Appendix 13
Phillips Hue

This appendix describes support for Phillips Hue devices. Included are these sections:

- What are Phillips Hue devices?
- Adding Hue to your design
- Device properties
- Hue Visual Programmer element
- Working with colors

What are Phillips Hue devices?

Phillips Hue are IP addressed lighting devices. Some are able to change to a supplied color and others are simply on/off.

Associated with a Phillips Hue installation is a "bridge" that connects to your home network and is then controlled using a mobile application.

HCA Supports Hue lighting devices with all the usual tools – On, Off, Dim – and from a Hue Visual Programmer element that can control the light to any color it is capable of showing.

You must work with the Hue application to add the device sto the Hue network and optionally create scenes and colors.

Adding Hue to your HCA Design

Before HCA can work with Phillips bulbs you must first connect HCA to the Phillips Bridge and then read out the configuration of the Bridge which the adds all your devices to your design. If you are new to Hue get started using their mobile application before working with HCA. HCA relies a lot upon the configuration you created there.

To begin the process, use the "Hue" button in the Interfaces ribbon category.
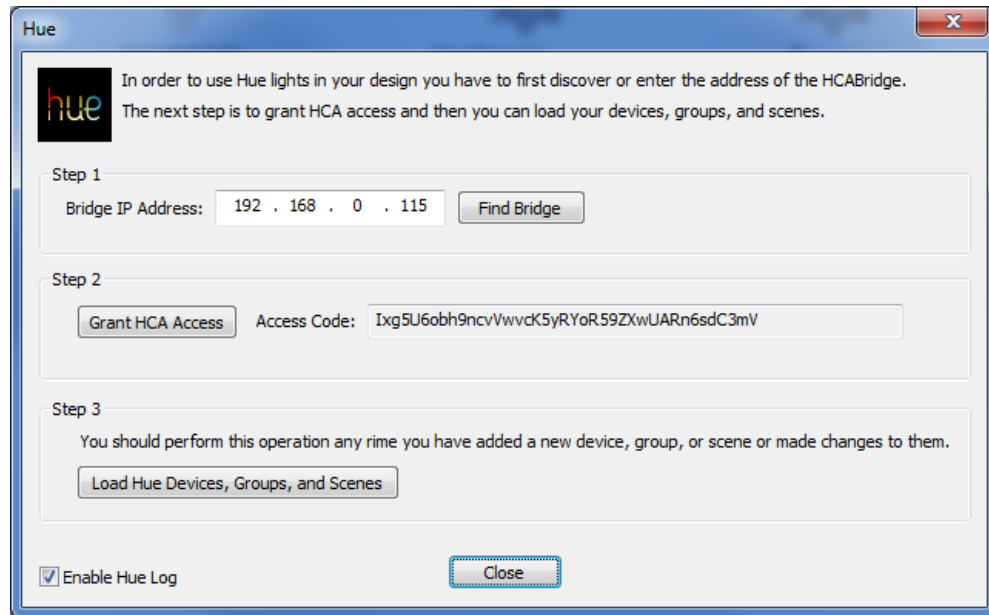
Follow the steps in the dialog. The "Find" operation works only if the Hue Bridge has been powered on for a while. The "Grant HCA Access" asks you to tap the button on the top of the Hue Bridge and then it will authorize HCA and generate an access code which the dialog displays.

Hue has the concept of a "groups" which maps closely to the HCA room concept. When devices are read from the Bridge configuration they are placed in rooms of the same name as you put them in using the Hue application. Once the devices are added you can move them or rename them in HCA. If you make any changes to devices or scenes you should rerun the "Load Hue Devices" action again and HCA captures any new devices, scenes, or groups. Any existing devices even if renamed or moved in HCA are not duplicated only updated.

Device Properties

Once a device is added it gets a "Hue" tab in the device properties to show the Hue information. All of it is read-only.
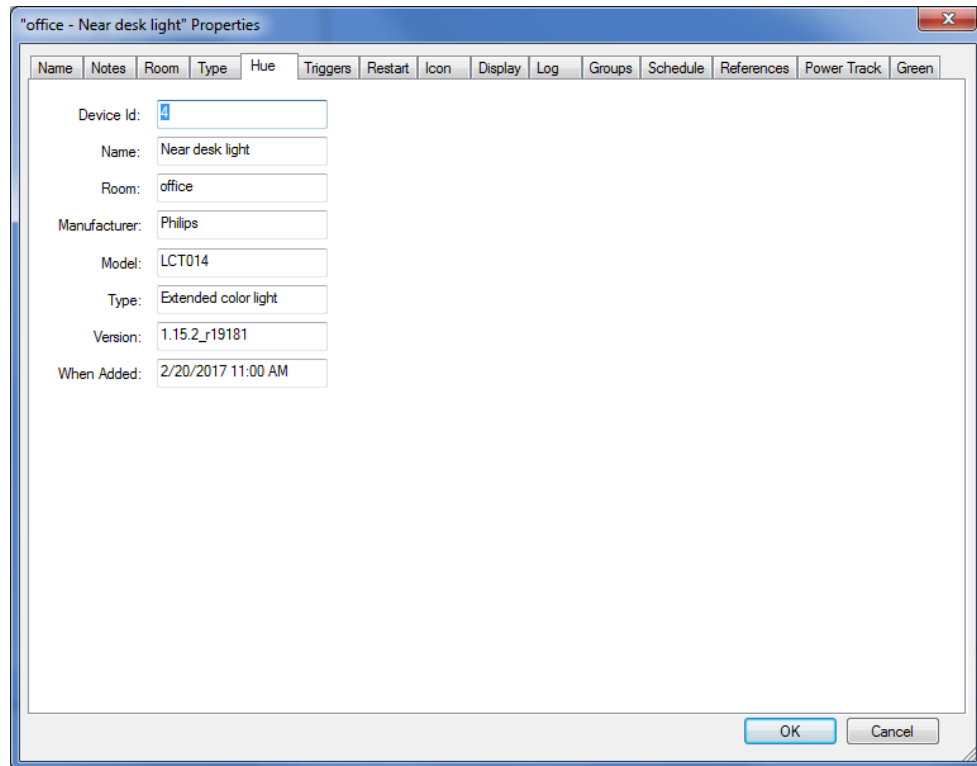
Hue lights are like lights of any other protocol – you can control them ON, Off, Dim from a schedule or program. Auto Off and the Room operations all work as expected.

Hue Visual Programmer Element

In addition to the simple on, off, and dim operations targeting Hue devices, you can also control them using the Hue Visual Programmer element.
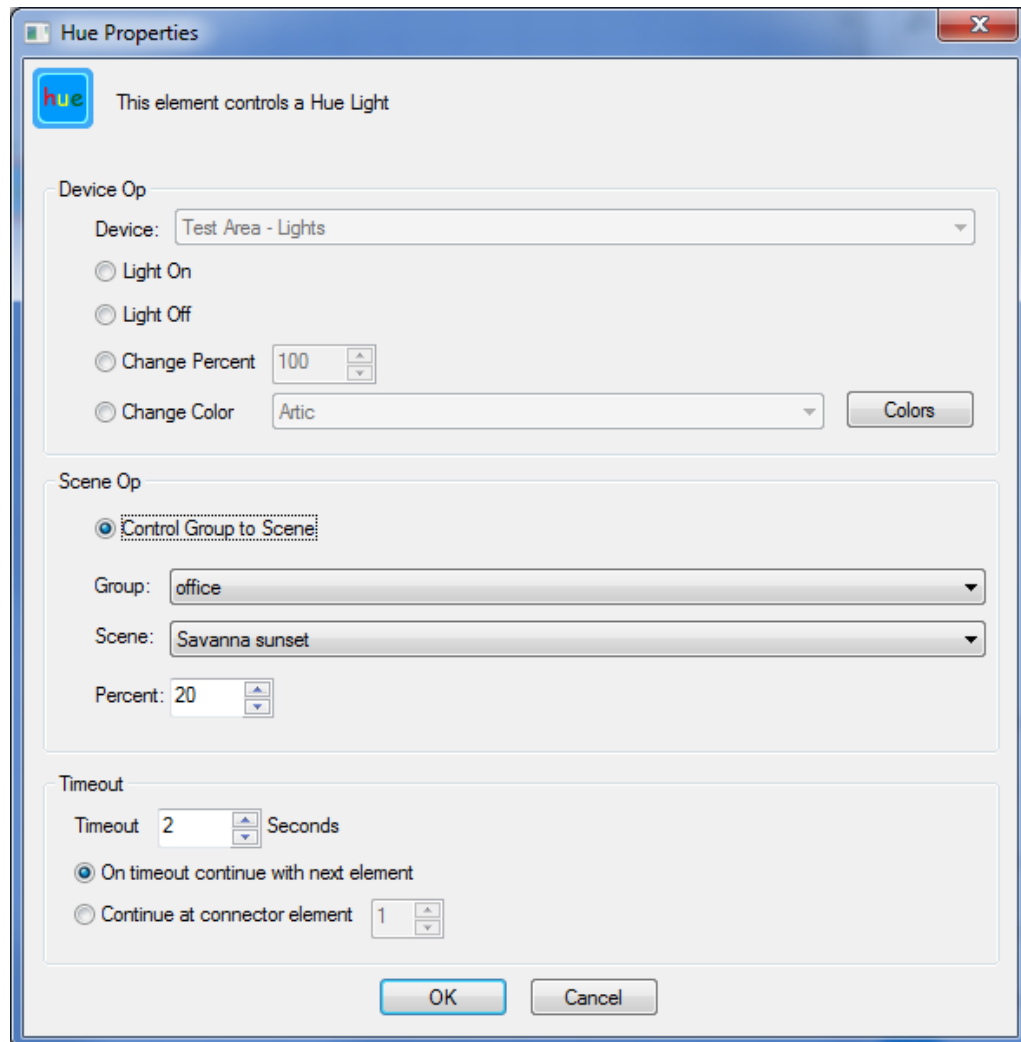

As you can see there are device and group operations. A device can be controlled on, off, to a level, or to a color.

Color in the Hue world is complex and here are recommendations on how to handle it: If possible, use the Hue app to create scenes and use them in HCA. It is easy to create and modify scenes and quick for HCA to activate them.

Working with Colors

If you want to work with color directly then HCA gives you the ability to define, name, and use colors. Press the "Colors" button in the Hue VP element.
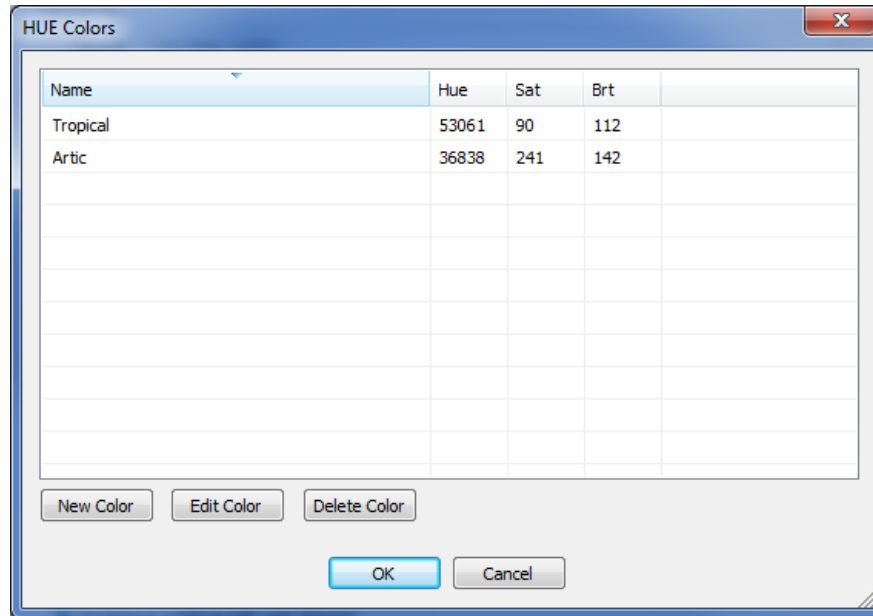
This lets you create, modify, and delete colors. These colors are saved in the HCA design file. Hue uses a HSB (also called HSV) color model and there are lots of web sites that show you how this works. But the simplest is to use the Hue app and set a light to the color you want. Then in HCA create a new color, name it, and then have HCA get the color info from the device.
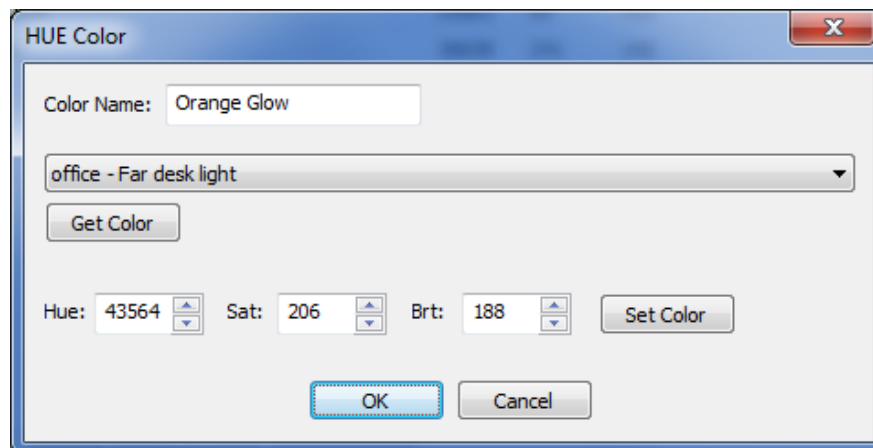
If you want to try your hand at creating colors, you can adjust the HSB values and press the "Set Color" button to adjust the light to the settings.

The advantage of using scenes is that the Hue system seems to do a good job at understanding the capabilities of the target lights and make colors come out correct.

Using the Hue VP element you can also establish a scene by selecting the Hue group (room) and scene name. You can also choose the percent illumination for that scene.

HCA does not periodically poll the Bridge so changes to devices colors and levels are not reflected in HCA automatically. HCA can request the status of a Hue light from the UI or from a program.