

Events Enhancer User Guide

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Overview

This software plugin is designed to enhance the functionality of HS4 events by facilitating the grouping of devices and offering custom Actions and Triggers to streamline event configuration for these groups. Additionally, the plugin empowers users to craft personalized Scenes using both individual devices and groups.

Features

1. Device Groups

- Introduction

HS4 events are typically configured on individual devices. However, when the same Triggers or Actions need to be set up across multiple devices, this necessitates repeating the configuration process for each device. As the number of devices grows, this task can become increasingly cumbersome. This is where device grouping proves invaluable, providing a more efficient and convenient way to manage and apply configurations across multiple devices simultaneously.

Consolidate your devices into groups and leverage the custom Triggers and Actions available through the plugin to set up events across these device clusters. This functionality significantly streamlines the process of configuring complex events spanning multiple devices. Detailed explanations of these custom Triggers and Actions are provided in the subsequent sections for comprehensive understanding and utilization.

- Feature Mapping

When devices are grouped, there might be instances where similar features across these devices possess different names. For example, the "Brightness" feature in Light 1 might be termed "Dim Level" in Light 2. Despite their similarity in function, the distinct names hinder the ability to apply a Trigger or Action uniformly across these features without specifying each one individually.

To resolve this issue, the plugin offers the ***Feature Mapping*** functionality. This enables users to associate similar features from various devices within a group to a unified, single feature. To utilize this functionality, access the Features section while Adding or Modifying a group to start mapping features across devices.

Similar discrepancies in naming can also apply to feature controls. For example, the "Power" feature of Light 1 has "Power On/Power Off" controls, while the "Power" feature of Light 2 has corresponding "On/Off" controls. The controls are similar in functionality but are named differently in different devices. For these instances, the plugin includes ***Control Mapping*** functionality for each mapped feature. This enables users to associate and align controls

across features, allowing for unified management and application of controls despite the differing names or labels.

Please note that the feature mapping functionality is optional. If you choose not to map features, every unique feature will be displayed in the feature selection dropdown within Triggers, Actions, and Scene Action settings. By opting not to map features, all distinct features across devices within the group will be individually presented for selection in the dropdown menus, allowing for specific and separate feature configurations within the group triggers, actions, and scene actions.

- Example

A group of lights in a room is a good example of when to use device group functionality. Every light in a room can have a separate device in HS4. These devices can be grouped for easier management. For simplicity, let's say we have two lights in a room. The configuration of these devices is as follows,

Light 1

Features:

- Power (Power On/Power Off controls)
- Color (Color Picker)
- Brightness (0 – 100 Slider)

Light 2

Features:

- Power (On/Off controls)
- Color (Color Picker)
- Dim Level (0 – 100 Slider)

To create a group for these devices, go to [Plugins -> Events Enhancer -> Groups](#) and follow the following steps.

1. Click on **ADD GROUP** to open the Add Group screen.
2. Give a unique name to the group. This name will be useful to identify the group in Triggers, Actions, and Scenes. For our example, we will name it **Living Room Lights**.
3. Select the devices you want to include in the group. In our case, we will select Light 1 and Light 2 devices.
4. Open the Features section to map Features and Controls. You can skip this step if you don't want to map Features or Controls. For our case, we will map the Power feature since it has controls with different names on both devices and the Brightness feature since the name of this feature is different on both devices. We will add a Power feature with two single value controls On and Off and map the respective features/controls of each device. We will add a Brightness feature with one range control with a range of 0 – 100 and map the respective features of each device.

5. Click on **SAVE** once you are done configuring the group and you will be redirected to the Groups screen. This screen will list all the groups you have created.

On the Groups screen you can perform several actions. You can modify the configuration of an existing group. Just click on **CONFIGURE** and you will be redirected to the Configure Group screen. Make the changes you want and click **SAVE**.

A group can also be copied to create a new group by using **COPY TO NEW** feature. That will redirect to the Add Group screen and copy all configurations from the source group, which can further be modified and saved as a new group.

Don't need a group anymore? Click on **DELETE** to remove that group.

Checkout the preview of this process below,

The screenshot shows two parts of a web application interface. The top part is the 'Groups' screen, which has a title 'Groups' on the left and a red '1.' next to a blue 'ADD GROUP' button on the right. Below this is a yellow banner with the text 'No groups available.' The bottom part is the 'Add Group' screen. It has a title 'Add Group' and a 'Name' field with a red '2.' next to it, containing the text 'Living Room Lights'. Below the name field is a 'DEVICES' section with a red '3.' and a dropdown arrow. This section is divided into two columns: 'Available Devices' and 'Selected Devices'. The 'Available Devices' column has a 'Room' dropdown set to 'Living Room Lights' and two checkboxes: 'Living Room Main Lights' and 'Store Room Light'. The 'Selected Devices' column has a 'Search' dropdown and two checkboxes: 'Living Room Light 1' and 'Living Room Light 2'. Between the two columns are two blue buttons with right and left arrows. At the bottom of the 'DEVICES' section is a 'FEATURES' section with a dropdown arrow.

Name ✕

Controls

Name ✕

Type

▼

▼ ▼

▼ ▼

Name ✕

Type

▼

▼ ▼

▼ ▼

[+ Control](#)

Name ✕

Controls

Name ✕

Type Start End

▼

▼ ▼

▼ ▼

[+ Control](#)

[+ Feature](#)

5. SAVE

Groups

ADD GROUP

Name	Operation
Living Room Lights	<div style="border: 2px solid red; padding: 5px; display: inline-block;"> CONFIGURE COPY TO NEW DELETE </div>

2. Scenes

- Introduction

A scene is a list of sequential actions on a group or device with optional delays in between. The scenes functionality empowers users to effortlessly create complex home automation scenarios.

The scene supports the following three types of actions.

- Control Device
- Control Group
- Delay

Optionally, you can enable **Restore On Completion** for a scene if you want to restore the devices in their original state after the scene execution is completed.

The scenes can also be executed from HS4 events using the **Execute Scene** action. The actions are explained in detail in the following sections.

You can also configure the scene using a JSON file. Create a JSON file with your configuration and click on **Upload JSON File** to upload your configuration.

Following is the syntax of JSON Configuration,

```
{
  "name": "<scene_name>",
  "restoreOnCompletion": true/false,
  "actions": [
    // control group
    {
      "type": "control",
      "group": "<group_name>",
      "feature": "<feature_name>",
      "value": "<value>"
    },
    // control device
    {
      "type": "control",
      "device": "<device_name>",
      "feature": "<feature_name>",
      "value": "<value>"
    },
  ],
}
```

```
    // delay
    {
      "type": "delay",
      "duration": duration
    }
  ]
}
```

- Example

A good example of creating a scene is Light Animation. You can change the color of your living room lights after every 5 seconds to create a beautiful light animation. This can be achieved by creating a scene.

Let's say we want to create a light animation for birthday celebrations and before running that animation we want to turn off the Main Lights of the living room. The light animation will change the color of lights every 5 seconds. For simplicity we will have only two steps for the animation. We have the following devices in HS4.

1. Main Lights
2. Light 1
3. Light 2

We previously created Living Room Lights for Light 1 and Light 2 so that we can manage them together. Now we will use that group for creating the scene.

To create a scene for this light animation, go to [Plugins -> Events Enhancer -> Scenes](#) and follow the following steps.

1. Click on **ADD SCENE** to open the Add Scene screen.
2. Give a unique name to the scene. This name will be useful to identify the scene later in the Actions. For our example, we will name it **Birthday Lights**.
3. Check the **Restore On Completion** option if you want to restore the state of devices when the scene completes. For example, we will check this option.
4. Add the actions that you want the scene to perform. For our example, we will add the following ones,
 - Turn off Main Lights
 - Change the color of the Living Room Lights **#FFA500**
 - Add a delay of 5000 milliseconds (i.e. 5 seconds)
 - Change the color of Living Room Lights to **#FFF555**
 - Add a delay of 5000 milliseconds (i.e. 5 seconds)
5. Optionally, you can click **TEST SCENE** to quickly test how the scene will play out.

6. Once you are done with configuring the scene, click on SAVE to create the scene. You will be redirected to the Scenes screen. This screen will list all the scenes you have created.

Alternatively, you can also create the same scene using JSON File. To create the scene using JSON file, go to [Plugins -> Events Enhancer -> Scenes](#) and follow the following steps.

1. Create a file with following contents and .json extension.

```
{
  "name": "Birthday Lights",
  "restoreOnCompletion": true,
  "actions": [
    {
      "type": "control",
      "device": "Main Lights",
      "feature": "Power",
      "value": "Off"
    },
    {
      "type": "control",
      "group": "Living Room Lights",
      "feature": "Color",
      "value": "#FFA500"
    },
    {
      "type": "delay",
      "duration": 5000
    },
    {
      "type": "control",
      "group": "Living Room Lights",
      "feature": "Color",
      "value": "#FFF555"
    },
    {
      "type": "delay",
      "duration": 5000
    }
  ]
}
```

2. Click on **Upload JSON File** and select the .json file created in Step 1. This will load the configuration in the UI.
3. Verify the configuration and click on SAVE to create the scene.

On the Scenes screen, you can perform various actions for already created scenes. You can change the configuration of an existing scene. Click on **CONFIGURE** to open the Configure Scene screen. Make the changes you want and click SAVE to update the configuration.

A scene can also be copied to create a new scene by using **COPY TO NEW** feature. That will redirect to the Add Scene screen and copy all configurations from the source scene, which can further be modified and saved as a new scene.

You can quickly test any existing scene by clicking **TEST SCENE**.

Don't want a scene anymore? Click on **DELETE** to remove that scene.

Checkout the preview of this process below,

The screenshot shows the 'Scenes' interface at the top, with a yellow banner indicating 'No scenes available.' and an 'ADD SCENE' button labeled '1.'. Below is the 'Add Scene' form, which includes a 'Name' field (labeled '2.') containing 'Birthday Lights', a 'Restore On Completion' checkbox (labeled '3.') which is checked, and an 'Upload JSON File' button. The 'Actions' section (labeled '4.') contains three rows of configuration options: 1) Type: Control Device, Device: Main Lights, Feature: Power, Control: Off; 2) Type: Control Group, Group: Living Room Lights, Feature: Color, Control: Color, Value: #FFA500; 3) Type: Delay, Duration: 5000 ms. A 'TEST SCENE' button (labeled '5.') is located at the top right of the 'Add Scene' section.

Type: Control Group | Group: Living Room Lights | Feature: Color | Control: Color | Value: #FFF555

Type: Delay | Duration: 5000 ms

6. **SAVE**

Scenes

ADD SCENE

Name	Last Executed On	Operation
Birthday Lights	Not executed yet	CONFIGURE COPY TO NEW TEST SCENE DELETE

3. Custom Triggers

- Value of a device in the group changes

It triggers when the value of the configured feature changes in any of the group's devices. Configured actions will be executed once per device of the group satisfying the trigger condition.

The screenshot shows the configuration interface for an event enhancer. At the top, there is a breadcrumb trail: "Groups / Events Enhancer / Event Enhancer". To the right of the breadcrumb are icons for edit, copy, check, delete, and refresh. Below the breadcrumb is a red bar labeled "WHEN". Underneath, the "Trigger" is set to "Events Enhancer: Value of a device in the group changes". Below the trigger, there are three selection fields: "Select Group" with "Living Room Lights" selected, "Select Feature" with "Color" selected, and "Select Value" which is empty. To the right of these fields are icons for search and add. Below the "WHEN" section is a green bar labeled "THEN". Underneath, the "Action" is set to "(Choose Action)". To the right of the "THEN" bar are icons for add, check, delete, and refresh. At the bottom right, there is a blue button labeled "ADVANCED OPTIONS".

- When value of a device in the group changes and becomes

It triggers when the value of the configured feature changes to the configured value in any of the group's devices. Configured actions will be executed once per device of the group satisfying the trigger condition.

The screenshot shows the configuration interface for an event enhancer. At the top, there is a breadcrumb trail: "Groups / Events Enhancer / Event Enhancer". To the right of the breadcrumb are icons for edit, copy, check, delete, and refresh. Below the breadcrumb is a red bar labeled "WHEN". Underneath, the "Trigger" is set to "Events Enhancer: When value of a device in the group changes and becomes". Below the trigger, there are four selection fields: "Select Group" with "Living Room Lights" selected, "Select Feature" with "Power (Group)" selected, "Select Value" with "On" selected, and "Select Value" which is empty. To the right of these fields are icons for search and add. Below the "WHEN" section is a green bar labeled "THEN". Underneath, the "Action" is set to "(Choose Action)". To the right of the "THEN" bar are icons for add, check, delete, and refresh. At the bottom right, there is a blue button labeled "ADVANCED OPTIONS".

- When value of a device in the group changes to fall within a range

It triggers when the value of the configured feature changes to fall within the configured range for any of the group's devices. Configured actions will be executed once per device of the group satisfying the trigger condition.

The screenshot shows the configuration interface for an event enhancer. At the top, there is a breadcrumb trail: "Groups / Events Enhancer / Event Enhancer". To the right of the breadcrumb are icons for edit, copy, check, delete, and refresh. Below the breadcrumb is a pink header labeled "WHEN". Underneath, the "Trigger" section is expanded to show "Events Enhancer: When value of a device in the group changes to fall within a range". Below this, there are three dropdown menus: "Select Group" (set to "Living Room Lights"), "Select Feature" (set to "Brightness (Group)"), and "Range". The "Range" section has two input fields: "Start" (set to 40) and "End" (set to 50). To the right of the range inputs are icons for a grid and a plus sign. Below the "WHEN" section is a green header labeled "THEN". Underneath, the "Action" section is expanded to show "(Choose Action)". To the right of the "THEN" section are icons for a plus sign, checkmark, delete, and plus sign. At the bottom right of the interface is a blue button labeled "ADVANCED OPTIONS".

- When value of a device in the group changes to fall outside of a range

It triggers when the value of the configured feature changes to fall outside of the configured range for any of the group's devices. Configured actions will be executed once per device of the group satisfying the trigger condition.

The screenshot shows the configuration interface for an event enhancer. At the top, there is a breadcrumb trail: "Groups / Events Enhancer / Event Enhancer". To the right of the breadcrumb are icons for edit, copy, check, delete, and refresh. Below the breadcrumb is a pink header labeled "WHEN". Underneath, the "Trigger" section is expanded to show "Events Enhancer: When value of a device in the group changes to fall outside of a range". Below this, there are three dropdown menus: "Select Group" (set to "Living Room Lights"), "Select Feature" (set to "Brightness (Group)"), and "Range". The "Range" section has two input fields: "Start" (set to 50) and "End" (set to 60). To the right of the range inputs are icons for a grid and a plus sign. Below the "WHEN" section is a green header labeled "THEN". Underneath, the "Action" section is expanded to show "(Choose Action)". To the right of the "THEN" section are icons for a plus sign, checkmark, delete, and plus sign. At the bottom right of the interface is a blue button labeled "ADVANCED OPTIONS".

4. Custom Actions

- Call Webhook

This action is intended for use with a group. Configured webhook will be called once per device of the group.

The Webhook URL allows for variable replacement. To use a variable, use the syntax `{{<feature_name>}}`. During the action execution, the variables get replaced with the corresponding feature value.

Example: The light device contains a feature named "Brightness". To include a Brightness feature variable in the URL, you can use the following format:

`http://my-webhook/data/{{brightness}}`

The variable will be replaced by the value of Brightness feature whenever the Action is executed.

The screenshot shows the configuration interface for an 'Event Enhancer' action. The breadcrumb navigation at the top reads 'Groups / Events Enhancer / Event Enhancer'. The interface is divided into two main sections: 'WHEN' (Trigger) and 'THEN' (Action).

WHEN (Trigger): The trigger is set to 'This Event Is Manually Triggered'.

THEN (Action): The action is 'Events Enhancer: Call Webhook'. The configuration includes:

- Select Group:** Living Room Lights
- Call Webhook:** (checked)
- HTTP Verb:** POST
- Webhook URL:** `http://my-webhook/data/{{brightness}}`

At the bottom right, there is a button labeled 'ADVANCED OPTIONS'.

- Control Group

This action allows you to control a group. Once executed it will perform the configured action once per device of the group.

Example: Turning OFF all the lights of the group Living Room Lights.

Groups / Events Enhancer / Event Enhancer

WHEN

Trigger
This Event Is Manually Triggered

THEN

Action
Events Enhancer: Control Group

Select Group
Living Room Lights

Select Feature
Power (Group)

Select Value
Off

ADVANCED OPTIONS

- Execute Scene

This action allows you to execute a scene.

Groups / Events Enhancer / Event Enhancer

WHEN

Trigger
This Event Is Manually Triggered

THEN

Action
Events Enhancer: Execute Scene

Select Scene
Birthday Lights

ADVANCED OPTIONS

- Send Pushover Notification

This action enables the sending of Pushover Notifications, leveraging Pushover as a push notification service. For more information about Pushover, visit their website at <https://pushover.net/>.

Before utilizing this action, it's necessary to configure the App Token and the User Key of Pushover. You can set these up by navigating to **Plugins -> Events Enhancer -> Pushover Settings**. Access your Pushover account to obtain the App Token and the User Key.

The notification body allows variable replacement. However, please note that the variable replacement works only with triggers supported by the plugin, listed in previous section.

To implement variables, use the syntax `{{<variable_name>}}`. During the action execution, the variables will be replaced by the actual values of the group/device/feature for which this action is being executed. Currently, the following variables are supported:

- DeviceRef - Inserts HS4 device ref
- DeviceName - Inserts device name
- FeatureRef - Inserts HS4 feature ref
- FeatureName - Inserts feature name
- FeatureValue - Inserts feature value
- GroupId - Inserts group id
- GroupName - Inserts group name

Example: If we want to insert the Feature Name and Value in the notification body, we can use the variables as follows,

Message:

The value of feature `{{featureName}}` changed to `{{featureValue}}`

