
LIFX NodeServer Documentation

Release 0.1.5

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This is the LIFX NodeServer for Polyglot(Universal Devices ISY integration framework). This node server allows integration between the LIFX brand light bulbs and the ISY994i.

This document will document the usage of and development for Polyglot. For additional help, please reference the [UDI Forum](#).

This NodeServer is written with Python 2.7.

James Milne(Einstein.42) - 2016

Usage

Installation

To run the current version you should pull the default branch. The [github page](#) is here.

```
# Install the bitstring required package this is needed for talking to the LIFXLan protocols
sudo pip install bitstring

# If you run into an error about upgrading pip in the previous step then upgrade pip like so:
sudo pip install --upgrade pip

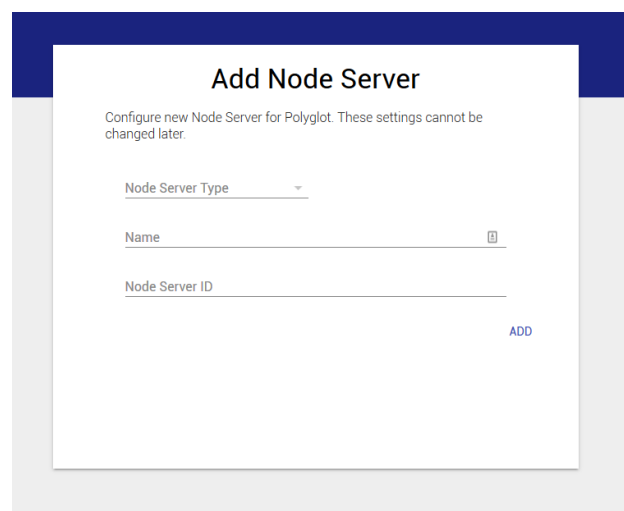
# Go to your Polyglot/config/node_servers/ folder
git clone https://github.com/Einstein42/lifx-nodeserver.git

# Restart Polyglot to recognize the new Node Server type.
sudo systemctl restart polyglot
```

Now that Polyglot is restarted. Login to your Polyglot admin page:

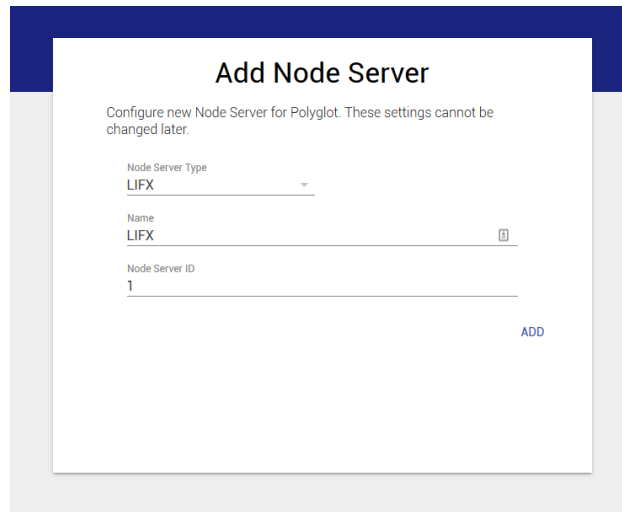
```
http://<ip address>:8080
```

Add Node Server



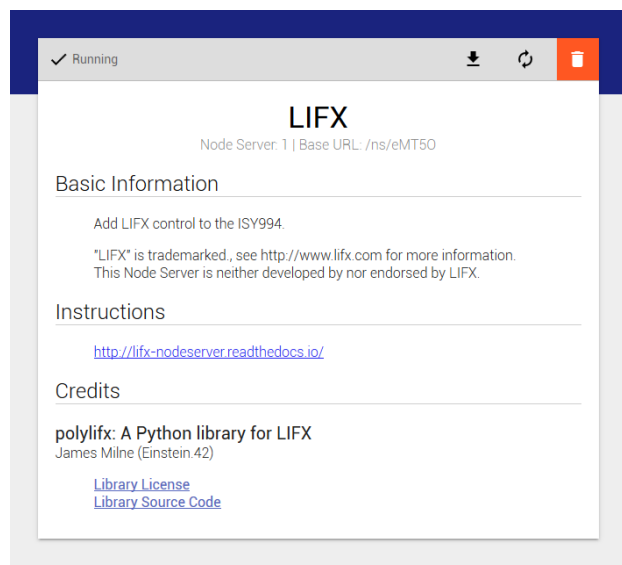
The screenshot shows a web interface titled "Add Node Server". Below the title is a warning: "Configure new Node Server for Polyglot. These settings cannot be changed later." There are three input fields: "Node Server Type" with a dropdown arrow, "Name" with a small icon to its right, and "Node Server ID". An "ADD" button is located at the bottom right of the form area.

Click on Add Node Server once you login to your Polyglot admin interface. Select the LIFX node server type. Name it something logical... like LIFX, and select a node server id between 1-10 that is currently unused in both Polyglot and the ISY.



The screenshot shows a web form titled "Add Node Server". Below the title is a warning: "Configure new Node Server for Polyglot. These settings cannot be changed later." The form has three input fields: "Node Server Type" with a dropdown menu showing "LIFX", "Name" with the text "LIFX" and a copy icon, and "Node Server ID" with the text "1". An "ADD" button is located at the bottom right of the form.

Once the nodeserver is active you will see its status as 'running' in the top left corner. Under the name in bold, you will notice the node server number, in this case 1 and the Base URL. Click the down arrow icon to download the profile.zip to your desktop, which we will import into the ISY shortly. Copy the Base URL to your clipboard and remember the ID number then login to the ISY.

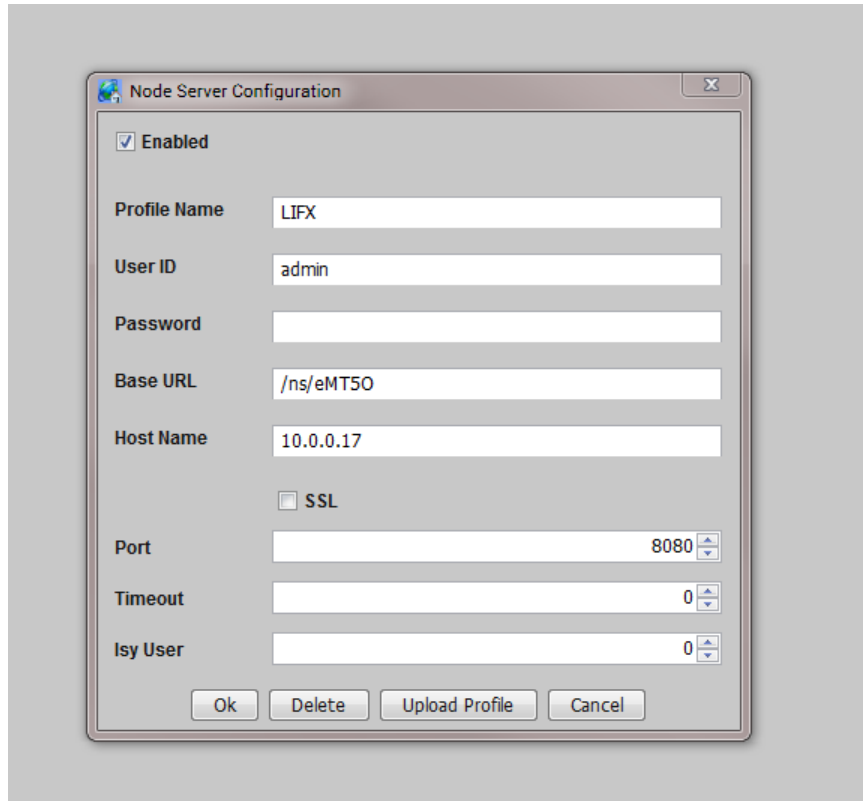


The screenshot shows a web page for a LIFX node server. At the top, there is a status bar with a checkmark, the word "Running", and icons for download, refresh, and delete. The main heading is "LIFX" in bold, followed by "Node Server: 1 | Base URL: /ns/eMT50". Below this is a section titled "Basic Information" containing the text: "Add LIFX control to the ISY994.", "*LIFX* is trademarked, see <http://www.lifx.com> for more information.", and "This Node Server is neither developed by nor endorsed by LIFX." The next section is "Instructions" with a link: <http://lifx-nodeserver.readthedocs.io/>. The final section is "Credits" with the text: "polylifx: A Python library for LIFX", "James Milne (Einstein.42)", and two links: [Library License](#) and [Library Source Code](#).

In the ISY click on the **Node Servers** menu option, then configure and finally the ID number you remembered from the previous step and Network Connection.

Profile name does not have to be the same as the node server name in Polyglot, but it makes sense to make them match. UserID and Password are the login credentials of the Polyglot admin. Base URL we copied from Polyglot in the step above. Host name and port are the IP and port you used to connect to the Polyglot admin page. Leave SSL unchecked, Timeout and Isy User leave at 0.

Click the **Upload Profile** button at the bottom and select the profile.zip that we downloaded from Polyglot.



Now reboot the ISY by going to *Configuration > System > Reboot*.

Once the ISY is back up, restart Polyglot.

```
sudo systemctl restart polyglot
```

You should now see the LIFX devices start populating in the ISY for consumption in programs. Enjoy!

** Note if you don't see any boxes in your Bulb in ISY then try uploading the profile again in ISY. This sometimes acts funny on the ISY side (we are working on that). Also if you see all the boxes but some values are empty, just restart polyglot again. Everything should pop in fine.

How To Use

Node View

The LIFX Color bulbs work by using 5 settings. HSBKD or Hue, Saturation, Brightness, Kelvin, and Duration. Duration is the time it takes for the device to change to the requested HSBK values. This node server allows you to change any of those settings individually on the node view, or individually and all together in a program. There are 12 pre-set colors that are included for easy color changes. This uses the LIFXLAN protocols and does NOT use the web api, so no internet access is required. This polls the device for changes every 5 seconds, so it will take up to 5 seconds to reflect changes made from external sources (like the apps).

LIFX Lamp
n001_g073ds1327cc - LIFX Color Bulb

Bulb On True	Hue 58275	Saturation 0
Brightness 65535	Kelvin 3200° K	Duration 0 <small>ms</small>
Online True	Uptime 2.4 <small>Hours</small>	

Membership
LIFX Lamp
Is Controller for
Is Responder to

Set Color To: Warm White
 Set Hue: 58275 Raw
 Set Saturation: 0 Raw
 Set Brightness: 65535 Raw
 Set Kelvin: 3200 Kelvin
 Set Duration: 0 millisecond

On Off Query

Program Content for 'New Program'

```

if
- No Conditions - (To add one, press "Schedule" or "Condition")
then
- No Actions - (To add one, press "Action")
else
- No Actions - (To add one, press "Action")

```

Add To Program
Schedule Condition Action Comment ☒ Enabled

Action

Your Devices: Set LIFX Control / LIFX Lamp Change HSBKD
 Hue: 0 Raw
 Saturation: 0 Raw
 Brightness: 0 Raw

Add to 'Then' Add to 'Else'

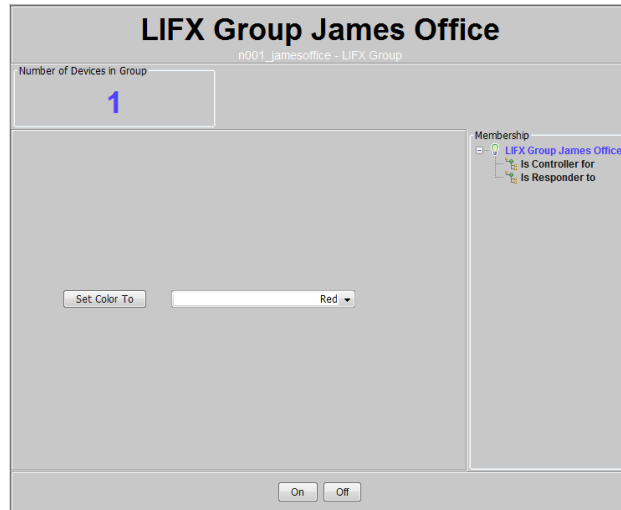
I had to fork the existing lifxlan python module to allow for easy detection and recovery of powered off bulbs.

When you initially set up the devices(or any subsequent ‘re-discover devices’ operations) you will need to make sure all the bulbs are powered on at the switches. After that if you turn them off they will show as ‘Online = False’ in the Node View. They will recover within the 5 seconds described above when power is restored and they reconnect to wifi.

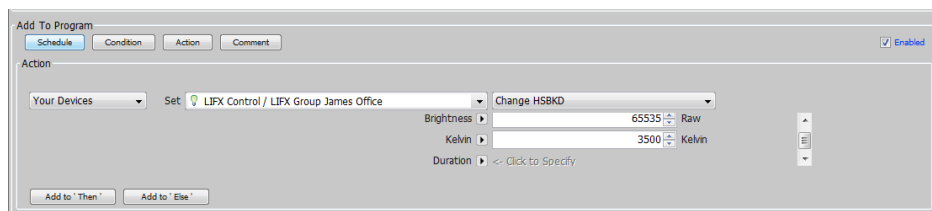
Group Node View

Any groups defined in the LIFX App or Web portal is added into the ISY as well. Be careful with the ‘ character or any other special characters. ISY wont add them if there are any in it. I catch a few and replace them with nothing but I cant catch them all.

The Group node view allows you to see the number of devices in the group(updated every 30 seconds). It also allows you to set the color to any of the pre-defined colors, same as in the device itself, or turn the group on or off.



Also just like each individual node you can add a command in your program to set all the HSBK and optional D values to update the whole group at once. Hue, Saturation, Brightness, and Kelvin are required for the group command as there is no mechanism in the LIFXLan protocol to only update one of the values individually. Duration is optional, and will be set to 0 if not specified.



Please contact me on the UDI forums (Einstein.42) if you have any questions or feature requests.

Changelog

0.1.5

Resolved an issue where the ISY would reboot however the device fields would remain blank until changed. These are now refreshed automatically upon the ISY booting up.

0.1.4

Fixed a bug on which the HSBKD and Status/State variables were not able to be viewed from the 'if' portions of a program. This was a small bug in the editor.

0.1.3

Implemented a "Change HSBKD" for each node type (group and bulb) to allow you to change all the values at once instead of making a step for each value. See the group documentation for usage information.

0.1.2

Updated to include Group functionality. Currently only supports, On, Off and Change Color. Membership is updated every 30 seconds, if you rename a group you will have to delete it out of ISY and restart the LIFX node server to have it re-discover. ISY does not support readdressing devices at this time.

0.1.1

Initial release.