inception

WEB POWERED SECURITY

Simple & Easy Installation

Integrated Security - Access Control

Hanwha Vision

WISENET WAVE

Inception and Wisenet WAVE Integration

The Inception and Hanwha Wisenet WAVE systems offer a wide range of events and actions that can be executed. When the two systems are integrated there are endless possibilities for automation. Here are some examples of what can be achieved when integrating these systems:

- When an Inception door opens, a camera automatically maximises to full screen on Wisenet WAVE.
- When an Inception area is armed, recording is started on a camera in Wisenet WAVE.
- When a line crossing event is detected in Wisenet WAVE an alarm is triggered in Inception.
- A clickable icon on a camera view in Wisenet WAVE can be used to unlock a door in Inception.

This integration supports bi-directional communication but requires a one-way setup to be configured on each system. To provide clarity, this guide is divided into two sections: Inception to Wisenet WAVE and Wisenet WAVE to Inception.

This guide details the setup for specific examples, whilst providing general information on how the integration works. The process below can be adapted to use different events and actions in both Inception and Wisenet WAVE, to meet customer requirements.

For a comprehensive list of trigger events and actions applicable to each system, please refer to the "Trigger Events and Actions" section.

inner range

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Inception to Wisenet WAVE

The Inception controller sends a createEvent API messages to the Wisenet WAVE server which creates *Generic Events* in the WAVE event log. Wisenet WAVE then uses *Event Rules* to match these generic events and trigger actions within the WAVE system.

To do this the following are required:

From Wisenet WAVE:

1. The WAVE server IP address and port number.
2. The Login and Password of a user with *Digest Authentication* enabled.
3. A Generic Event Camera Rule, to perform an action when events are received.

From Inception:

1. A HTTP Send Only Connection, authorized with a WAVE user login.
2. An Automated Action to send a createEvent message to the WAVE server.

createEvent API Message Structure

Before beginning it is important to understand the createEvent API message structure that Inception will send to the WAVE server.

Complete message:

```
http://{SERVER _IP:PORT}/api/createEvent?source={Text1}&caption={text2}&description={text3}
```

Breakdown:

`api/createEvent?`	This defines the API message and lets the WAVE server know to create a generic event.
`{SERVER_IP:PORT}`	The IP and port of the WAVE server.
`source={Text1}`	This defines the source of the generic event. i.e replace `{Text1}` with Inception.
`&caption={Text2}`	The caption is optional, used to distinguish events. i.e replace `{Text 2}` with the type of event.
`&description={Text3}`	The description is optional, used to distinguish events. i.e replace `{Text3}` with the specific of an event.

Examples:

```
http://192.168.0.5:7001/api/createEvent?source=Inception&caption=Alarm&description=Zone1

http://192.168.0.5:7001/api/createEvent?source=Inception&caption=Door%20Open

http://192.168.0.5:7001/api/createEvent?source=Inception&description=Front%20Door%20Open
```

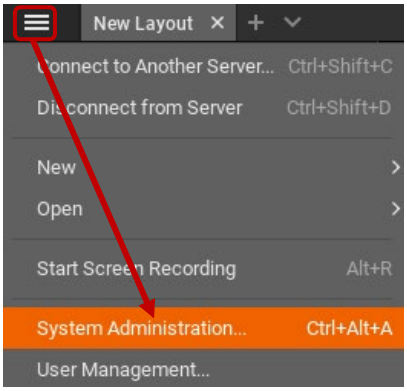
NOTE: All spaces in the source, caption or descriptions must be replaced with %20

Wisenet WAVE Setup

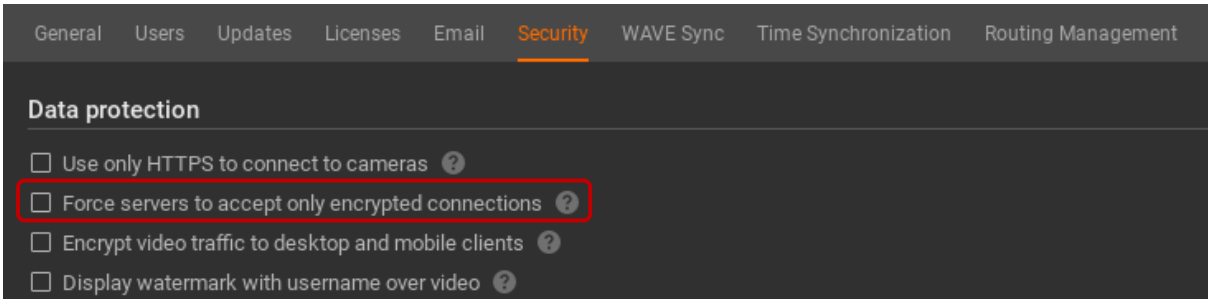
System Security

If your Inception is running firmware 5.1.2 or earlier, you must disable the *Force servers to accept only encrypted connections* setting in the WAVE server. If your Inception is running firmware 5.2 or later, please skip to Server Settings.

To disable *Force servers to accept only encrypted connections* navigate to *Menu*, *System Administration*.



Go to the *Security* tab. Ensure *Force servers to accept only encrypted connections* is not ticked.



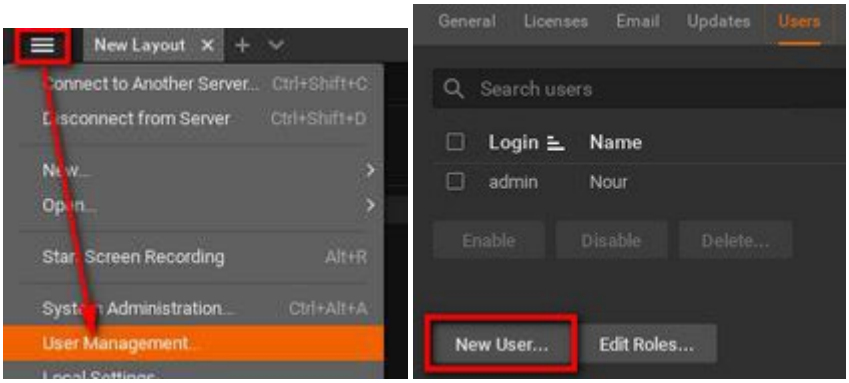
Server Settings

To check the server settings, right click on the server and click on *Server Settings.* The details in the *General* tab will be required for the Inception connection configuration.

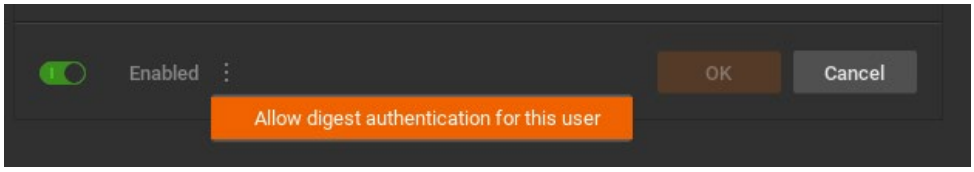
Note the IP address and Port number as they are needed in future steps.

Create a User

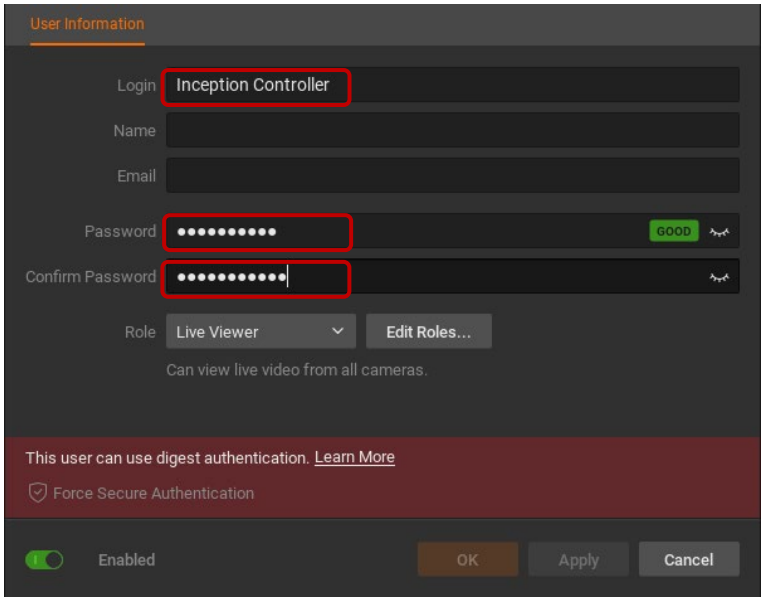
Go to *Menu*, *User Management* then *New User*.



Click on the 3 dots next to *Enabled* and click on the hidden *Allow digest authentication for this user* option.



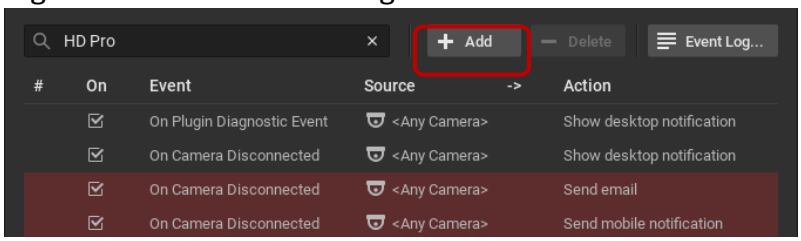
Enter a Login and Password.



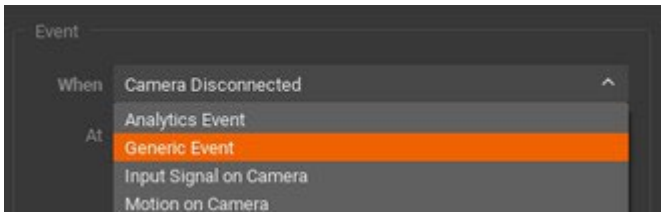
Take note of the login and password as they are needed in future steps.

Create a Generic Event Camera Rule

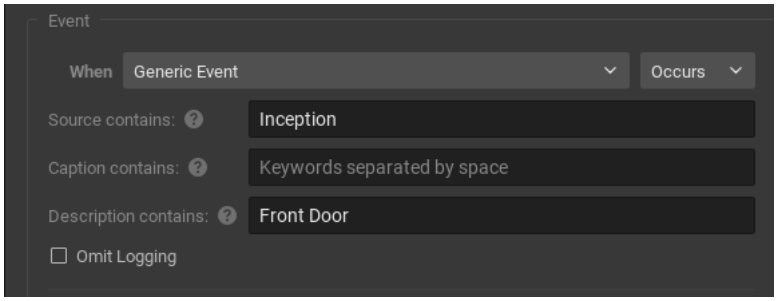
Right click on a camera and go to *Camera Rules* then *+ Add.*



Select *Generic Event* in the *When* dropdown.

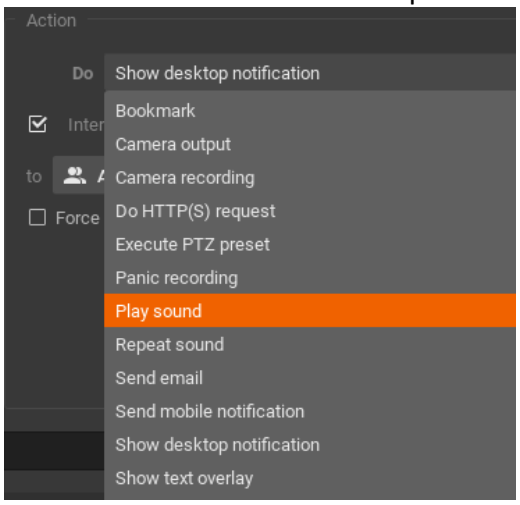


Enter keywords into the *Source*, *Caption* and/or *Description* fields. The keywords should match those in the createEvent message sent by Inception. These keywords are not mandatory but are used to filter Generic Events and trigger the correct actions.



In the example above the Camera Rule will be triggered for all Generic Events received where the Source is Inception and the Description is Front Door.

Define the *Action* for WAVE to perform when the event is received.



Inception Setup

Create a Connection

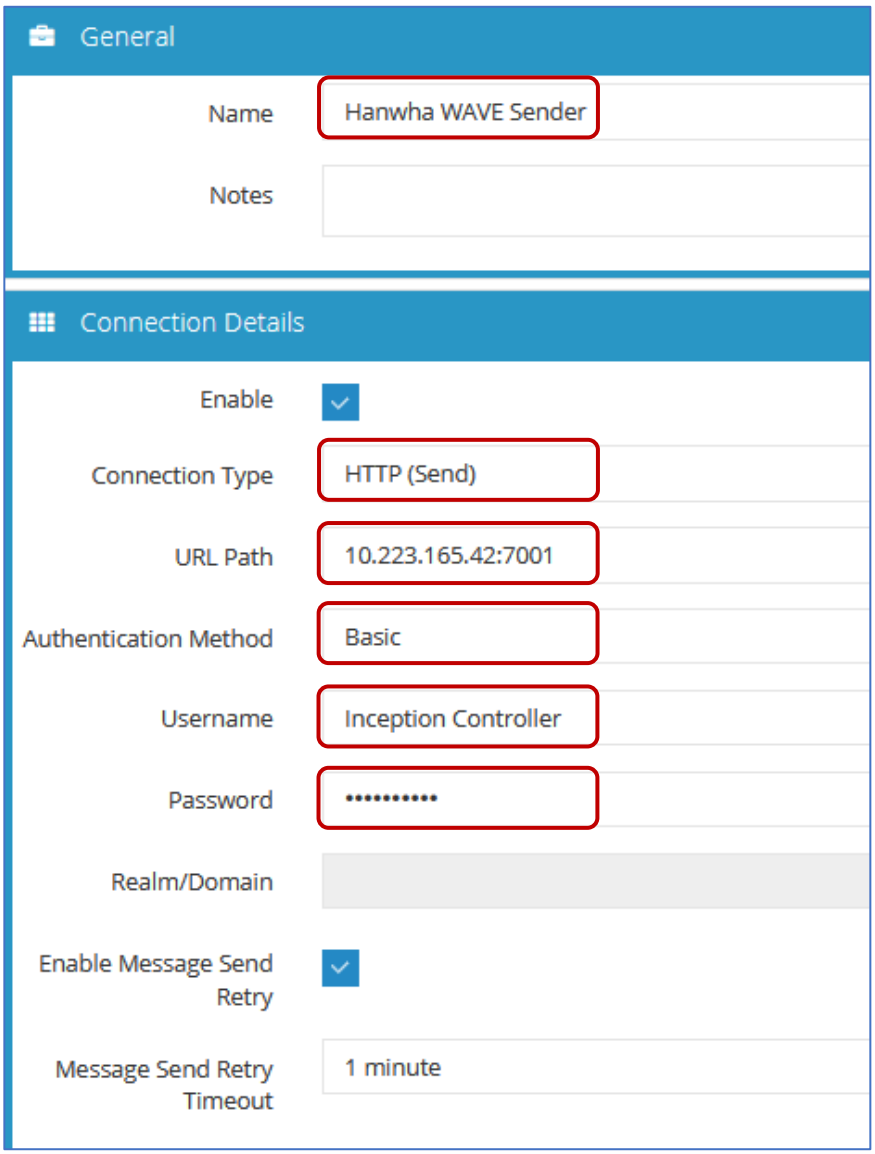
Navigate to *Configuration -> General -> Connection* on Inception. Click on *+ Add* and name the connection.

Expand *Connection Details* and set the *Connection Type* to *HTTP (Send)*.

Set the URL Path to the IP and Port of the Wisenet WAVE Server.

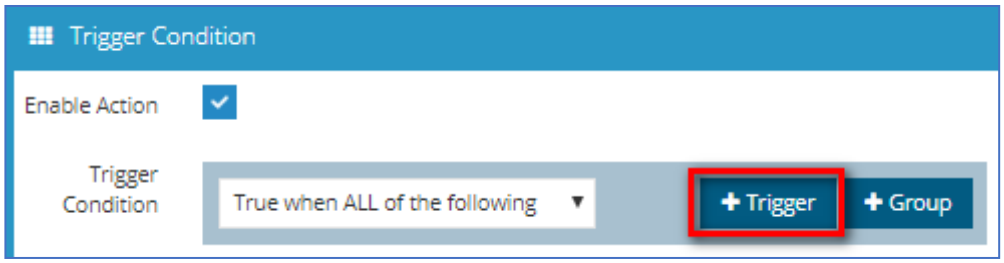
Select *Basic* as the Authentication Method and enter the User Login credentials for the Wisenet WAVE Server.

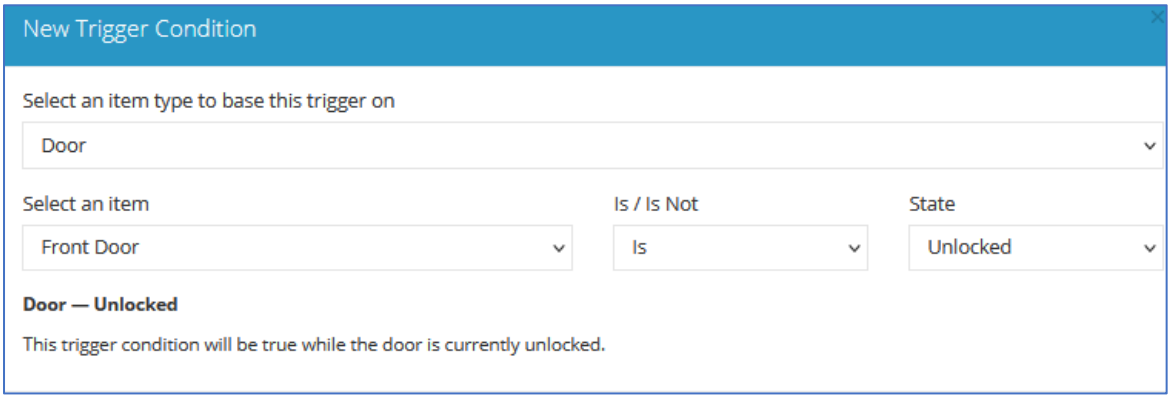
Save the connection.



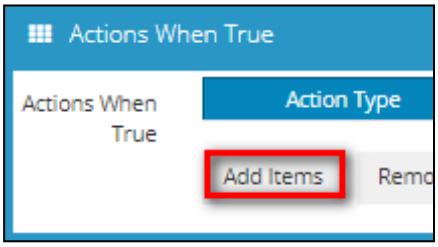
Create an Automated Action

Navigate to *Configuration* -> Automated Actions. Click on *+ Add* and name it.
Expand *Trigger Condition* and click on *+ Trigger.*
Select Door in the *item type* dropdown. In this example, Front Door and Unlocked will be selected.

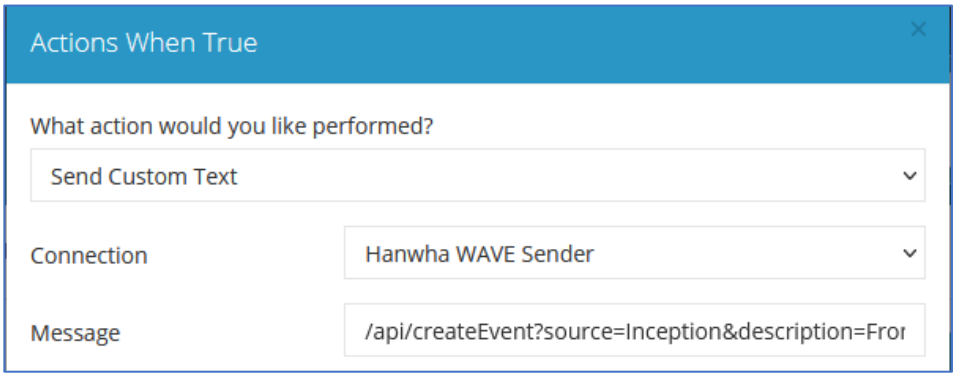




Expand *Actions When True* and click on *Add Items.*

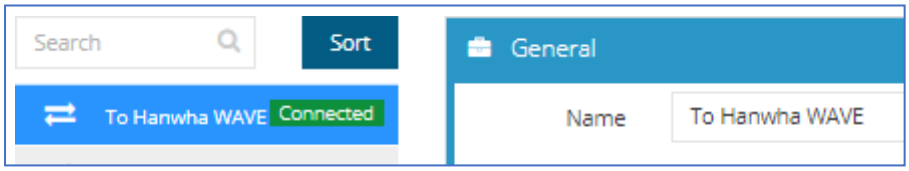


Select Send Custom Text in the action dropdown, select the connection that was created in Create a Connection and enter a createEvent API message.
In this example the message */api/createEvent?source=Inception&description=Front%20Door* is sent.

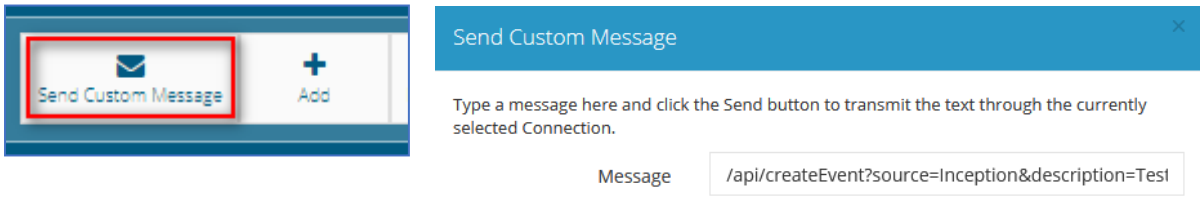


Test Connection (Optional)

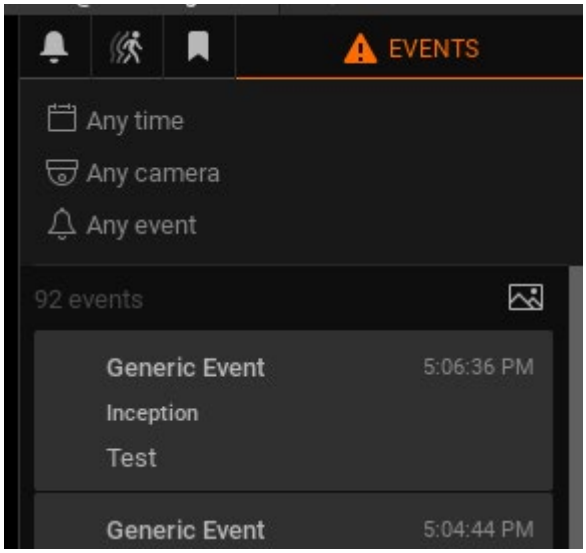
Navigate to Configuration -> General -> Connections
Select the outgoing connection that was previously created.



Click on *Send Custom Message* and enter a createEvent API message such as */api/createEvent?source=Inception&caption=Test*



If sending is successful the Generic Event will appear in the WAVE event log with the Source and Description from the API createEvent message.



Wisenet WAVE to Inception

Wisenet WAVE sends HTTP requests to the Inception controller, as an *Action* for a *Camera Event.* Inception has an HTTP receiver listening for the requests, and *Automated Actions* configured which perform actions in the Inception based on the text received.

To do this the following are required:

From Inception:

1. An HTTP (Receive) Connection with a username and password and a Key String.
2. An Automated Action that will trigger an action when a message is received from Wisenet WAVE.

For Wisenet WAVE:

1. A Camera Rule with a *Do HTTP Request* action to send a GET request to Inception.

Inception HTTP Receivers

Inception uses Key Strings to identify incoming HTTP GET requests and direct them to the correct HTTP (Receive) Connection.

Complete message:

```
https://{INCEPTION_ADDRESS}/receive_http_connection?key={Text1}&message={Text2}
```

Breakdown:

`{INCEPTION_ADDRESS}`	The address of the Inception Controller. This can be an IP address or the SkyTunnel address of the controller.
`/receive_http_connection?`	Tells the Inception an HTTP message is inbound.
`key={Text1}`	This defines the Key String and tells Inception which *Connection* to direct the message to. i.e. replace {Text1} with FromWAVE.
`&message={Text2}`	This defines the message that Inception can use as an automated action trigger. i.e. replace {Text2} with OpenFrontDoor.

Inception Setup

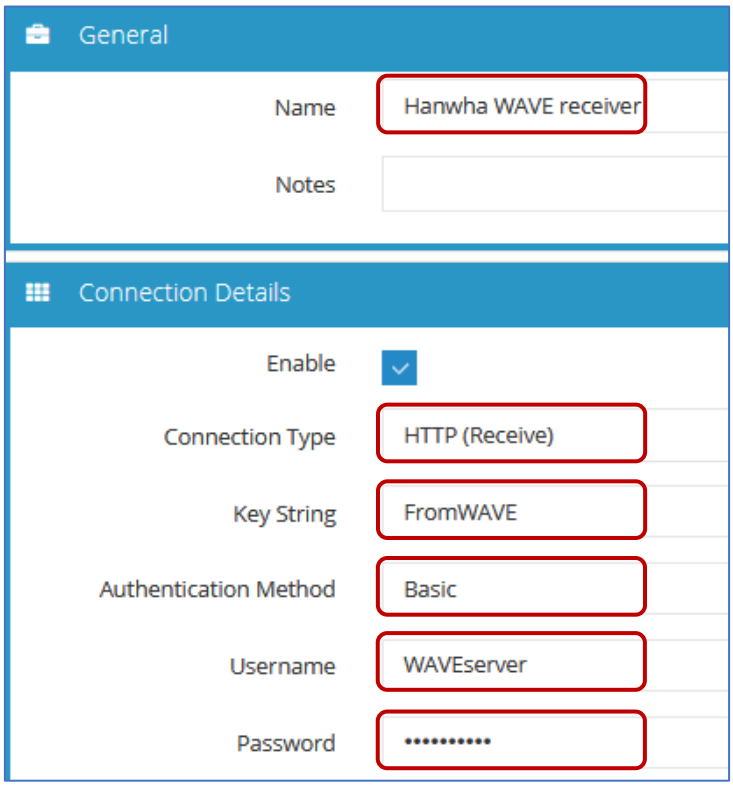
Create a Connection

Navigate to *Configuration -> General -> Connection*, click on *+ Add* and name the connection.

Expand *Connection Details* and select *HTTP (Receive)* in the *Connection Type* dropdown.

Enter a Key Sting to specify this connection when a HTTP message is received.

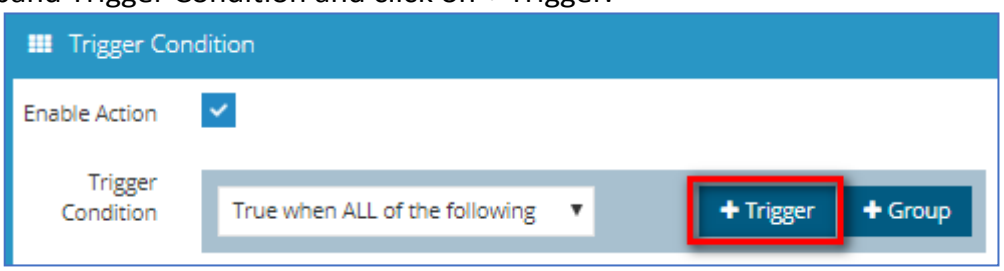
Set the *Authentication Method* to Basic and set a Username and Password for the connection.



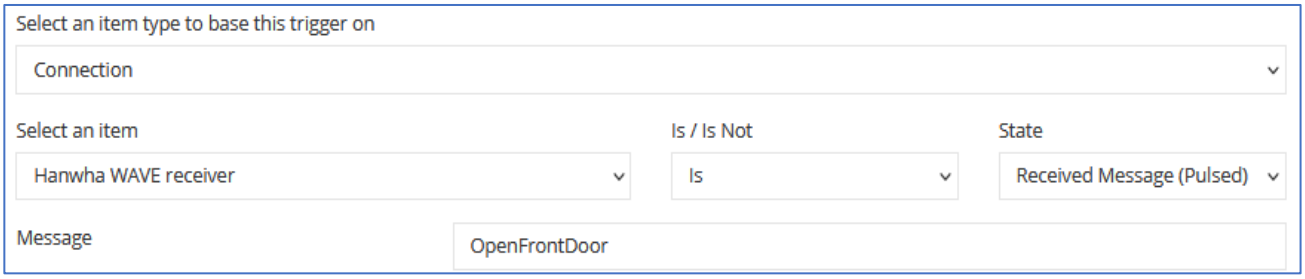
Create an Automated Action

Navigate to *Configuration -> Automation -> Automated Actions*. Click on *+ Add* and name the Automated Action.

Expand Trigger Condition and click on + Trigger.

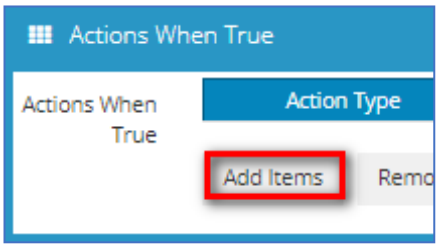


Select Connection in the *item type* dropdown then select the connection previously created.
Select Received Message (Pulsed) in the *State* dropdown.
In *Message* type the text that is expected from the WAVE server.

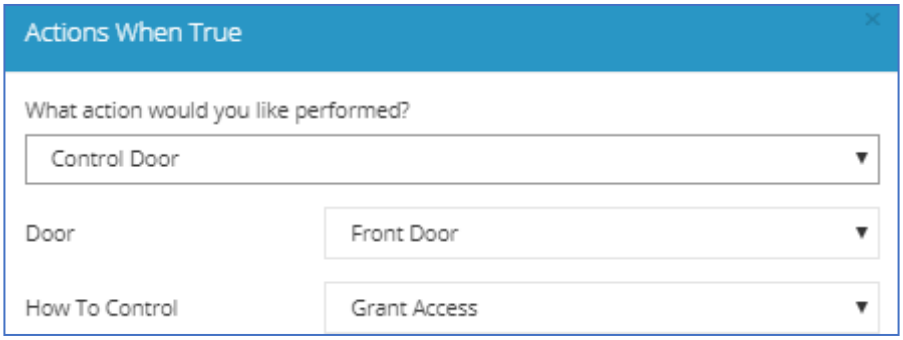


NOTE: If the message text sent from wave includes spaces Inception will receive them as \x20 and the trigger must reflect this. i.e.
"Open Front Door" would become "Open\x20Front\x20Door".

Expand Actions When True and click on Add Items.



This example will allow Wisenet WAVE to open a door. Select Control Door, Front Door and Grant Access. Click on *Confirm*.



Click on *Confirm* then *Save*.

Wisenet WAVE Setup

Create a Camera Rule

Right click on a camera and click on *Camera Rules* then *+ Add.*

Action Setup

In the *Action* options select *Do HTTP(S) request* from the *Do* dropdown.

Set the HTTP(S) URL as:

```
https://{INCEPTION_ADDRESS}/receive_http_connection?key={Text1}&message={Text2}
```

replacing the place holder text:

`{INCEPTION_ADDRESS}` with the IP address or SkyTunnel address of the controller.

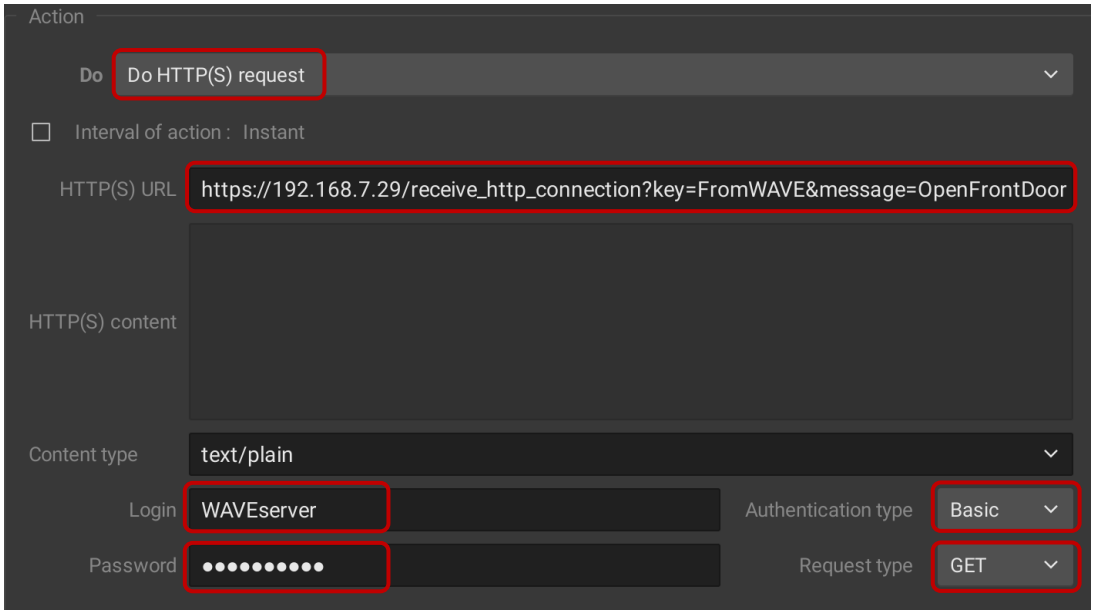
`{Text1}` with the *Key String* configured in the Inception *HTTP Receive Connection* previously.

`{Text2}` with the *Message* text configured in the Inceptions *Automated Action Trigger* previously.

Set the *Request Type* to GET.

Enter the Login and Password that was configured in the Inception Connections *Authentication Method* previously.

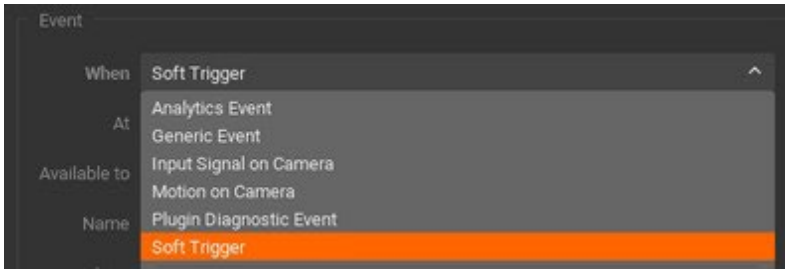
Interval of action can be configured to restrict how often the Action can be triggered, but is not required.



Event Setup

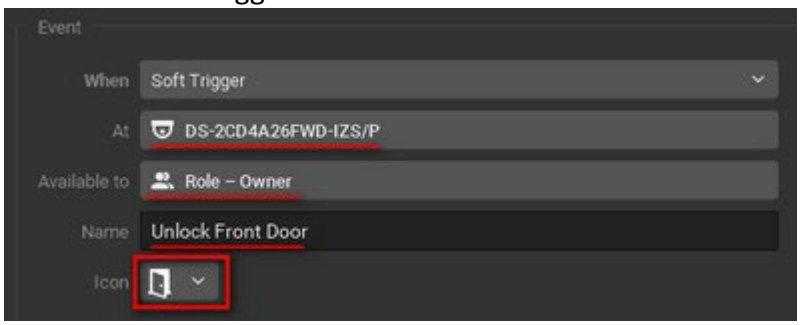
In the *Event* options define what events will trigger the action. The following example will create an icon on a camera that will send a message to Inception.

Select Soft Trigger in the *When* dropdown.



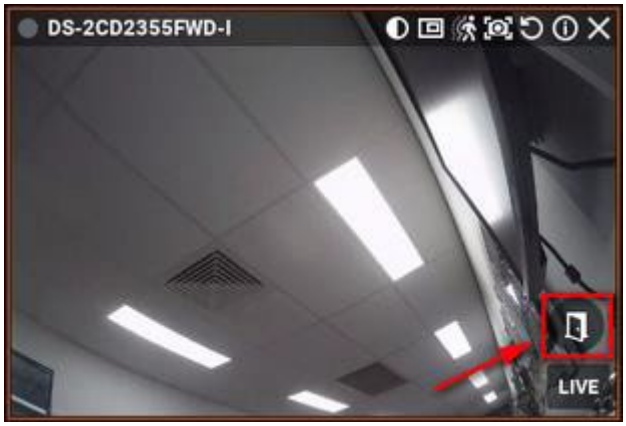
Select the cameras and users the Soft Trigger is available to.

Name the Soft Trigger and select a suitable Icon.



The Icon will appear on the nominated camera live view, to authorized users.

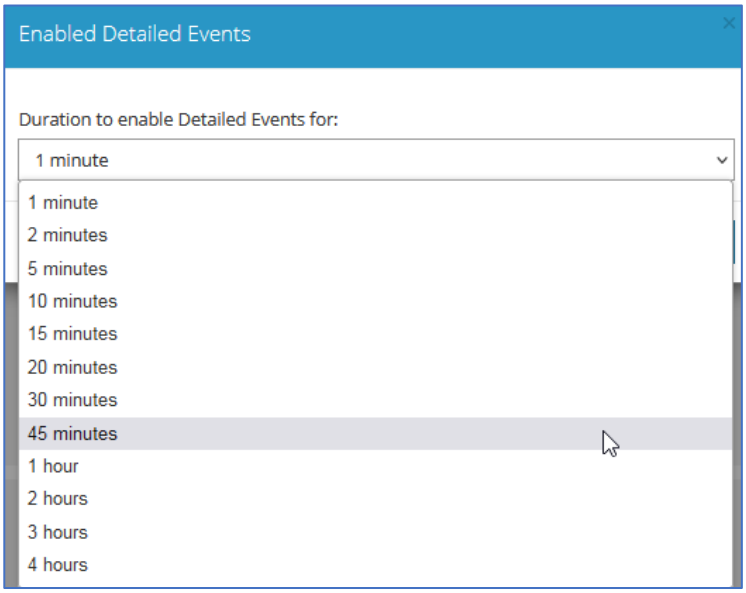
Click on the icon to send the HTTP request and open the Inception door.



Troubleshooting

If the connections between Inception and Wisenet WAVE are not operating as expected use Inceptions detailed review to investigate further.

Navigate to *System -> Service* and click on *Enable Details Events*. Select a duration and click *Enable*.



Navigate to *State / Control -> Review Events*. The review log will now show more detail of the messages sent and received.

Showing 1,286 Events (filtered from 1,622 total events)

When	Message	Who	What
2023-06-02 13:51:00	Door Locked		Front Door
2023-06-02 13:50:58	Connection Sent Message	Hanwha WAVE Sender	/api/createEvent?source=Inception&description=Front%20Door
2023-06-02 13:50:58	Automated Action Changed State to False		Open Front Door from WAVE
2023-06-02 13:50:58	Automated Action Changed State to True		Send WAVE an Event on Front Door Open
2023-06-02 13:50:58	Door Unlocked		Front Door
2023-06-02 13:50:58	Door Access Granted from Automation	Open Front Door from WAVE	Front Door
2023-06-02 13:50:58	Automated Action Changed State to True		Open Front Door from WAVE
2023-06-02 13:50:58	Connection Received Message	Hanwha WAVE receiver	OpenFrontDoor

Common issues to look out for are incorrect login details for the Inception and WAVE, incorrect IP addresses, and incorrect message content. Both Inception and WAVE are case sensitive when using incoming messages as event triggers.

Trigger Events and Actions

Inception

Trigger Events

The following is a table of events that can be used as Triggers in Inception. For more detail see the help text on each trigger in the Inception web interface.

Area	Output	Lift Floor	Hardware Module
Armed	On	Secured	Offline
Disarmed	Off	in Free Access	Cabinet Tamper
in Entry Mode	**Door**	Locked out	Siren Tamper
in Exit Mode	Locked	**Connection**	AC Power Loss
in Alarm	Unlocked	Received message	Low Battery
Detecting Active Alarm Type	Open	Connected	Missing Battery
Detecting Input Activity	Closed	Disconnected	Shorted Wire
Detecting New Input Activity	Locked Out	**Counter**	Failed Power Supply
Armed - Full	Forced	Counter Value	Failed Battery Test
Armed - Perimeter	Almost Held Open Too Long	**Time Period**	Module Substitution
Armed - Night	Held Open Too Long	Active	Failed PIN Attempts
About to Arm	Detecting Reader Tamper	Inactive	User Duress
Armed Successfully	User Denied Access	**Storage Unit**	RF JAM
Close Event Delivered	**Card Reader**	Secured	Door Reader Tamper
Unable to Arm	Valid Card*	Unlocked	**Storage Block**
In Walk Test Mode	Valid PIN*	Unlocked Too Long	All Units Secured
User Count	Single Badge*	Open	Some Units Unlocked
Input	2-Badge Action*	Closed	Some Units Unlocked Too Long
Secure	3-Badge Action*	in Alarm	Some Units in Alarm
Active	Invalid/Unknown Card	in Tamper	Some Units in Tamper
Isolated	Invalid PIN	Vacant	

* Can be applied to Any User, a Specific User, or a Permission Group.

Actions

The following is a table of automated actions available in Inception. For more detail see the help text on each action in the Inception web interface.

Door	Floor	Custom Input
Grant Access	Free Access	Activate
Unlock	Timed Free Access	Deactivate
Timed Unlock	Secure	Pulse
Lock	Lockout	**Control SIFER/OSDP Reader**
Lockout	Clear Override	Trigger Feedback Response
Clear Override	**Control Storage Unit**	**Run Scheduled Task**
Toggle Lock	Unlock	Select Configured Task
Cancel Grant Access Request	Secure	**Send Custom Text**
Input	Vacant	To Connection
Isolate	Clear Vacancy	To Notifier
De-Isolate	**Siren**	**Control Counter**
Output	Bell	Increment by value
Turn On	Sweep	decrement by value
Turn Off	Fire	set value
Toggle	Evacuate	**Forgive Anti Passback**
Pulse	Beep	Users with a Violation
Area	Warn	All Users
Disarm	Fail (squawk)	
Arm	Success (squawk)	
Arm - Perimeter Mode	Single Beep (squawk)	
Arm - Night Mode	Double Beep (squawk)	

Wisenet WAVE

Trigger Events

The following is a list of events that can be used as Triggers in Wisenet WAVE. For more detail see the Wisenet WAVE User Manual and navigate to *Working with Wisenet WAVE > Event Rules > Supported Events and Actions.*

Analytics Event:	An event received from a device with built in video analytics.
Analytics Object Detected:	A specific analytic event for object detection.
Generic Event:	A received HTTP event from an external system.
Input Signal on Camera:	An input signal from a camera is detected.
Motion on Camera:	Occurs if motion is detected on camera(s).
Plugin Diagnostic Event:	Server receives a event from a plugin device attached to the System.
Soft Trigger:	A button added to a device or layout has been clicked.
Camera Disconnected:	A device is disconnected.
Camera IP Conflict:	A device with the same IP address has entered the network.
License Issue:	Licenses are expired, or the licensed server is offline.
Network Issue:	Unable to transfer data between device and server.
Server Certificate Error:	Occurs if the Server's SSL certificate is unable to be verified.
Server Conflict:	Multiple servers accessing the same devices.
Server Failure:	Occurs if a Server is down.
Storage Issue:	Occurs if the Server is unable to write data to a storage device.
Server Started:	Occurs when any server registered in the System has started.

Action Events

The following is a list of Actions that can be performed by camera rules in Wisenet WAVE. For more detail see the Wisenet WAVE User Manual and navigate to *Working with Wisenet WAVE > Event Rules > Supported Events and Actions.*

Bookmark:	Creates a Bookmark in the archive of one or more cameras.
Camera Output:	Generates output on a device.
Camera Recording:	Starts recording on selected cameras.
Do HTTP(s) request:	Sends an HTTP(s) request to a targeted external address.
Execute PTZ Preset:	Activates a PTZ Preset on a specific camera.
Panic Recording:	Switches recording settings for all cameras to maximum FPS and highest possible quality.
Play Sound:	Plays a sound.
Repeat Sound:	Plays a sound repeatedly.
Send Email:	Sends an email to one or more users.
Send Mobile Notification:	Sends a push notification to a mobile device.
Show Desktop Notification:	Sends a notification to the selected user(s).
Show Text Overlay:	Displays text overlay on specific cameras.
Speak:	Pronounces specific text when an event occurs.
Write to Log:	Writes a record to the event log.
Exit Fullscreen:	Exits Fullscreen mode.
Open Layout:	Opens a given layout.
Set to Fullscreen:	Opens the selected camera to Fullscreen mode.
Show on Alarm Layout:	Launches the specified cameras in a special Alarm Layout.