



# Titan Weighbridge Integration

## App-note

25 February 2022

## Contents

1. Introduction.....	3
1.1 Requirements .....	3
1.2 Integration Components .....	4
1.3 Features and Abilities .....	5
2. Device Addition and Configuration .....	8
2.1 Devices Section (Add a New Device in CathexisVision).....	8
2.2 Configuration Section (Tabs) .....	9
3. Database.....	15
3.1 Navigate to the Database .....	15
3.2 Database Interface .....	16
3.3 Viewing an Entry’s Associated Recording.....	20
4. Events .....	21
4.1 Creating an Event.....	21
4.2 General tab .....	22
4.3 Triggers tab.....	23
4.3 Actions tab.....	26
4.4 Resources tab .....	27
5. Conclusion .....	28

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# 1. Introduction

This document details the integration of the Titan Weighbridge with CathesisVision.

The CathesisVision Titan Weighbridge integration allows CathesisVision to communicate with the Titan weighbridge software. Device objects can be linked to cameras, providing operators with the associated footage. Events are databased and can be searched according to various filters. Operators can configure the device to trigger standard CathesisVision events, allowing for a range of actions.

**Note:**

1. For information regarding the regular operation of the Titan Weighbridge, please consult the relevant documentation.
2. There is a General Integration section in the main *CathesisVision Setup Manual*. It has vital information about creating an integration database, as well as a general introduction to the Integration Panel. **Read over this section.**

## 1.1 Requirements

### 1.1.1 General requirements

- CathesisVision 2022 Service Pack 1 and later.
- Cathesis 64-bit version supported.
- This integration is supported the Ubuntu 20 and Windows 10 operating system.
- Minimum 4GB of RAM required.

### 1.1.2 Titan product information

**Note:** Cathesis makes a best attempt to ensure that the equipment and license requirements of third-party equipment are adequately specified. However, it is possible that the requirements of third-party equipment may change over time, including the interface hardware/firmware and licensing. The user is advised to clarify the latest requirements directly with the third-party equipment supplier.

<b>Third-party software name</b>	Titan
<b>Third-party software version used in testing</b>	Version 2.7.8
<b>Third-party software license required</b>	No Titan license required

### 1.1.3 CathesisVision license requirements

The CathesisVision Titan Weighbridge integration license requirements are as follows:

License	License Description
CTTN-1001	Titan weighbridge. Required per weighbridge
CTTN-2000	Titan weighbridge device. Base license for connection to CathesisVision.
CTTN-3000	Titan weighbridge bundle. Base license and unlimited weighbridge licenses.

**Note:** in this integration, individual devices will require a license for each device.

## 1.2 Integration Components

All CathesisVision integrations have two component levels: **Device** and **Object**.

**Device** The device is CathesisVision software’s interface, which handles all the interaction between CathesisVision and the integrated hardware. When an integration is added to the CathesisVision system, a device is added. The messages received from the device are called Device Events.

**Objects** Objects are the individual pieces of hardware that comprise the integration. There may be multiple "object types" under the objects group. For example, the main controller and door nodes of an access control system are both objects. They are different types of objects.

#### A NOTE ON CAMERA CHANNELS

The CathesisVision software packages have **limits on camera channels**. A multi-sensor camera is physically a single device (camera) but it **requires a camera channel for each one of the internal cameras**. The same applies to an encoder: a 16-channel encoder will account for 16 camera channels on the CathesisVision software, even though it is a single device. Even when a camera or device only uses a single IP license, the camera channel limit will still apply.

#### USEFUL LINKS

To view **tutorial videos** on CathesisVision setup, visit <https://cathesisvideo.com/resources/videos>

Find answers to Cathesis **Frequently Asked Questions**: <https://cathesis.crisp.help/en/?1557129162258>

## 1.3 Features and Abilities

This section indicates the features/abilities of the Titan software when integrated with CathesisVision.

### 1.3.1 Connection type

CathesisVision communicates with the Titan Weighbridge via an IP UDP connection. The default port is 5000.

### 1.3.2 Objects

Object Type		Abilities
General		<ul style="list-style-type: none"> <li>• This integration has Weighbridge objects.</li> <li>• Objects are automatically created as soon as communication between the CathesisVision unit and device is established.</li> <li>• Weighbridge objects support overlays, which display the state of the object.</li> <li>• Objects may be linked to cameras to associate device events with video footage.</li> </ul>
Weighbridge	Object Properties	<ul style="list-style-type: none"> <li>• Name</li> <li>• ID</li> <li>• Online</li> <li>• Licensed</li> </ul>

### 1.3.3 Device events

The CathesisVision Titan Weighbridge integration generates Message events, which are triggered on the device and reflected in CathesisVision.

Event Element		Features/Abilities
General		<ul style="list-style-type: none"> <li>• Events triggered on the device are sent to CathesisVision.</li> </ul>
Device Event Types	Message	<ul style="list-style-type: none"> <li>• Time</li> <li>• ID</li> <li>• Ticket number</li> <li>• Type</li> <li>• Bridge name</li> <li>• Customer,</li> <li>• Shipment number</li> <li>• Truck registration</li> <li>• Product</li> </ul>

- Container
- First mass
- Second mass
- Nett mass

### 1.3.4 Metadatabase

A unique metadatabase is created on the CathesisVision server for this integration. It is fully searchable, with configurable filters based on device event information (as above), and time stamping. The filtered event/s, and the associated video, will then be available for review in a new window from which an archive can be created and exported.

Database Element	Features/Abilities
<b>General</b>	<ul style="list-style-type: none"> <li>• All device events are databased.</li> <li>• Database entries include the footage from cameras linked to device objects.</li> <li>• Multiple cameras may be linked to multiple weighbridge objects.</li> <li>• Device event metadata is displayed where applicable.</li> <li>• Databased device events may be viewed in the embedded video player, which includes the usual CathesisVision video review tools.</li> </ul>
<b>View Options</b>	<ul style="list-style-type: none"> <li>• Standard</li> </ul>
<b>Sort Options</b>	<ul style="list-style-type: none"> <li>• Events can be sorted based on the parameter of <b>time</b>.</li> </ul>
<b>Easy Search</b>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Ticket number</li> <li>• Type</li> <li>• Bridge name</li> <li>• Customer</li> <li>• Shipment number</li> <li>• Truck registration</li> <li>• Product</li> <li>• Container</li> <li>• First mass</li> <li>• Second mass</li> <li>• Nett mass</li> </ul>
<b>Filter</b>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Ticket number</li> <li>• Type</li> <li>• Bridge name</li> </ul>

	<ul style="list-style-type: none"><li>• Customer</li><li>• Shipment number</li><li>• Truck registration</li><li>• Product</li><li>• Container</li><li>• First mass</li><li>• Second mass</li><li>• Nett mass</li></ul>
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**Export**

Database entries may be exported in CSV and PDF format.

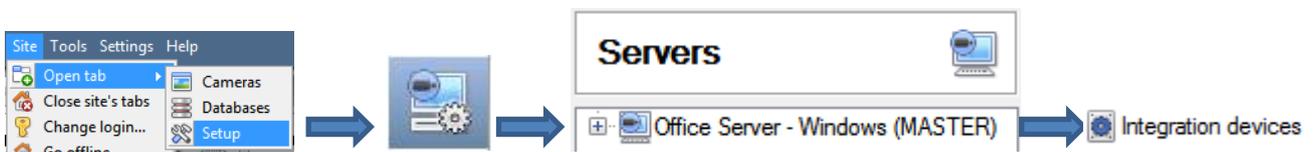
## 2. Device Addition and Configuration

This section will detail the procedure for setting up CathesisVision and the Titan Weighbridge to communicate with each other.

### 2.1 Devices Section (Add a New Device in CathesisVision)

Integrations are added on a server-by-server basis. They are managed in the Integration Devices panel, under the **Setup Tab** of the servers to which they are added.

To get to the Integration Panel, follow this path:



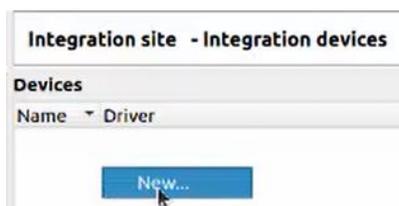
There are two sections in the Integration Panel:

- The **Devices** list will list the integration devices that are attached to the server.
- The **Configuration** section enables editing/reviewing of the device selected in the **Devices** section.

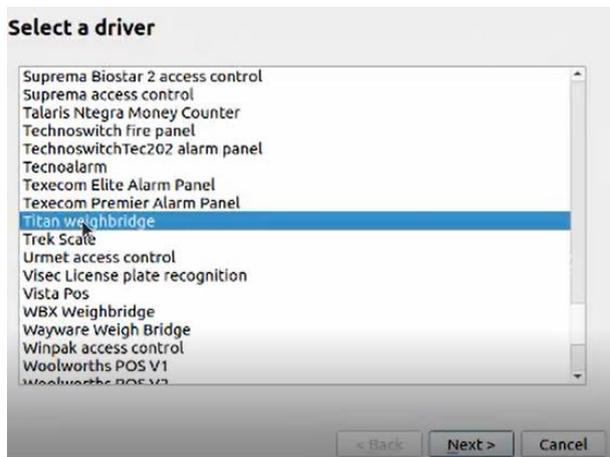
#### 2.1.1 Device Addition



In the Devices section of the Integration Panel, select **New device**.



Alternatively, right-click in the Devices section, and select **New...**



Select the **Titan weighbridge** driver from the list.

Click **Next**.



Give the device a descriptive **name**.

Enter the **port number**.

Click **Finish**.



The integration driver will appear in the Devices panel.

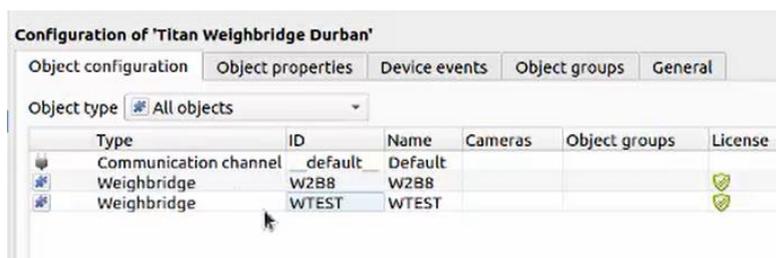


The integration objects will populate the Configuration panel.

## 2.2 Configuration Section (Tabs)

The configuration section is divided up into a number of tabs. These tabs are: **Object configuration, Object properties, Device Events, Groups, and General.**

### 2.2.1 Object Configuration Tab



The object configuration tab is the tab where all the individual objects that comprise the integration may be viewed.

The Titan Weighbridge integration has two object types: **Weighbridge** and **Communication channel**.

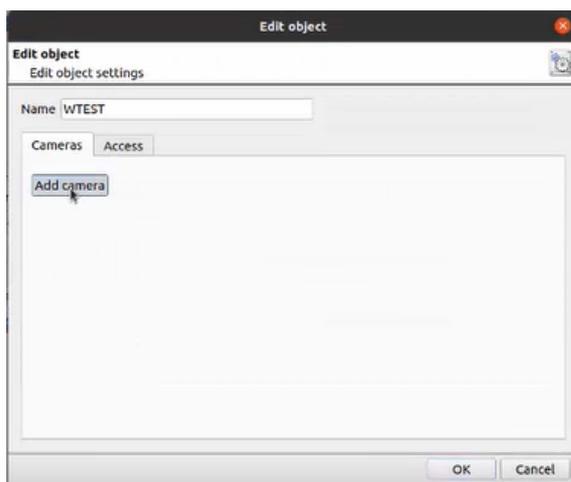
### 2.2.1.1 Object Configuration Buttons

	<b>New</b> will add a new object by clicking on New.
	<b>Edit</b> will open up an existing object for editing.
	<b>Delete</b> is used to delete an existing object from the CathesisVision configuration.

### 2.2.1.2 Object Configuration Right-click Options

	<b>New</b> will open up the dialogue box to add a new object.
	<b>Disable/Enable</b> allows manually enabling/disabling individual objects.
	<b>Delete</b> will permanently remove this object from the list.
	<b>Properties</b> will open up the object properties. Here, the user can edit the object by assigning cameras and user access levels to it.

### Properties: Cameras



Adding a camera to an object will mean that, whenever there is an event on that object, the recording from that camera will be associated with the time and date of the object event, in the integration metadatabase.

To add a camera, click on **Add Camera**. Select the relevant camera from the drop-down menu.



Click this icon to delete a camera.



Click the spanner icon to edit overlays.

**Note:** If **continuous recording** is not set up on associated cameras, there is the risk of device objects triggering while the cameras are not recording. In order to only record cameras when an object triggers, set up **Events** that trigger a recording, when one of these objects is activated.



Clicking on the spanner icon will open the **Configure overlays** dialogue box.

Either select to use default settings, or edit the overlay settings as desired.

## Properties: Access

**Access** protects objects by only allowing certain user levels access to them.

Under **View**, set the access levels.

**Note:** If **Use default access rights** is checked, make sure that those default rights have been correctly defined. Click on **Configure default access** to do this.

## 2.2.2 Object properties tab

Name	Online	Licensed
W2B8	✓	✓
WTEST	✓	✓

In the Object properties tab:

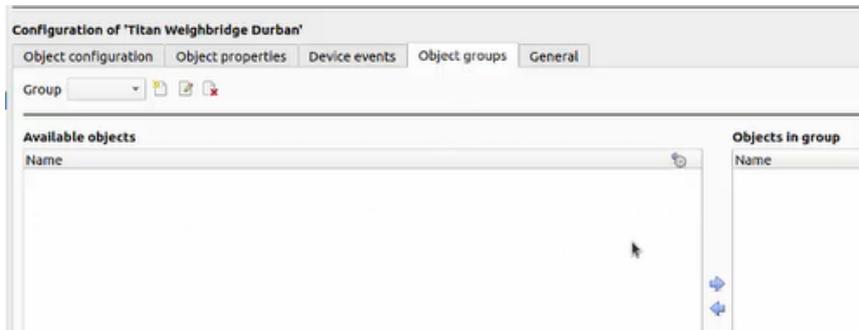
- a green tick indicates that the object is online / licensed.
- A red cross indicates that an object is offline / not licensed.

## 2.2.3 Device Events Tab

Time	Ticket number	Type	Bridge name	Customer	Shipment number	Truck registration	Product	Container	First mass	Second mass	Nett mass
2022-01-07 ...	W1WB200796	Receiving	W2B8	MONDI	mondi baywhite	HTJ691MP	MONDI - BAY...		55980	19320	36660
2022-01-07 ...		PENDING	WTEST	IXM SA	FEB 20 IXM CA	DC22DHGP	METAL - COP...		48120	0	0

The Device Events tab lists all events sent from the device. It is a way for installers to see that the integration is functioning, and to monitor the events happening on site.

## 2.2.4 Groups Tab



Create groups of the same type of object.

**Tip:** This is useful when setting up events, because events can be triggered by an object group. (For example, a group will trigger, if any of the objects in that group are triggered.)

### 2.2.4.1 Create or Edit a Group

-  To create a group, click on this icon.
-  To edit a group, click on this icon.
-  To delete a group, click on this icon.

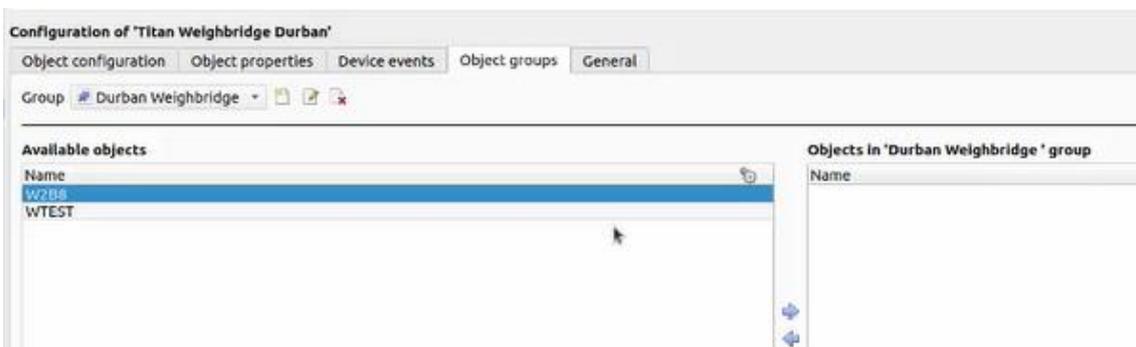


**Note:** Once a group has been created, the object type of the group may not be edited.)

Give the group a descriptive **Group name**.

Click on the drop-down menu to select the **Object type** to group.

Click OK.



A list of Available Objects will appear.

-  To add objects to the group, select them and click this arrow.
-  To remove objects to the group, select them and click this arrow.

**Note:** multiple objects may be selected at a time.

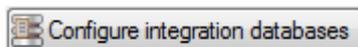
## 2.2.5 General Tab



The general tab deals with the **Integration database**. Here, select an existing database, or configure a new database for the integration.

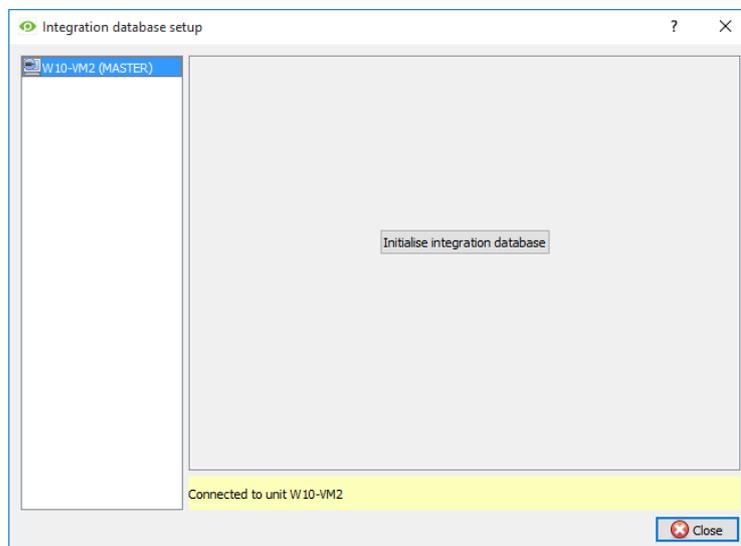
**Note:** Each integrated device needs to be attached to an Integration database. Without setting up/adding a database here, the integration will not function properly within the CathesisVision system.

### 2.2.5.1 Configure a New Database



If a database is not yet created, clicking on this button will navigate to the integration database setup.

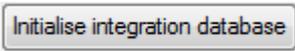
### Initialise the Integration Database



The first time an integration database is added, this feature must be initialised on the unit.

This will add a broad database, within which all of the integrated devices' databases will be added.

Select the unit to which to add the database, from the list on the left.

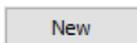
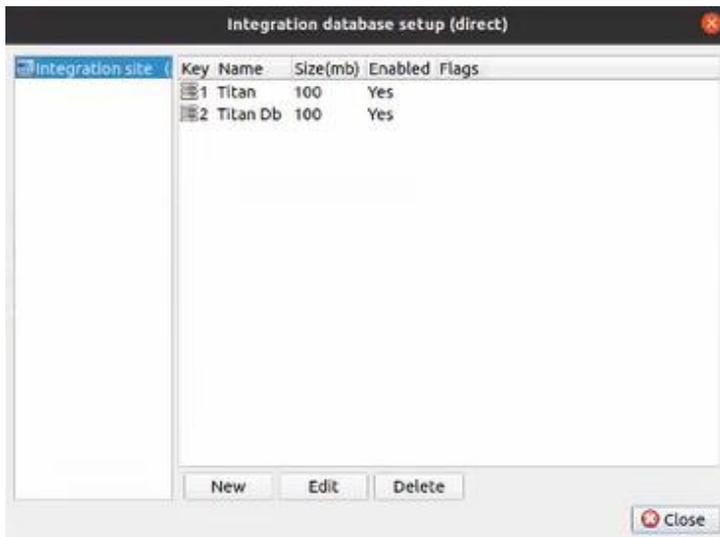
Click .



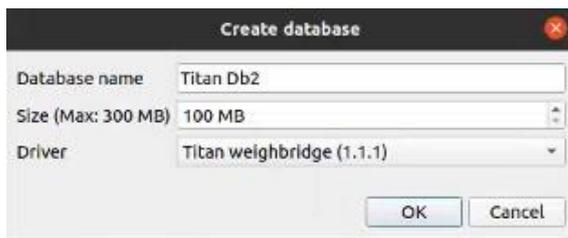
Choose which partition on which the database will be formed, and select how much space it will take up.

## Add a New Devices Database

After initialisation, add the database for the integration being worked with.



Click on the **New** button, at the bottom of the **integration database setup** window.



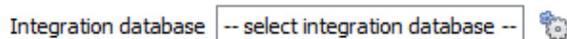
Give the Integration database a descriptive **Database Name**. E.g. Titan Db2.

Allocate a **Size** to the new device database.

Choose the device **Driver** that the device will be using.

Click on OK to create the database.

### 2.2.5.2 Select the Integration Database



To select a database once it has been created, click on the gear icon in the General tab.

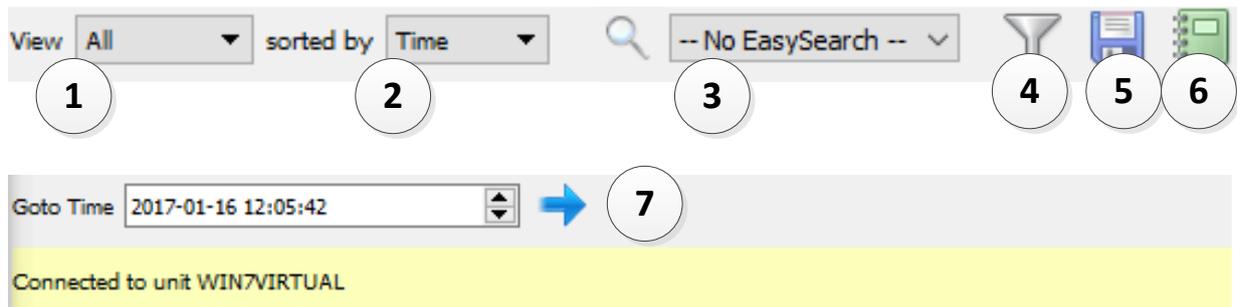


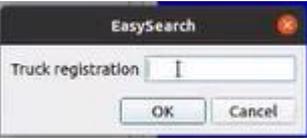
In the dialogue that appears, select the integration database.

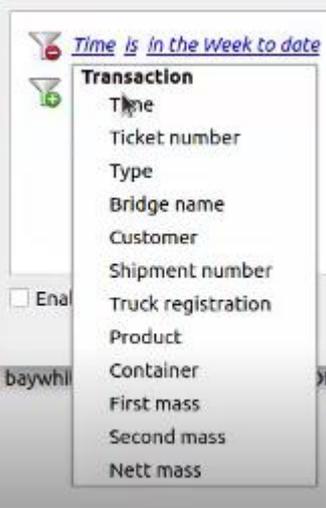
Only databases which relate to the device being added should appear.



### 3.2 Database Interface



<p>① <b>View</b></p>	<p><b>View</b> changes the way the database is presented. Some integration databases have multiple view options.</p>
<p>② <b>Sorted By</b></p>	<p>Events may only be sorted by <b>Time</b>.</p>
<p>③ <b>Easy Search</b></p>	<p>The easy search option quickly searches the database.</p>  <p><b>For example</b>, the database can be search using <b>Truck registration</b>.</p>  <p><b>Note:</b> this field is case-sensitive.</p>
<p>④ <b>Filter</b></p>	<p>Filter offers a more advanced manner of sorting information in the Integration Database table.</p> <p>Once the filters dialogue is open, these are the options:</p> <p><input checked="" type="checkbox"/> <b>Enable filters</b> To <b>enable</b> filters, check this box.</p> <p> To <b>add</b> a new filter, click on this icon.</p> <p><b>Note:</b> The filter icon (  ) will change to  when filters are active.</p> <p> To <b>delete</b> an added filter, click on this icon.</p>

	<p><b>Note:</b></p> <ol style="list-style-type: none"> <li>Multiple filters may be run simultaneously.</li> <li>The same parameter may be used more than once.</li> <li>To change a filter, click on the blue hyperlinked text. (For example, click on <b>Time</b> to change the filter from Time, to any of the other available options.)</li> </ol> 
<p>⑤ <b>Export</b></p>	<p>Generate metadatabase reports in <b>PDF</b> or <b>CSV</b> format. See below.</p>
<p>⑥ <b>Manage Reports</b></p>	<p>Generate scheduled metadatabase reports. See below.</p>
<p>⑦ <b>Go to Time</b></p>	<p>This navigates to a specific point in time, down to the second. To navigate to a timestamp set the time using the time and date boxes, and then click on the  icon.</p>

### 3.2.1 Scheduled Metadatabase Reports



Click this icon to open the scheduled report window.



All created reports will be listed here.

First, click **Add** to create a report. Then **edit** to define the reporting schedule. See below for more detail.

To create, edit, or delete a report, select the entry and click on the corresponding button.

#### 3.2.1.1 New scheduled report

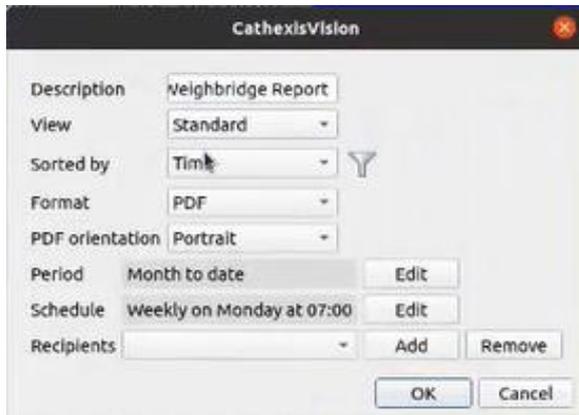


Click **Add** and give the report a description.

Click **OK** when done.

Once the new report is listed with the other reports, select it for editing to define the reporting schedule.

Select the report and click the **Edit** button.



Edit the **description** if needed.

Edit **Viewing** options.

Select the **Sorted by** option.

Select the **Format**.

Select the **orientation** of the Format.

Select the **period** to be reported on.

Define the **Schedule** for the report.

Add/remove recipients to whom reports will be sent.

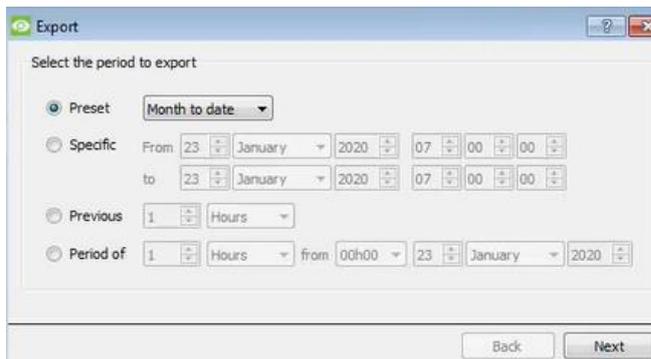
**Add recipient:** Click **Add** and enter the email address of the recipient. Multiple recipients may be added. All will receive emails.

**Remove recipient:** Select the recipient from the drop-down menu and click **Remove**.

### 3.2.2 Generate Metadatabase Reports

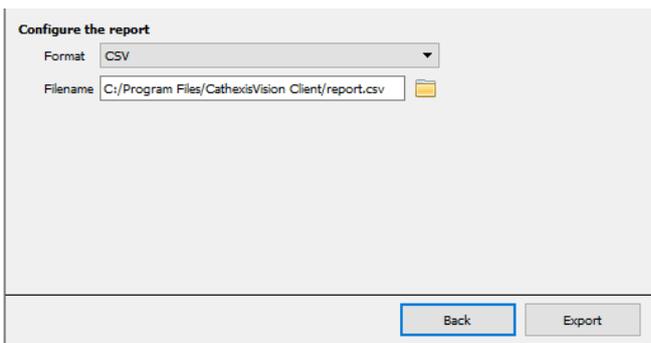


Click this icon to open the Export window.



Select the **Period** to export, and enter the required details.

Click **Next**.



Select the **Format** to export the report in; either CSV or PDF.

See below for the two options.

### 3.2.2.1 Export CSV

Select PDF **Format**.

Give the PDF a **Heading**.

Select either Landscape or Portrait **Orientation** of the PDF.

Edit the **Filename** by either entering it straight into text field (replacing **report.csv**), or click the



to choose a new save folder and filename.

### 3.2.2.2 Export PDF

Select PDF **Format**.

Give the PDF a **Heading**.

Select either Landscape or Portrait **Orientation** of the PDF.

Edit the **Filename** by either entering it straight into text field (replacing **report.csv**), or click the



to choose a new save folder and filename.

### 3.2.3 Metadata

<b>Time</b>	2021-09-10 10:49:19
<b>Device name</b>	Unnamed device(E1212)
<b>Name</b>	Output[00]
<b>Index</b>	00
<b>Type</b>	Pulse
<b>State</b>	Pulse inactive
<b>Counter</b>	0

The right side of the database displays metadata about the event entry.

### 3.3 Viewing an Entry's Associated Recording

The video player is embedded in the database view. The player uses the same timeline features as the cameras tab.

-  A database entry with the camera icon in the Links column indicates that the entry has an associated recording.

To view the recording, left-click on the entry. Then click **play** in the video player.



Enable overlays by selecting the overlay icon on the left side of the camera player screen.



The overlays will appear as configured by the user.

## 4. Events

A CathesisVision Event has a trigger, which causes an action. Integrated devices may be set to act as triggers, or as actions. This document will detail the ISS LPR / Container specific aspects of Events. There is a comprehensive guide to CathesisVision Events in the main setup manual.

Most of the data that CathesisVision receives from a device is presented in the **Events interface**. This is done in order to give the user a full range of options. As a result, some of the options presented in the interface may be impractical as event triggers, or actions.

### 4.1 Creating an Event

To create an event using the Titan Weighbridge, enter the **Events management area**:



Once in the Events management area, click on .

This will open up the New Event window.

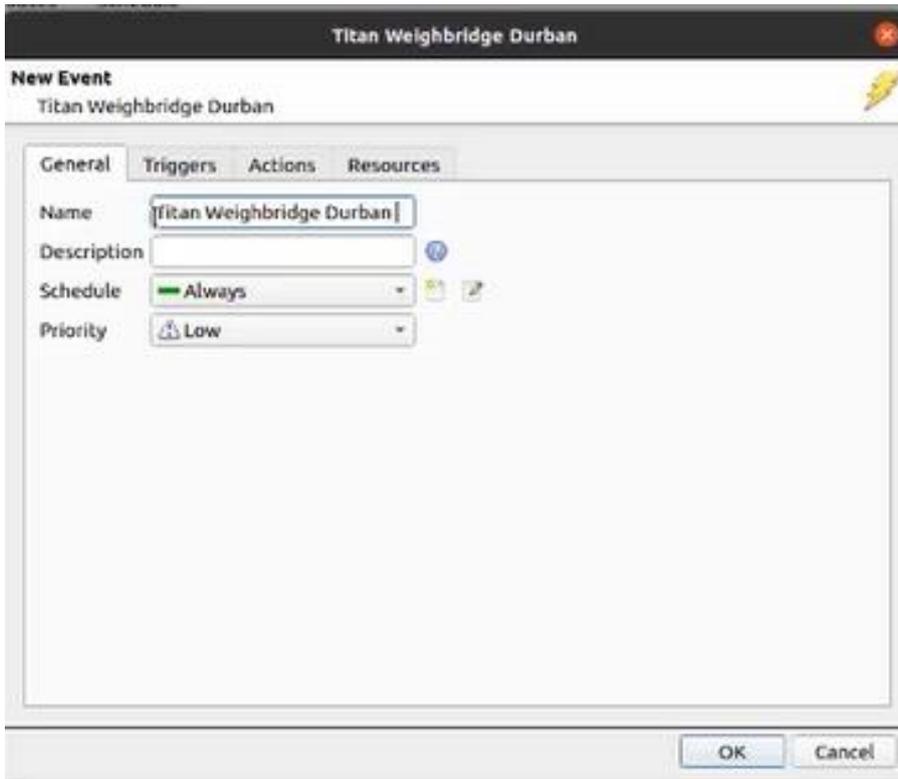
#### 4.1.1 New Event Window



Events in CathesisVision are set up via the Event Window. This has 4 tabs:

- in the **General Tab** an event is given a name, description, schedule and priority;
- in the **Triggers Tab** the trigger/s for the event is/are defined;
- in the **Actions Tab** the action/s, which the event takes, is/are defined;
- in the **Resources Tab** the various site resources, which can be used as part of an event, are defined.

## 4.2 General tab



**Name:** Give the event a descriptive name.

**Description:** click the question mark to see which variables are available for the integration.\*

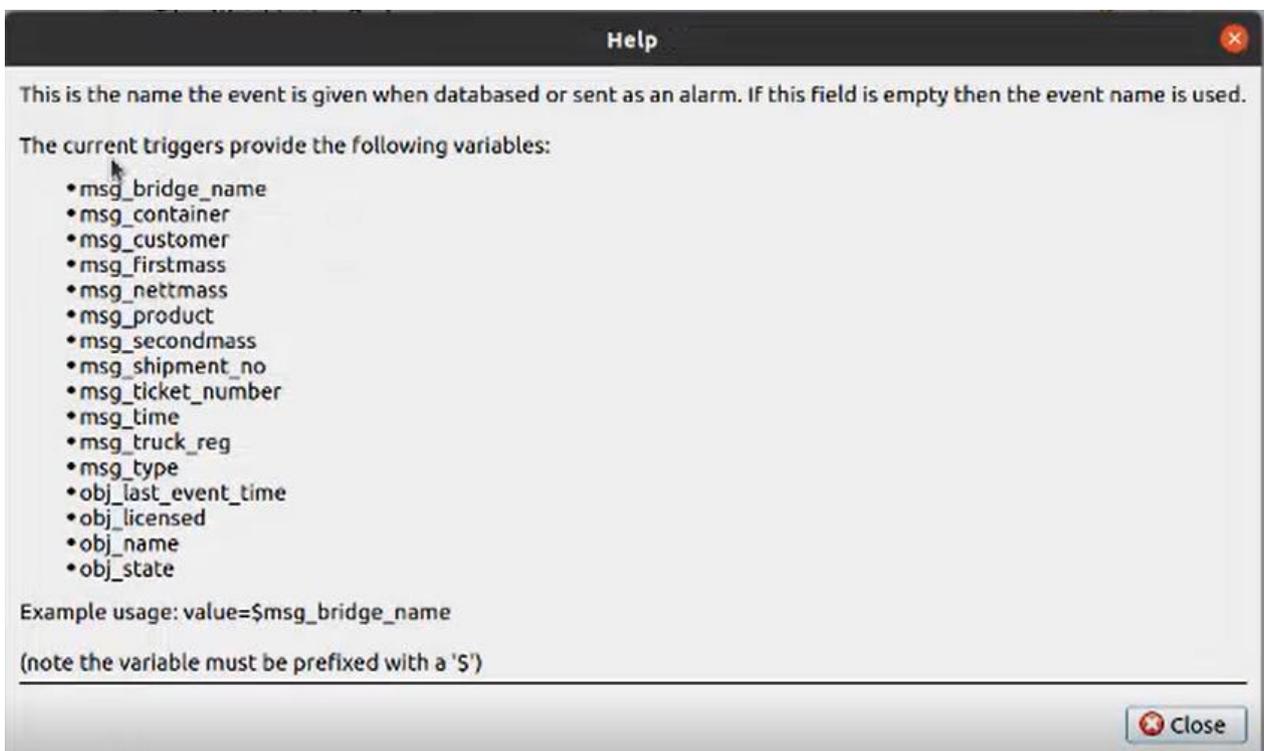
Because this app-note uses the bridge name as an example of a trigger, the Description field will be completed as follows:

Description  ?

**Schedule:** set a Schedule.

**Priority:** set a Priority level.

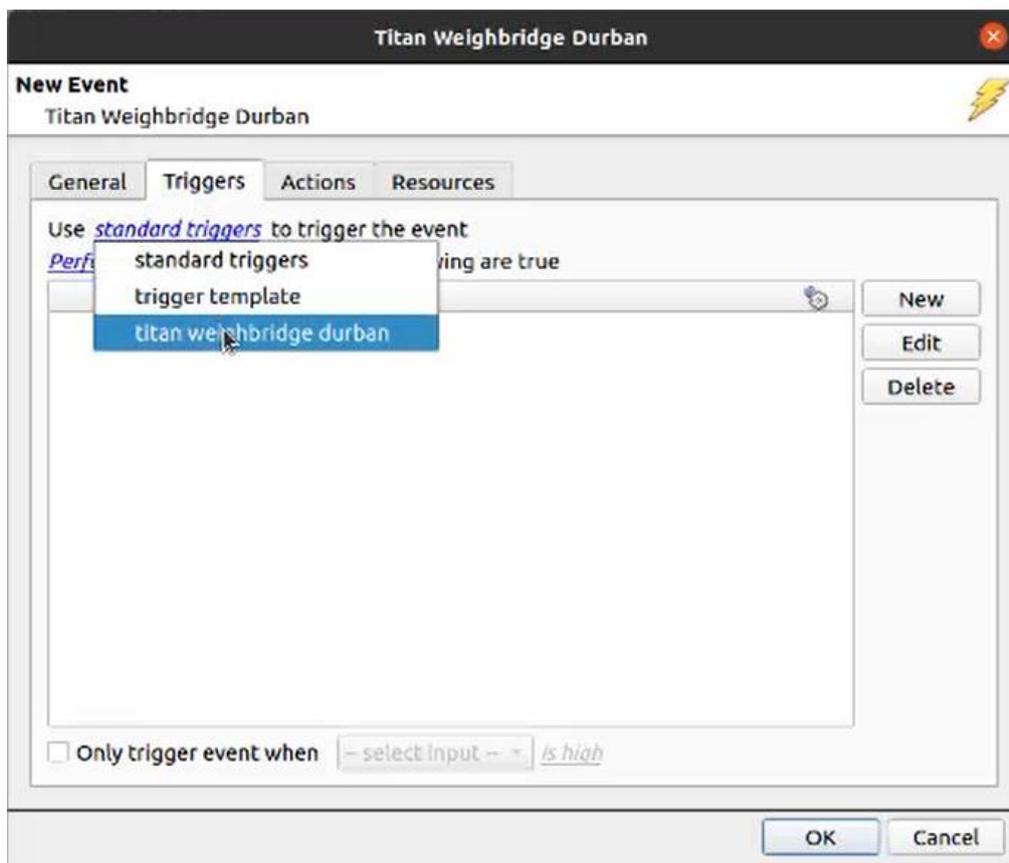
\* The image below shows the variables available for this integration.



## 4.3 Triggers tab

A trigger is the user-defined input that prompts the event to start. The trigger causes the subsequent action, which the user will also define.

### 4.3.1 Set the Device as the Trigger



When creating a new event, the trigger type will default to: Use [standard triggers](#).

To define which device will trigger the event, click on the hyperlink after “use”.

To set it as the Titan Weighbridge device, click on the hyperlink/ Select the Titan Weighbridge device name from the drop-down menu.

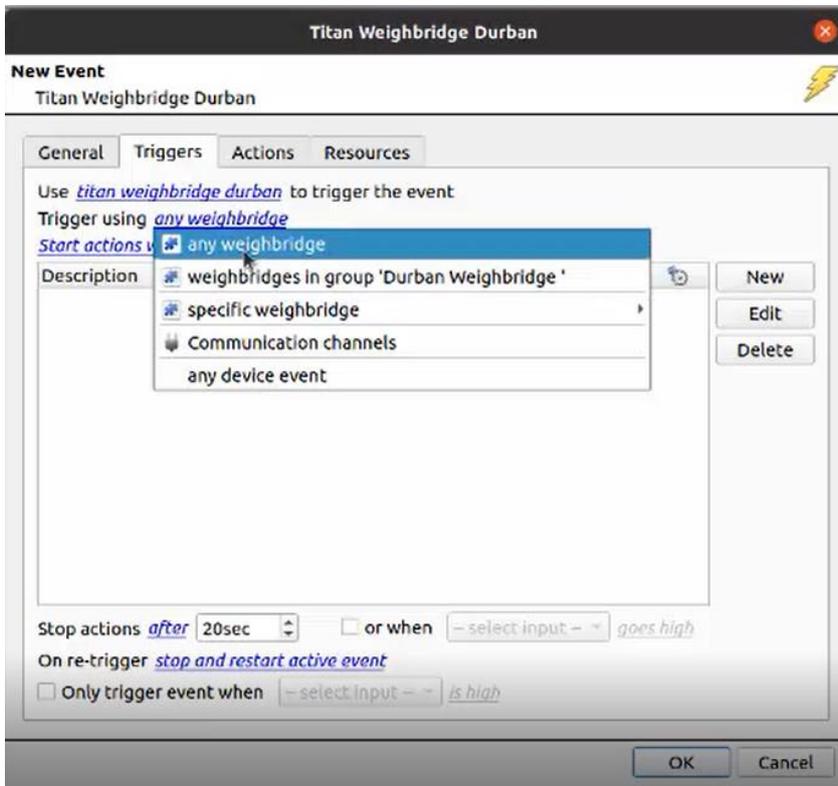
### 4.3.2 While/When and Any/All

When triggering on an object, the user can select to **start actions when/ perform actions while** any/all of certain device events occur.

To change these settings, click on the related blue, hyperlinks.

### 4.3.3 Trigger Types (Trigger Using)

It is useful to think of this as a **master trigger type**.



**Any weighbridge** will trigger when any weighbridge objects send the selected trigger.

**Weighbridges in group...** will trigger when weighbridges in the configured group send the selected trigger.

**Specific weighbridge** will trigger on an event from the specific weighbridge object selected.

**Communication channels** will trigger only on the Communication channels.

**Any device event** will trigger on any event that occurs on the device.

**Note:** For this event to be databased under the name of a specific object, and not the name of the triggering group, modify the Description field in the **General tab** of the Event setup. Click on the to see a list of available descriptions. Here is an example:

Click on  in the Triggers tab. This will bring up the **New device event trigger** box.

#### 4.3.3.1 Define the Trigger (New device event trigger)

After selecting a master trigger type, add a trigger to the event.



Choose an event type from the drop-down menu.

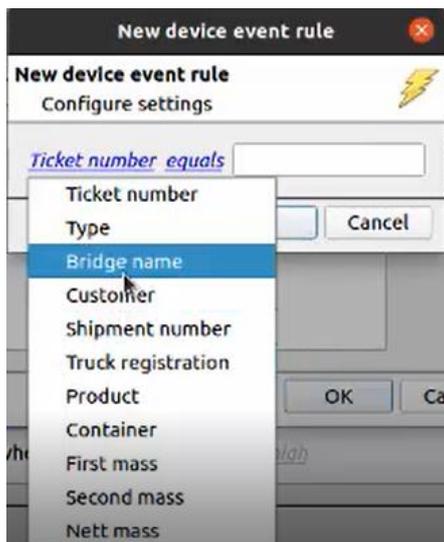
Choose if [any](#), or [all](#) constraints need to be fulfilled to set off a trigger.

**Note:** Multiple constraints may be set (**Device Event Triggers**). If no constraint is defined, every single device event will trigger this event.

To add/edit/delete a **Trigger** (a constraint) use the **New**, **Edit**, and **Delete** buttons on the right-hand side.

Click **New** to open the **New device event rule** box.

### New device event rule



To change the constraint, click on the first hyperlink. This will bring up the full list of available rules.

In this example, the user has chosen **Bridge name** to trigger events.



Enter the bridge name.

**Note:** the field is case-sensitive.

To modify the way the rule will be treated, click on the second hyperlink ([equals](#) in the example).

Click OK.

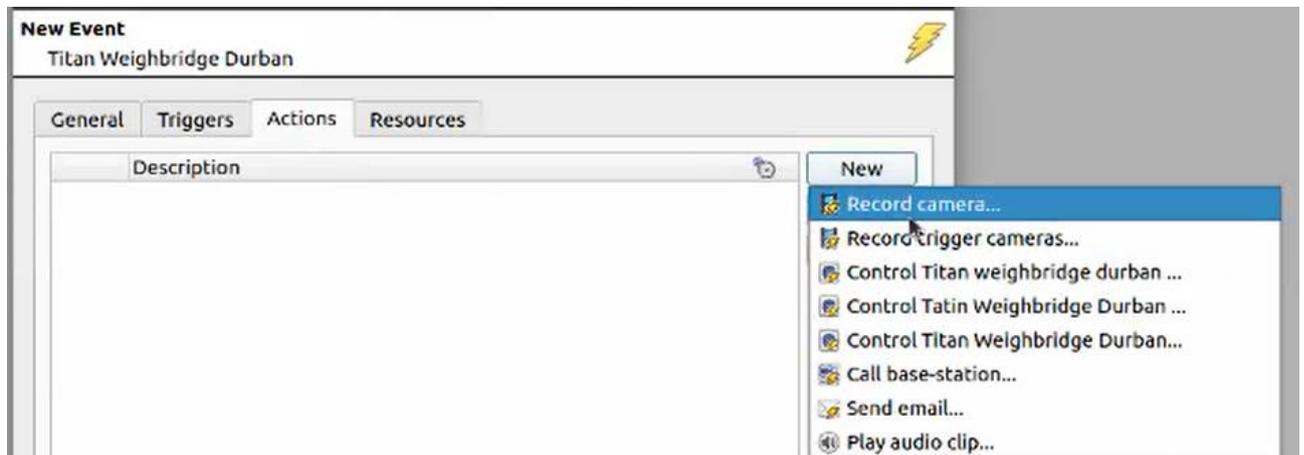
## 4.3 Actions tab



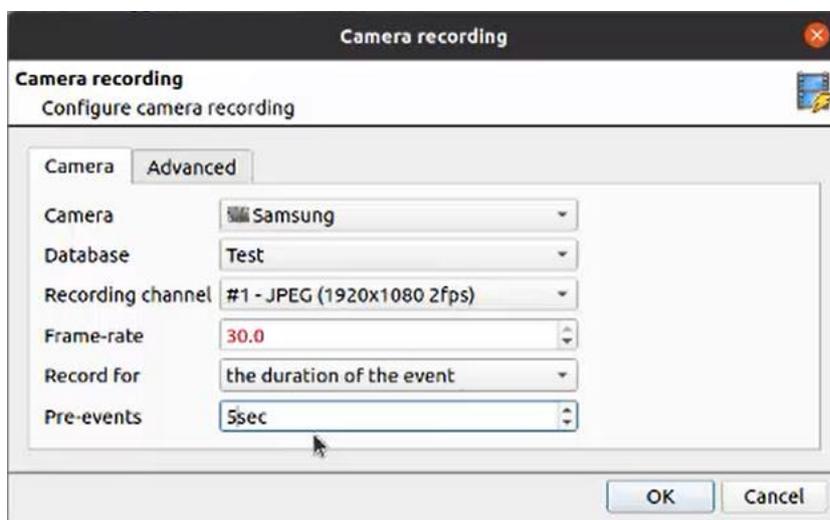
Once the triggers that are going to initiate the event are defined, define some Actions.

### 4.4.1 New Action

New To create a **new Action**, click on **New**.



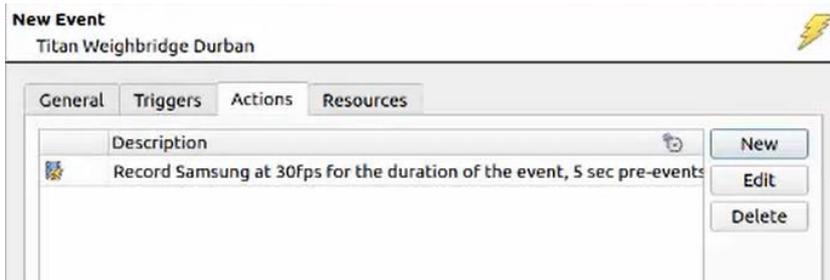
In this example, the user has chosen to **Record a camera**.



The **camera recording window** will open.

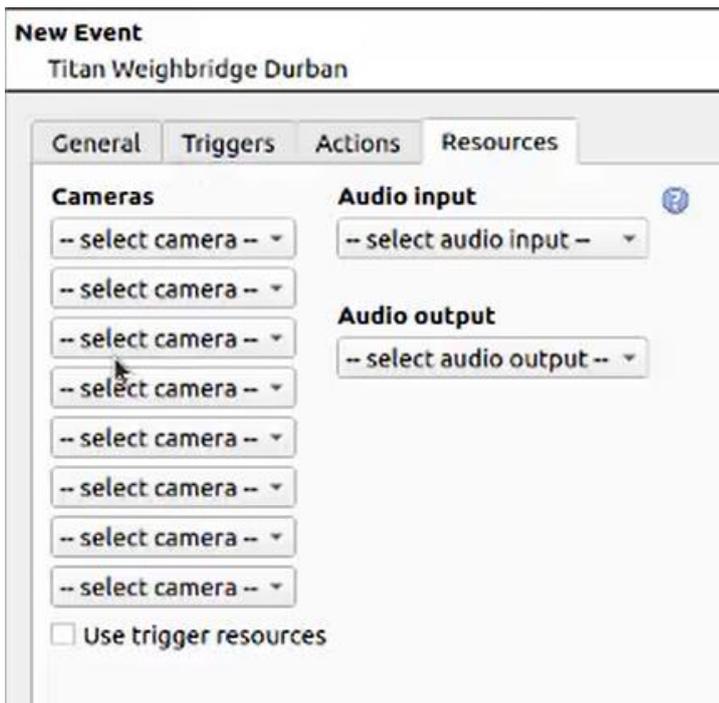
Edit the settings as required.

Click **OK**.



The configured action will appear in the tab.

## 4.4 Resources tab



In the Resources tab, multiple cameras can be added.

Audio input and audio output can be added.

Click **OK**.

## 5. Conclusion

This app-note was designed to deal specifically with the Titan Weighbridge integration.

For further information about the CathesisVision software, consult the main ***CathesisVision Setup Manual*** (<http://cathesisvideo.com/>).

For support, email [support@cat.co.za](mailto:support@cat.co.za).