensive use of the code base (modified) of the nanoleaf library by Software-2 for which much thanks are due:) - see (https://github.com/software-2/nanoleaf) It is **strongly recommended** to read this documentation to familiarise yourself with the how the plugin works.

Installation **Prerequisites** 

This version of the nanoleaf Plugin controls nanoleaf Aurora devices running at least version 1.5.0 of the firmware. You may need to do a firmware update when you first get your nanoleaf Aurora device. This Plugin needs some nanoleaf Auroras to control!

Installation

The latest version of the plugin has been developed and tested on OS X El Capitan (10.11.6) and also tested on macOS Sierra (10.12.6).

Download and install the plugin as normal for Indigo plugins. **Plugin Configuration** 

also available via the main Indigo menu *Plugins > nanoleaf > Configure...* 

When the plugin starts for the first time, the Configuration dialogue will be displayed. This dialogue is

Configure Nanoleaf

Override Host IP Address: Check to enable Host IP Address input.

^ Tick this box to override the host address that the Nanoleaf plugin will use rather than discovering it automatically. This is the address of the Apple Mac that the Indigo Server is running on. Not normally needed but can help in problem situations. It is your responsibility to specify it correctly e.g. '192.168.1.100' (no quotes). Reload the Plugin after saving this change.

This Plugin controls nanoleaf devices. 👄

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Status polling: Enable polling of all nanoleaf devices. Polling Interval: Every 5 minutes Max polls missed limit?: 1 Specify maximum number of polls allowed to be missed before a Nanoleaf

Use status polling to update the state of the nanonleaf device(s) periodically.

Default timeout to use when discovering Nanoleaf devices. Discovery Timeout: 10 Specify discovery timeout in seconds e.g 10 Use Update Check to check for a new release of the nanoleaf Controller plugin on Github. Use plugin menu to update plugin. Check for updates: Enable to check for new version of Nanoleaf Controller plugin. Check Frequency: Check every week Monitoring / debugging: Enable monitoring and debugging options. Select monitoring / debugging to be performed by ticking required option(s) below and then clicking Save. General: Debug 'general' processing. Monitor Send / Receive: <a> Monitor messages sent and Received to/from nanoleaf devices</a> Debug Send / Receive: <a> Debug 'send / Receive to nanoleaf devices' processing.</a> Monitor Discovery: <a>V</a> Monitor discovery of nanoleaf devices. Debug Discovery: <a>Debug 'discovery of nanoleaf devices' processing.</a> Method Trace: Trace Method calls. Debug Polling: Debug 'polling' processing. nanoleaf device Filter IP Address(es): Used for debugging only and not used for normal running. It is used to

constrain processing to specific nanoleaf devices thereby limiting debug

device will be flagged with a 'no ack'

log output. ? Cancel Save The plugin configuration dialogue has a number of options: Override Host IP Address Tick to override the host address that the Nanoleaf plugin will use rather than discovering it automatically. This is the address of the Apple Mac that the Indigo Server is running on. This is not normally needed but can help in problem situations. It is your responsibility to specify it correctly e.g. '192.168.1.100' (no quotes). Reload the Plugin after saving this change. Status Polling & Polling Interval Tick to enable polling of the nanoleaf devices and select the Polling Interval from the pull down. Polling is used to detect external changes to the Auroras from for example, the nanoleaf iOS App. Typical values might be *Every 30 Seconds* or *Every Minute*. Max polls missed limit Specify maximum number of polls allowed to be missed before a nanoleaf device will be flagged with a 'no ack'. This is used to identify nanoleaf devices that have disappeared from the local network e.g because it has been inadvertantly physically switched off. Default Durations Specifies separate default durations to be used if not otherwise specified (See the description of these duration settings in the Device Configuration section) Update Check Use Update Check to check for a new release of the nanoleaf plugin on Github. Use plugin menu (see later) to update plugin. Check tick box to enable checks for updates and select frequency (daily or weekly). Monitoring / debugging

These options are to support monitoring and debugging. All logging is now done to Indigo 7

Logging is not normally required but can be useful for fault finding and debugging.

button in the Indigo Event Log window. The log file is plugin.log in the

standards and to a separate file that can be accessed by clicking on the Show Events Logs Folder

com.autologplugin.indigoplugin.nanoleafcontroller folder. This folder also contains date stamped

Used to filter the processing to one or more nanoleaf devices (mainly for testing and debugging purposes). This is not needed for normal running. If a nanoleaf device's IP address is specified,

any messages sent to or received from other devices not in the list will be ignored. If you send a command (e.g. Turn On) to another nanoleaf device while the filter is active, then this will cause an error warning message to be displayed in the Indigo Event log. Plugin Menu

logs from the previous five days.

Disable Reload

Configure...

Update Plugin

About nanoleaf v1.0.0...

Check for Plugin Update

Check for Plugin Update

**Device Configuration** 

Nanoleaf

nanoleaf Device

Type:

Model:

Address: undefined

Name: Nanoleaf Two

The configuration options are:

Nanoleaf Device:

message - No available nanoleaf devices discovered -

192.168.1.91

MAC Address: < MAC ADDRESS>

IP Address: 192.168.1.91

Nanoleaf Device Id: < NANOLEAF DEVICE IDENTIFIER>

Nanoleaf Device

The discovery period defaults to 30 seconds.

On starting the plugin for the first time, the plugin will:

Start discovery to detect nanoleaf devices on the local network.

Once the plugin has discovered nanoleaf devices, this is reported in the Indigo log.

Create New Device

Nanoleaf Device Id:

To create a new nanoleaf device, perform the standard New... device option form the Indigo UI.

Configure nanoleaf Device

Cancel

Save

Force Plugin Update

nanoleaf device Filter IP Address(es)

 Update Plugin Select this item to perform a plugin update. The update will only proceed if there is a newer version available. Force Plugin Select this item to force a plugin update. The update will effectively refresh the current version if there isn't a newer one available or update to a newer one if there is.

All nanoleaf devices on the local network are discovered automatically by the plugin when it starts up.

The plugin menu, in addition to the standard items, has additional items for update checking:

Select this item to perform an immediate check for a plugin update

MAC Address: Notes: IP Address: ^ The IP address of the Nanoleaf to be authorised. Update IP Address: Update \* Update the IP address if it has changed since the device was set-up. To fully configu Authorise nanoleaf: Authorise Auth Token: ? ✓ Enable Indigo commu ?

Select an available nanoleaf device that has been previously discovered by the plugin. If there are

no nanoleaf devices available to assign to the new Indigo device, then the list will show the

Once you have selected a nanoleaf device from the list, the configuration dialogue will show:

Configure nanoleaf Device

\* The IP address of the Nanoleaf to be authorised.

Select Nanoleaf device to assign to this Indigo device.

^ Update the IP address if it has changed since the device was set-up.

Cancel

that will change only when the Aurora is reset. The the only time it changes is when authorization information is erased (reset), which implies a user must set things up again. If this happens you will have to add a new Indigo device. The Nanoleaf Device ID is shown in the Indigo UI as the Address

This is the physical MAC Address of the nanoleaf device on your network. This is the number

Use this button to update the Indigo Nanoleaf device if the IP address of the Nanoleaf device has cannged since the Indigo device was set-up. This might happen if for example, your DHCP server allocated a new IP address for the Nanoleaf device or you pre-allocated the IP address. If the IP

Address is different then the plugin will output an error warning message and the Nanoleaf device

For the plugin to be able to control the nanoleaf device, it has to be authorised. You do this by

light on the nanoleaf device starts flashing. If you don't do this you will get an error:

Access Forbidden to nanoleaf device! Press and hold the power button for 5-7 seconds

Configure nanoleaf Device

first! (Light will begin flashing)

authorisation works, then the dialogue will show the following.

Nanoleaf Device Id: < NANOLEAF DEVICE IDENTIFIER>

Auth Token: 140IQQFjcJYvSSsM5IFOdtRpktAzF2JE

MAC Address: < MAC ADDRESS>

IP Address: 192.168.1.91

Update IP Address: Update

Authorise nanoleaf: | Authorise

Configure nanoleaf Device

\* The IP address of the Nanoleaf to be authorised.

- No available nanoleaf devices discovered -

Select Nanoleaf device to assign to this Indigo device.

\* Update the IP address if it has changed since the device was set-up.

Cancel

You should see the unique genearted Auth Token which the plugin will use when communicating

pressing and holding the power button on the nanoleaf device for 5-7 seconds until the indicator

printed just above the barcode of the Nanoleaf Aurora controller.

This is the IP Address of the nanoleaf device on your network.

Save

Nanoleaf Device ✓ - Select nanoleaf device -

192.168.1.91

? Nanoleaf Device Id This looks like a MAC Address but is in fact a random identifier generated by the Nanoleaf device

of the Nanoleaf device.

MAC Address

Update IP Address

will show as no ack.

Auth Token:

Nanoleaf Device:

IP Address

Authorise

Na

Nano

?

?

Device Name

Address

Notes

Folder

Model

• NL22

Protocol

Firmware

Color Controls

Turn Off

Turn ON

RGB

W

Brightness Level

Turn Off

nanoleaf:)

User specified.

User specified.

Update IP Address: Update

Authorise nanoleaf: Authorise

Auth Token:

\* The IP address of the Nanoleaf to be authorised. Update IP Address: Update " Update the IP address if it has changed since the device was set-up. Authorise nanoleaf: Authorise

Cancel

As soon as the indicator light on the nanoleaf device starts flashing, you can let go of the power button (the light will stop flashing) and you can then press the Authorise button. Assuming the

OK

Save

Save

with the nanoleaf device. Now press Save to let the plugin complete the setup of the Indigo nanoleaf device. **Usage** Start Up When Indigo is restarted or the pluguin is reloaded, the plugin will run a Discovery of nanoleaf devices on the local network (as previously noted in the section above). The UI Status of nanoleaf devices will initially be shown as 'No Ack' (No Acknowledgement). Once a status update has been received, the standard light on or light off symbols will be shown as appropriate. **Indigo UI Home Window Device Info** The discovered nanoleaf devices reside in whatever folder was used when the device was created within the Indigo Home Window (that lists device). The relevant Device info listed in the Window is as follows: State Shows nanoleaf device state, normally an *on* or *off* icon and dimming state from 0 to 100. Can also be a red dot with 'No Ack' (No Acknowledgement) indicating communication has been lost with the nanoleaf device.

The name of the specified by you when the device was created.

Identifier - looks like a MAC address but isn't!

Shows the nanoleaf firmware version.

Turn On (U)

**Built-In Indigo Controls** 

used to control the nanoleaf(s):

The random identifier address generated by the physical nanoleaf device as the Nanoleaf Device

This is the nanoleaf device model retrieved from the physical device by the plugin:

Temp This is the White Temperature (kelvin) of the nanoleaf device and puts the nanoleaf device into ct (color temperature) mode. You can also directly enter the White Temperature (Kelvin) required in the adjacent field. This will also be adjusted according to the above table **Device Actions** 

required in the adjacent field.

Light/Appliance Controls:

All Off

• Turn On

Turn Off

 All Lights On All Lights Off

Toggle On/Off

Set Brightness

Brighten by %

Match Brightness

Set RGBW Levels

nanoleaf Actions

Discover nanoleaf Devices

Set Effect

Dim by %

The various built-in controls are described below:

Will turn off the nanoleaf device

Will turn on the nanoleaf device

in the list. Effect Name: Northern Lights

Type:

Device:

Set Effect (nanoleaf Actions)

nanoleaf ONE

hue The color hue with a value from 0 to 360.

The nanoleaf plugin's ID is 'com.autologplugin.indigoplugin.nanoleafcontroller' Scripting example to follow

serialNo The serial number of the naoleaf Device. **Scripting** 

RGB,W 69 89 41, 90 4000 K Last Update 2017-07-02 14:38:58 Temp: **Custom States** authToken = 7gUX6iEh1laRDQnli0eKt69bxJaCMrPR brightness = 90 colorMode = hs colorTemperature = 4000 connected = true effect = \*Solid\* hue = 85 ipAddress = 192.168.1.91 macAddress = <MAC Address> manufacturer = Nanoleaf name = Nanoleaf Aurora nanoleafDeviceId = <Nanoleaf Device Identifier> nanoleafOnOffState = off nanoleafOnState = false saturation = 54 serialNo = <Nanoleaf Serial Number>

The field next to the *Turn On* button contains the overall nanoleaf *brightness level* 

nanoleaf device and put the device into hs (hue/saturation) mode.

The color swatch represents the current colour of the nanoleaf device. Clicking on the color

swatch launches the Color Picker. You can choose different color modes e.g. RGB Sliders, HSB Sliders etc. The plugin handles the translation of the nanoleaf color model (HSBK) to and from the

Indigo color model (RGBW). Whilst there is for the most part a vey good correlation between the two models, there can at times be slight deviations. Adjusting the sliders will alter the color of the

W represents White Level and adjusting this alters the brightness of the nanoleaf device and puts

the nanoleaf device into ct (color temperature) mode. You can also directly enter the White level

The nanoleaf devices can be controlled using the built-in standard Indigo Device Actions >

**Note:** Pending a further required Indigo update (to be available post version 7.0.3) there is a

otherwise it will use the White Level and Temperature values.

The Plugin provides two additional actions under 'nanoleaf Actions':

temporary (maybe permanent?) Processing work-around added to enable the Indigo action 'Set

RGBW Levels' to work. To differentiate between Color and White the plugin does the following: If any

of Red, Green or Blue values are greater than zero then the plugin assumes you are setting a Color

The plugin is implemented as an Indigo Dimmer Device, so the built-in Indigo controls can be be

Nanoleaf Two (NL22)

On State off

Brightness 0

**Device Details** 

**Discover nanoleaf Devices (Action)** Running this action will cause the plugin to try and discover nanoleaf devices on the local network. Once new nanoleaf devices are found, You can use the \* NEW... command from the main UI to add a new device. **Set Effect (Action)** Use this action to select an available effect already defined on the physical nanoleaf device. When you run the action the effect will be run on the nanoleaf device. Press the Refresh button to refresh the list if you have amended the effects available on the Nanoleaf device and the effect isn't available Configure Set Effect Refresh Effects: Refresh ? Cancel Save Select the effect you require from the list. Edit Action Group "nanoleaf Effect Northern Lights" - Select nanoleaf effect nanoleaf Effect Northern Lights Color Burst Fireplace Notes: Flames Forest Inner Peace Nemo

effect ipAddress the IP Address of the nanoleaf device. macAddress The physical MAC address of the Nanoleaf device. manufacturer nanoleaf:) name

Refresh Effects Snowfall Sunset Edit Action Settings... Vibrant Sunrise set effect ? Cancel Save Note that communication must have been successfully made to the nanoleaf device for the dynmaic effect list to be built for selection in the action. **States** authToken The authorisation token that authorises the plugin to access the Nanoleaf Aurora. Brightness The brightness level of the nanoleaf device. colorMode hs = Hue Saturation (i.e. Colour), ct = Color Temperature (i.e. White). colorTemperature The kelvin value for CT mode (white level). A value between 1200 and 6500. connected True or False to indicate whether the plugin can communicate with the nanoleaf. The effect in force. If in ordinary white or single color mode (as set via the Indigo UI) then the effect will show as "Solid". If an effect is active then it's name will show e.g. 'Northen Lights'.

Effect Name ✓ Northern Lights

Romantic

The name (model) provided via the API by the nanoleaf device e.g. "Nanoleaf Aurora". nanoleafOnOffState 'on' or 'off'. nanoleafOnState True if on else false. saturation The saturation value between 0 and 100. The lower the value, the whiter the color.