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Introduction

The JowiHue plugin enables control of several brands of Zigbee devices with Homeseer version 3. You will need a bridge device with that, this can be a Philips Hue Bridge or a RaspBee/ConBee gateway with deCONZ on it.

I created this plugin to have a reliable - hands off/No tablet or phone needed - control of Zigbee devices.

The fun part is that you can still control the devices with other apps from your IPhone, Android or Windows machine. But besides the fun while using the tablets or phones, you also might want a stable and reliable control, even without the need of holding a device to control the system. Entering a room should be enough to switch on lights. This is where this plugin comes in handy in combination with events and actions from Homeseer.

Current version : JowiHue 2.0.1.0

Current capabilities:

- Support for Windows and Linux
- **Multiple** bridge support with the ability of creating scenes crossing bridges.
- Supported bridgedvices: Philips Hue Bridge, ConBee and RaspBee gateways with deCONZ interface in any combination.
- With the ConBee and RaspBee gateways it is now possible to have instant response for signals of switches and motion sensors.
- Supported Zigbee devices, this is an growing list. You can check the current state here
- Presets support. Presets are light recipes that can be applied to any colour bulb by event or scene.

- Advanced Preset editor with snapshot functionality to copy current settings of a light.
- Scene support, local scenes can combine any lights from different bridges. (Remote) Scenes present on the Hue bridge can also be used in the plugin.
- Advanced Scene editor where you can choose to use presets on a group of lights, or create a new recipe.
- Animation of lights. Combine scenes to achieve nice combined effects, like creating an alert effect, or a combination of scenes to create a romantic mood during dinner with changing light effects.
- Advanced Animation editor
- Animations can last a specific amount of time or can be stretched until a set time (eg sunrise, sunset or time of your choice).
- Support for several types of sensors like Philips motion sensors, Ikea motion sensors, Hue Taps, Dimmer Switches, IKEA remotes and dimmers.
- Support for Bridge Grouping of lights.
- Full control of lights and groups through device utility page.
- Optionally recover last known settings after switching (power off) off a bulb and switching it back on.
- Update bridge and lights with the latest firmware available from Philips.
- Keep track of lifetime information per light and create a lifetime report on request.
- Event triggering based on status of groups of lights or individual lights.
- Event actions available for setting lights, groups, with presets, scenes or animations
- Color conversions possible from RGB or Hex colors and Kelvin for respective Philips Hue commands.
- Scripting engine for direct control of the Philips Hue lights
- Perform maintenance on the bridges for lights, groups, users (whitelist) and (bridge)Scenes.

For reporting issues with this plugin, please go to the JowiHue forum on the Homeseer board.

Choosing the right bridge

When you have a bridge that came with your first Zigbee lights, then the choice is probably already made for you. But if you want to choose first, here are some considerations from my end that might help you choose. This consideration are based on this moment, September 2017, I am sure time will have some surprises still for us.

The Philips Hue Bridge is proven stable, supports different sensors and lights. There are several apps for this bridge to be found, so you can do a lot of controlling with phone or tablets when needed.
In Europe you'll find that some other brands of lights, like Osram and Ikea (with update) are supported on the bridge as well. In the US these are OSRAM, GE and CREE Connected LED Bulbs. There is up till now one major disadvantage on the Philips bridge. The use of sensors like a motion sensor is kept internal, external apps, like the JowiHue plugin have to keep polling the bridge to see if a sensor changed its status. The plugin is doing very good with that, but if a sensor chages state, it can last anywhere between 0 and 2 seconds before an event can be triggered. It depends on you as an user if this is acceptable or not, some don't mind others do mind - especially in larger networks.
Some functions, do need the help of the Philips Hue app.
The maximum numbers of devices on the bridge can be 63, where Philips advices not to go over 50 devices.

The ConBee and RaspBee gateways with deCONZ interface are currently in development but already very stable, and new functions might come available still. It is very comparable with the Philips Hue Bridge, but yet lacks the app support on the phone. This is compensated with a strong WebApp, which you can use on any device. Where Philips has shown to be relucting to support devices from other brands are the deCONZ gateways aiming to support all that follow the correct Zigbee protocol. For a more or less current overview, go to their compatibility page Noticable differences with the Philips Hue Bridge are websocket support, enabling fast, direct response for events in HS3 and better control of the colorloop.
For some functions, like registering sensors you might need to go the the gateway's webapp, which you normally find by going to its ip address with a browser.
The maximum number of devices on the RaspBee/ConBee gateways is 200.

Choosing between RaspBee and ConBeeis depending on your needs and possibilities. They are the same, where the ConBee as a USB device is very usefull to run on an PC with Windows, Linux or Mac and could be used on the same machine as HS3 is already using. The ConBee will be usefull in larger installations because the CPU power of the server is fully available if needed. The RaspBee can be delivered as ready installed RaspBerry PI device, or as shield to be used in an exisiting RaspBerry pi. The RaspBee has been tested up till now with more then 60 lights and several motionsensors and taps connected. In this configuration the load was still very good, CPU at 7%. It can be expected that this device can hold larger installations as wel.

Installation instructions

In HS3, go to Plug-Ins>Manage and choose to install the plugin by selecting it.

After installation activate the plugin by enabling it in the plugins>Manage page.

Important: On a Windows Homeseer machine there will be a popup asking to allow the plugin access to the network. this is needed to enable UPNP scans for the plugin. Please allow the plugin for this. otherwise it will have a low chance to find bridges.

Once started see a line in the log that the plugin is not yet registered to any bridge. Also - if it finds any bridge on the local network, it will tell you how many bridges are seen in the network. This might take a minute, so please give it some time to discover bridges.

In the next step you need to register a first bridge to the plugin

Registering a Bridge

The JowiHue plugin can maintain multiple bridges, so if you are planning to use more then 50 lights(officially 63) on a Philips Hue bridge, or more then 200 on a RaspBee/ConBee gateway, this plugin can help you out with controlling them. All bridges on a local network can be found with this plugin.

Registration process

The plugin will scan the local network for available bridges. Once it finds one or more bridges, it will report this in the HS3 log and will enable you to register the bridge through the configuration page of the plugin.

On the configuration page (other elements on this page will be explained later) you will see a button with text "register Bridge" to register a bridge.

- On a Philips Hue bridge press the register button and immediately press the central button on the Philips Hue bridge once.
- With the RaspBee/Conbee gateways, you'll have to go the the ip address of the gateway, login (default delight/delight) and go to the settings page. On this page choose "Unlock gateway".

After registration

After a successful registration, the plugin will immediately read the configuration of the bridge and create devices for lights and groups accordingly.

If you wait to long with the registration buttons on the bridge, the configuration page will return to its previous state until you try again.

After registration of a bridge, the first device that will be created is the bridge device itself.

The bridge device will show the state of the bridge, *Available* or *Unreachable*. If an animation is running, the number of running animations is shown on the bridge device and a button is made available to cancel all running animations. If you want to cancel a specific animation, you can use events or scripting. Changing the bridges name can be done through the properties of the device, in the extra plugin tab "JowiHue".

Once registration is finished, the name of the webpage button will change in "Remove Bridge".
<u>Use caution</u>! Removing a bridge will orphan all lights an sensordevice in HS3. Unless you are be bringing back the bridge, you need to remove these by hand.

Touchlink - 'Stealing' lights

An extra button will be shown next to the remove button for Philips Hue Bridges enabling you to include a light that is already registered to another bridge. When using this function you need to be aware that the light will still be known on the 'old' bridge. If you move the lights one by one and wait until the plugin recognises the light on the new bridge, the plugin will remove the old light from the old bridge. Warning: do not move more than one light at a time, otherwise the plugin won't keep up anymore.
To correctly find a light, hold the light near the bridge and press the touchlink button. If the light blinks, the light is found, another press is then needed to incorparate the light in the bridge.

If needed, you can remove lights from the bridge by going to the Maintenance page.

Finding additional or new bridges

The plugin will do a regular scan of the network to detect if new bridges are to be found. Normally it should find the new bridge somewhere within 30 minutes after you connect the bridge. If you want to force the scan, you can press the button "start scan" on the configuration page.
If needed, you can force a new scan directly through the configuration page.

Configuration

Configuration of JowiHue plugin

Bridge and lights	Miscellaneous	Trace Options

Bridge info

Registered to Hue Wim en Joy at ▓▓.▓▓.▓▓.▓	Remove Bridge	Scan new lights	TouchLink (Forced include light)
		Scan new sensors	
Registered to RaspBee Wim at ▓▓.▓▓.▓▓.▓	Remove Bridge	Scan new devices	
		Scan new sensors	
Scan for new bridges now	Start scan		

Standard settings for lights

Polling frequency (seconds, 1 decimal place) for checking status of lights	2,0
Standard transition time that will set for dim, on and off actions	10
Standard dim step for devices (1 to 254)	40
Standard hue step for devices (1 to 65535)	4666
Standard saturation steps for devices (1 to 254)	40
Standard duration colorloop deCONZ devices (1..255) 1 = very fast - 255 is very slow	80
Use percentage for dim values instead of standard values. This is for device handling only, JowiHue actions for events still expect the range from 1 to 254 for dimming	☐ Show percentage for dimming instead of standard values
Use Kelvin values instead of Mired colour temperature	☑ Show Kelvin values instead of Mired values for CT
Enable Can_Dim for lights (will disable usage of sliders in HSTouch)	☑ Enable Can_dim for lights (HSTouch sliders will not work with this option set)

Bridge info

Registering a bridge, is described here.

Scan new lights

Pressing this button will start a new scan for lights on the bridge. The plugin will wait for the bridge to discover lights and will recheck the bridge within 2 minutes. Normally you do not need to press this button. The scan is done every 15 minutes by the plugin itself. When adding new lights, the plugin should find them somewhere in the next 15 minutes.

Updating firmware on a bridge

If an update is available for a bridge, the plugin will show a red text on this block to notify you of the update. You can initiate the update through the plugin by pressing the button "Update" on this page.

This button will not be shown if no update is available.

Touchlink

With this button you can tell the bridge to do a forced include of lights. This way you can add a foreign light, that is registered as member of a different bridge to your bridge. To do this you need to bring the light to be included very close to the bridge (15 cm/6 inch). Then press the button on the configuration page. If the light blinks a few times, the light has been succesful included in the bridge.

Standard settings for lights

Polling frequency

With this parameter you can set the frequency of polling the bulbs for changes. The value given here is in seconds. Be aware to not set this value too low as it might flood your network or your bridge. In my current situation 2.0 seconds works very well even with other apps doing their thing with the lamps in high speed, but this all will depend on the number of bulbs you have as well as the speed of your local network.

Standard transition time

With this value you can set a standard transition time when an immediate on or off command is given. This will enable a gradual change to on or off for the lights. Transition time is shown in tenths of seconds. It is known that when you use a transition time and a light has been powered on - but the light itself was off - the transition will start from the last used color setting.

Standard dimming value change

This is the value change used when the down or Up buttons on the bright devices for lights or groups are pressed. Depending on the button used this value is used as positive or negative value.

Standard hue value change

This is the value change used when the down or Up buttons on the Hue devices for lights or groups are pressed. Depending on the button used this value is used as positive or negative value.
Note: If the value of the hue device is raising higher then the maximum hue level (65535), or dropping below 0, the Philips Hue Bridge will correct this and cycle through the hue range without issues.

Standard saturation value change

This is the value change used when the down or up buttons on the saturation devices for lights or

groups are pressed. Depending on the button used this value is used as positive or negative value.

Standard duration colorloop deCONZ devices

This option is only visible when a RaspBee/ConBee gateway is found. A colorloop command to lights connected to this gateway can have a preconfigured duration for the colorloop. Here yu can set the standard value for a colorloop. In the JowiHue action you can differ from this standard setting. Accepted values are 1 to 255, where 1 is very..very fast, and 255 would then be very..very slow.

Use percentage for dim values instead of standard values

If you want, you can show the devicevalue for dimming in percentages instead of the standard values fom 1 to 254. It seems that the alexa device of Amazon needs this.

Use Kelvin values instead of Mired colour temperature

If you want, you can display the kelvin colour temperature on the CT devices of the plugin, this could feel more familiar then the Mired values used by the bridges.

Enable Can_Dim for light

On the forum I understood that this option on the devices is needed to correctly communicate with the alexa device. I am missing a confirmation if this really helped, so is anyone could confirm this makes a difference, let me know?

Miscellaneous options

Configuration of JowiHue plugin

| Bridge and lights | Miscellaneous | Trace Options |

Miscellaneous options

☑ Show Lux values on lightlevel devices	With this option enabled the values for Philips light level devices (motion sensor) will be shown in lux value instead of the values from Philips.
☐ Disable upgrade bridge checks	Enabling this option will prevent the plugin from checking the bridge to see if updates are available. The plugin does not upgrade the bridge automatically, so use this only if you want to protect yourself from pressing the upgrade button on this page.
☑ Use a device for notifying bridge updates	Enabling this option will create a virtual device that will reflect if there is a update for the Hue bridge available.this way you can create events to send out a message if a new update is available
☐ Use colorpicker on Hue enabled lights	On the deviceutility page you can use the colorpicker to set the color of the device directly. In large configurations (multiple bridges; more then 50 lights etc.) using the colorpicker can cause considerable delays when buildin up the pages. Disabling the color picker will then help in speeding up the build of the page again.
☑ Use only group devices for Luminaires (Beyond, Phoenix etc)	You can hide the extra lights that are internal to a Philips luminaire (Hue Beyond, Phoenix). With enabling this option, you will remove the extra devices created in HS3. You can still address them in the scenes though.
☐ Show 'simple' dimmer switch values.	The Dimmer switch is showing extra signals for each button, to disinguish if a button was pressed short, long or held. Because the status of this button is only received by polling, most signals from the switch are only informative. It is advised to enable this option to show only the dim or on off presses.
Create demo set	With this option you can (re) generate a demo set on selected lights, which will create sample presets, scenes and animmations, to help you understand the concepts of creativity

Show Lux values on lightlevel devices

Set this option to recalculate the Lux values from lightlevel devices.

Disable upgrade bridge checks

Enabling this option will stop the plugin from checking for upgrades of the bridges. It will not stop any other app from checking, but will prevent showing the upgrade button so you cannot upgrade by accident without knowing the consequences. Enabling this option will also disable the notification device option.

Use a device for notifying bridge updates

Enable this option to create a virtual device for notifying for bridge updates. When a update is available for any of the bridges, the device string is set to a descriptive string about the update. With events you can then perform notifying steps based on value and string of the device.

Use Colorpicker on Hue enabled devices

By default this option is enabled. When enabled it will show the colorpicker on the deviceutility page of the HomeSeer webpages. It became clear that this jquery element can slow down the build of the deviceutility page considerable when there are many Hue lights in the system (40 +). Disabling this option will regain speed again for the deviceutility page.

Use only group devices for Luminaires

This option only shows when you have Luminaires connected to (one) of your Hue bridges. Enabling this option will remove the LED's in the luminaires from the devices and control the Luminaire on group level. You still can address the leds through scenes.

Use 'simple' dimmer switch values

This option only shows when a dimmer switch is present.
The dimmer switch is reporting extended values, like dim up, dim up **short**, dim up **hold** and dim up **long**, for every button. This could make creating events for this device very difficult as the plugin cannot catch all statusses by polling. By enabling this option the devicevalues shown will only show on/off/ dim up and dim down.

Logging options

In this block of options you can set how the plugin should do its logging. For normal operation all options should be off, to make sure performance is maximised when running.

Enable debugging

Enabling this option will send debug info to the HS3 log. This level gives you a bit more insight on the processes the plugin is running, which might help you in a basic analisys if all is running correctly. Settig this option will send all debug information to the HS3 log. If also Logging to console and/or logging to file are enabled, the log will be replicated also to these areas.

Enable deep tracing

Enabling this option will send detailed information on processes to the console or plugins log file. Because of the amount send, this logging is not send to the HS3 log to save some performance. Enabling this option will automatically disable the debug option as it is included in this option. This option should be used only when requested by the developer as this is taking a performance toll.

Send log to console

If enabled, the log will be send to the developers console in HS3 when enabled in the manage plugins page. A restart of the plugin might be needed to see the console after enabling it.

Send log to file

If enabled all logging will also be send to a log file. When using the deep trace option, this option should also be used, so the file can be send to the plugin owner to analyse if needed. The log created is placed in the \logs subdirectory from the HS3 installation directory. When the plugin is restarted the current log file is renamed to JowiHue-last.log to prevent the log to be lost with a restart.

Bridge Maintenance

On the bridge maintenance page you can do the following tasks:

- Check used devices on a bridge
- View lightinformation and eventually delete a light from the bridge (and corresponding devices)
- View, create, edit and remove groups from the bridge (and corrsponding devices)
- View and remove bridgeusers (apps)
- View and remove bridgescenes if they are not in use

Any actions done on this page are in effect immediately.

Bridge maintenance

Warning!!

Removing whitelist (Userlist) entries can cause apps to stop working until reregistered to a bridge.
Removing bridge scenes here will also remove them for all other apps

In short, there is no backup when you delete any entry on this page, use it with care!

Bridge Hue Wim en Joy

usage (leftover) on this bridge:
Lights: 15(48) -- **Groups:** 10(58) -- **Scenes:** 52(162) (lightstates: 1932)
-- **Sensors:** 7(57) (zzl: 57 zgp: 57 clip: 57) -- **rules:** 38(162) (actions: 343)

Lights on Bridge (holding 15 lights)

Groups on Bridge (holding 10 groups)

Scenes on Bridge (holding 52 scenes)

Userlist: 6 users (apps)

Resourcelinks on Bridge (holding 3 sets)

Bridge RaspBee Wim

Each of the sliders give you access to the view and - if possible - edit or removal buttons. The functions are simple and should be easy to use. For editing the groups there is a special groups page that will help you on the way.

Lights

Once the bridge is connected correctly all lights from the bridge will be imported by the plugin and Homeseer devices will be created, matching the possibilities of the Philips lights.

When you add a new light or group to the bridge, the new light device or group device should be visible after a maximum period of 30 minutes as the plugin will check its configuration with the bridge once every 30 minutes. Restarting the plugin will immediately refresh the bridge configuration and build the new devices needed.

Each light is represented as a group of (maximum 4) devices in Homeseer. This enables control dim/on or off, and, if the light is able to show colors: Hue, Saturation, colour temperature, Alert and Color loop values. If you are using HS 3.0.0.125 or higher, you can also select the color here with a color picker.
On the devices for you can set their respective values with a slider. You will also see an "Up" and "Down" button, which will change the devices value with a predefined steps as defined in the configuration page.

☐	🔦 Off	Huiskamer	JowiHue	TV Rechts	LCT001-11	LCT001	Today 10:57:49	Off On Alert Colour loop
☐	🎨 14190	Huiskamer	JowiHue	TV Rechts (hue)	LCT001-11H	LCT001Hue	Today 12:53:41	Down Up
☐	🟥 177	Huiskamer	JowiHue	TV Rechts (sat)	LCT001-11S	LCT001Sat	Today 12:53:41	
☐	🟧 2439K	Huiskamer	JowiHue	TV Rechts (CT)	LCT001-11K	LCT001CT	Today 12:53:41	Down Up

The parent device holds the on/off values and the buttons to start alert or color loops. Names of lamps and groups are derived from the bridge. Renaming a light can easily be done through the properties of the main device.
Changing the name will also reflect on the bridge (and in all apps accessing the bridge) as the plugin treats the bridge as the owner of the name of devices.
On the JowiHue tab of a light you will be able to see the lifetime expectation of the connected light. You are able to fill in the purchase date and the number of hours you have been using the light before this plugin was enabled. Based on the purchase date and the average usage per day the plugin will show an estimated end date.
Also you can configure to recover the last known settings after powering off (by using a switch for example) a lightbulb on this tab. It will take a bit before the plugin discovers a light being reachable again, so at first the light will start with the default settings and after a few seconds the light will be reset, if this option has been set.

Light details	
Light name:	TV Rechts
Light name:	☑ Recover light settings after being unreachable
Purchase date:	15-5-2014
Hours of usage before using plugin:	2100
Light usage:	128 Days, 2 Hours, 50 and 27 seconds(3074,8 hours) Expected lifetime left: 11925,2 hours Expected end date: 22-3-2021
Light has been switched:	5855 times
ID:	4 on bridge: Hue Wim en Joy
Uniqueid:	00:17:88:01:00:f8:ac:86-0b
Model:	LCT001
Type:	Extended color light
Software version:	66013452
Philips tech details:	Power Usage standby: 0,45W Power Usage Max: 9W Lifetime : 15000 Hours

Done

The plugin will refresh all values automatically. You can set the refresh frequency on the configuration page. The optimal refresh rate will depend on the speed of your network and the number of lights you are using. If refresh rate is set too high, you might see the root device status regularly change to "unreachable" while seeing the bulb itself still responding to other signals. Changing the values through the deviceutility page, events or scripting will also send an automatic 'on' to the root device if it is off.

Groups

Groups are an important feature in the Zigbee environment. When you have defined groups Groups on the bridge and send a command to one fo the groups, all lamps in that group will respond with a far better synchronous effect then when sending the same signal to each light separately. Especially when you want to address a higher number of lights (>4). Using groups also enables you to separate control of different areas/zones/rooms. The only drawback on using groups is that the frequency of commands send is a bit slower.

With this plugin you can create/change and delete groups on the bridges. Each group you create is stored in the bridge and each bulb separately is made aware of its membership to a group, enabling fast responses to changes on group level. Because of making the lamps aware of its membership, it is needed to make sure lamps are reachable during the group setup. If lights are on standby, having power connections, they will still be reachable for the bridge.

All group maintenance is done on the Bridge Maintenance page and will show up per bridge, once bridges are registered.

The first group of a bridge is a group with the ID 0 ("All Lights"). This is the group holding all lights known on a bridge and maintained by the bridge itself. You will not be able to change lights in this group or delete this group. For support of multiple bridges, you can only change the name of this group to be able to distinguish which "All lights" group belongs to which bridge.
Also Groups shown as "Luminaire" or "Lightsource" cannot be changed as these are groups to control lights that are build with combined led's. The name of these groups can be changed on the bridge with the plugin.

All other groups will have a button to edit the group and also hold a red cross in the right side of the window, enabling you to remove the group completely from the bridge. This will also delete the corresponding device in Homeseer.

On top of the groups table you will see a green "+", enabling you to add new groups. After pressing this button an empty row will be created with the name of "NewGroup" and the button "Choose Lights for this Group" inside the lights area.

After pressing the button for choosing lights a selection box will popup where you can add lights:
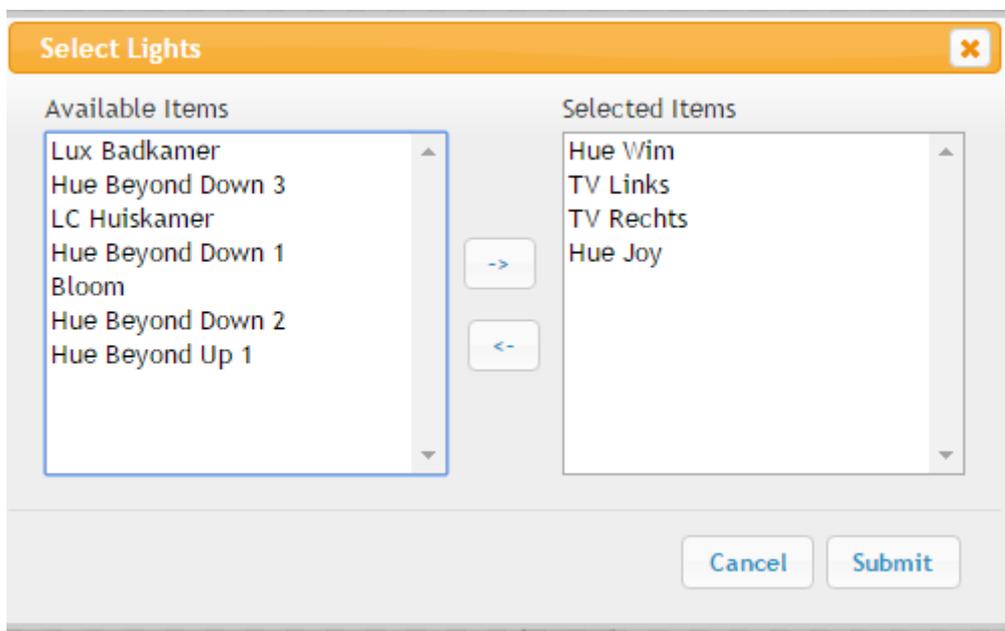
In this window you can add or remove lights in the group. Lights in the right part area of the section box will be member of the group. After pressing Submit, the change will be performed on the bridge and reflected in the configuration page. Devices needed for this group will be created automatically. After this you can click on the name of the group and rename it to your likings. This name will also be set in the Bridge. You can also delete a light from a group by pressing the red cross on the light, which action will then be directly performed on the bridge. Some of the actions on groups take a few seconds to reflect as the bridge is also synchronizing the bulbs with changes.

Creativity page

You can reach the creativity page by choosing the plug-ins menu on the Homeseer webpage and expanding the JowiHue menu choice. On this page you will find three tabs: Presets, Scenes and Animation.

Presets

A preset is a light recipe for color setting that you can use in scenes and event actions. This enables you to create a definition of a color you like and then use this setting in any scene on any (colour) light.

More info

Scenes

A scene is a setting for a group of lights which creates an ambiance to your liking. A scene can be a simple set of settings to selected lights or complex, with multiple settings combined on different lights, to achieve a ambiance effect that is functional to you.

More info

Animation

An animation is a group of scenes that will be changed one after another according to your configuration.
An animation involves two or more scenes. Animations can be 'stretched' in time through event actions, where the event trigger will start the animation. The animation will then end at a set time or dynamically at sunset/sunrise.
An animation can be used as an alert, where lights are reset to their original setting after ending the alert. Even an already started animation will continue to run after another animated alert ends, if configured for this.

More info

Presets

Presets are light recipes that you can create to use in Scenes or Events. You can create a recipe based on Hue and saturation, colour temperature or cie Colorspace (xy) values. This recipe may then be applied to any (number of) colour light. All, edits done in presets are immediatly saved in the database.
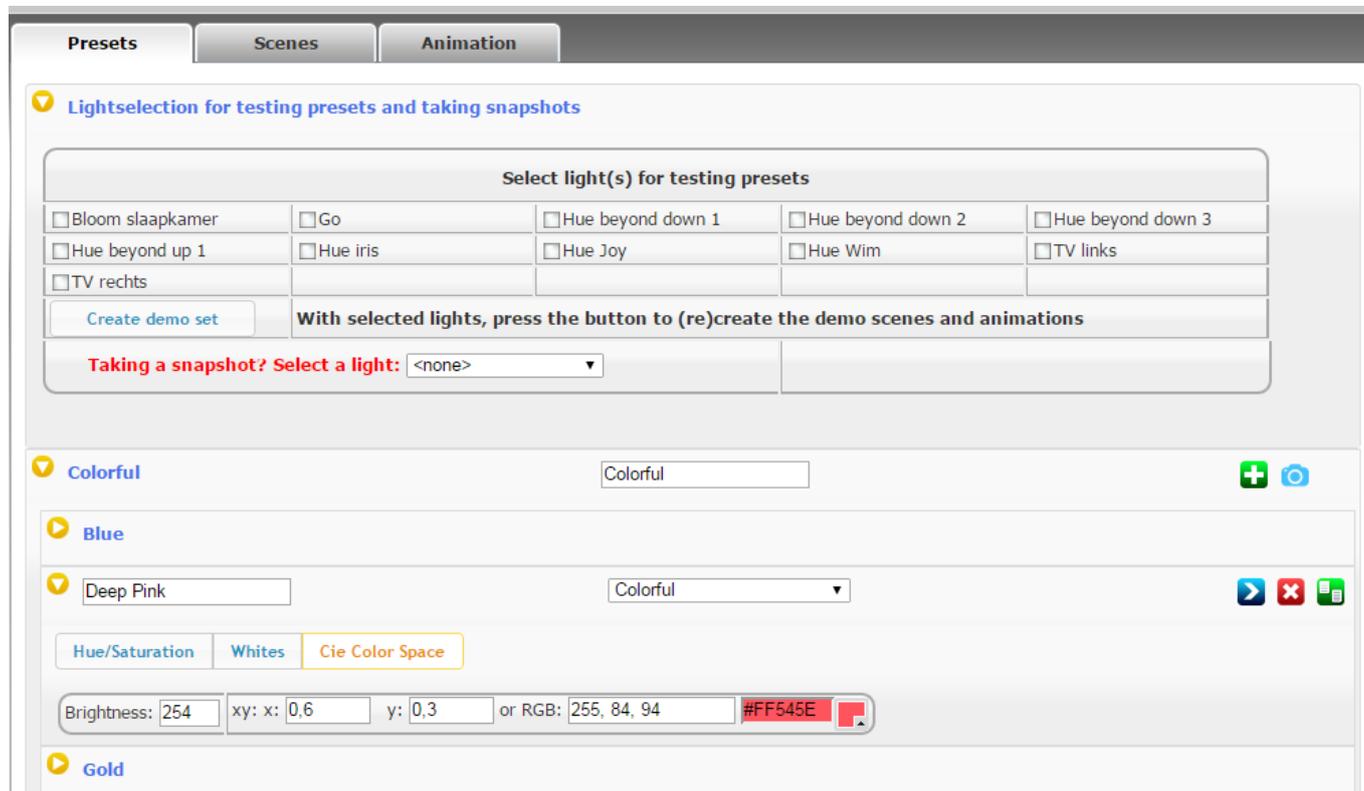
When activating the creativity page the preset tab will be presented at start.

Light selection

The first part of the page is a list of available color lights for the plugin. You can select any number of lights here to be able to test the preset recipe. If you also want to use the button "Create demo set" at this point, make sure you select the lights in the same sequence you want to run the animations later.
e.g. in my configuration in the image, I would first select "TV links", then "TV Rechts", Then "Hue Wim" and lastly "Hue Joy" to have the 4 steps of the Demo roll step as in circle in my living room.

Create demo set

Creating the demo set will refresh the default presets and and (re)create the demo set of scenes and aimations, based on the selected lights. You can use this button as often as you like as it will only redefine the used lights in scenes and animations. When creating the demo a selection of minimal 4 lights is advised. You can use less, but the demo animation will be a bit limited then. Once created, you can play with the setting of the animation and see what happens. If you need to reset the values, just press the "Create the demo set" button again. If you did not rename the animation, it will be recreated and set to original values again. If you did rename it, the original one will be recreated.

Snapshot

In the bottom line of this table, you can select one light to take a snapshot from if needed. This light you select should be the light having the colour setting you like to copy.

You can group presets for a easier overview of all the presets. Because the amount of presets can become high it is good to think of the method of naming groups as the same name will also be presented in events and scenes.

Based on your choices for active color configuration (hue/saturation vs Whites vs Cie color space) you are presented fields to fill in. In some cases also a colorpicker is shown, so you can directly seek for the color you want to use.

Orange   Colorful ▾

| Hue/Saturation | Whites | Cie Color Space |

Brightness: 254   Hue: 4000   or Deg: 22°   Saturation: 254

Purple   Colorful ▾

| Hue/Saturation | Whites | Cie Color Space |

Brightness: 254   xy: x: 0,371   y: 0,1532   or RGB: 172, 76, 255   #AC4CFF

Scenes

In the scenes tab you can create new scenes, change, group and delete them by navigating through the slider menu's. You can even create a scene by taking a snapshot of current settings of your lights. By creating the demos set on the presets tab you can create some scenes to look and feel how scenes work

The use of standard Homeseer icons should make it easy to understand the functions of the buttons used here. All changes on this page are immediately saved.
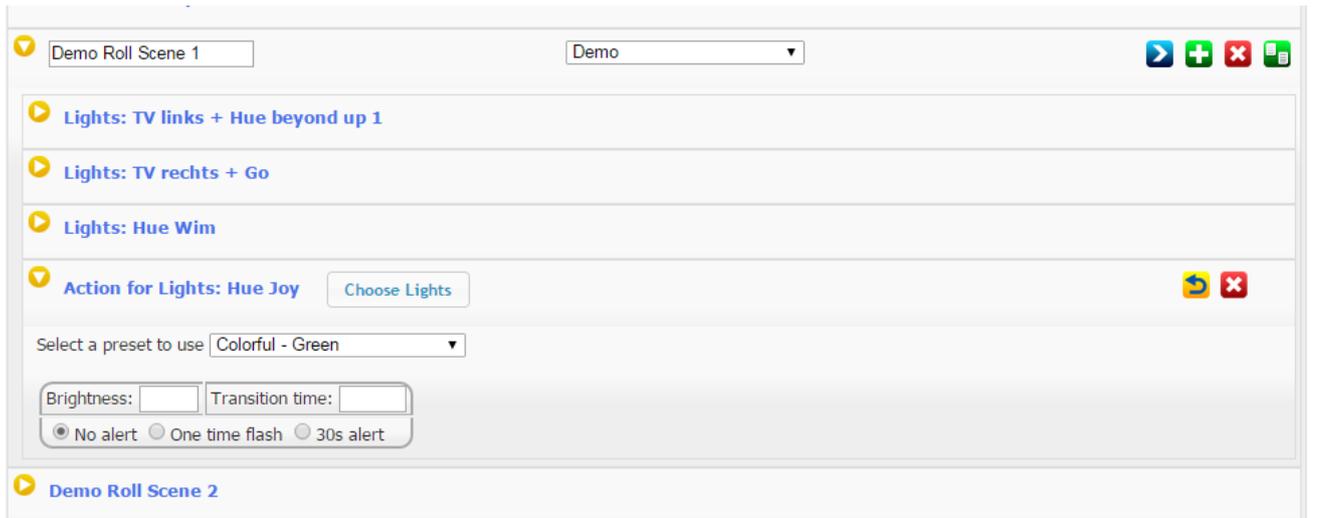
Creating a new scene

Creating a new scene starts with clicking on the green + button next to the group name (or when this is the first scene created, the button on top of the page). After pressing this button a new scene will appear in the list that is already opened for editing the actions in this scene:
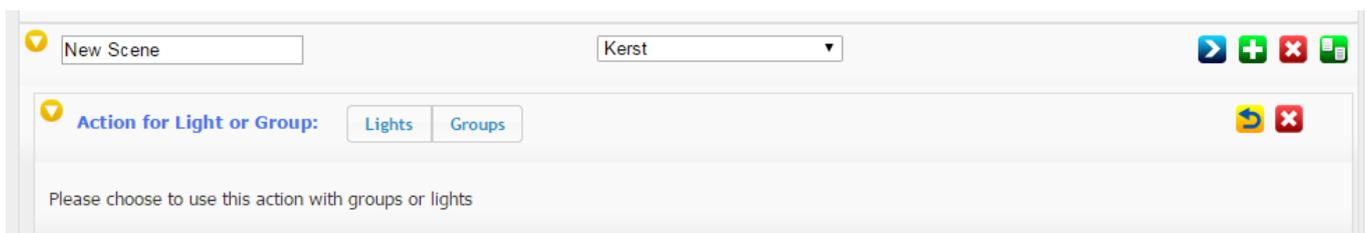
Actions can be created for either (multiple) groups or (multiple) lights. Staring with a new scene there will be two larger buttons available, lights and groups. You have to choose either one of these first before you can select devices for this scene. Once you choose either one, the button will change to choose the devices for the scene. After pressing the button to select devices a selection popup will appear to enable you to select the devices for the scene:
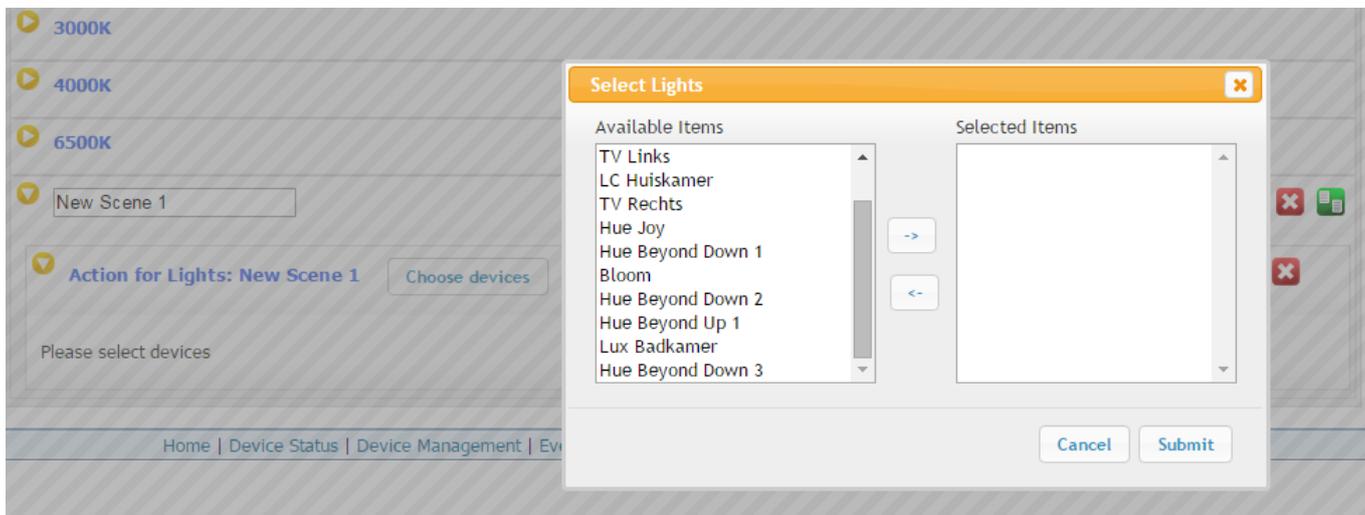
Once you have made your choices you can submit the selection and proceed. If at any later step you want to change the selection, you can still select the same button in the scene and change your settings.
If you'd like to change your initial choice for lights or groups you can click the reset (arrow pointing back) button on the right side of the scene to change your choice.

After the selection of devices is done detail actions of the scene will be presented to you. You can select a preset here, or choose to create new detail settings. With the three buttons: Hue/Saturation, Whites and Cie Color Space you can select the command set that will be used for the lights. Depending on your choices you will be able to fill in the fields needed or select a color with the color picker or other conversion methods. Below the choices are shown for a color Hue device:
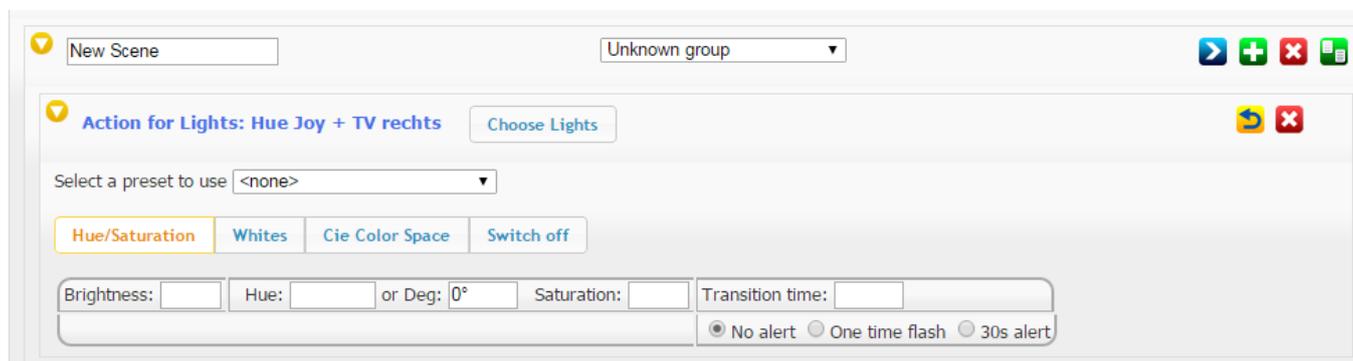
Once you have entered all needed fields, you can test the scene by pressing the test button (blue button with right arrow) on the right of the scene name. Pressing this button will directly send the scene commands to the lights.
When you have finished the first action you can add extra actions with different settings for other lights or groups to the scene by pressing on the green plus button.
If you want to delete one or more actions you can click on the red cross. This will delete the selected action.

Be aware with mixing actions for groups and lights in the same scene. This is not an animation, so all actions are immediately activated after triggered by the plugin. If the same light is included in multiple actions in the same scene, either by being a member of a group or as light directly, this light will get all actions sent in fractions of seconds after each other. Only the last action from the scene sequence will be active after the scene is ended.
It is important to realize that a scene can have multiple actions with different settings, for different lights, to create an effect. If you have the full maximum 63 lamps on the bridge, you could have as

much 63 actions on one scene. But there is no use in sending multiple settings to the same light as you might see a flickering, but the end result is only showing the last action of the scene addressing the light.

Using color conversion options

While creating the scene, if you use the Cie Colorspace mode there will be RGB fields next to the color settings. Below this row a color picker is shown enabling you to select the color you want. Filling in these fields with correct values (R,G,B and/or '#aaaaaa') will immediately convert this value to the corresponding value in the x,y/Bri or Bri/Hue/Sat values. This might help you when trying to get a measured value or to emulate a color you like. When you fill in the Bright and x,y values, they will automatically convert to RGB. You should also be able to see a near color estimate in the color picker box. When using the Whites setting, you will be able to set it using Kelvin temperature values between 2000K and 6500K. It will be converted to the corresponding ct value.

When using the Hue/Saturation combination you can use the degrees option for the Hue field. This could make it easier to estimate a right color setting.
Please be aware that all conversion results will always be a near corresponding result. Due to arithmetic rounding you might see values change to a nearest value.

Using Alert option in actions

If you want you can use the Alert option in the actions of a scene. This will activate the bridge build in function of alert. There are two options available for the alert: a single flash or 30 second lasting flashes. If needed for a multiple of 30 seconds, you could create an animation looping every 30 seconds on the same scene. If you have other needs for alerting I'd advise to play with scenes and animation, creating your own alerts.

Taking a snapshot of multiple lights

By pressing the camera icon ( ) on the right of a groupname, you will be able to create a 'snapshot' scene with all the current settings of your lights in the selected group. In the tab presets you can take a snapshot of one light, where the snapshot on the scenetab will use all lights that are on. You need to be sure the lights are actually on at the moment you press on the button. This is very handy when you have been playing with your lights and found a nice setting which you'd like to use with Homeseer. The scene will hold each different setting as a different action, grouped by involved lights. Once created you can change everything like a normal scene or remove actions in it. If a snapshot already exists, the new snapshot will be named with a number (snapshot.1 etc.)

Changing a scene

Changing an effect is fairly the same as in adding a new scene, you open an existing scene and then you can change the name of the scene or open actions to change the devices or details from this action.

Copying a scene

You can copy a scene by pressing the green copy button on the right of the scene name. This will create a one on one copy of the scene in the same group.

Deleting a scene

You can delete an effect by opening the scene and selecting the red cross on the right of the scene name.

Animation

In the animation tab you can create new animations, change and delete them by navigating through the slider menu's. With the first installation of the database a few animations have already been added for you, so you can use them as they are, or play with them to understand how it works.

An animation is a group of at least two scenes that will change one after another in the time you configured. An animation can put scenes in sequence an eventually loop through them in a configurable manner and time*.*

Animations can be 'stretched' in time through Homeseer event triggering, where the event trigger will start the animation and the animation ends at a set time or at sunset/sunrise at event execution or when ended explicitly. An animation can be used as an alert, where lights are reset to their original setting after ending the alert. Even another animation will continue to run after a animated alert ends. This is set in the options of an animation
Standard Homeseer icons should make it easy to understanding the functions of the buttons used. All changes on this page are immediately saved once the animation is approved as complete by the plugin.

Creating a new animation

Creating a new animation starts with clicking on the button in the top line of the animation tab. After pressing this button a new animation will appear in the list. The animation slider tab is already opened for editing the steps in this animation.
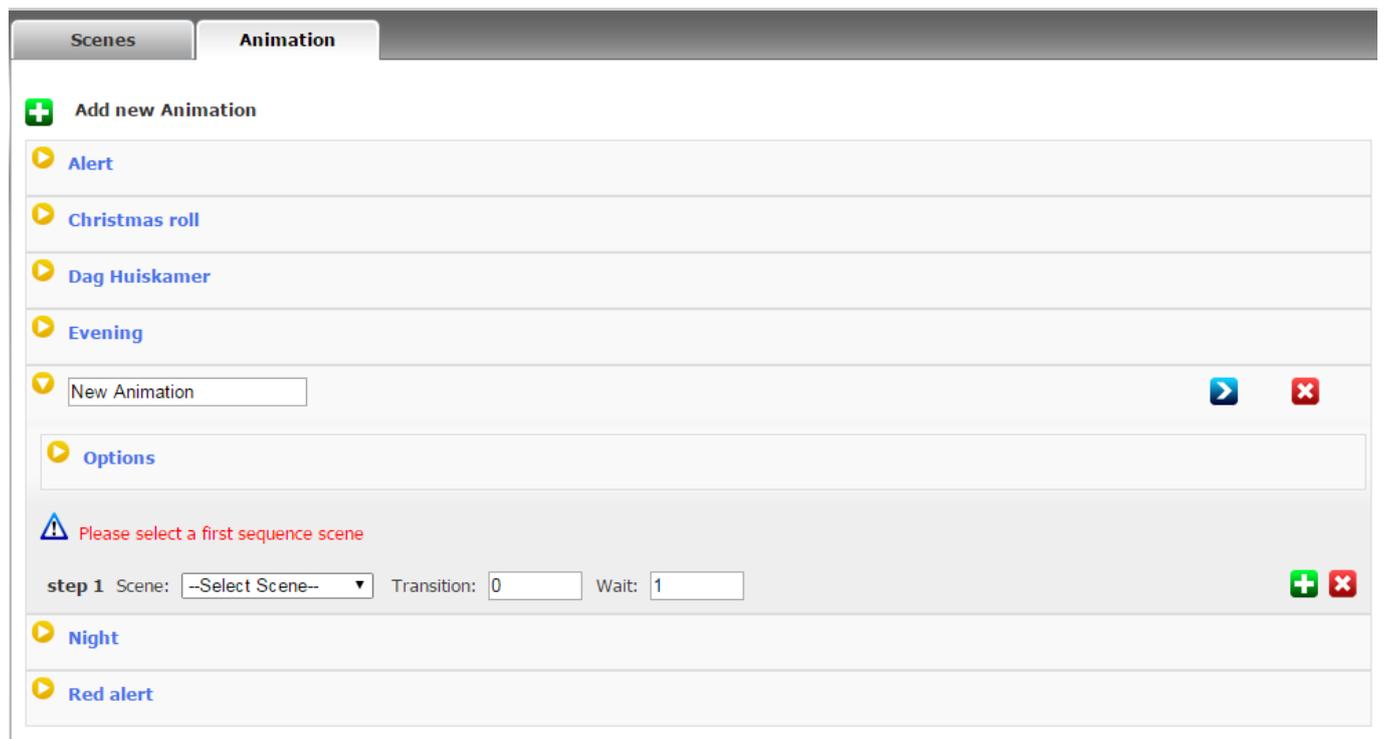
Options

In the new animation is the first part the slider tab for setting the options of the animation. Click on the triangle to open it.
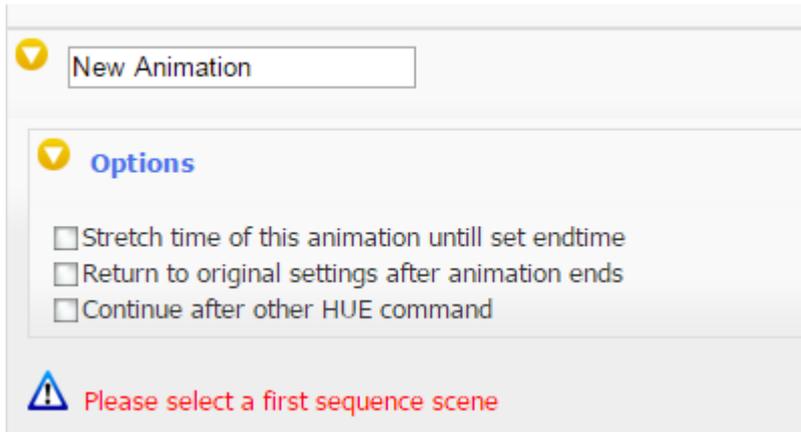
Stretch time of this animation until set end time

Enabling the stretch option wil enable the use of dynamic timing for the animation. An event is used to start this animation. The event could trigger at sunset and set the endtime for the animation at 11 PM for example. The stratch functionality will make sure the timings in the animation will adjust to have the animation finished at 11 PM.

Or an event can trigger when it gets dark, but if it is dark before sunset it can start an animation to stretch until sunset really starts. No matter if sunset is starting at 4 PM or 9 PM, the animation will be running and ending at sunset time. If light comes back before sunset, another event could cancel the animation if needed.

Or the event could go through sleep colors until sunrise and is triggered by starting sleepmode in the bedroom.

A sample animation using stretch:
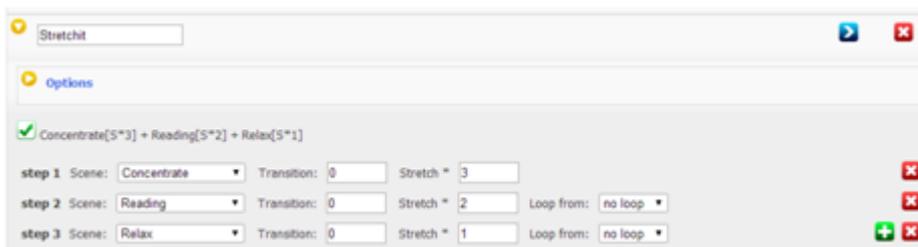
An animation "stretchit" consists of three scenes without loops. Stretching is enabled for this animation.

* scene A (stretch * 3) * scene B (stretch * 2) * scene C (stretch * 1) Next, we create an event which triggers at 9 PM in the evening, with the event action set to run animation "stretchit" until 10PM (any time could be used here of course).
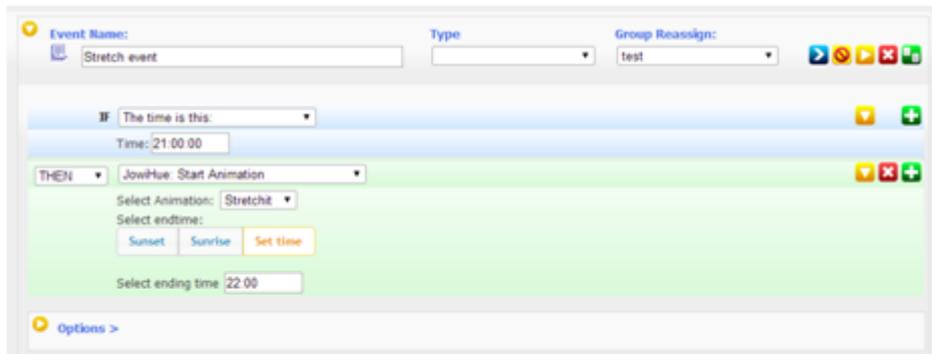
First the plugin will calculate the value of stretching needed for correct timing. In this example the base line period is 10 minutes. As a result, scene A will run for 10*3=30 minutes, scene B for 10*2=20 minutes and scene C for 10*1=10 minutes.

With stretching disabled, the column for Stretch factor is replaced by wait time. Wait time is to be configured in 1/10 of seconds, enabling a very precise timing of the animation. In this case you always know exactly how long the animation will run.

When creating a animation based on the wait time, be sure to test it with different timings. If you are using a scene with 4 lights involved, a wait time of 0.1 second is not going to work as each light command on the bridge is already using 0.1 second. As a rule of thumb, minimum wait time to be used is the number of lights involved in a step * 0.1 second.
When addressing groups in scenes, the same rule of thumb should then change to number of groups involved * 1 second.

Return to original settings

This setting gives you the ability to return to original light settings after finishing the animation. When you decide to create some sort of alerting effect and want to return to original settings after this animation, select this option.

Continue after other Hue commands

The second option is to enable the possible cancelation of the animation. With this option the animation will be stopped when any other command of the JowiHue plugin is started. This might be important if you want to make sure a new scene or animation can take over when wanted. Be aware that even an alert or a device on will stop the animation.
Aside from this option, when any animation is running, a button will appear on the bridge device in the deviceutility page of Homeseer. The device string will tell you how many animations are running at the same time. The button will enable you to forcefully stop all animations, no matter if "Continue when other commands are executed" is enabled or not.

Defining steps for the animation

An animation is built in steps. In every step a scene is used and duration (stretch or wait period) configured. An animation should exist of at least two steps (otherwise you could just start the scene right?). Above the defined step you'll see a marker with the generated formula. If you start with an

new animation you'll see the marker with text like "Please select a first sequence".

Once you select the first scene, the text will disappear and a formula will be displayed (but not yet approved). The marker will change to an approval sign, once you reach a valid formula. From this moment the animation will be saved. Each approved change will be directly saved for you and is reflected in the formula area:


```
The animation belonging to the above formula line is shown a bit later.
[S*x]=Stretch factor, [T:x]=Transition time, {L-x}= number of loops.
```

With every step you can define an alternative transition time in tenths of seconds.
Depending on the stretch setting the transition field will be followed by "Stretch *" or "Wait:". For the stretch value, the base time calculated will be multiplied by the stretch value. For the Wait value, this value will result in a wait time in tenths of seconds.
The last step will have the '+' button on the right side. With this button you can add new steps when needed. Similarly, every step can be deleted by pressing the red cross

Looping through scenes in an animation

A standard sequence will do for many situations, but in some scenarios you might want to loop back a few times before proceeding to the next step. This plugin can handle loops if you need it, preventing you to have to create dozens of steps to reach the same goal. The plugin will show with every step whether a loop is possible and, if so, to which step you could return without getting in trouble. The formula line will show you what is going to happen.

When using loops, the last defined step will be able to set an infinite loop. To prevent things getting out of hand, when you set the infinite loop, the animation will be cancelled when any other command is performed by the plugin. So loop ends when lights are switched off, or a scene is started or another animation starts, or the HS bridge device sends a cancel animation command.

Practical information regarding animations

With animations you can create complex combinations of scenes. There is a bit of a challenge in timings when you use groups in your scenes. Advantage of using groups is that lights responds more synchronous to a command. But it also adds a bit more slowness to the speed of accepting commands by the bridge. You will not notice it when the wait time you are using is generating one command per second and you do not use more then 1 group in a scene. But you might notice it when

you are have wait times less than 0.5 seconds. Just be sure to test them and adjust wait times when using high speed animations.

Remote Controls

This plugin supports several remote controls. And the number will grow in the near future as more devices come available. If you have a remote control that is not yet known by the plugin, let the author know and give him as much information as possible on the new sensor.

You can start a scan for new sensors on the configuration page of the plugin. Once pressed, you need to reset the remote control sensor to be be recognised by the bridge or gateway. A remote control sensor can come preconfigured for a set of lights. In that case first follow the brands usage guide for a complete reset of the sensor before trying to connect it to the bridge or gateway. when using a remote control sensor on the Philips bridge, respons is slower compared to having the remote control sensor on a RaspBee/ConBee gateway. This is because the Philips Hue bridge needs to be polled before the plugin can see the change, where te gateways forward the change directly to the plugin when a change happens.

The supported remote controls known to the plugin are:

- Dimmer Switch
- IKEA Tradfri Remote
- Hue Tap
- Xiaomi Mi Smart Cube

Dimmer Switch

This remote is recognised by the plugin and creates several possible button values for the devices. Each button has 3 possible values:

1. Button standard like On
2. Button longer press like On holding
3. Button release like On released - but seems to be missed often

With these values you can be creative with the events, more then you'd expect!

IKEA Tradfri Remote

This remote is recognised by the plugin and creates several possible button values for the devices. Each button, except the center button, has 3 possible values:

1. Button standard like Dim up
2. Button longer press like Dim up holding
3. Button release like Dim up released

With these values you can be creative with the events, more then you'd expect!

The center button is a toggle button for on/off like actions, which comes with only one value.

Xiaomi Mi Smart Cube

Seen from the outside, teh Xiamomi Mi smart cube hardly looks like a remote. But this device listens to gestures. Rotate it, shift it a bit, shake it, double tap or just move another side up. Each action sends a reaction to the plugin. 38 known statusses and the rotation in a seperate device (360 degrees to - 360 degrees) can be used as triggers.

Play it! You might like it.

Hue Tap

If the plugin finds a tap connected to a bridge, a device will be created that will show the last known buttonpress of the device
In a previous version of the plugin it was possible to create rules for the Tap with some special functions like switching a scene off when the same button was pressed. This has been removed. This is also possible with the following sample script and event.
With this script an "on"event will be triggerd on a button press. Is another button pressed, then the "on" event is triggered. Is the same button then pressed again, the "off" event will be triggered. Of course the events do not necessary have to perform on or off, they can be any event really.
For this event to work properly, you have to make sure te disable the dreadfull device option "Do not update device last change time if device value does not change". Otherwise a second press on a button won't trigger…

The events I am using are created in a way that they trigger other events based on daytime and nighttimes or dark or light. This enables me to trigger many different events based on wat you need (even or odd days?, Holiday or normal day, etc).

Copy the below script and save it as CheckTap.vb in the scripts directory of your HS3 instalation. You could remove the line with hs.writelog if you do not want this.

```vb
Imports System.Collections.Generic

Sub Main(Parms As Object)
    Dim Tap As String = Parms
    Dim DevValues As New dictionary(Of String, String) From {
        {34, 1}, {16, 2}, {17, 3}, {18, 4}}
    Dim TapDevice As String = hs.GetINISetting("Taps", Tap, "Error!!",
"Taps.ini")
    Dim Currentvalue As Integer = hs.devicevaluebyname(TapDevice)
    Dim VarError As String = hs.CreateVar(Tap)
    If VarError = "" Then hs.SaveVar(Tap, "0") ' Variable has been new
created, fill with not set value
    Dim LastTap As String = hs.GetVar(Tap)
    Dim Selection As String = If(Currentvalue = LastTap, "_off", "_on")
    Dim Button As String = "Button" & DevValues(Currentvalue)


    hs.triggerevent(hs.getinisetting(Button, Tap & Selection, "",
"taps.ini"))
    hs.writelog("Check Tap", TapDevice & " triggered " &
hs.getinisetting(Button, Tap & Selection, "", "taps.ini"))
    hs.savevar(Tap, If(Currentvalue = LastTap, "0", Currentvalue))
End Sub
```

Copy the below text to an INI file named "taps.ini" and place it in the config direcotry of your HS3 installation. Make sure you replace the name of the tap with the name you are using in your system, as well as the correct eventnames. You can add as many taps as you like.

```
[Taps]
; in taps add a descriptive name as key... this is the parameter you need to
use in the event calling this script
TAP1=JowiHue JowiHue Wims Tapje

[Button1]
; in this section put the name of each event you want to trigger when
button 1 is pressed
; the key name should be the name of the key used in section Taps with _on
or _off added to it.
TAP1_on=Painting on Color
TAP1_off=Painting Color off

[Button2]
; in this section put the name of each event you want to trigger when
button 2 is pressed
; the key name should be the name of the key used in section Taps with _on
or _off added to it.
TAP1_on=Beyond Evening
TAP1_off=Beyond off

[Button3]
; in this section put the name of each event you want to trigger when
button 3 is pressed
; the key name should be the name of the key used in section Taps with _on
or _off added to it.
TAP1_on=Ganglamp aan
TAP1_off=Ganglamp uit

[Button4]
; in this section put the name of each event you want to trigger when
button 4 is pressed
; the key name should be the name of the key used in section Taps with _on
or _off added to it.
TAP1_on=Hallway Go Color
TAP1_on=Hallway Go off
```

And create one event per tap like this:

Event Name: **Type**   **Group Reassign:**

Test Wims Tapje   [▼]   test [▼]

IF JowiHue JowiHue Wims Tapje just had its value set or changed.

THEN   ▼   Run a Script or Script Command   ▼

☐ Wait for script to finish before continuing.   ☐ Only allow a single instance to run at a time.
☐ Immediate script command.

Choose or change the script file to run: [Edit]   C:/HS3/scripts/TapsCheck.vb

Sub or Function: Main   Parameters: TAP1

Script:

```vbnet
Imports System.Collections.Generic

Sub Main(Parms As Object)
    Dim Tap As String = Parms
    Dim DevValues As New dictionary(Of String, String) From {
        {34, 1}, {16, 2}, {17, 3}, {18, 4}}
    Dim TapDevice As String = hs.GetINISetting("Taps", Tap, "Error!!", "Taps.ini")
    Dim Currentvalue As Integer = hs.devicevaluebyname(TapDevice)
    Dim VarError As String = hs.CreateVar(Tap)
    If VarError = "" Then hs.SaveVar(Tap, "0") ' Variable has been new created, fill with
not set value
    Dim LastTap As String = hs.GetVar(Tap)
    Dim Selection As String = If(Currentvalue = LastTap, "_off", "_on")
    Dim Button As String = "Button" & DevValues(Currentvalue)

    hs.triggerevent(hs.getinisetting(Button, Tap & Selection, "", "taps.ini"))
    hs.writelog("Check Tap", TapDevice & " triggered " & hs.getinisetting(Button, Tap &
Selection, "", "taps.ini"))
    hs.savevar(Tap, If(Currentvalue = LastTap, "0", Currentvalue))
End Sub
```

[Save Script Edits]

Motion sensors

The plugin supports several motion sensors. Probably every motion sensor would be recognised correctly by the plugin. You can start a scan for new sensors on the configuration page of the plugin. Once pressed, you need to reset the motion sensor to be be recognised by the bridge or gateway. A motion sensor can come preconfigured for a set of lights. In that case first follow the brands usage guides for a complete reset of the sensor before trying to connect it to the bridge or gateway. when using a motion sensor on the Philips bridge, respons is slower compared to having the motion sensor on a RaspBee/ConBee gateway. This is because the Philips Hue bridge need to be polled before the plugin can see the change, where te gateways forward the change imediately.

The motion sensors that have been proven to work correctly are

- Philips motion sensor
- Ikea motion sensor

Motion sensors are created by the plugin by creating a motion device and a battery device. An exception is the Philips motion sensor, which is expanded in the next paragraph

A Philips Motion Sensor creates several sensors on the bridge: a Presence (motion) sensor, a Lightlevel sensor and a temperature sensor. It also reports its battery level on the bridge. When you enable the device to be created by the plugin, it will create a grouped set of devices per motion sensor:

☐	No Motion	Keuken	Bewegingsmelder	Keuken motion sensor	SensorMotion-3	SensorMotion	Today 12:28:56
☐	100%	Keuken	Batterij	Battery Keuken motion sensor	SensorBattery-3	SensorBattery	11-10-2016 18:19:50
☐	19,92°	Keuken	Temperatuur	Sensor Keuken temperatuur	SensorTemperature-2	SensorTemperature	Today 12:32:15
☐	13945	Keuken	Licht sensor	Keuken ambient licht	SensorLightLevel-4	SensorLightLevel	Today 12:37:51

With the devices created, you can add events that trigger on the device changes.

Motion sensor configuration

When you select the created parent device for the motion sensor you can do some configuration on the properties/JowiHue tab.

Here you can choose to disable the sensor, which will prevent the sensor from being updated. Also you can enable or disable the ledindicator. The ledindicator will blink every time movement is detected when enabled. By default this is disabled. You can also set the motion sensitivity to Low/Middle or High. This will configure the sensors sensitivity to motion.

Event Triggers

If any Hue light in group is on

With this trigger you can check if any light in a group is on and trigger based on that. This trigger is also available as condition

If any Hue light in group is off

Similar to the previous trigger, you can check if any light in a group is off and trigger based on that. Also available as condition.

Both of the above triggers are based on groups as you can already trigger on individual devices. No specific plugin triggers are needed for this.

Event Actions

In event actions, when creating a new event you can define actions to be performed by the jowiHue plugin. To find the possible action you have to select "Jowihue:JowiHue actions" in the list, which will bring you to the possible actions:

- Set Lights
- Set Scene
- Start Animation
- Stop Animation
- Pause Polling
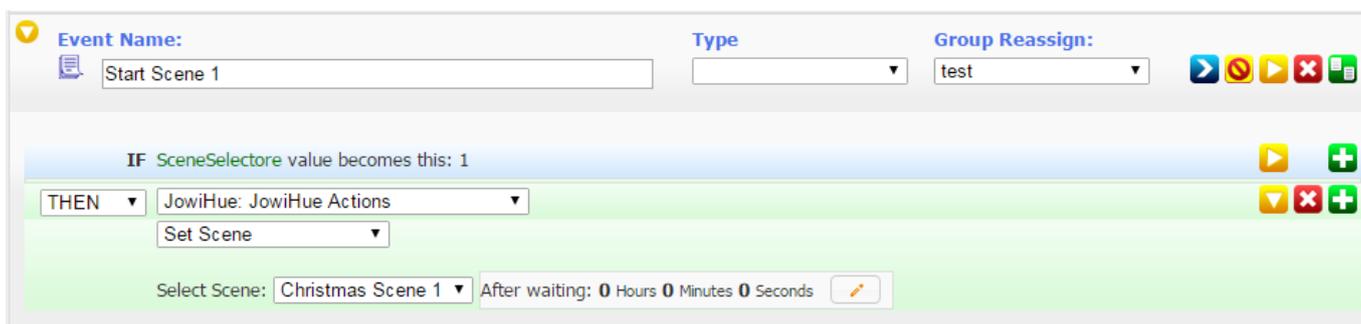
Set Lights

With this event action you can set the brightness, Hue, saturation, color temperature, xy value and Transition time to a light or a group. If you are using the RaspBee/ConBee gateway you also choose to set the pace for the colorloop. Depending on the selected type of lights the above options will hide or come available.
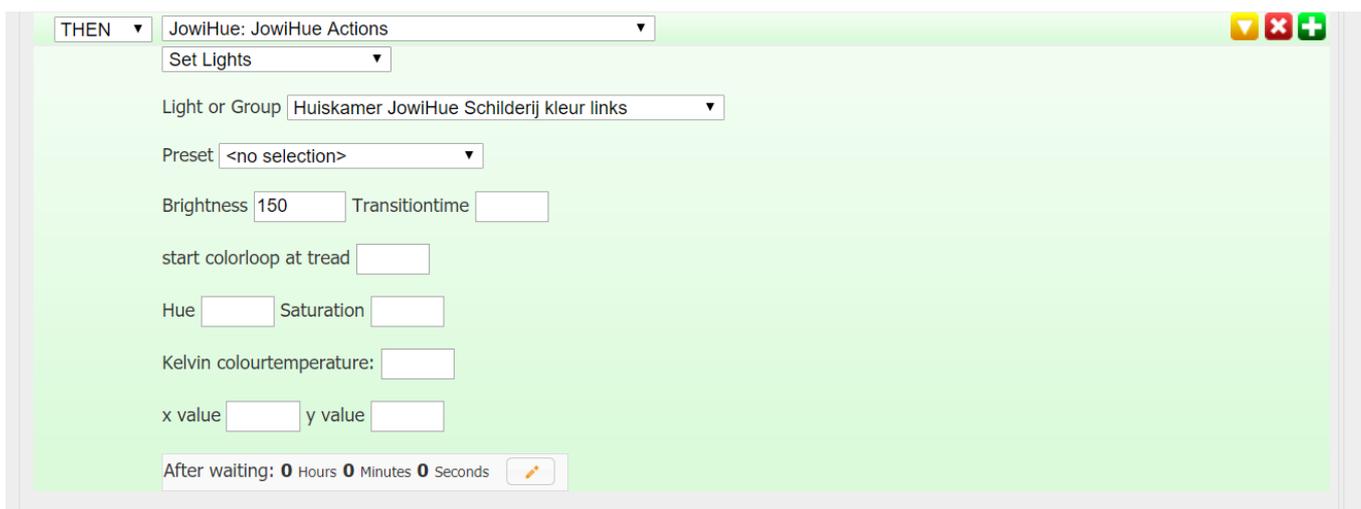
Set Scene

With this event action you can set the scene to be activated for your lights. You can trigger this event and it will set the lamps to the scene you defined through the Creativity page. In the scene you already have preselected the lights that are used for the scene, so there is no need to select lights.

Just set the conditions to trigger the event, or create a manual event that could be triggered from other events or through HSTouch buttons. The plugin will also let you select scenes defined on the bridge here.

Start Animation

With events you can start an animation when the event triggers. Depending the Animation Stretch option you see two options: If the animation is set to not stretching, you can simply select the animation and you're done.

When the chosen animation has stretching option enabled you will see three radio buttons, enabling you to choose for Sunset, Sunrise or Set time. When Set time is chosen you can select the end time with a time picker.

Stop Animation

With the stop anaimation action you can select an animation that will stop the animaion of your choice. Other animations, if any active, will not be interupted.

Pause polling

The action Pause polling is used when other apps are taking a lot of resources of the Philips Hue Bridge. For instance, if you have a music app controlling the Hue lights, there will be a lot of commands send to the Hue bridge. Sometimes the polling frequency of the JowiHue plugin can get in the way of demanding apps causing the bridge to drop commands. In this case you can pause pollling from the plugin for a set period.
Lights and groups are still controllable - you can still switch lights on or off, or change colorsettings, but devices will not be refreshed with current state of lights.
If you want to resume polling within the selected time period, you need to restart the plugin.

Scripting commands

With the scripting commands you can integrate the plugin capabilities in any Homeseer script.

List of commands:

- Getlights
- GetGroups
- Getscenes
- GetAnimations
- SetLightsOff
- SetLightsHueSat
- SetLightsKelvin
- SetLightsRGB
- IncreaseLights
- DecreaseLights
- StartScene
- StartAnimation
- StartAnimation
- StopAnimation
- LifetimeReport

Sample script

GetLights

Returns an array of string with all light names
Parameters: none

Syntax:

```
Dim Lights() as string = hs.PluginFunction("JowiHue", "", "GetLights",
Nothing)
```

GetGroups

Returns an array of string with all group names
Parameters: none

Syntax:

```
Dim Groups() as string = hs.PluginFunction("JowiHue", "", "GetGroups",
Nothing)
```

GetScenes

Returns an array of string with all scene names
Parameters: none

Syntax:

```
Dim Scenes() as string = hs.PluginFunction("JowiHue", "", "GetScenes",
Nothing)
```

GetAnimations

Returns an array of string with all scene names
Parameters: none

Syntax:

```
Dim Animations() as string = hs.PluginFunction("JowiHue", "",
"GetAnimations", Nothing)
```

SetLightsOff

Switch lights off
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 2
Group : True/False – if True groups will be addressed by this command, otherwise lights.
Name : name of the group or light to be controlled

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "SetLightsOff",
{True, "All Lights"})
```

SetLightsHueSat

Sets lights based on Hue mode
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 6
Group True/False – if True groups will be addressed by this command, otherwise lights.
Name name of the group or light to be controlled
Bright Value of brightness to be set. Value can be between 1 and 255. To keep the current value use

'Nothing'
Hue Value of Hue to be set. Value can be between 0 and 65535. To keep the current value use 'Nothing'
Sat Value of saturation to be set. Value can be between 0 and 255. To keep the current setting use 'Nothing'
Transition Value for transition time of the new setting. Value is in 1/10 of seconds. To have no transition use 'Nothing'

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "SetLightsHueSat",
{True, "All Lights", Nothing, 65535, 255, 20})
```

SetLightsKelvin

Sets lights based on color temperature mode ("Whites")
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 5
Group : True/False – if True groups will be addressed by this command, otherwise lights.
Name : name of the group or light to be controlled
Bright : Value of brightness to be set. Value can be between 1 and 255. To keep the current value use 'Nothing'
Kelvin : Value of Kelvin color temperature to be set. Value can be between 2000K and 6500K, the limits of the Hue lights. Value can include or omit the "K" in the value. To keep the current value use 'Nothing'
Transition : Value for transition time of the new setting. Value is in 1/10 of seconds. To have no transition use 'Nothing'

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "SetLightsKelvin",
{True, "All Lights", Nothing, "3000K", 20})
```

SetLightsRGB

Sets lights based on CIE color mode ("xy")
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 5
Group : True/False – if True groups will be addressed by this command, otherwise lights
Name : name of the group or light to be controlled
Bright : Value of brightness to be set. Value can be between 1 and 255. To use the values from RGB calculation use 'Nothing'
RGB : Value of RGB to be set. Value is limited to RGB values "0,0,0" to "255,255,255". To keep the current value use 'Nothing'
Transition : Value for transition time of the new setting. Value is in 1/10 of seconds. To have no

transition use 'Nothing'

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "SetLightsRGB",
{True, "All Lights", Nothing, "255,255,0", 20})
```

IncreaseLights

Increases the bright, saturation and/or hue level of a light or group of lights. The level of increase will be taken from the values on the configuration page.
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 5
Group : True/False – if True groups will be addressed by this command, otherwise lights
Name : name of the group or light to be controlled
IncBright : True/False - if true, brightness level will be increased, if false, no action will be done on brightness level
IncHue : True/False - if true, Hue level will be increased, if false, no action will be done on Hue level
IncSat : True/False if true, saturation level will be increased, if false, no action will be done on saturation level

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "IncreaseLights",
{True, "All Lights", True, False, False})
```

DecreaseLights

Decreases the bright, saturation and/or hue level of a light or group of lights. The level of decrease will be taken from the values on the configuration page.
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 5
Group : True/False – if True groups will be addressed by this command, otherwise lights.
Name : name of the group or light to be controlled
DecBright : True/False - if true, brightness level will be decreased, if false, no action will be done on brightness level
DecHue : True/False - if true, Hue level will be decreased, if false, no action will be done on Hue level
DecSat : True/False if true, saturation level will be decreased, if false, no action will be done on saturation level

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "DecreaseLights",
{True, "All Lights", True, True, True})
```

StartScene

Starts a scene setting
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 1
Name : name of the scene to be started

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "StartScene", {"Warm
White"})
```

StartAnimation

Starts an Animation
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 2
Name : name of the animation to be started **EndTime** : If the animation has stretching enabled this
parameter is needed, otherwise 'Nothing' should be used. Valid values are "sunrise", "sunset" and
the end time in hours and minutes (seconds will be skipped).

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "StartAnimation",
{"Night", "sunrise"})
```

StopAnimation

Stops an Animation
Returns a Boolean. True = successful, False = unsuccessful
Parameters: 1
Name : name of the animation to be stopped. Use "all" to stop all running animations

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "StopAnimation",
{"Night"})
```

LifetimeReport

Returns an overview of usage per light in the HS3 log. It is helpful to plan this report on at a regular

moment so you can filter the log and check on your lifetime usage.
Returns a Boolean. True = successful, False = unsuccessful
Parameters: none

Syntax:

```
Dim test As Boolean = hs.PluginFunction("JowiHue", "", "LifetimeReport", Nothing)
```

Sample script

As a simple sample of scripting you can do, I have made a script that starts a random scene. Not sure if it is usable, but as a sample it shows some of the possibilities.
The script does not need any parameters to run.

```
Sub Main(ByVal Parm As Object)

    Dim staticRandomGenerator As New System.Random
    Dim Scenes() As String = hs.PluginFunction("JowiHue", "", "GetScenes", Nothing) 'get the list of scenes

    Dim max As Integer = Scenes.GetUpperBound(0)                    ' get the top of the array (do not subtract 1!)
    Dim i As Integer = staticRandomGenerator.Next(0, max)          ' generate a random number
    Dim Scene As String = Scenes(i)                                 ' get the name of the scene
    If hs.PluginFunction("JowiHue", "", "StartScene", {Scene}) Then 'start it!
        hs.WriteLog("HueScript", "Scene " & Scene & " succesfully started")
    Else
        hs.WriteLog("HueScript", "Scene " & Scene & " did not start, check the log")
    End If

End Sub
```

Adding a bridge that cannot be found by the plugin

Starting with the plugin version 1.0.6.8 you can force discovery of a bridge if the plugin does not find the bridge by itself.

To do this you should let the plugin run and create an INI file in the <HS install directory>\config and name it JowiHue.ini. In this file add the following lines:

```
[Bridge]
Ipaddress=<ip of bridge>
```

The plugin is scanning for new bridges every two minutes. When it starts scanning, it will also check this file. I present, it will chack on the mentioned IP address if there is a bridge available. if it is, it will enable to register the bridge through the configuration page and clear the file again. If the plugin is restarted without registration, this step needs to be redone.

History

Beta Release Candidate 2.0.0.17
September 2017
This is a completely new version where lots of major improvements have been made

- Added support for RaspBee an ConBee gateways from Dresden electronics
- The new gateways added WebSocket support, with realtime response to sensors
- added support for several remotes and motion sensors
- Lights and sensors can now be moved (one by one!) between bridges; the plugin will update the devices and clear the device from the old bridge. Events stay intact, groups will break though.
- Improved layout of configuration page
- removing lights from bridge is now available on the bridge maintenance page
- Bridge group creation, editing and deletion is moved to the bridge maintenance page
- colorloops can now vary in speed by using a RaspBee/Conbee gateway
- Dim values can now be used a percentage (for alexa users)
- Lightlevel values on motion sensors can now optionally be shown as Lux values
- Scanning for new sensors to the bridge can now be started on the configuration page
- Many small bug fixes

Release 1.1.3.0
Juli 2017

This release is a maintenance release

- Plugin has been updated to match with the latest Philips Hue API . No real functional changes, mainly internal fine tuning done by Philips
- Plugin can still end in an abnormal end when HS3 is stopped. Some changes have been done to further prevent this. It should not cause issues, it was closing anyway.
- Option to enable changing CT/Hue and Sat values while offline have been removed as it does not work correct anymore and Philips is still not supporting this.
- For the lightstrip Plus the CT options were not correctly enabled. This has been corrected

Release 1.1.2.9
June 2017

This version is solving several bugs:

- Finaly found the issue with an ip address change of the bridge. I hope this is solved now. Please let me know if an IP change causes errors with bridges.
- When no scene definitions are availble, the creativity page would not show the button for creating a new scene. This is now corrected.
- When using the Alert button in a light or group while the lights are off, the light could stay on after the alert, this is changed so the light will return to off again
- When adding JowiHue actions for lights or groups in an event, location information of the devices are now included. Also on the configuration page location information is shown for groups.
- If a bridge was set to not update over the meethue site, the plugin should not check for updates, but it did nevertheless, resulting in errors in the log. The plugin wil no longer check when the portalservices are disabled.

- Closing the plugin could result in an abnormal end of the plugin. This should not happen anymore
- New light types have been added

Release 1.1.2.8

New
Some users are using the ha bridge, an emulator for the Hue bridge used to emulate devices for the Amazon Alexa device. The plugin recognises the ha bridge as a Hue bridge (as is expected), but generates errors when trying to access it. The plugin will now check on usage of port 80 or not normal channels by the bridge. If either is true, it will asume it is not a normal Philips Hue bridge.

Bugs

- If animations were running too close after one another, resetting the old settings (the setting where animation started) could result in setting the starting value of the previous animation. Chances of this happening has been minimised.
- When resetting suspected lights after a hard reset, an error could occur on duplicate records. This has been solved.
- it was possible that a virtual sensor, created by the Philips Hue app, was recognised as a Philips Motion sensor. This is now corrected.
- The battery device of a motion sensor was not updated correctly after the initial creation. this has been solved now.

Release 1.1.2.6
this is a maintanance release adding some new configuration options

New:

- New light models added
- Optionally enable "Can_Dim" for devices as workaround for bugzilla 1528. When enabled, sliders for HSTouch will no longer work, but dim commands for other apps like Imperihome or alexa will.
- Optionally you can now choose to display the values of the Colour Temperature device in Kelvin instead of myred values. You can set this option in the configuation page
- Bridge Maintenance page has been updated. Scenes will now show included lightbulb names for V2 scenesets. Also, informational, the list of resourcelinks is shown on this page.

Bugs

If a sensor was removed from the bridge, the homeseer devices were not removed and throwing unwanted errors. This has beeen resoved by removing the corresponding devices if a sensor is no longer found on the bridge.

Release 1.1.2.5
October 2016

New

- Added support for the new Philips Motion sensor - devices can be created to reflect motion, ambiant lightlevel and temperature. Events can then be set to these devices. Check the [documentation](#) to see some possibilities.
- When sensordevices are (optionally) created and the device is powered by a battery, a child

device is also created holding the battery status. The option to generate a separate battery device is removed from the configuration page.

- For sensors powered by battery a hourly warning is send to the log when battery level is below 25%. This is independant of the presence of a battery device.
- New light models added to the plugin
- Made bridge button persistent, so events to cancel all animations are easier to create.
- When a light has the capabilities, a color temperature device will be added to its group of devices.
- If response of the bridge slows down for some reason (streaming of a movie is can put a temporary load on the network for instance) the plugin will now temporary throttle the refreshrate to ease network traffic.
- Philips changed the behaviour of the builtin daylight sensor of the bridge in the latest API. This is done to protect privacy in the future. Plugin is updated to follow this behaviour.
- On the bridge maintanance page the available capabilities is added. This way you can check how much capacity on the bridge is left.
- An option is added on the configuration page to prevent lights to switch to "on" when a Hue/Sat of CT value is changed

Bugs

- Rename device would skip renaming the CT device. Solved
- If an unknown model light was added to the bridge, the plugin would not correctly recognise a color temperature light. This is now corrected.

Release 1.1.2.3
August 2016
The 1.1.2.0 proved to have major issues for users with a Zee and/or a RPI. Some minor issues were also found on other systems. Sorry for that!

With the help of several users (thanks!) I was able to catch the following issues:

Bugs

- A constraint error could occur when starting the plugin, this would prevent the plugin from initialising correctly. This has been solved
- A constraint error could occur when the plugin was recording usage data. This would not prevent the plugin from running, but would flood the log with errors. This is resolved.
- If an empty group existed on the Philips Hue bridge (which is possible by creating an empty room in the new Philips Hue app) the plugin could end up in a loop, preventing a correct initialisation of the plugin.
- For some users on Linux systems the Presets are not created correctly. Because of that the creativy page would become unreachable. This is corrected now. For existing users the presets should be regenerated by the plugin.

Release 1.1.2.0
August 2016
New

- Removed the brightness devices. Brightness is now controlled with the on/off device as dim functions. Devices will need conversion, that can be initiate per light as well for all lights at the same time. Check the doucmentation for this.
- Added a colour temperature device, for lights that are capable of using colour temperature

- Group devices are now 'dynamic'. The devices created for a group are now representing the light with richest function in the group. e.g. if a group is only holding white lights it will only have the dimmable on/off device, if the group is holding the Hue color bulbs, it will also have the Hue, saturation and colour temperature devices.
- Saving the usage data of a light is now moved to the database for JowiHue. When a device is deleted from HomeSeer the plugin will find the right usage data for a light if it is attached again.

Bugs

- There was an issue where a bridge could become unregistered after a restart of HomeSeer. Changes are made to prevent this from happening. If you are upgrading from a situation where the bridge is unregistered, please delete the bridge device (only!) and restart and reregister using the new plugin.
- In linux some users experienced issues with the presets. This is solved now.
- When creating an event and using light settings as JowiHue action, you could not set the delay for the event. this is now corrected.
- Resolved an issue with the recovery setting of a light
- An issue with Philips Beyond lights was solved that could occur when a bridge would get a new IP address.
- Several other small issues resolved

Release 1.1.0.2
April 2016
Bugs

- With the 1.1.0.0 release the ability to add new groups was broken. this has been corrected.
- Renaming an animation was not possible in the 1.1.0.0 release. This has been corrected.
- Using a 'set time' for an event controlling a stretched animation was throwing an error on US based systems.
- There was an issue when trying to address multiple dimmers on the dimmer page. This has been resolved.
- If a light or group was removed externally from the plugin without removing the HS3 devices, the plugin would send a log warning every few seconds to remove the devices. This has now been set to a reminder once per hour.
- if light or group devices were removed from HS3 the plugin could miss it until the next restart. This has been corrected.

Release 1.1.0.0
April 2016

New

- Added Preset functionality in the creativity page. Presets are hue light settings, that can be applied to any hue light.
  - Enabled using presets in Scenes
  - Enabled addressing presets in event actions
- Redesigned the configuration page, making it easier to understand what options will do
  - Enabled a button in configuration page to generate a basic demo set of presets, scenes and animations
  - logging options added, so you can create a detailed logging without the need of a replacement plugin.
  - Added an option in the configuration page to enable creating battery devices for battery

    operated sensors
- Expanded the bridge update device functionality. If used, it will now report if a new update will affect the bridge, lights and/or sensors. This devicestring can also be used by events triggering on changes.
- Group devices will be updated with the status of lights in the group

Bugs

- Moving a V1 bridge to a V2 bridge is still causing issues for some users. From now on, if a bridge is succesfully moved, all references to the old bridge will be removed after the move. In fact, it was not needed to keep this information. If the old bridge is redeployed, new registration is needed. I am hoping this will resolve the isssues with moving bridges.
- Solved a problem with the colorpicker. Using the colorpicker could show a large differences with the expected outcome. Now the Philips Hue correction is applied directly to the values used. The colorpicker is actually showing the (almost) correct color that will apply to the lights in presets
- Rules and Sensors known to the plugin could differ from the bridge in specific situations, resulting in possible issues when updating Taps. This is now resolved..
- Solved an issue where not all needed sensors were created during Tap configuration for JowiHue settings
- Solved an issue in animation when using sunset as endtime for a animatio

Release 1.0.7.5
March 2016
new

- Added Bridge maintenance page where you can check on users (whitelist) om the bridge and also check on Bridgescenes. Where possible you can delete (though with caution!) entries that are no longer needed.

bugs

- There was a major issue that occurs when a bridge changes IP address (e.g. got a new DHCP address). In the previeous version the plugin reponds by creating errounous extra devices and generating errors. The current version will again recognise the IP change like before and correctly connect the original lights.
- As a result of the above, it became clear that JowiHue actions would cause issues when a deleted device was addressed in an event and restart. Now the plugin will instead log a report when this happens and skip the event.
- Miscelanious small improvements

Release 1.0.7.4
Februari 2016

solved bugs

- Solved an issue after a bridge would have been reset. Improved recognition of the reset situation.
- Prevented the plugin to complain when other plugins are adding info to the JowiHue devices
- When using the huelabs from Philips, some configurations of huelabs could make the plugin throw errors. Many possible errors caused by Huelabs are now caught and prevented. That is no guarantee for the future, a lab environment is made to experiment, so it is always possible the

plugin will be surprised again
- Added support for the 'off' command for the lightify GU10 lights, which do not reposond as expected to an off with transition values.

Release 1.0.7.3
Januari 2016

- Added the option to eiter show or hide the detail light devices for multisource luminaires like the Philips Hue Beyond. Often group control can be sufficient compared to having 4 extra light devices. The groups of luminaires are updated synchronously with the first light in the group from now on.

solved bugs

- In the last update creating new groups in the configuration page was crippled. Sorry for that! Is solved now
- Using taps on multiple bridges was having several issues. These are solved now.
- Using the image file for ZLL devises did not work on Linux because of the use of a space in the filename, has been changed for new devices. If you had these devices on Linux already, you have to change it in the device properties.

Release 1.0.7
December 2015
This release is a major change. Most important is that in this version the polling of the bridges has been completely redesigned. As a result less burdon is placed on the bridges and the plugin overall will be a bit snappier, especially when using multiple bridges.

Summerizing:

1. added support for the latest API versions (currently API 1.11) The changes to scenes and groups have only partly been implemented.
2. Added support for the Philips Dimmer Switch
3. when moving lights with the Philips Hue to the V2 bridge, the plugin can recognise this and internallly move the devices as well. (but read the guide for this!)
4. reviving lights and scenes after a reset on a bridge
5. added support for new models of lights and bridge
6. better use of the gamut (color) correction needed for the different types of lights
7. it is now possible to force the plugin to check an IP for presence of a bridge. If it is present, it will enable registration of the bridge.
8. Added a link to documentation in the help section of HomeSeer

bugs

1. Corrected an issue where the refreshrate would not be correctly saved

Release 1.0.6.5
October 2015

- Added 'dimming' buttons to the devices for Bright, Hue and Saturation. You can now use these in events to change the brightness, color or saturation in a smooth way. The amount of 'dimming' can be set on the configuration pages and will be set for all brightness, Hue or saturation devices.
- Added new scriptcommands for 'dimming' of brightness, Hue and/or Saturation: IncreaseLights

and DecreaseLights.

Bugs

- Unreachable status was not discovered reliably. This is corrected.
- There was an issue caused when deregistering a bridge through the plugin while the bridge was unreachable. This is corrected, when a bridge is unreachable, deregistering is disabled.
- A scripting issue occurred when sending a parameter value of Nothing. This would cause lights to change color when not wanted. This is resolved.
- The infinite loop in an animation was no longer working, this has been corrected.
- Copying a scene in the creativity page and changing would cause the original scene to be changed as well. This is corrected, changing will only effect the scene being edited.

Release 1.0.6.3
August 2015

- New types of lights (Go and Phoenix) are added to the plugin
- Updated bridge methods for future updates by Philips
- Added Event action for suspending polling for a period of time
- Added support for Nordic characters æ, ø, and å
- Corrected event collapsing after completing action info

Release 1.0.6.2
June 2015

- Renaming a light or group device can now be done directly on the properties page of a device, there is no need to go to the JowiHue tab anymore. The name of a light or group will also be reflected on the bridge.
- Event actions have been regrouped to keep the main action list clear. *Warning* this change makes it important to have a backup of the HS3 database. If you need to go back to the previous version of the plugin, you need to restore the HS3 database as well.
- When selecting a scene in an event action, you can now also select scenes located on the Philips Hue Bridge.
- In the event actions you can now also set the CT or xy values for the Hue lights.
- Optionally you can add a device that will reflect whether a bridge update is available. Based on the status of this device you can trigger events to remind you to perform the update of the Bridge.
- Bugs
- Known bug: In Linux there is a memory leak that can occupy all available memory after a period of time. I am twisting my head over this at the moment to solve it. Until then be sure to restart the plugin from time to time!
- In certain configurations the CPU usage of the plugin could rise to high level on smaller machines. The internal routines have been made more efficient to prevent this situation.
- There was an error with the scripting interface when setting a light. If it was off, it would not turn it on, resulting in an error. This is solved now for all scripting statements.
- Minor bugs solved

Release 1.0.6.0
April 2015

- Enabling Hue Tap configuration through the plugin
- Creation of Hue Tap devices in Homeseer, so you can control other devices as well with the Hue

Tap

Bugs

- The plugin could report a bridge unregistered when there was a period of congestion in the network. This has been solved.
- A bridge request could result in an error in the log, reporting a light returned a unsuspected result. Catching this result and retrying has been improved.
- Several minor bugs have been solved.

Release 1.0.5.8
March, 2015

- Confirmed support for Philips Hue Beyond
- Changed behavior of the on/off Group device. If brightness, saturation or hue of a group device is set, the on/off device will switch to on also. This will help better control in HSTouch. Please be aware that setting a single light will not set the group devices.
- A first step was made in getting the sensors and rules from the bridge. This is for future development.

Bugs

- If a bridge is reset by user action, the sequence of lights would change, causing the plugin to generate errors an control different lights. This has been corrected, the plugin should now reconnect lights in the new sequence.
- When using a scene with only white lights in it, the details of a scene would not show correctly. This is correct now.
- Changed the method how reachability of a bridge is determined. It should be faster now and more reliable.
- The setting for "recover last know setting" when powering off bulbs was not correctly read back from the light devices. That could cause the setting to become inactive after a restart of the plugin. This is now corrected.

Release 1.0.5.6
February 9, 2015

- Unordered List ItemBugrelease; in the last release newly added lights would miss their buttons (On/Alert/Colourloop) and only show an off button. If you had new added devices (or deleted them to redefine), please remove them again after installing this update.

Release 1.0.5.7
February 16, 2015

- Unordered List ItemAdded the possibility to switch selected lights off in a scene

Bugs

- Solved an issue with snapshots missing completion when including a white light.
- Included missing icons for the GE link light bulbs

Release 1.0.5.6
February 9, 2015

- Bugrelease; in the last release newly added lights would miss their buttons (On/Alert/Colourloop) and only show an off button. If you had new added devices (or deleted them to redefine), please remove them again after installing this update.

Release 1.0.5.5
February 2, 2015

- Updated the plugin to support the latest API from Philips.
- When the bridge is on recent level, it is now possible to perform the firmware update of the bridges through the plugin, like was done before by the Philips Hue app.
- As it appears, the FLS-PP lp wireless ballasts can be controlled with a Philips Hue bridge. Using Colourloop is causing the ballast to not accept subsequent color commands. To prevent it, the device created will no longer support colourloop anymore.

Bugs

- In the last version it became possible that by sending a double off signal, a light would turn on again. This has been resolved.
- Using any 'special' character like '-' or '(' etc. on the scenes page could cause the scene details not showing correctly.
- It was not possible to address the groups on/off device and use 'toggle device' in HSTouch. Apparently HSTouch is depending on the text on/off, where the group device was using 'Group on/off'. In this version group status is changed back to 'on/off

Release 1.0.5.4
Januari 19, 2015

- Added the possibility to recover the last known setting of a light, once the light becomes reachable again (e.g. after switching it off with a light switch and switching it back on)

Bugs

- Removed some small coding issues

Release 1.0.5.3
Januari 2015

- Added use of multiple bridges in the plugin
- Removed dependencies of meethue site for finding bridges in the local network, instead an internal scan has been added. Because of this functionality you will have to allow the plugin to do this, if the local firewall on windows is active.
- Released the plugin for use on Linux (HS3 3.0.0.143 or higher needed)
- Added possibility to take a light from another bridge (also known as Lampstealer). Please read the warning in the documentation of the plugin for this!
- Changed the web interface for configuring groups, to match the look and feel of handling scenes and animations
- The plugin creates a backup of the JowiHue database when the plugin starts, it will keep 10 versions available.

Bugs

- Removed lagging in scenes and animations. Response of lights became a LOT faster!
- Corrected renaming lights and animations – now existing actions in events will be corrected

with the new name
- Caught an issue where the plugin could stop at random moments.
- If a light would become unreachable for a period of time and return to reachable, devices were not updated correctly. This has been corrected.
- Prevented usage of % signs in the name of scenes or animations
- Plugin will now use the correct IP after IP of the bridge changes due to DHCP settings
- The JowiHue tab was shown when creating new devices. This has been removed