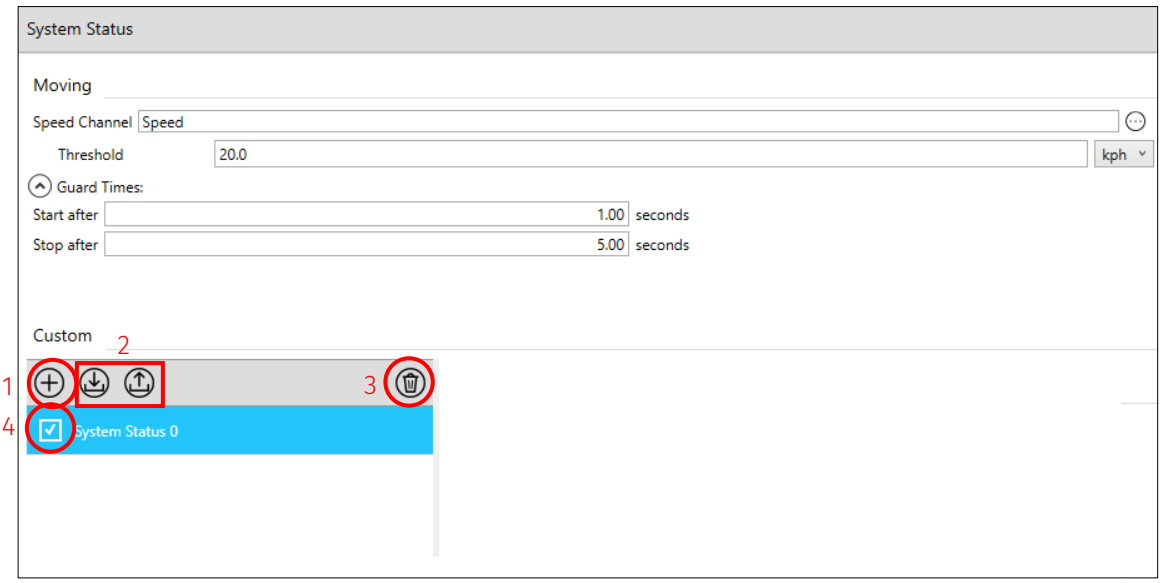
Latching overview

The **Latching** node in Toolset setups allows a device to retain a value over a power cycle after a specified event. You can create these events on the **System Status** node or use default events that are calculated on the device.

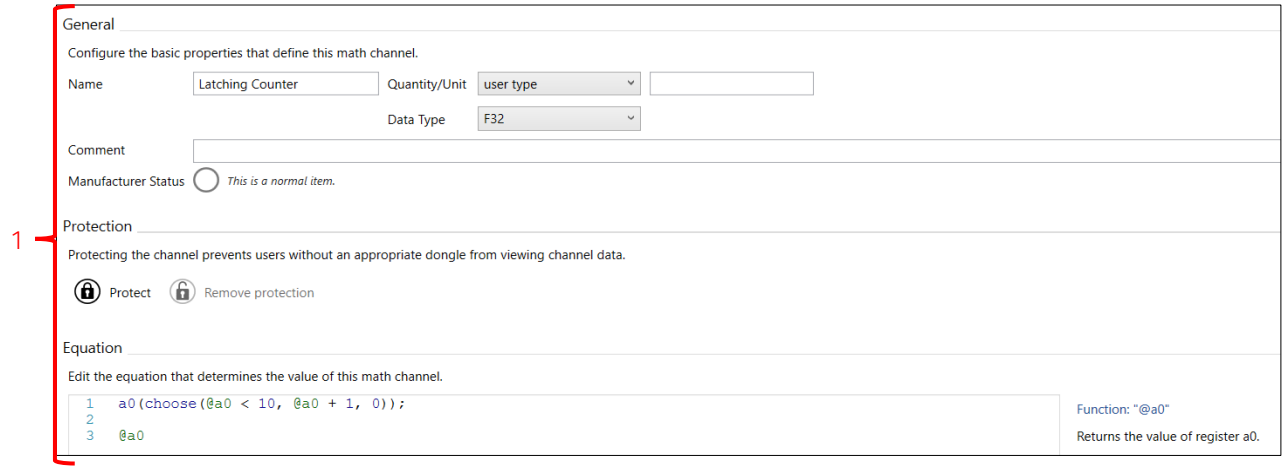
Latching values

Generating custom events

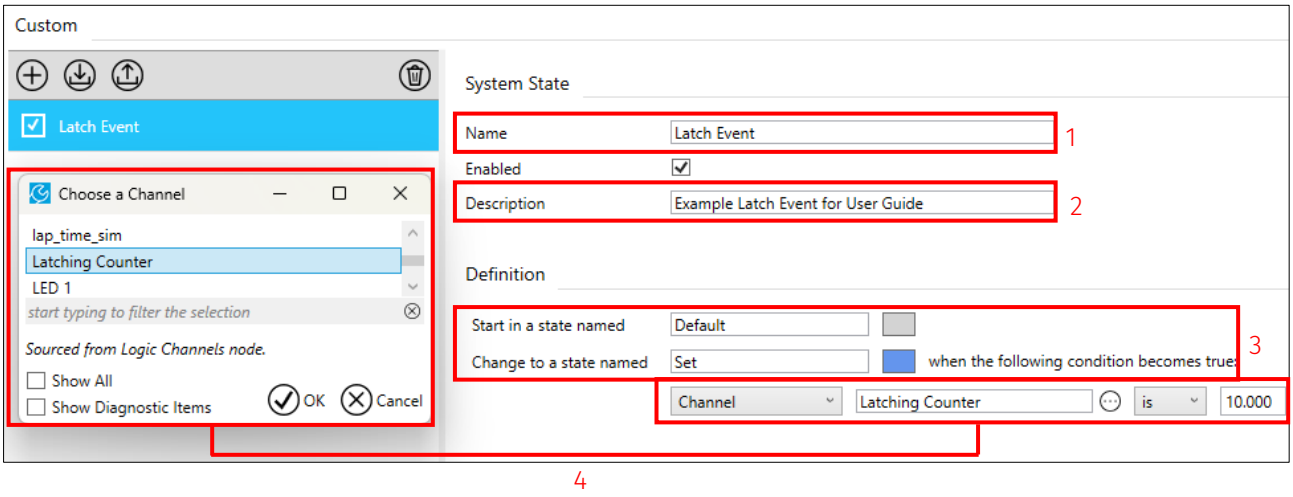
You can create custom events on the System Status node. Click **+** to create a custom event (1). You can import and export custom events between existing setups using the import and export tools (2). You can delete custom events with the 'bin' tool. To disable a custom vvent without deleting it from the setup, deselect the 'enable' box (4).



Multiple custom events can be added. In the example below, a custom event is created based on a Maths channel counter, so that repeatable events are present in the data (that is every 10 seconds). The channel used 'Latching Counter', simply generates value between 0-10 (1). On a vehicle, other events can be used such as 'Drive Out' or 'Car Halt', if more applicable.

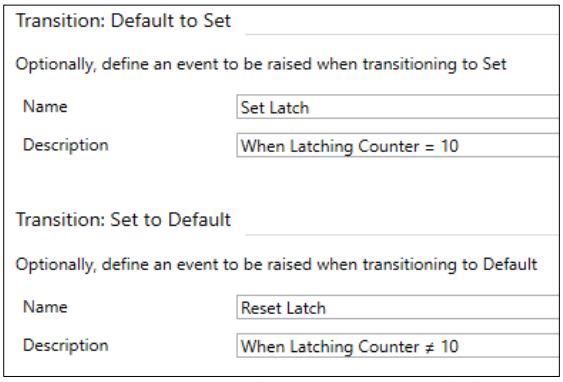


You can name the custom event (1) and add an optional description for the event (2). You can also name the bit-field definition states, apply a colour for each state (3), and define a trigger condition (4).



You need to supply a name for the 'transition' between 'Default to Set' and 'Set to 'Default'. The events channels are then generated.

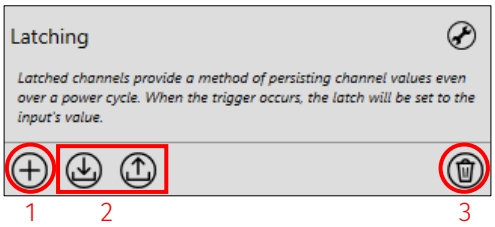
In the example below, when the latching counter reaches 10, an event called 'Set Latch' is generated when the transition from 'Default to Set' occurs as the latch conditions become true. Conversely, an event called



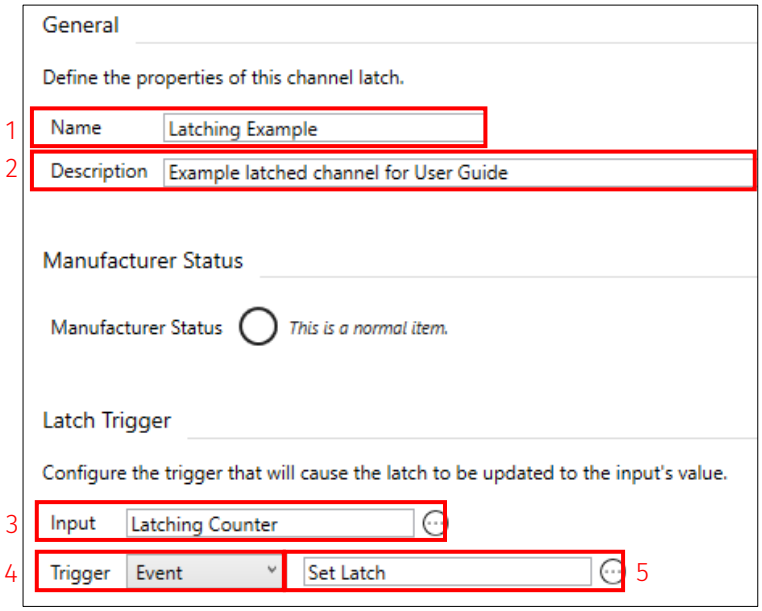
'Reset Latch' is generated when the latch conditions become untrue as the transitions from 'Set to Default' occurs.

Add a latching channel

Once an event is being generated, you can create the latching channel. On the **Latching** node, click the **+** tool (1). Use the import and export tools (2) to import and export latching channels between existing setups. Use the 'bin' tool (3) to delete latching channels.



You can define a name for the latching channel (1) and add an optional description of it (2). Click the **Browse** menu to select an input channel for the latch trigger from the available channels (3). Select the required trigger (Button or Event) from the dropdown menu (4). From the **Browse** menu, select the latching event from the available events (5).



The latched value is updated at a maximum rate of 1Hz. Once the device is power cycled the non-volatile memory checks that the channel is equal to the latched channel value. If these values are different then the channel retrieves the latched channel value.

When the device is power cycled, the latching node retains the last latched value for each defined channel.

The Latch Status is a bit-field channel with the following definitions.

Note: The current max number of latched channels is 42. The logging rate is capped at 1hz, but the calculation rate is driven from the source channel.