Smart pi EYE Server

USER GUIDE

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CONTENTS

CONTENTS **2**

1. INTRODUCTION **1**

2. APPLICATIONS **2**

2.1 Master 2

2.2 Ingester 2

2.3 Node(s) 4

2.4 Database 4

3. HARDWARE REQUIREMENTS **5**

4. SYSTEM INSTALLATION **6**

5. MASTER INTERFACE **7**

5.1 Home 7

5.2 Clients 8

5.2.1 Overview ***8***

5.2.2 Details ***9***

5.2.3 Configuration ***11***

5.2.4 Provisioning ***38***

5.2.5 Groups ***38***

5.3 Messages 39

5.3.1 Create New message ***39***

5.3.2 Delete a message ***42***

5.3.3 Library ***42***

5.3.4 Real Time Text ***44***

5.3.5 Alert Messages ***44***

5.3.6 Alert Mapping ***45***

5.4 Modes 48

5.4.1 Add a Mode ***48***

5.4.2 Edit a Mode ***49***

5.4.3 User Interface ***55***

5.4.4 Add a Schedule ***56***

5.4.5 Edit a Schedule ***56***

5.5 Templates 58

5.5.1 Configuration ***58***

5.5.2 Common Styles ***60***

5.5.3 Manage ***61***

5.6 Ingester 64

5.6.1 Overview ***64***

5.6.2 Data Providers ***64***

5.6.3 Timetable ***65***

5.6.4 RSS Feeds ***66***

5.6.5 Stop Names ***67***

5.6.6 Route Names ***68***

5.6.7 Platform Names ***72***

5.7 Nodes 75

5.8 Logs 76

5.9 Systems Tab 77

5.9.1 Branding ***78***

5.9.2 LDAP ***79***

5.9.3 LDAP Groups ***80***

5.9.4 Api Key ***82***

5.9.5 About ***83***

1. INTRODUCTION

The Smart pi EYE Server is the ultimate solution for your large-scale display needs. It is a powerful and versatile software solution that can handle thousands of screens and deliver real-time information and advertising to your customers. Whether you are a public transport provider, a large system operator, or any other business that needs to display dynamic and engaging information, the Smart pi EYE Server can meet your requirements and exceed your expectations.

The Smart pi EYE Server offers a range of features and benefits that make it stand out from the competition. It comes with three standard templates and has custom templates that can suit your brand and style. It can display different types of information, such as next service, following services, departure boards, arrival boards, clock, interactive wayfinding kiosks with 3D models and multiple path displays, LED based digital wayfinding with real-time information, multi-agency support and more. You can choose the type of information that best fits your needs and objectives.

The Smart pi EYE Server is written in dot net core and can run on either Windows or Linux. It can be deployed on-premises, on bare metal, virtualization, cloud, or hybrid cloud. You have the flexibility and control over your deployment and security. The Smart pi EYE Server is regularly updated with new features and security patches. You can rest assured that your software is always up to date and secure.

You can either use the Smart pi EYE-HD hardware or BYOD (limited provisioning and control options). The Smart pi EYE-HD hardware is a high-performance and reliable device that can support multiple resolutions including unusual stretched and LED tile requirements. It is easy to install and configure and comes with a warranty and support. The BYOD option allows you to use your own device, but with limited provisioning and control options.

The Smart pi EYE Server is the best choice for your large-scale display needs. It is a powerful, versatile, flexible, and reliable software solution that can deliver high-quality information and advertising to your customers. It can help you increase your customer satisfaction, loyalty, and revenue.

For the latest version information and downloads please visit the Smart pi portal.

https://portal.smart-pi.info

2. APPLICATIONS

2.1 Master

The Smart pi EYE Master application is a web interface that allows you to configure and monitor all the features of the smart pi eye system.

The Smart pi EYE Master application supports LDAP user authentication and permissions, which means you can use your existing user accounts and roles to access and use the application. You can also assign different permissions to different users, depending on their functions and responsibilities.

The Smart pi EYE Master application is designed to work with large numbers of clients and displays, which means you can easily scale up or down your smart pi eye system according to your needs and demands. You can group your clients and displays into logical units, such as locations, zones, or types, and apply different settings and templates to them.

You can also monitor the status and performance of your clients and displays, and troubleshoot any issues or faults that may arise.

The Smart pi EYE Master application is part of the smart pi ECOsystem, which has a familiar and consistent interface across the smart pi range, this means you can use the same skills and knowledge to operate and manage different Smart pi products,

2.2 Ingester

The Smart pi EYE Ingester application is a software solution that ingests all external feeds for the Smart pi EYE system. The Smart pi EYE Ingester application allows you to integrate and process various types of external feeds for your Smart pi EYE system.

The Smart pi EYE Ingester application supports multiple GTFS and GTFS-R feeds from many different agency types, including trains, buses, light rail, ferries, metro services, and more. GTFS and GTFS-R are standard formats for public transportation data that provide static and real-time information about schedules, routes, stops, and trips. The Smart pi EYE Ingester application can ingest and display GTFS and GTFS-R data from different sources and agencies on your Smart pi EYE system.

The Smart pi EYE Ingester application also supports RSS, which is a web feed format that provides updates and summaries of web content, such as news, blogs, podcasts, and more. The Smart pi EYE Ingester application can ingest and display RSS data from different sources and topics on your Smart pi EYE system.

The Smart pi EYE Ingester application is used to run any schedules and changes for your Smart pi EYE system.

The Smart pi EYE Ingester application has a ReST API available for integration to other systems. ReST API is a software interface that allows communication and data exchange between different systems using standard web protocols and methods. You can use the ReST API of the Smart pi EYE Ingester

application to integrate and interact with other systems, such as your own applications, databases, or third-party services.

You can run multiple instances of the Smart pi EYE Ingester application to provide backup and failover for your Smart pi EYE system to ensure high reliability of realtime information.

The Smart pi EYE Ingester application is an essential component of your Smart pi EYE system. It is a flexible and robust software solution that can ingest and process various types of external feeds for your Smart pi EYE system.

2.3 Node(s)

The Smart pi EYE Node application is a distribution and capacity node that can service any screen type for the Smart pi EYE system. The Smart pi EYE Node application allows you to scale up or down your Smart pi EYE system according to your needs and demands.

The Smart pi EYE Node application can be installed on premises, cloud, or hybrid cloud. You can add more nodes to add both redundancy and capacity to your Smart pi EYE system. Each node can run on either Windows or Linux. Each node can also be configured in different time zones for systems requiring multiple time zones.

The Smart pi EYE Node application is configured and managed from the Smart pi EYE Master application, which is a user-friendly, secure, and reliable web interface that can help you configure and monitor your Smart pi EYE system with ease and efficiency. All log and audit reports are available in the Smart pi EYE Master application.

The Smart pi EYE Node application is an essential component of your Smart pi EYE system. It is a flexible and robust distribution and capacity node that can support any screen type and any deployment option.

2.4 Database

The smart pi EYE system used the MariaDB server.

MariaDB is an open source relational database management system (RDBMS). MariaDB was developed as a software fork of MySQL in 2009 in response to Oracle's acquisition of MariaDB intends to remain free and open source software under the GNU General Public License.

MariaDB is good for large scale real-time applications because it offers a range of features and benefits that make it fast, reliable, and scalable. Some of these features and benefits are:

MariaDB has advanced clustering and replication features, such as Galera Cluster, MariaDB Replication, and MariaDB MaxScale, that can provide high availability, load balancing, and fault tolerance for large scale applications. MariaDB also supports multi-source and multi-master replication, which allow users to replicate data from and to multiple sources and masters.

•MariaDB has a rich set of security features, such as encryption, authentication, auditing, and firewall, that can protect data and prevent unauthorized access.

MariaDB is a great choice for large scale real-time applications, as it can handle massive amounts of data and deliver high performance, stability, and openness.

3. HARDWARE REQUIREMENTS

Each Smart pi Server application should be run on a separate machine / vm in production environments, this ensures resources are available to the application and allows ease of scalability.

For redundancy it is recommended to run a second instance on another set hardware infrastructure and use VRRP / Load balancing or similar to allow for online automatic failover.

The below table shows the typical representation for each application, please check with your integrator as these will vary depending on the Display Types, Templates, and other configuration parameters.

For development and staging / test systems all applications can be run on a single instance.

Application	CPU Cores	Memory	Storage	Connectivity
Master	4+	8GB+	50GB+	1gbit/sec
Ingester	8+	16GB+	50GB+	1gbit/sec
Node	8+	16GB+	50GB+	1gbit/sec
Database	16+	32GB+	100GB+	1gbit/sec
Staging System	8+	16GB+	50GB+	1gbit/sec

4. SYSTEM INSTALLATION

The installation is essentially the same independent on the platform you install the Smart pi EYE server on.

Usually and integrator with experience will help with this process to ensure all items are configured correctly.

1. Build Servers and Install preferred Operating System.
2. Build Database Server
3. Run provided scripts to create database scheema
4. Install the Latest Dot NET package (currently 8)
5. Copy Provided files into the preferred directory.
6. Configure application settings (appsettings.json)
7. Run applications (in production this should be run a service that automatically restarts)
8. Configure requirements via Smart pi EYE master application.

5. MASTER INTERFACE

All Smart pi EYE server settings and management functions are facilitated via the Smart pi EYE Master using a web browser. Your network administrator will supply the address to point your browser to.

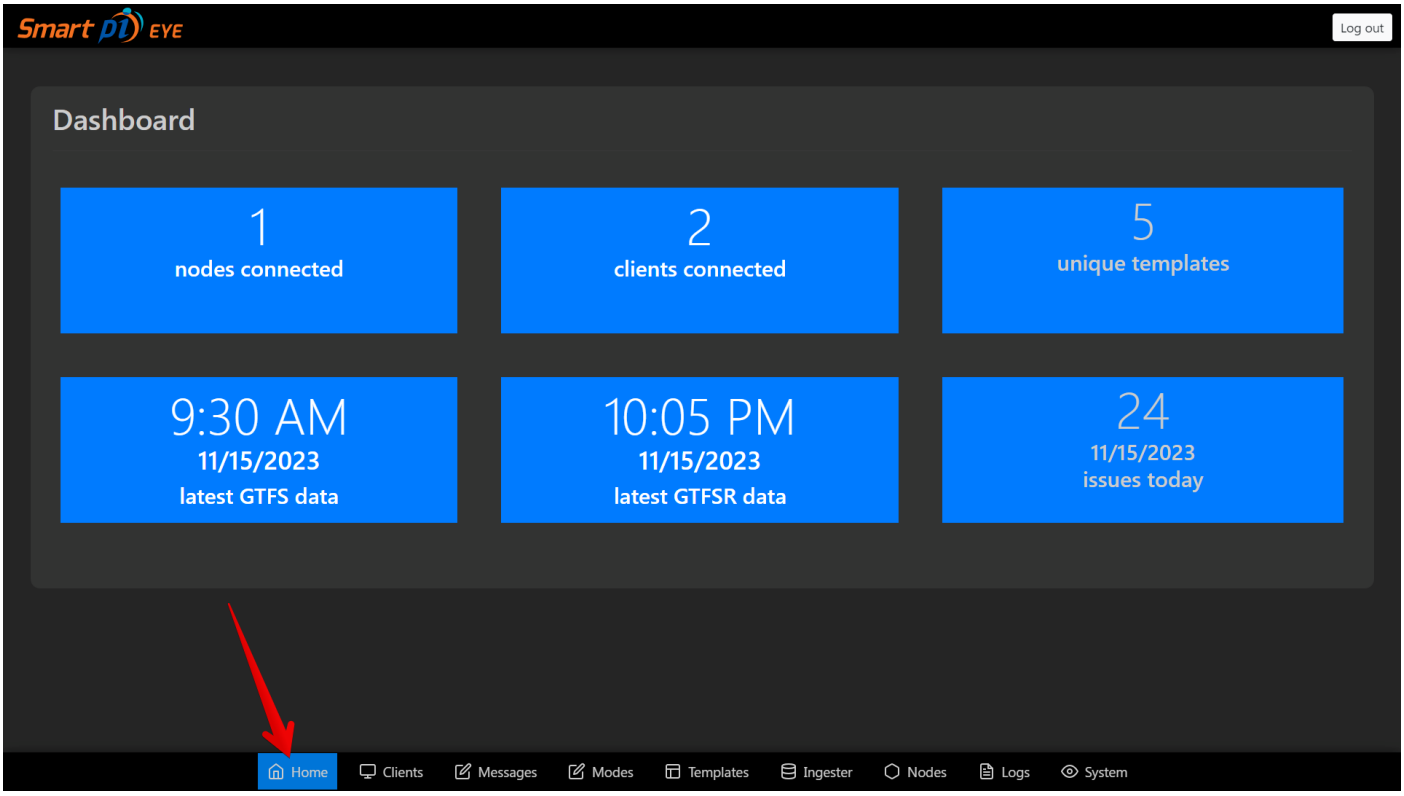
Smart pi EYE server features a responsive web interface. It will detect whether it is being accessed by a desktop or mobile device (due to the complexity it is recommended to use a desktop environment except for user modes) and configure the display to suit accordingly.

The General Operation instructions assume that the system has previously been setup and configured and provides a guide to reviewing and changing configuration settings.

5.1 Home

The home page displays a summary dashboard which can be used to easily see the status of the system.

Additionally, you are able to click through and see further information that is relevant.



The home tab provides a robust overview or summary of the running operations like nodes, clients, templates ingester jobs, and issues.

5.2 Clients

The Clients section is where all client-side configuration is managed, here you can choose which type of display you have and configure the base configuration for the client including any template requirements.

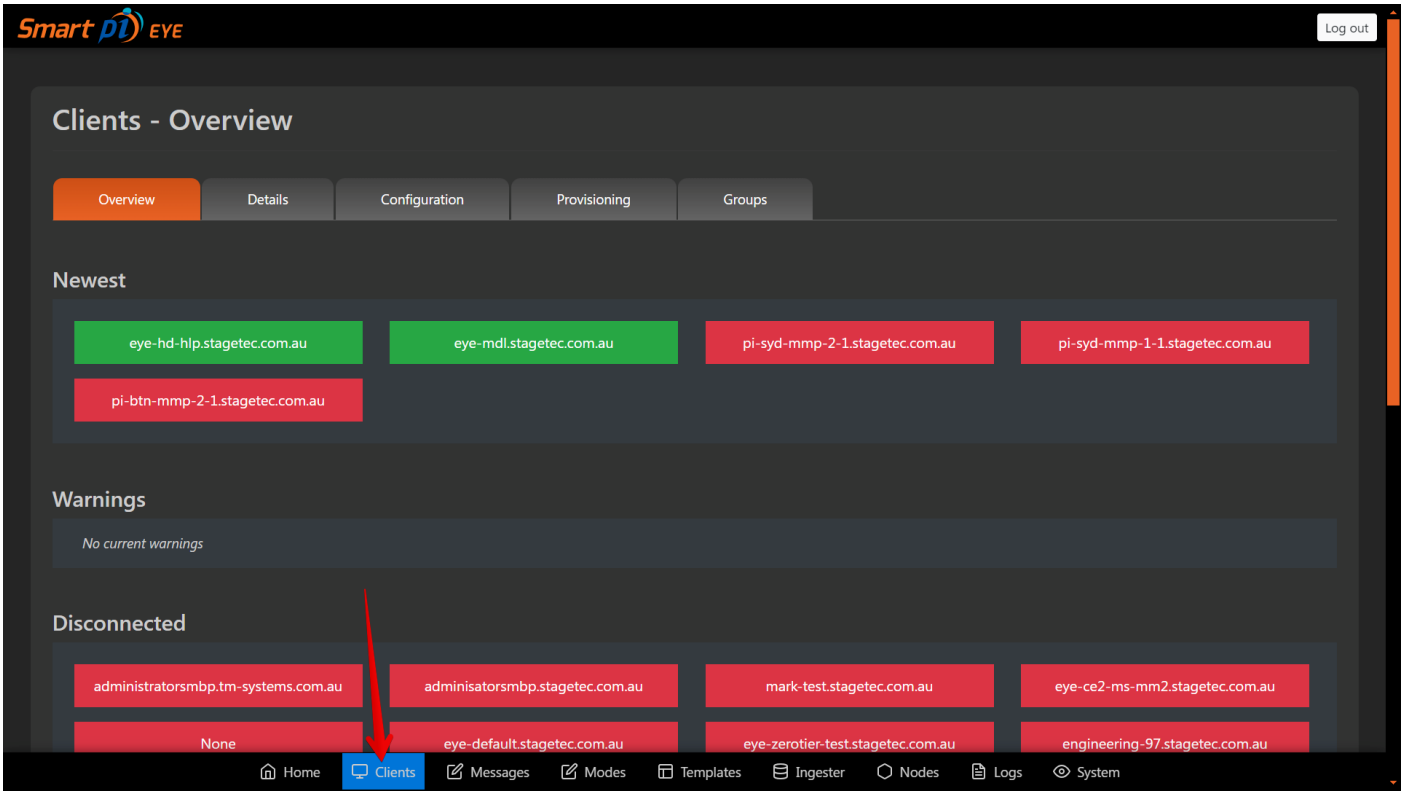
Different Display Types have different settings and requirements.

When an EYE-HD is connected to the network, it will automatically connect to the Smart pi EYE server and be displayed, the default configuration is the Clock on the “Default Template” which has been configured.

5.2.1 Overview

The overview page will show some basic information about recent changes within this system.

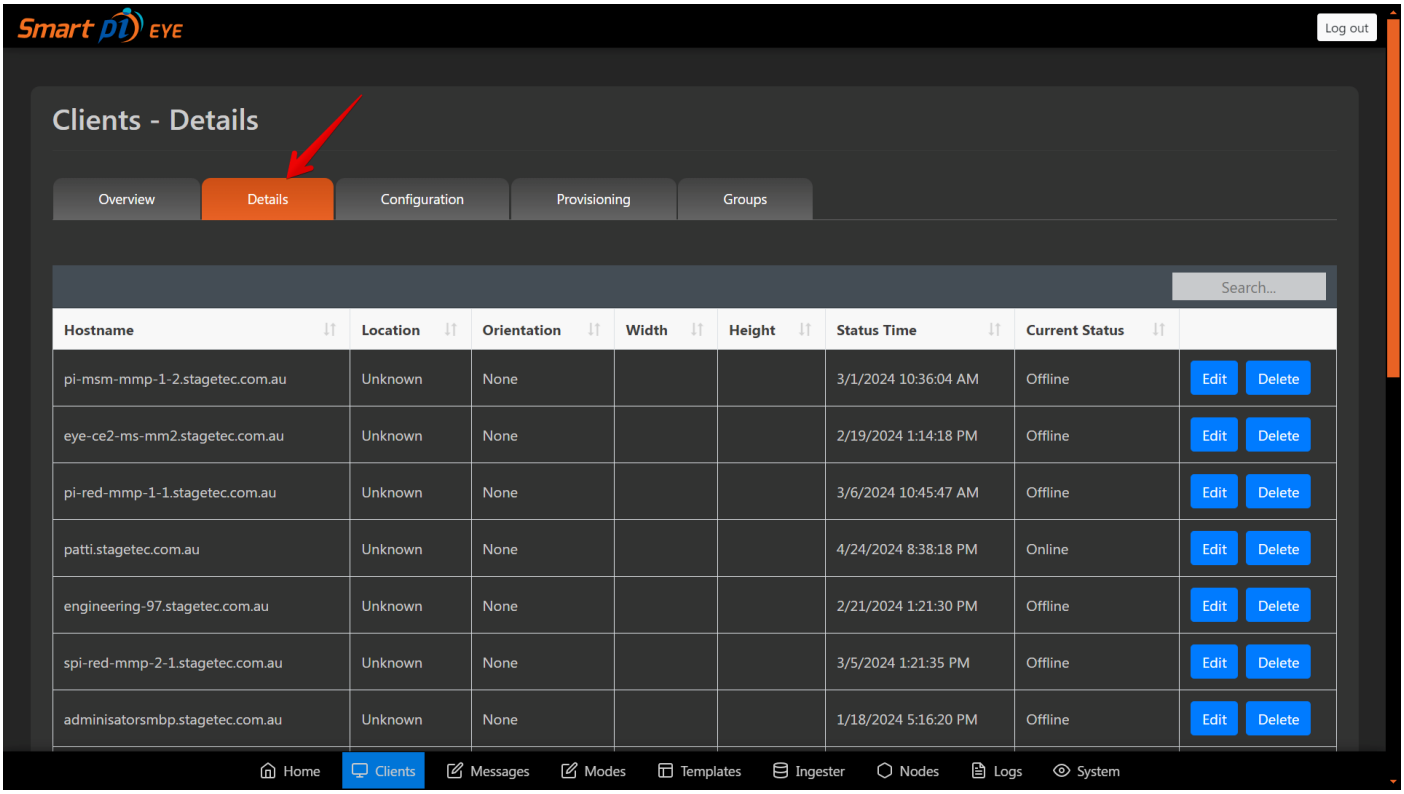
This includes the newest units connected to the system, the last 8 warnings and the last 8 units to disconnect from the system.



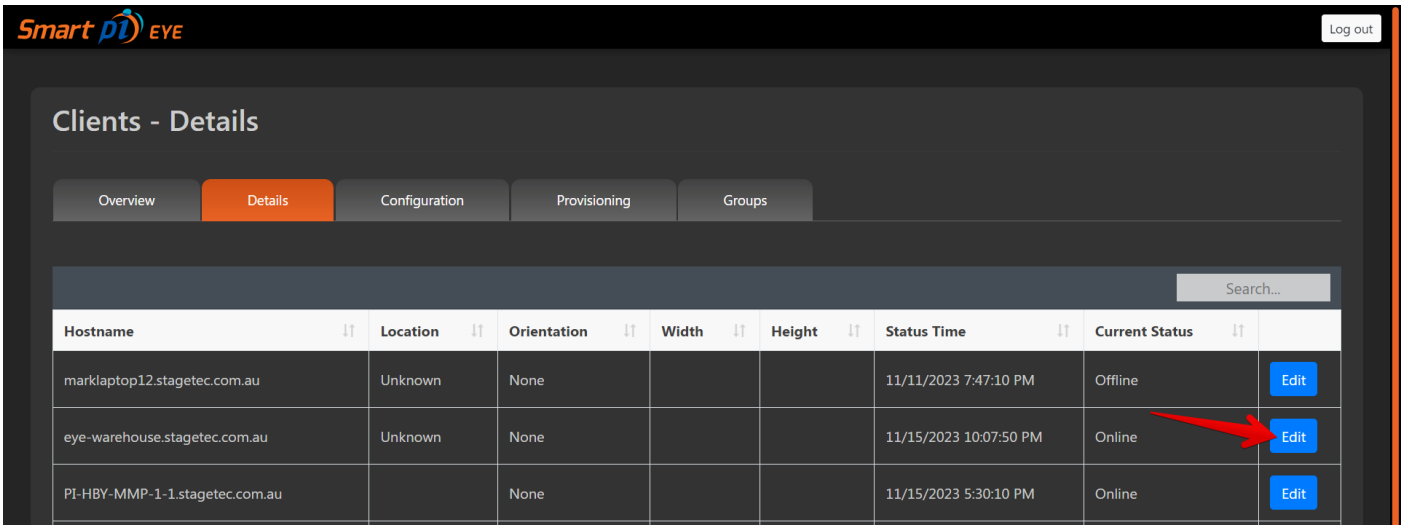
Click the **Clients** tab from the dashboard to access options like clients configuration, provision and more.

5.2.2 Details

Here you can see all the details of all the clients that you've set up. That includes hostname, location, orientation, width, height, status time and current status.

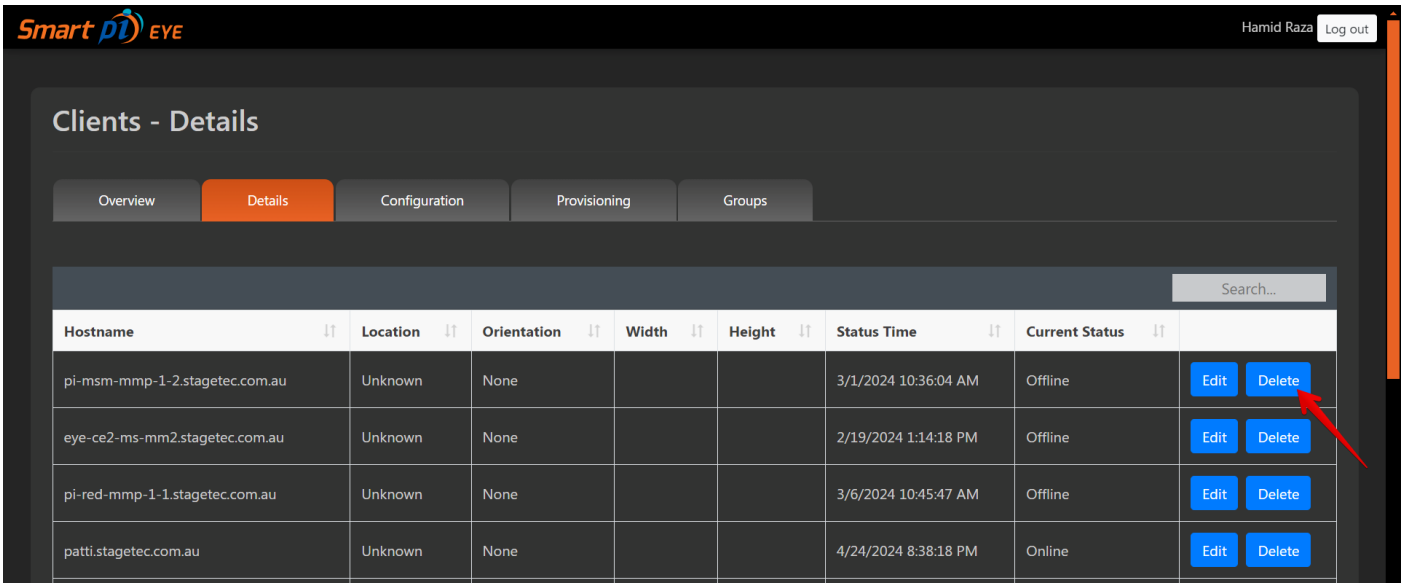


Moreover, you can also edit the clients directly from this page by clicking **Edit**.

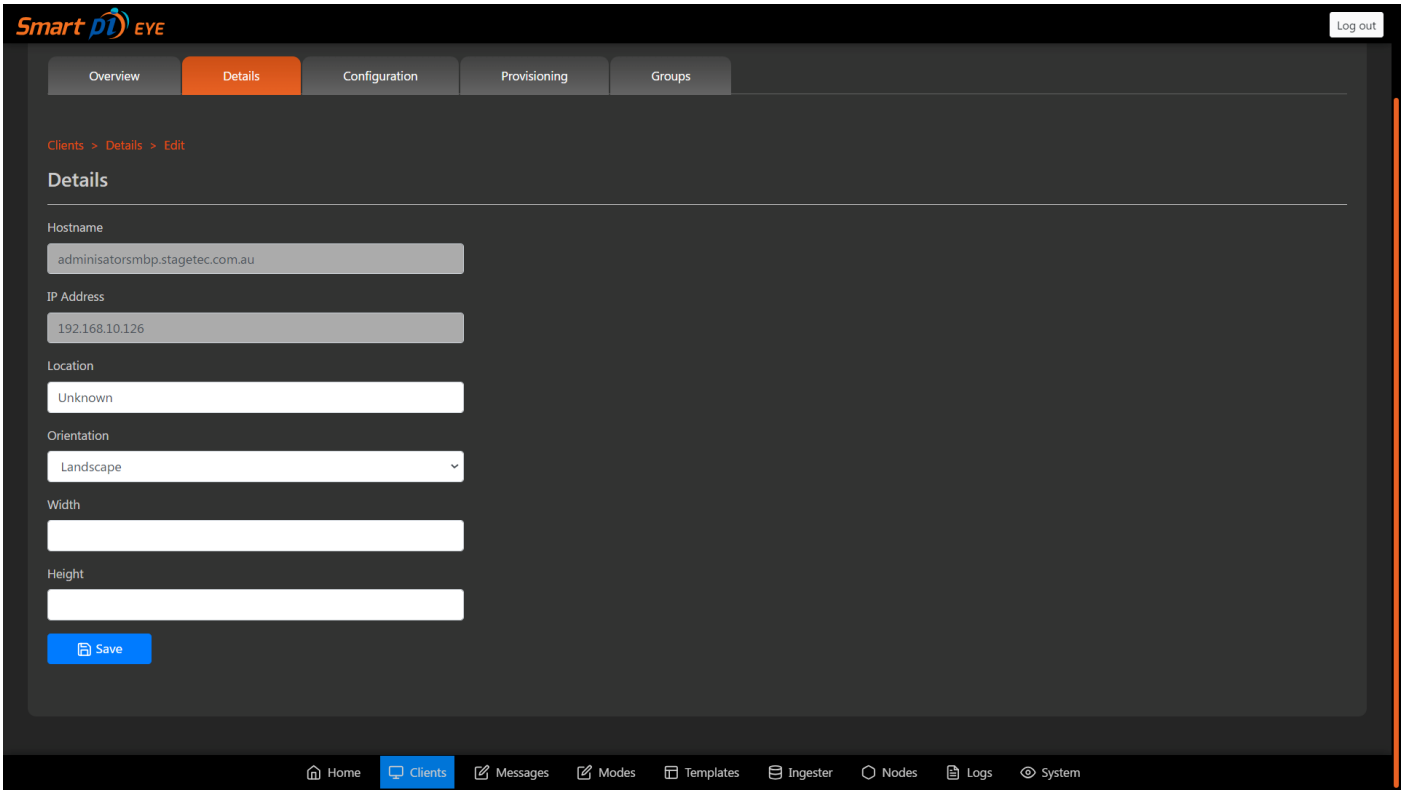


You'll be taken to the edit page where you can set all the parameters as per your preferences.

To delete a client, simply click **Delete**.



Don't forget to hit **Save** when done.



Hostname and IP address are automatic from the Smart pi EYE Server Node.

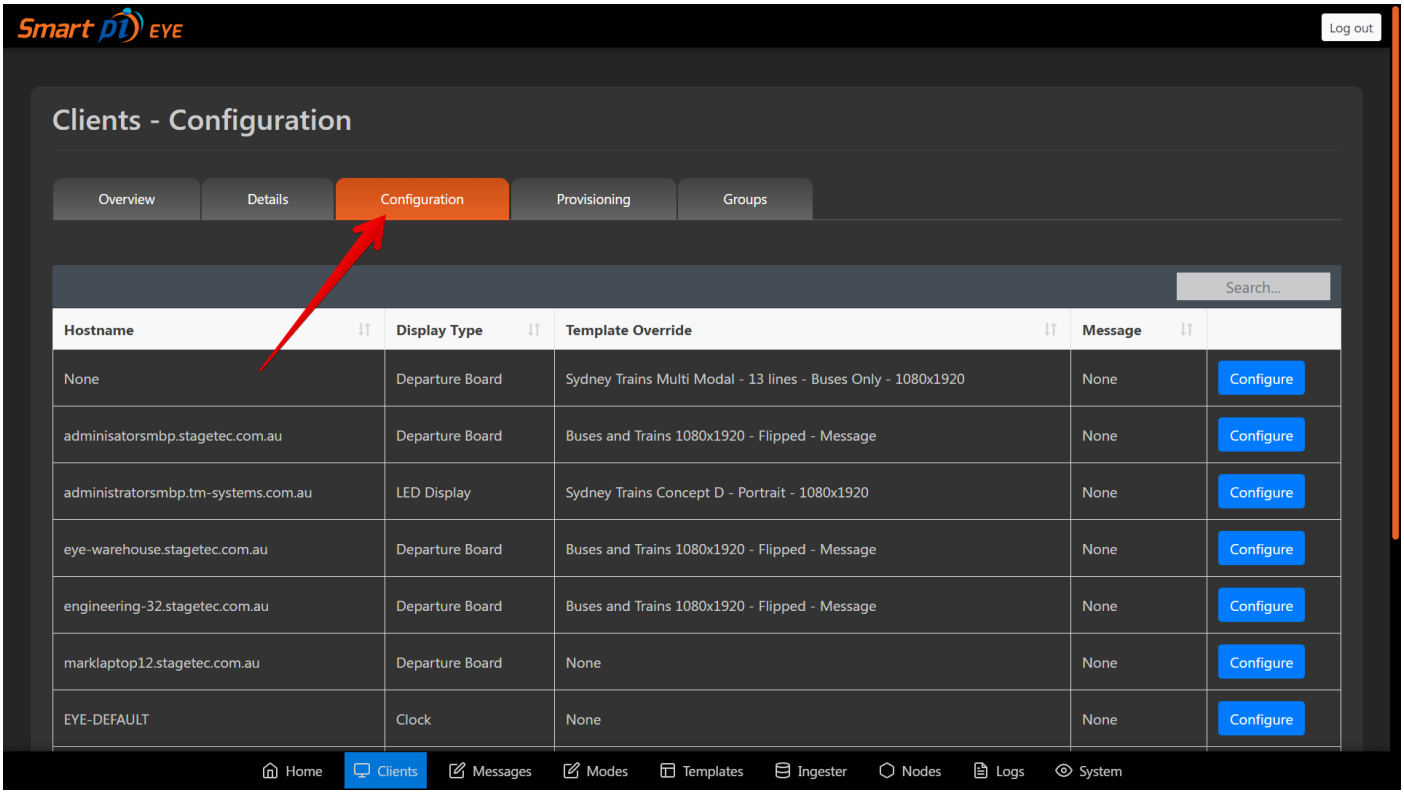
Location can be used so you can easily store and search for information on where the device is installed.

Orientation, width, and height is used to configure the EYE-HD remotely and ensure correct display of the selected template.

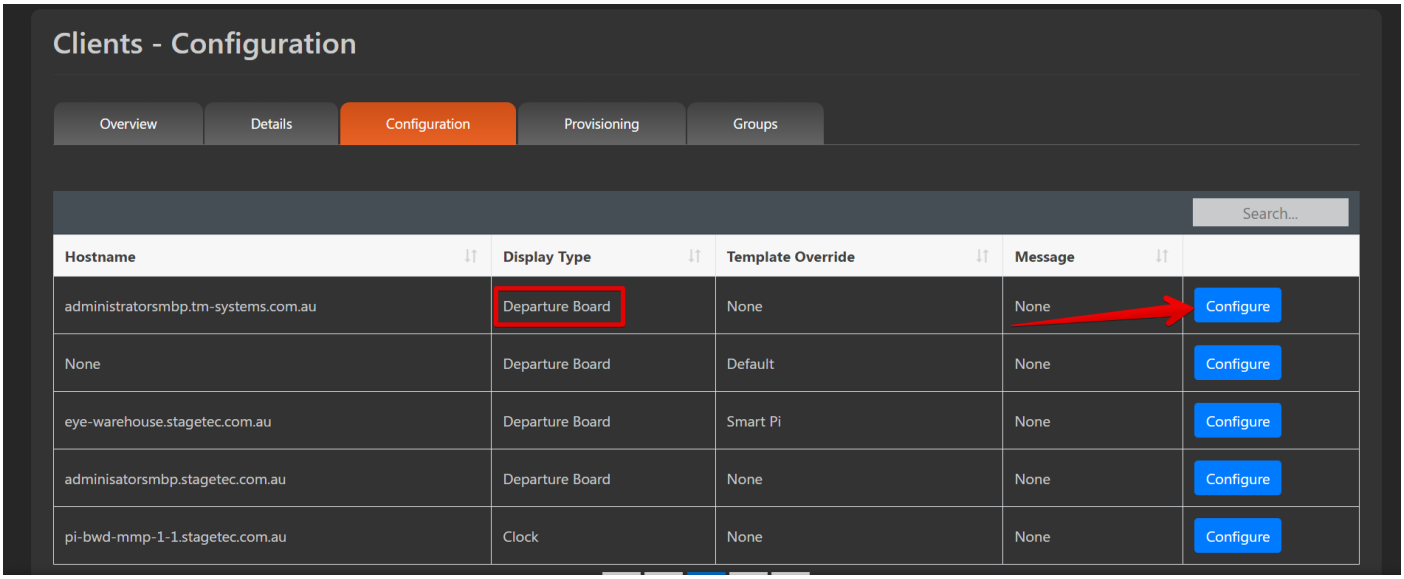
5.2.3 Configuration

In this section you configure the main settings for the clients. This includes the client function, Realtime data settings and the templates you want to use, you can also configure messages which can override the Display type.

Hit the **Configuration** button to start configuring a client.



Next, click **Configure** next to any client that you would like to configure. Note that the configuration options will vary depending on the display type.



Here you can change the display type, template override and message besides modifying the display settings.

5.2.3.1 Display Types

There are 10 different display types available in Version 1.27.3

Display Type	Description
Clock	This display type will show a single clock with the current time from the node it is connected to. The clock is the default template if clients have not been pre provisioned or configured.
Next Service	This display type can show the Next Service in detail, as well as the next 2-3 services. If the stops will not fit on a single screen, this display type can scroll through a list to show all of the stops. The arriving indication has been refined. The "Arrive NOW" calculation now works in seconds rather than minutes, which improves the accuracy of the arriving and departing indication shown to passengers.
Following Service	This display type will show the next 2 -4 services and their destination, time, load data and more. Where occupancy is displayed, the system uses per carriage occupancy when it is available in the feed. When per carriage data is not available, it now falls back automatically to the occupancy reported in the GTFS Vehicle Position feed, so a loading indication can still be shown. You can choose the index offset to use this display type in conjunction with the Next Service display type if preferred.
Multi	This display type is a mixture of Next Service and Following Service display types in a single display. This is useful when using stretched format screens (IE 32:9 etc)
Departure Board	This display type is used to show multiple services on a single board, this is useful to show summaries of entire interchange locations and multiple agencies and transport types.
Showing Scheduled Time Without Realtime	A new option lets you show the scheduled time when real-time information is not available for a service. This keeps the display useful during a feed outage rather than leaving the

	time field blank. Enable the option in the display settings where required.
LED Displays	This display type is commonly used for digital wayfinding using LED Tiles and controllers where pixel perfect mapping is required. This allows for real time information to be overlayed on digital wayfinding signage as well as giving the ability to automate wayfinding based on the environmental changers (Escalators directions etc).
Kiosk	This display type is a fully interactive Kiosk. 3D models can be imported with multiple paths to different locations, the real-time information can also be used to give customers directions to other transport destinations.
URL	This display type can be used to allow any website, CMS or other digital signage to be displayed as an overlay in the Smart pi EYE System.

Template Override

Template override allows for a dedicated template to be used on this client rather than the selected default template.

Messages

Messages is where is it possible to configure custom overlay HTML, Graphical and Video messages.

Display Settings

Display settings changes depending on the selected Display Type.

Please see each display type section to learn about the different options.

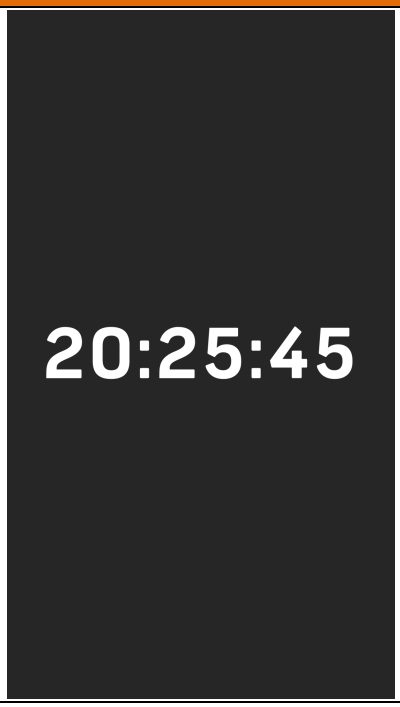
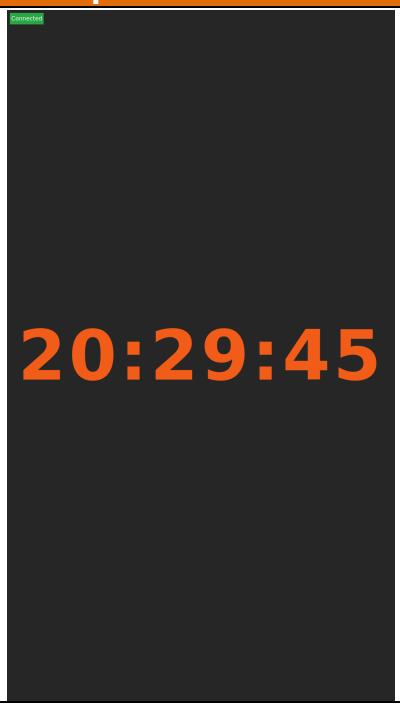
5.2.3.1 Display Settings

1. Clock

There are no Display Settings for the Clock, this time is sent from the node server and the configured time zone the server is in.

Templates are used to configure display preferences including Font, Size, Colors and 12/24 hour and second's display.

Template Examples

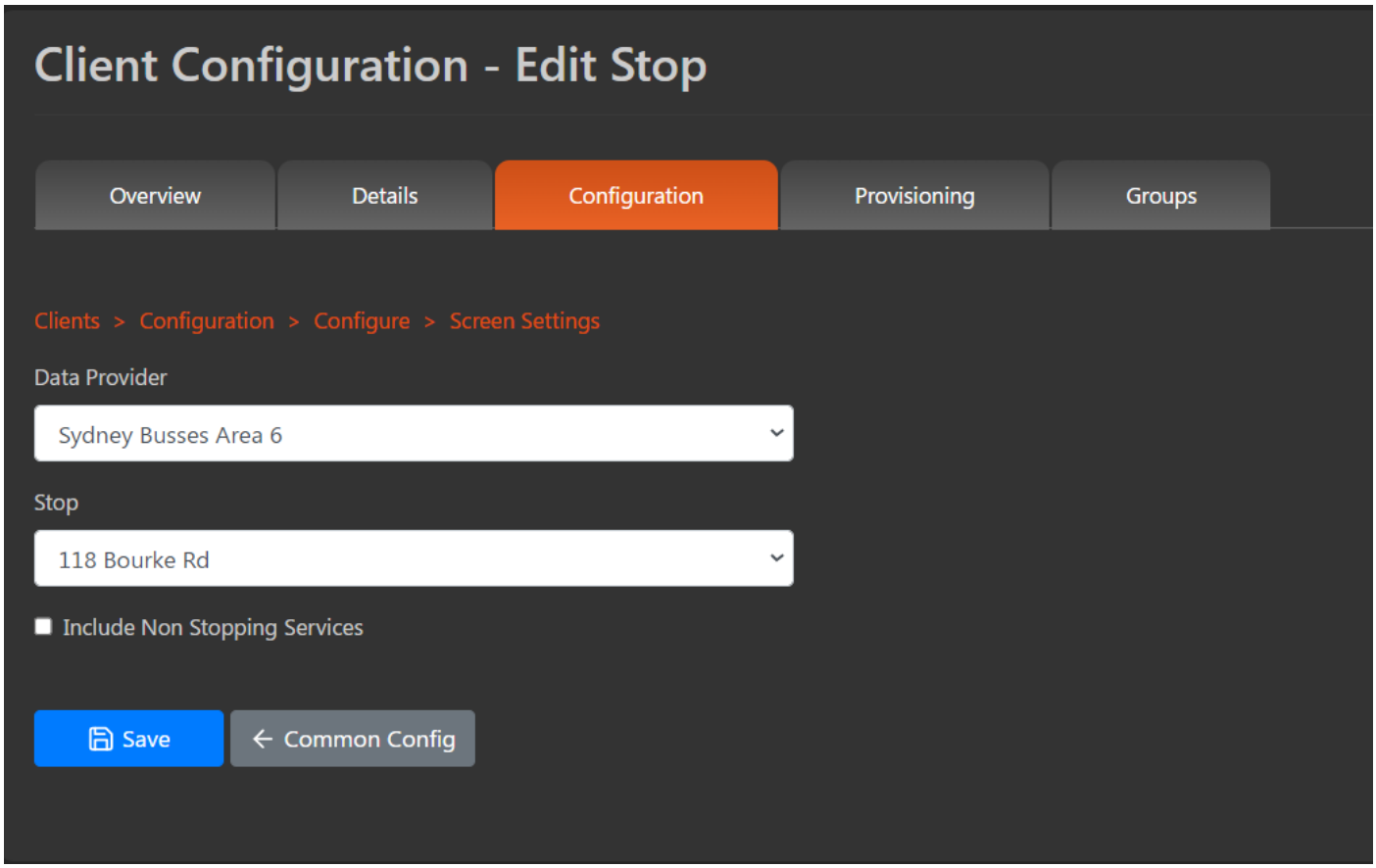
Default	Dark	Smart pi
		

2. Next Services

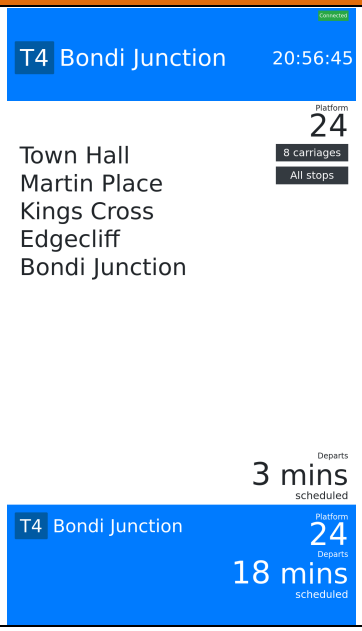
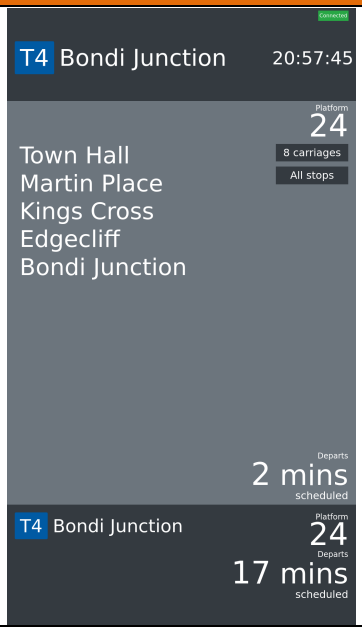
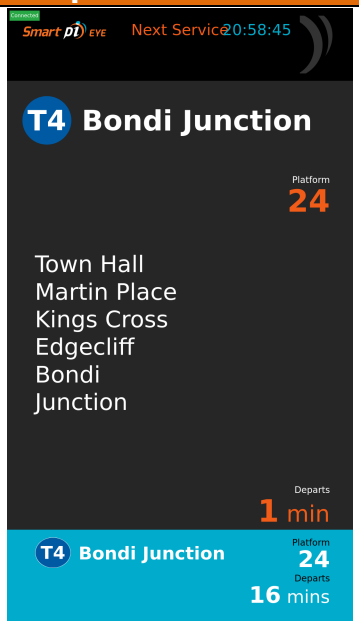
The Next Services Display type is mostly automatic, you can simply choose your Data Provider and the stop you would like to display the information for.

You can choose to display a message for Non-Stopping services if required.

When Non-Stopping services is available it is possible to configure the ICON and message that will be displayed.



Template Examples

Default	Dark	Smart pi
		

3. Following Services

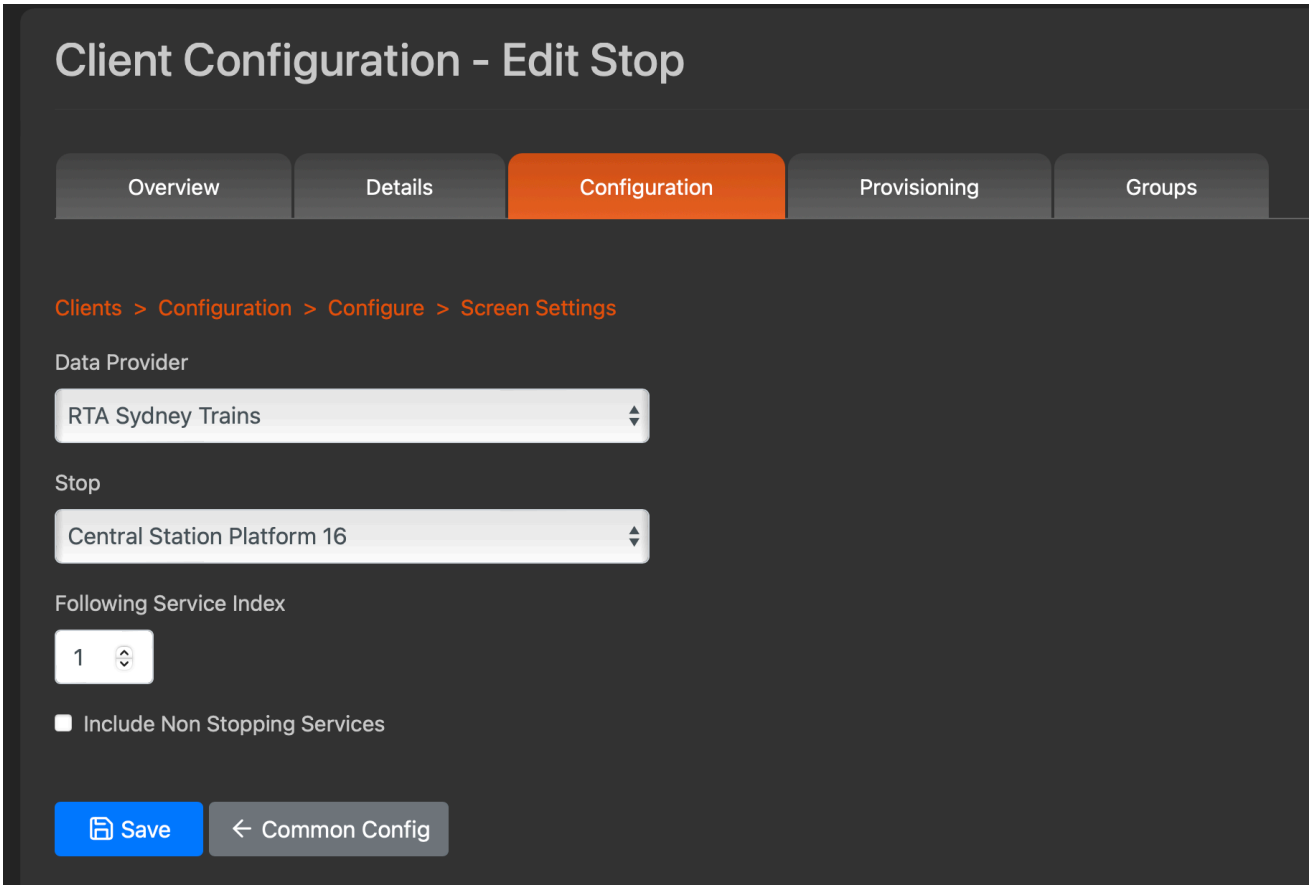
The Following Services Display type is mostly automatic, you can simply choose your Data Provider and the stop you would like to display the information for.

The template can be configured to display 1 – 4 following services.

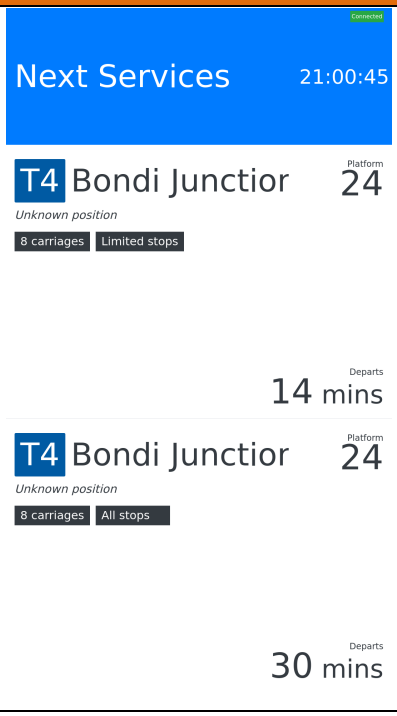
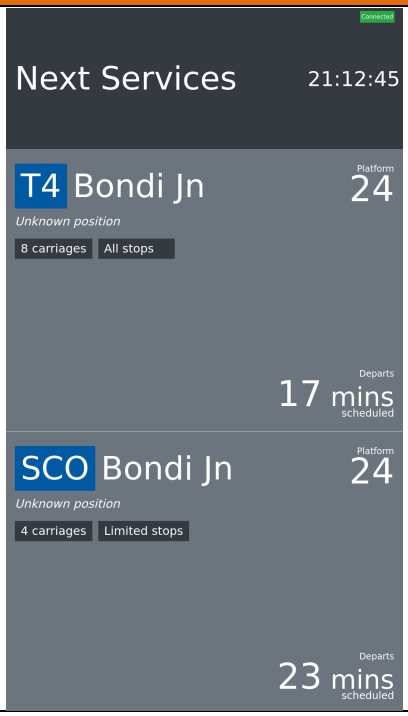
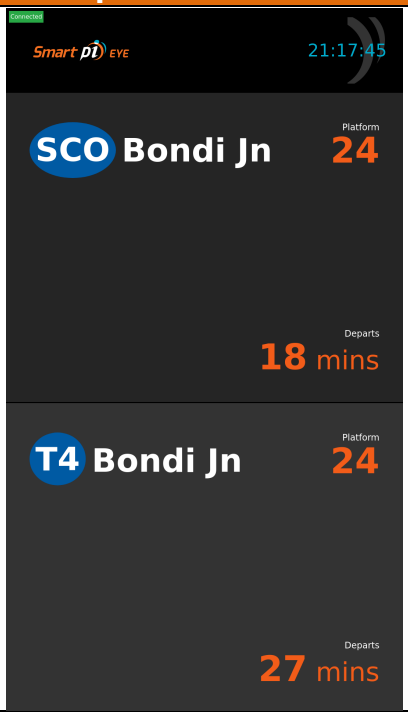
You can choose to display a message for Non-Stopping services if required.

When Non-Stopping services is available it is possible to configure the ICON and message that will be displayed.

Additionally, you can add an index offset to show only the following services above this number.


Client Configuration - Edit Stop
Overview
Details
Configuration
Provisioning
Groups
Clients > Configuration > Configure > Screen Settings
Data Provider
RTA Sydney Trains
Stop
Central Station Platform 16
Following Service Index
1
Include Non Stopping Services
Save
Common Config

Template Examples

Default	Dark	Smart pi
		

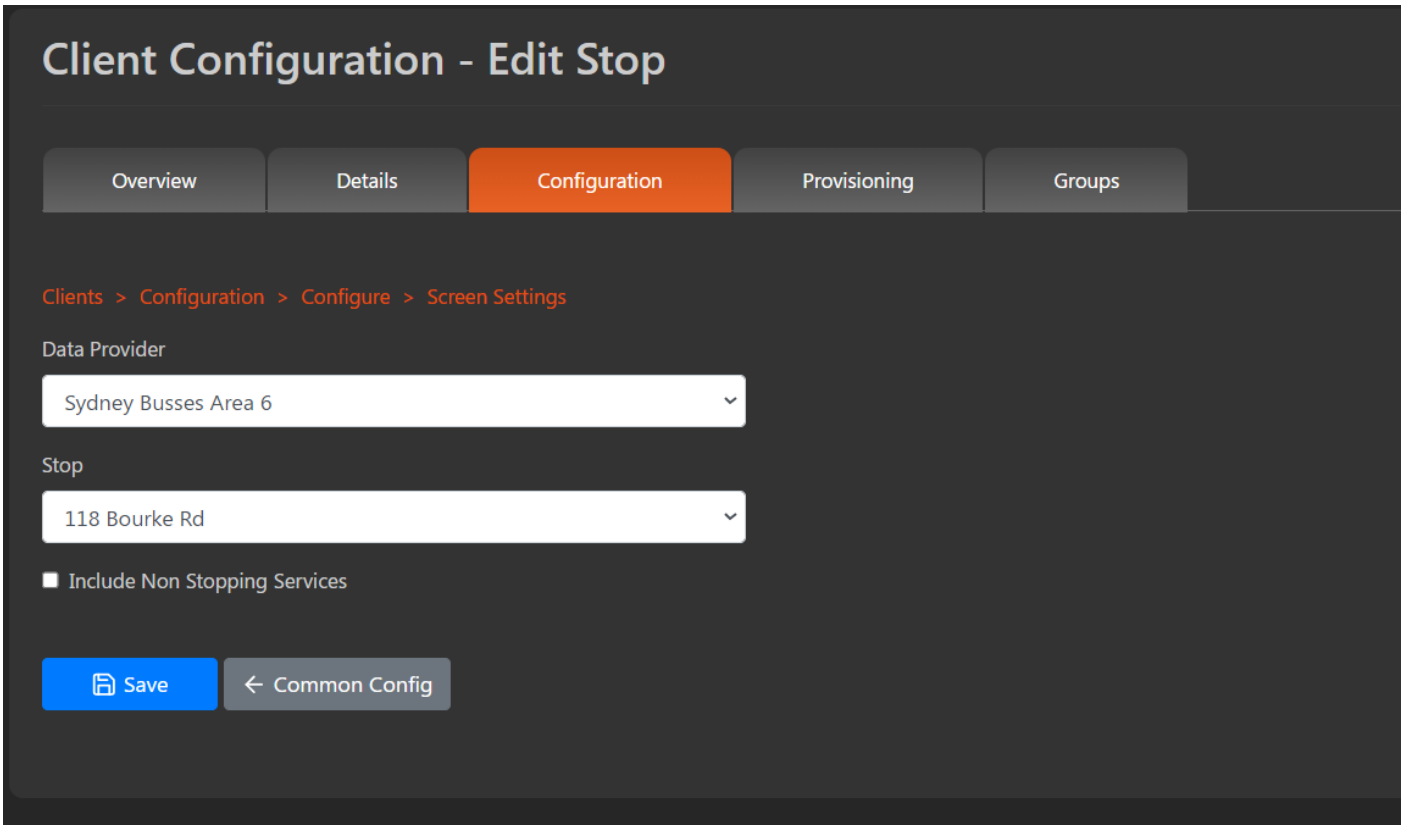
4. Multi

The Following Services Display type is mostly automatic, you can simply choose your Data Provider and the stop you would like to display the information for.

You can choose to display a message for Non-Stopping services if required.

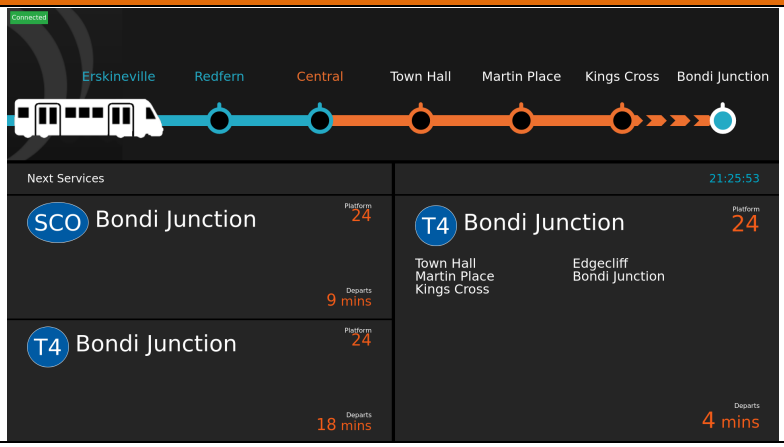
When Non-Stopping services is available it is possible to configure the ICON and message that will be displayed.

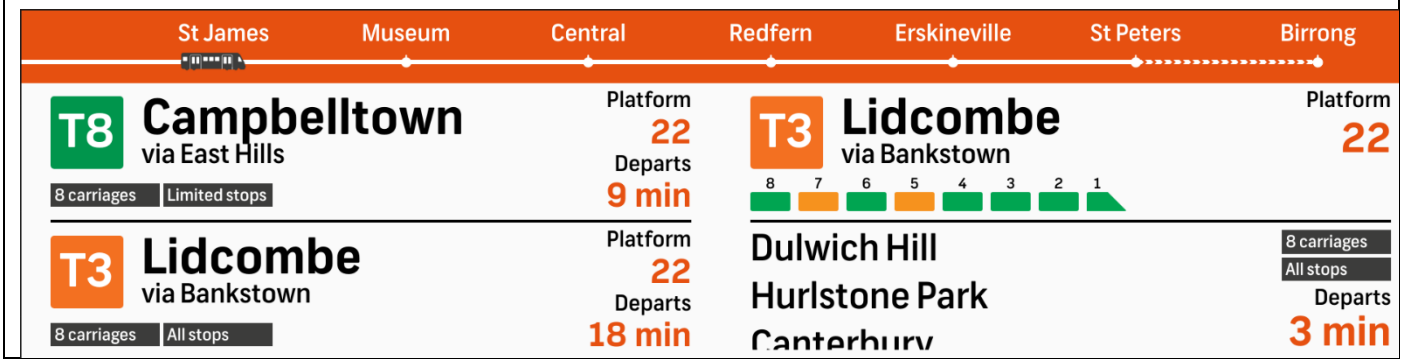
The multi template has the additional ability to show vehicle position if configured in the template.



Template Examples

Smart pi





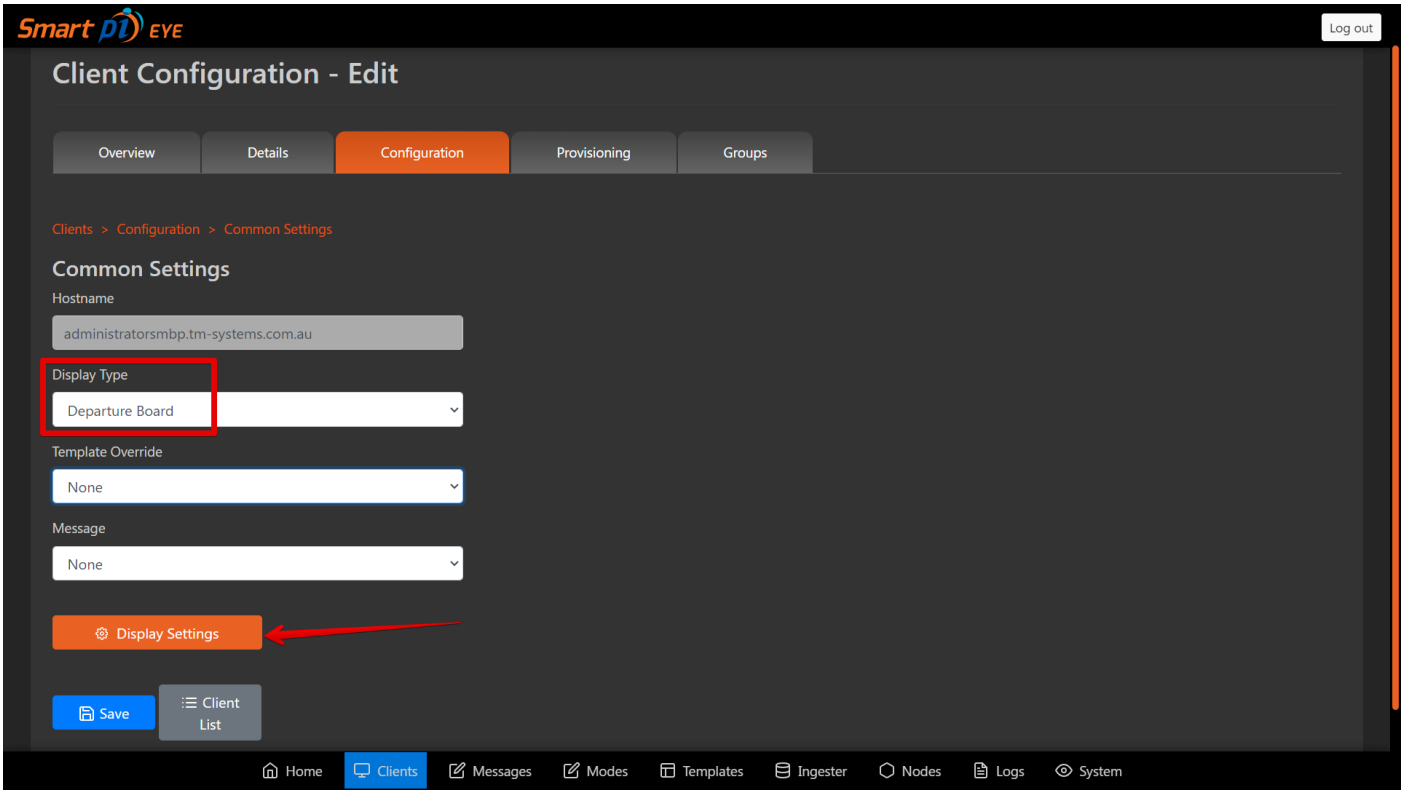
5. Departure Boards

The Departure Board Display type very configurable, you can choose multiple agencies, stations and stops, filters and offsets.

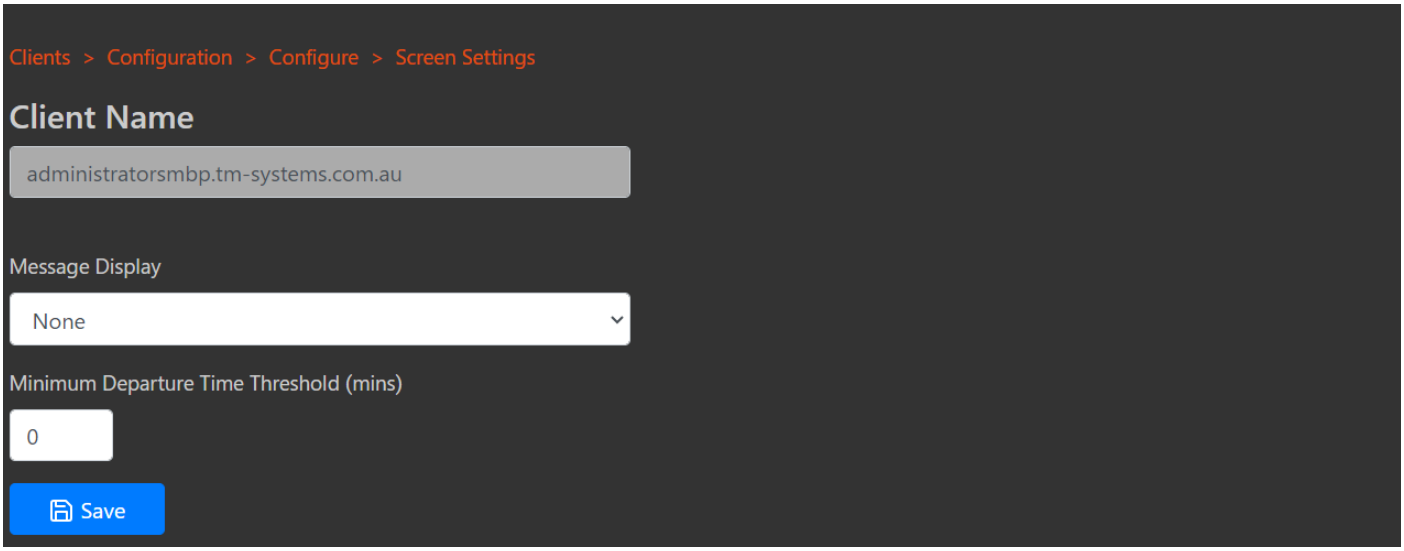
It is possible to display up to four different sections in a single departure board screen depending on the template chosen and configured.

It is also possible to link a message to part of the screen for a departure board, this can be used for messaging, advertising, and wayfinding information.

Select **Departure Board** as the display type and then click **Display Settings**.

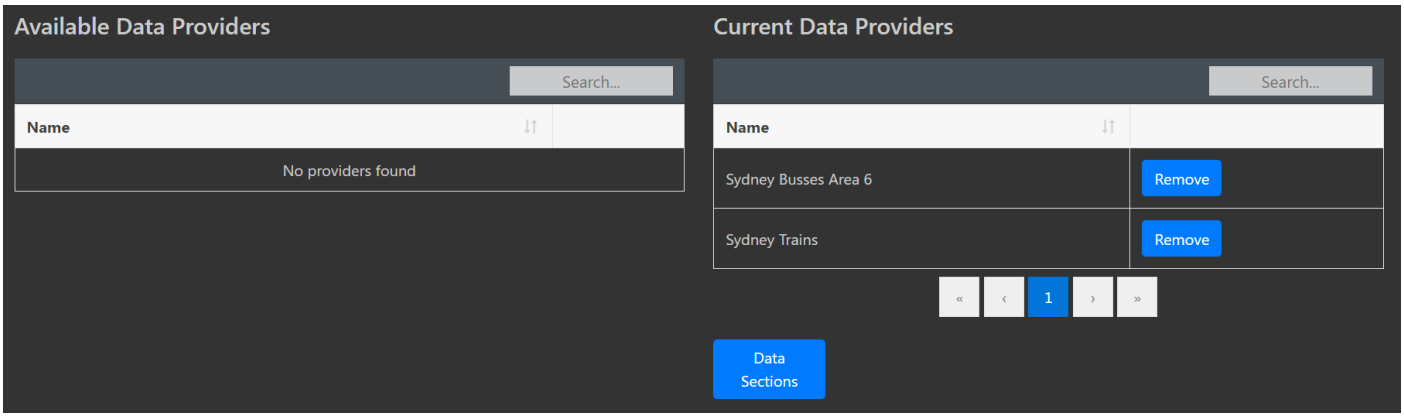


A message can be selected to display within the template as well as the ability to set the minimum departure time, this will stop the Departure Board from showing any upcoming services below this value in minutes.



Once you have clicked on display options you can configure the departure board.

Select the Available Data Providers (these are usually your incoming GTFS feeds).

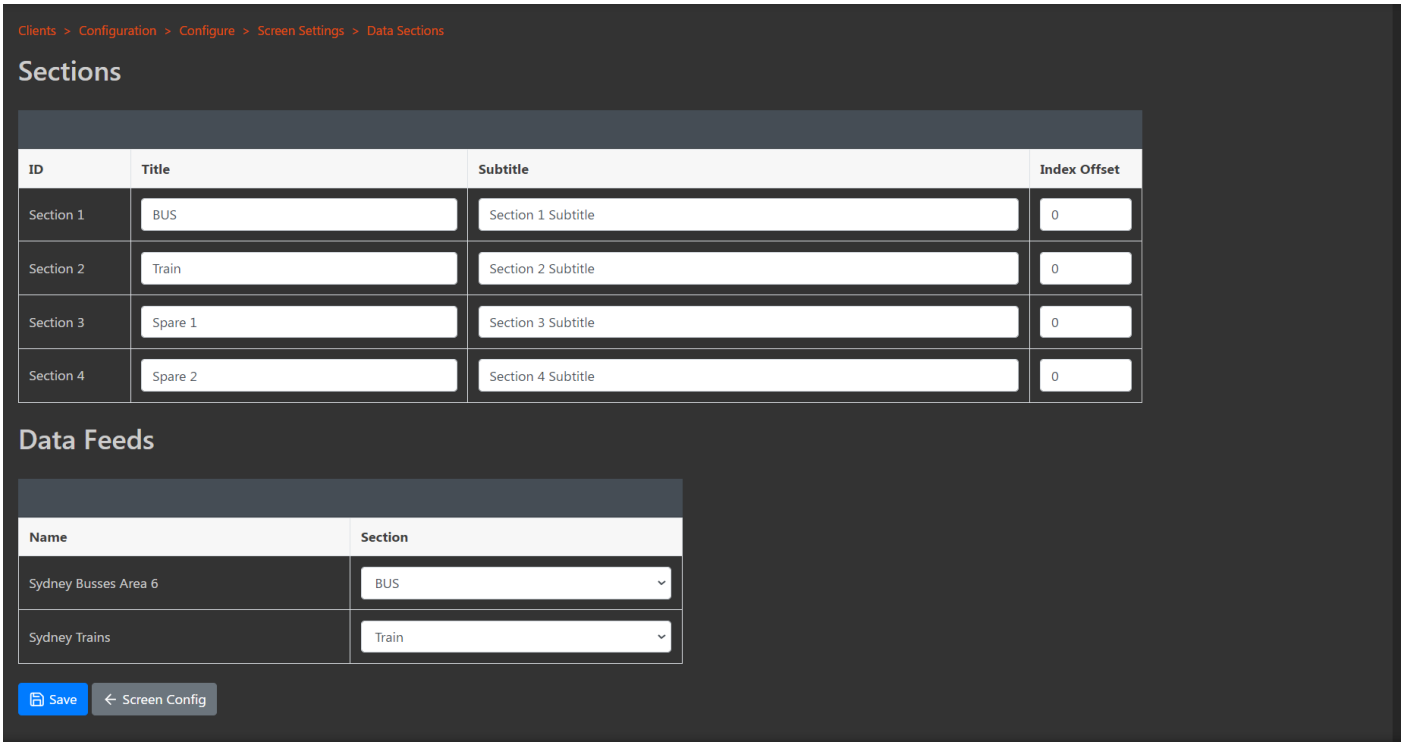


Use the **Data Sections** button to edit the sections configured in your template, these are usually different agencies or services you would like to display.

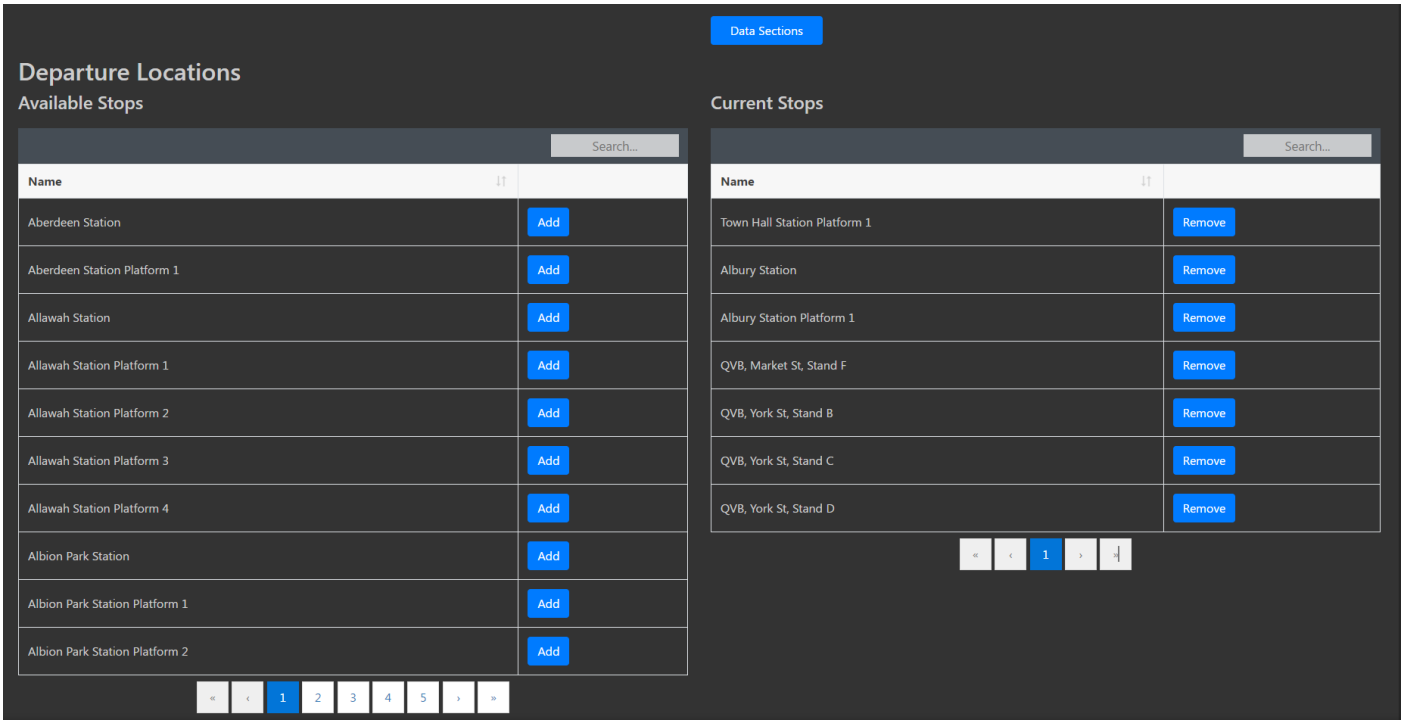
Depending on the template you have selected depends on how many sections will be displayed.

You can name the Title and Subtitle here which will then dynamically be passed to the client and template selected, this allows for a single template to be used in many locations without the requirement to duplicate the template.

You can then allocate which feed will be displayed in each of the sections via the dropdown selector.

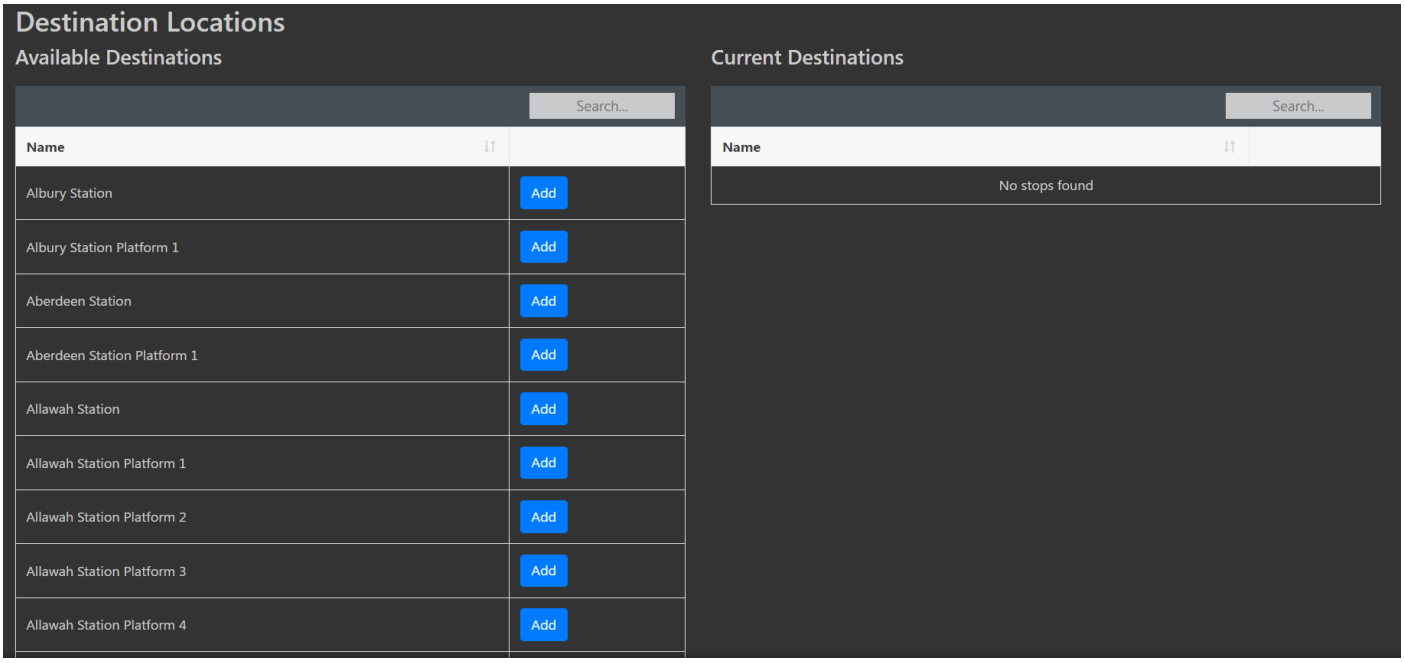


Back on the Display Settings screen, you may scroll down to see further options like Departure Locations at available stops and current stops, use this to select the stops you would like to display on this client:



Click **Add** or **Remove** as per your own preferences.

Similarly, towards the bottom of the screen, you'll see **Destination Locations** at **Available Destinations** and **Current Destinations**. And you can add or remove any of these as it suits you best.

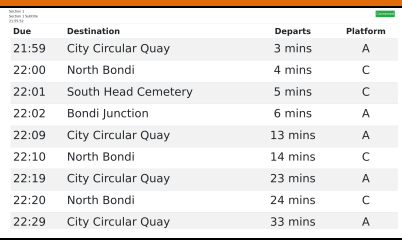


For ease of instructions, you may access the display settings any time from your dashboard by clicking **Clients** > **Configuration**. Once done, you will have to select a display type and save first. Only then you'll be able to access the correct display settings.

Template Examples

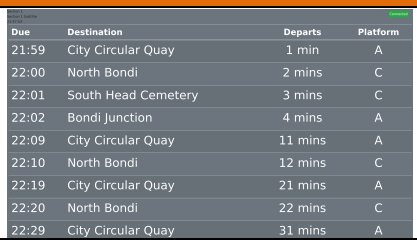
The below templates are dynamic and be configured as either landscape or portrait.

Default



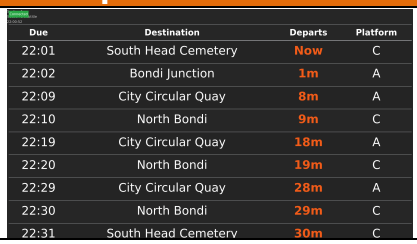
Due	Destination	Departs	Platform
21:59	City Circular Quay	3 mins	A
22:00	North Bondi	4 mins	C
22:01	South Head Cemetery	5 mins	C
22:02	Bondi Junction	6 mins	A
22:09	City Circular Quay	13 mins	A
22:10	North Bondi	14 mins	C
22:19	City Circular Quay	23 mins	A
22:20	North Bondi	24 mins	C
22:29	City Circular Quay	33 mins	A

Dark



Due	Destination	Departs	Platform
21:59	City Circular Quay	1 min	A
22:00	North Bondi	2 mins	C
22:01	South Head Cemetery	3 mins	C
22:02	Bondi Junction	4 mins	A
22:09	City Circular Quay	11 mins	A
22:10	North Bondi	12 mins	C
22:19	City Circular Quay	21 mins	A
22:20	North Bondi	22 mins	C
22:29	City Circular Quay	31 mins	A

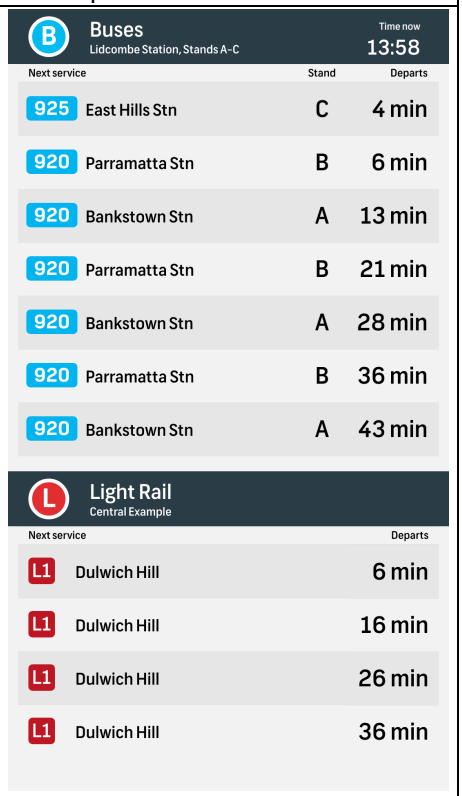
Smart pi



Due	Destination	Departs	Platform
22:01	South Head Cemetery	Now	C
22:02	Bondi Junction	1m	A
22:09	City Circular Quay	8m	A
22:10	North Bondi	9m	C
22:19	City Circular Quay	18m	A
22:20	North Bondi	19m	C
22:29	City Circular Quay	28m	A
22:30	North Bondi	29m	C
22:31	South Head Cemetery	30m	C

Custom Template Examples

Example 1	Example 2	Example 3
Services Only	Services and Advertising	Multiple Services



Cancelled Services

You can choose how cancelled services are handled on the display. Select the option that suits the location and click **Save**.

Option	Behaviour
Keep	The service remains in the list and displays as normal, with no visual change to indicate it has been cancelled.
Strikeout	The service remains in the list but is shown with a line through it, so passengers can see the service was scheduled but is no longer running.
Remove	The service is taken off the display entirely, so only running services are shown.

6. LED Displays

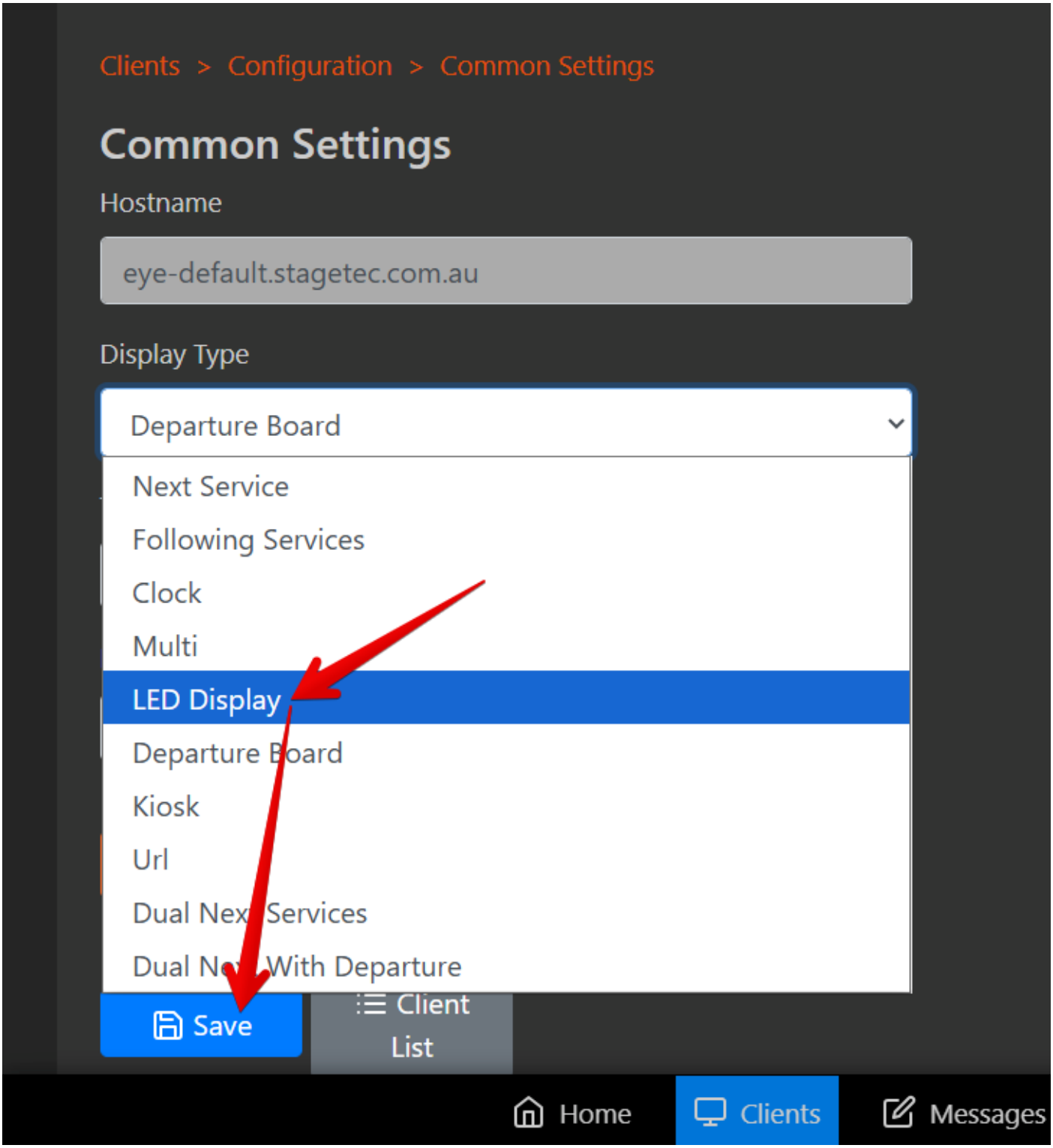
LED Displays can be used to pixel map content to any custom resolution for use on LED Tiled walls.

This is often used for wayfinding where custom signs can be created to direct people to the correct areas within public transport environments.

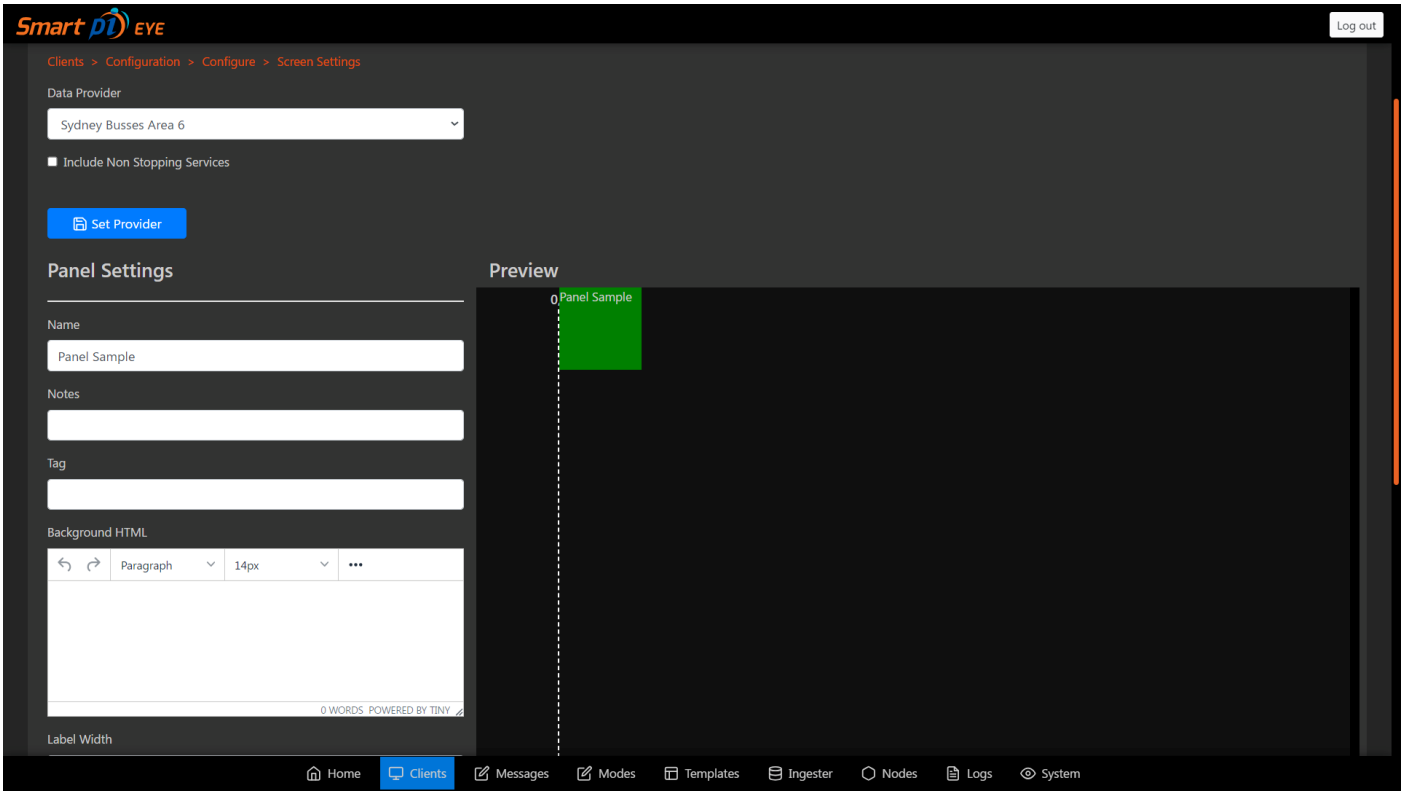
The LED Displays can display any web based graphical content and have the ability to allow for real-time information to be overlayed over the top of the other media. This can be used for instance to show an escalator is going down and when the next service is due to depart as well as its destination and the current time.

Multiple LED Displays can be managed from a single Smart pi EYE-HD as long as the resolution combine is less than 1920 x 1080.

Select the LED Display Type



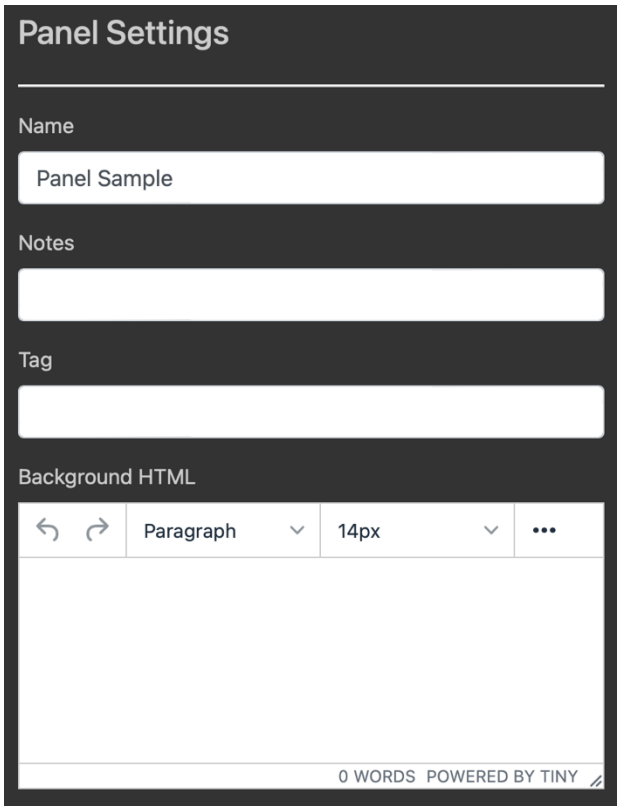
Once done, hit the **Display Settings** button to proceed. This one is for LED Display.



First you need to choose the Data provider that will be used for the real-time information.

You can choose if you would like to include information for not stopping services or not.

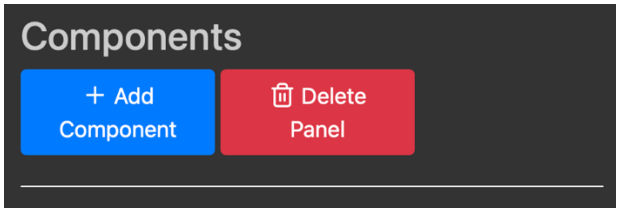
The preview on the right of the screen will display each of the Panels, and a static representation of what would be displayed in each "Panel". Usually, the green section is used as a Label and would not be displayed on the panel, just used for testing and troubleshooting. If this feature is not required, you can set it to 0.

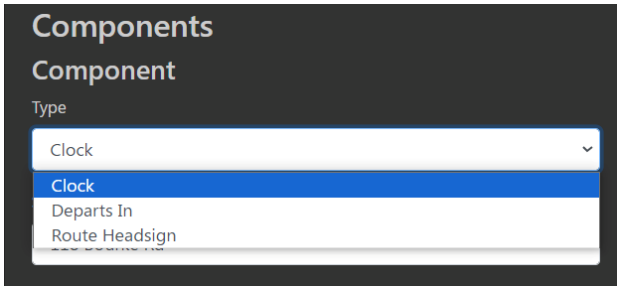
	Here are the general settings for the Panel. You can give each panel a unique name You can add some notes / information about the panel. Tags can be used for managing panels in modes and features. The background HTML is what will be displayed on the bottom layer of each panel. The real-time overlayed content will be put in front of this. Often this may be as simple as a jpeg or gif image.

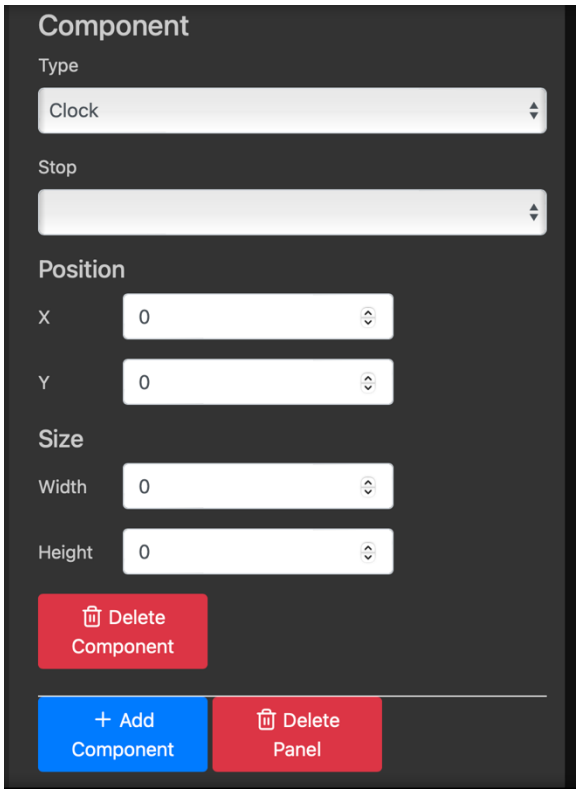
Label Width will show in the preview and on the webpage as a label with the Name Configured above, this is usually hidden from the real display and used for testing and troubleshooting.

Position of the x and y position of the label and how many pixels high and wide the sign will be.

The label is placed before the displayed content on the Panel.







This is the section used to add the real-time and custom label components on the top layer.

The options include.

Clock: The current time from the node

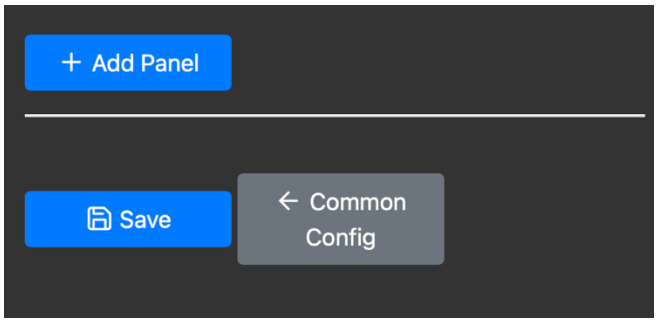
Departs In: When the next service departs.

Route Headsign: The destination of the next service.

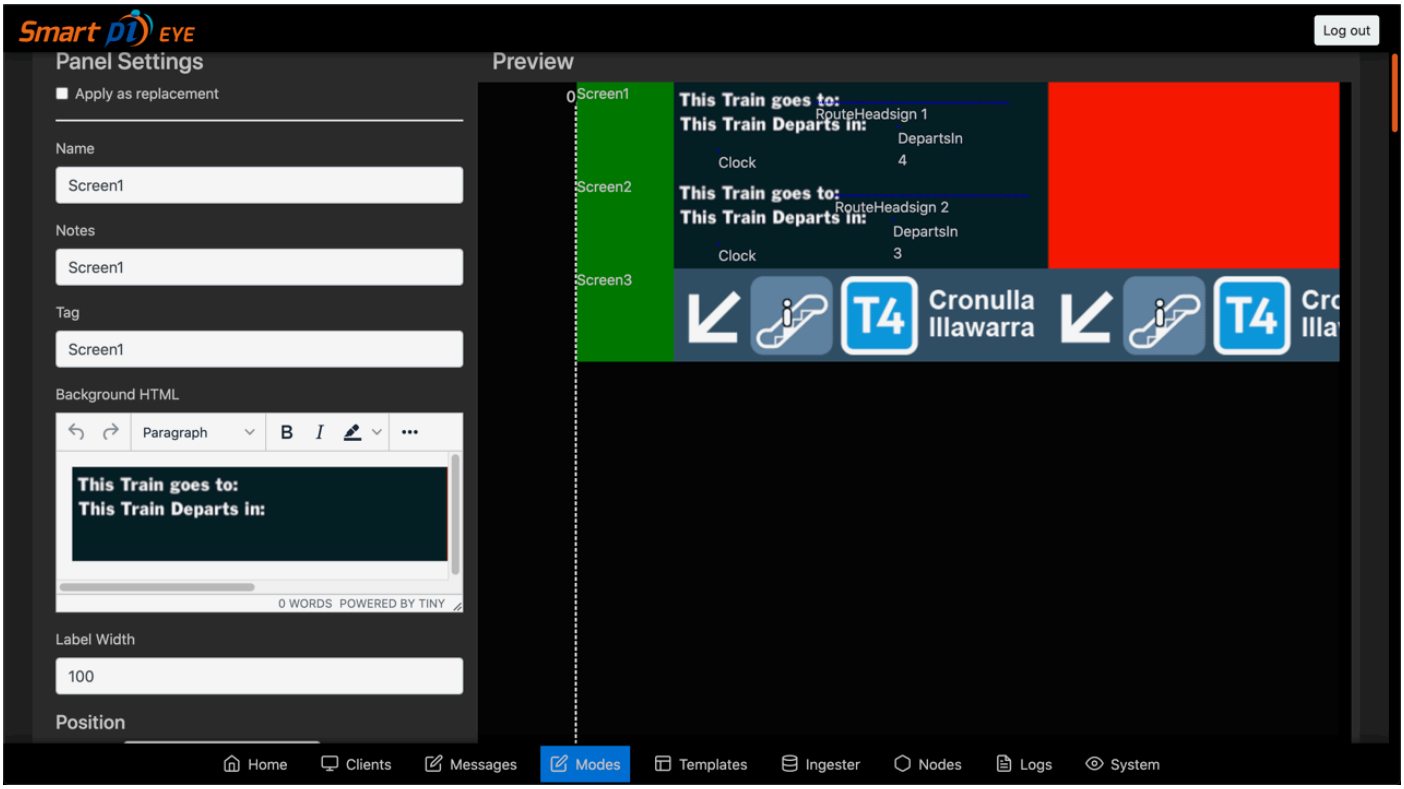
Each component needs to be configured.

Here you can select the stop / platform to display, its position and size.

You can add multiple components per panel.

	Multiple panels can be configured in the system. Don't forget to hit **Save** before quitting.

Below is an example of 3 differently configured signs.



Template Examples

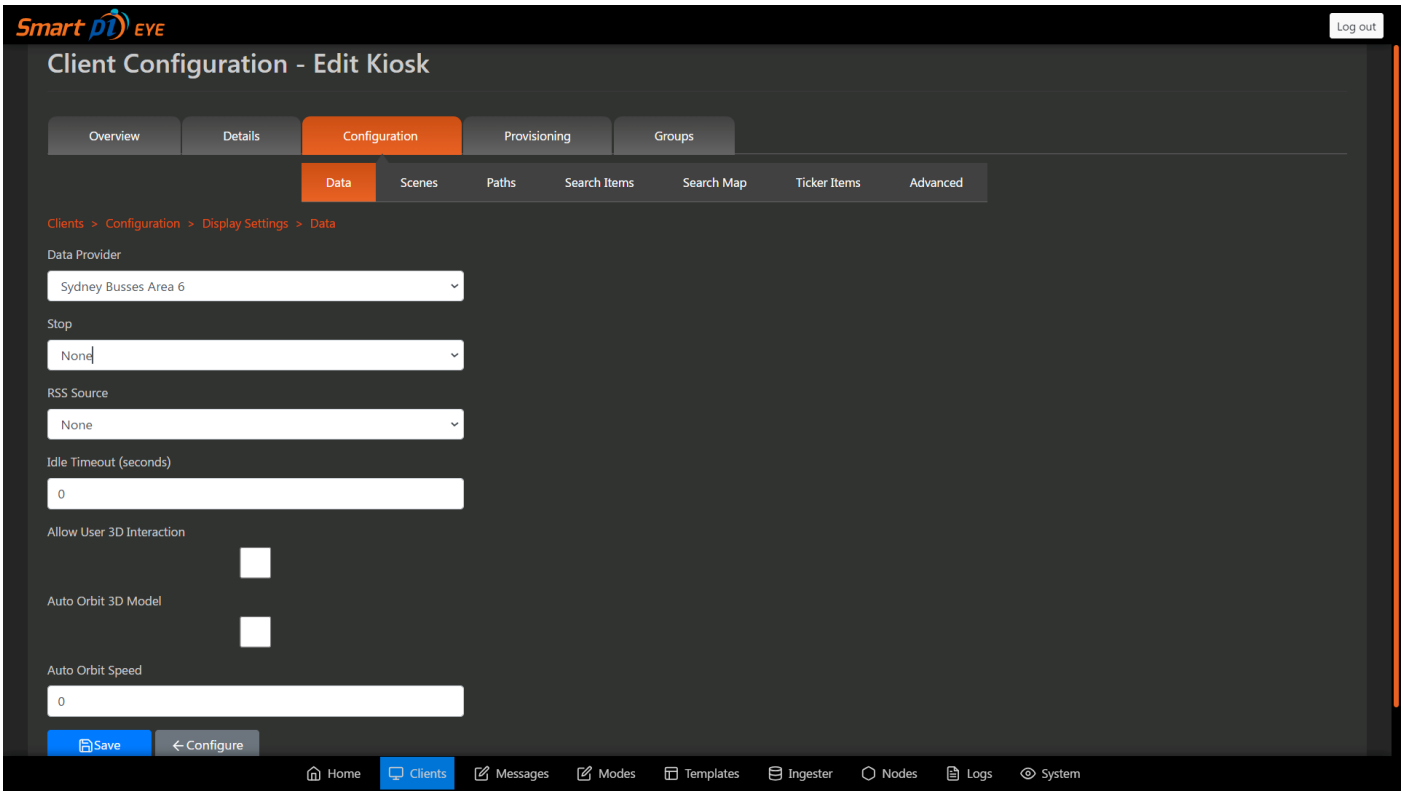
Default

7. Kiosks

To access the display settings for Kiosk, click **Clients** > **Configuration**. Once done, you will have to select a display type as Kiosk and save first. Only then you'll be able to access the correct display settings.

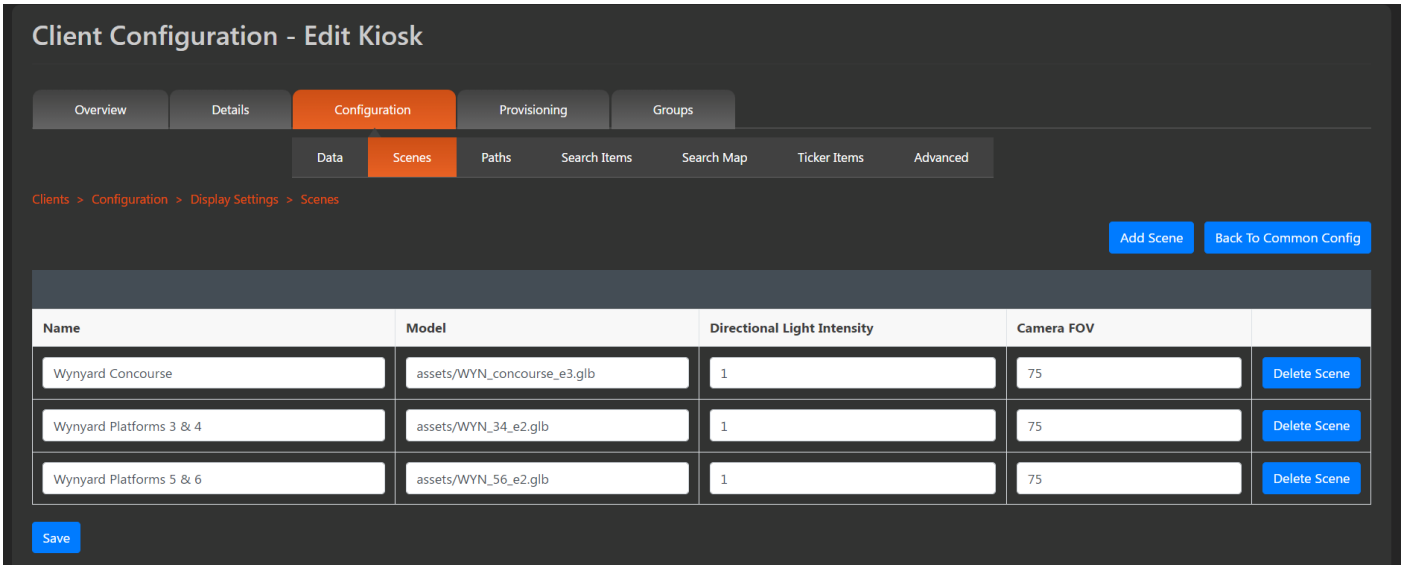
Kiosks are the most complicated of the device types to configure as they support many features including the ability to include layered 3D models.

There are plenty of options for display settings for Kiosk:

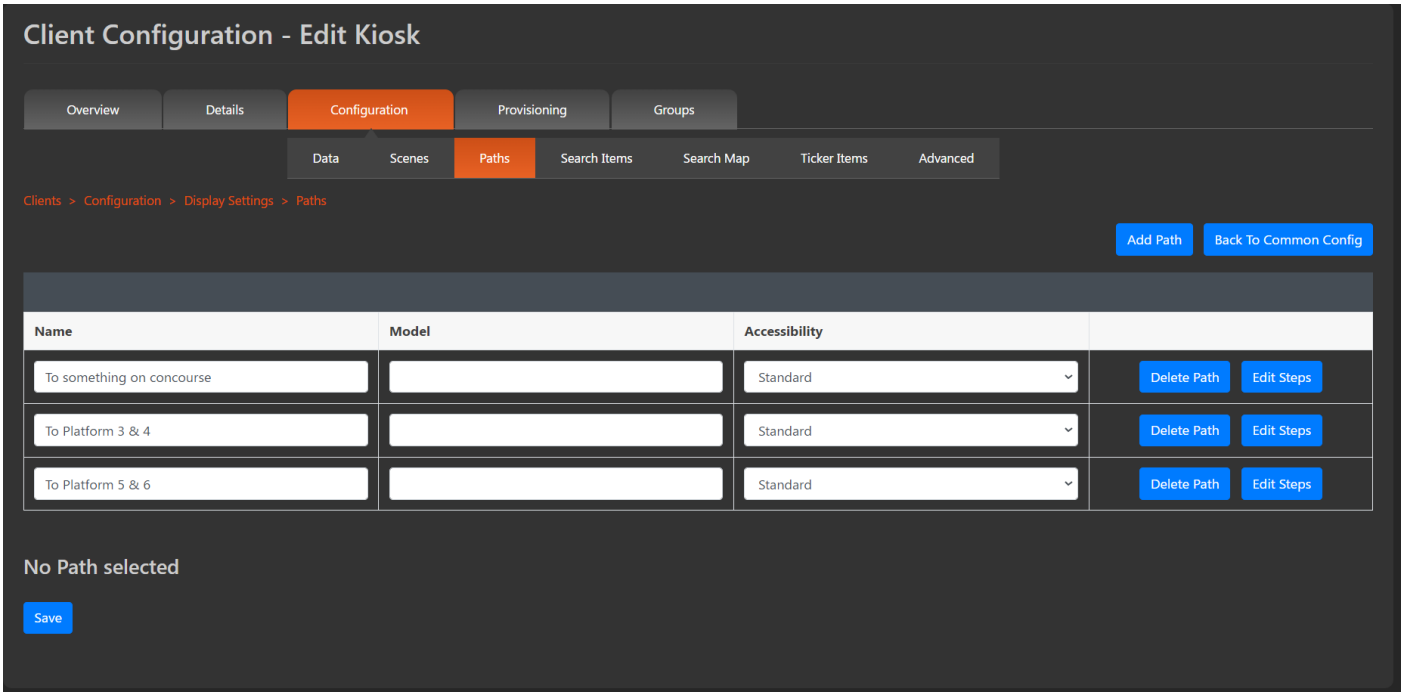


In the **Data** tab, you may configure Data Provider, Stop, RSS Source and Idle Timeout.

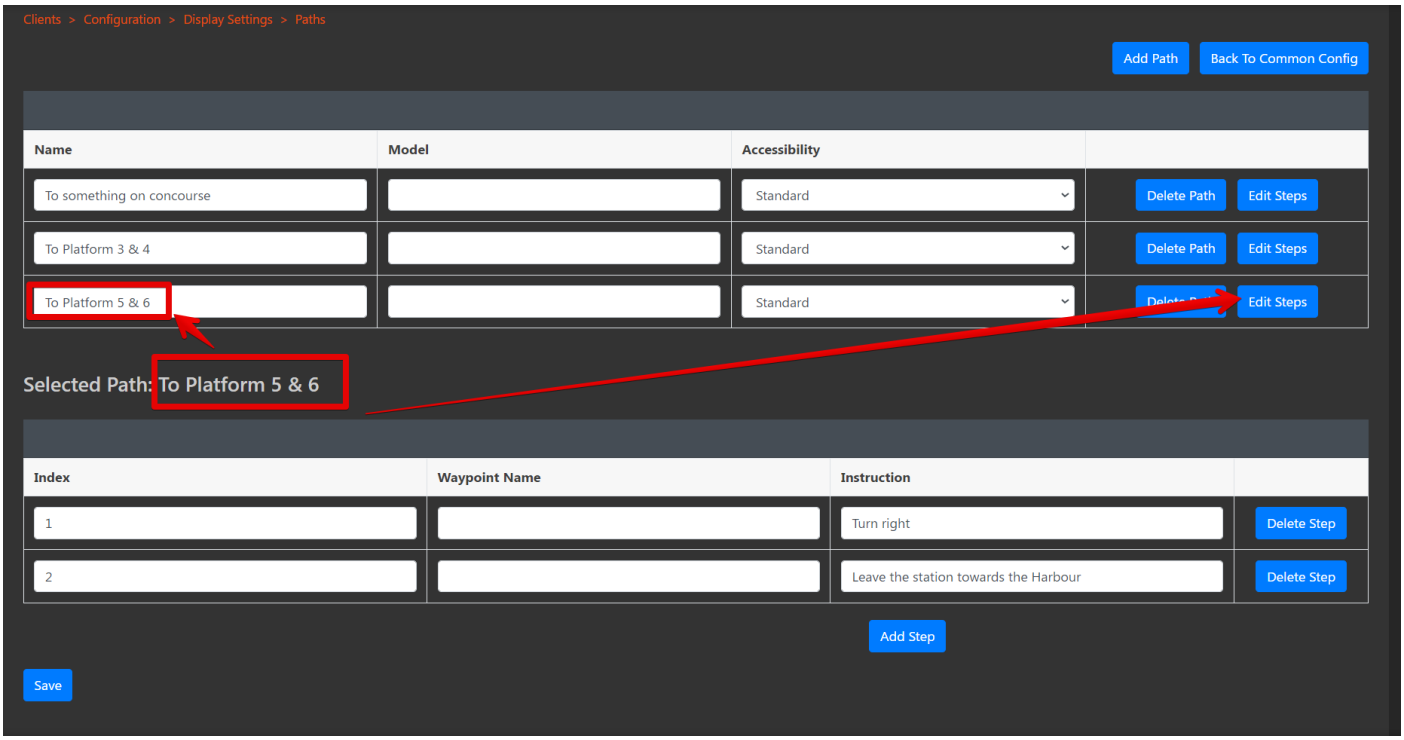
In the **Scenes** tab, you can add or delete scenes as per your preferences:



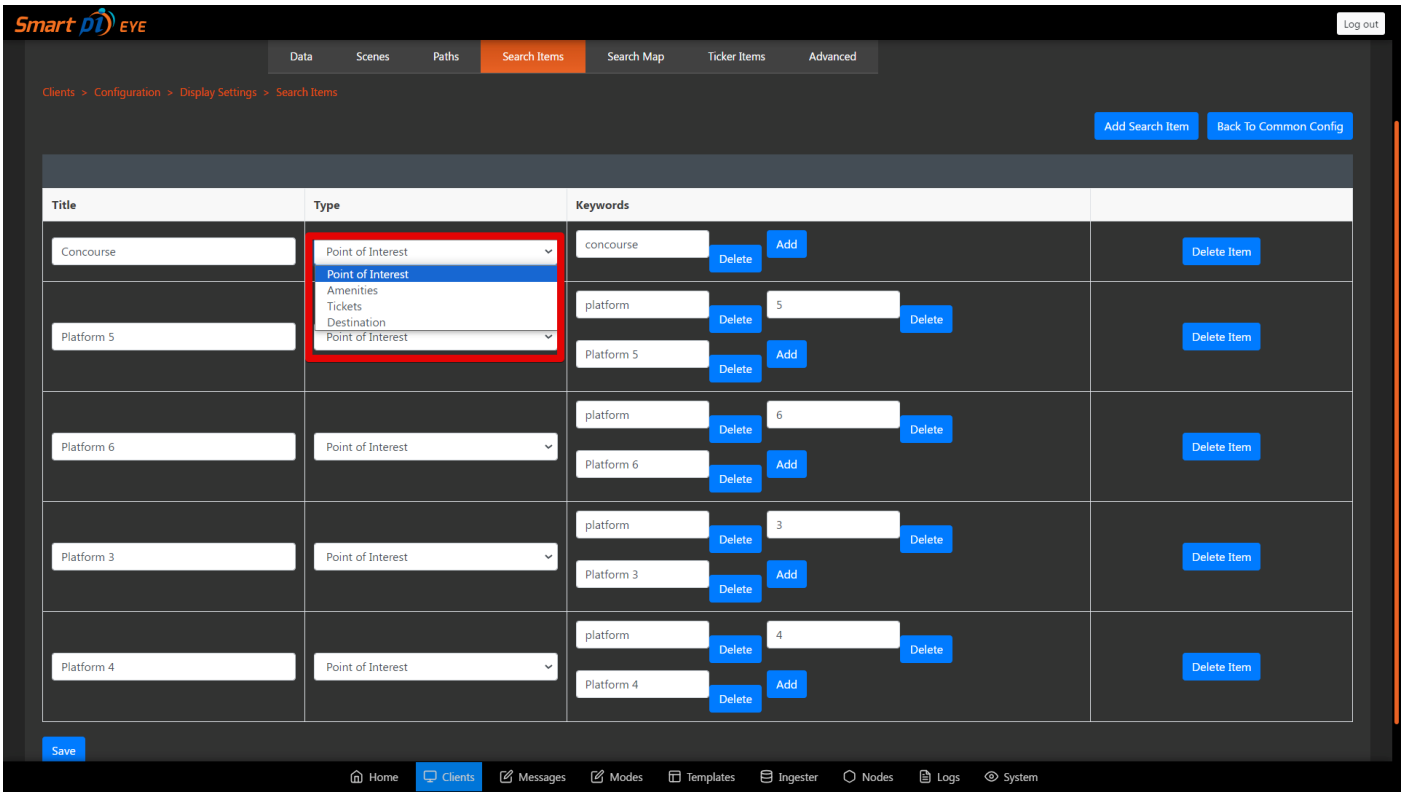
Similarly for the **Paths** tab, you can add a path, give it a name, select the accessibility, delete path or edit the steps.



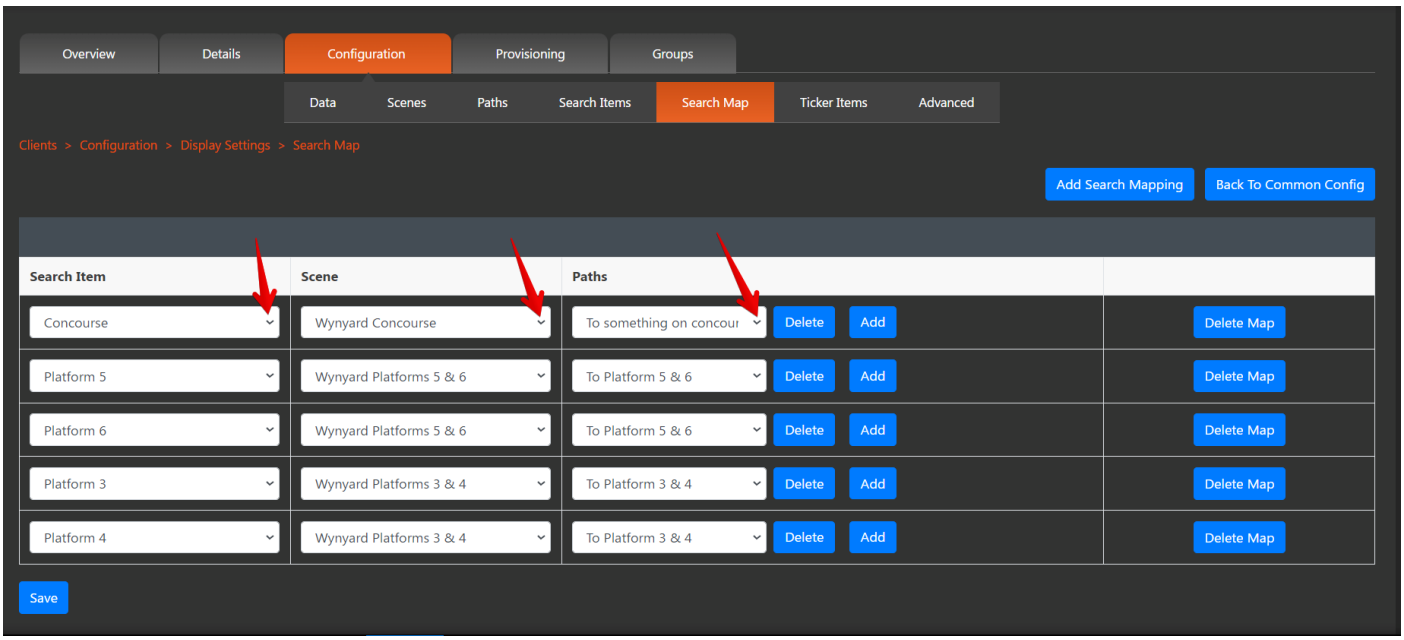
Click **Edit Steps** to get more options where you can set the instructions or delete a stop.



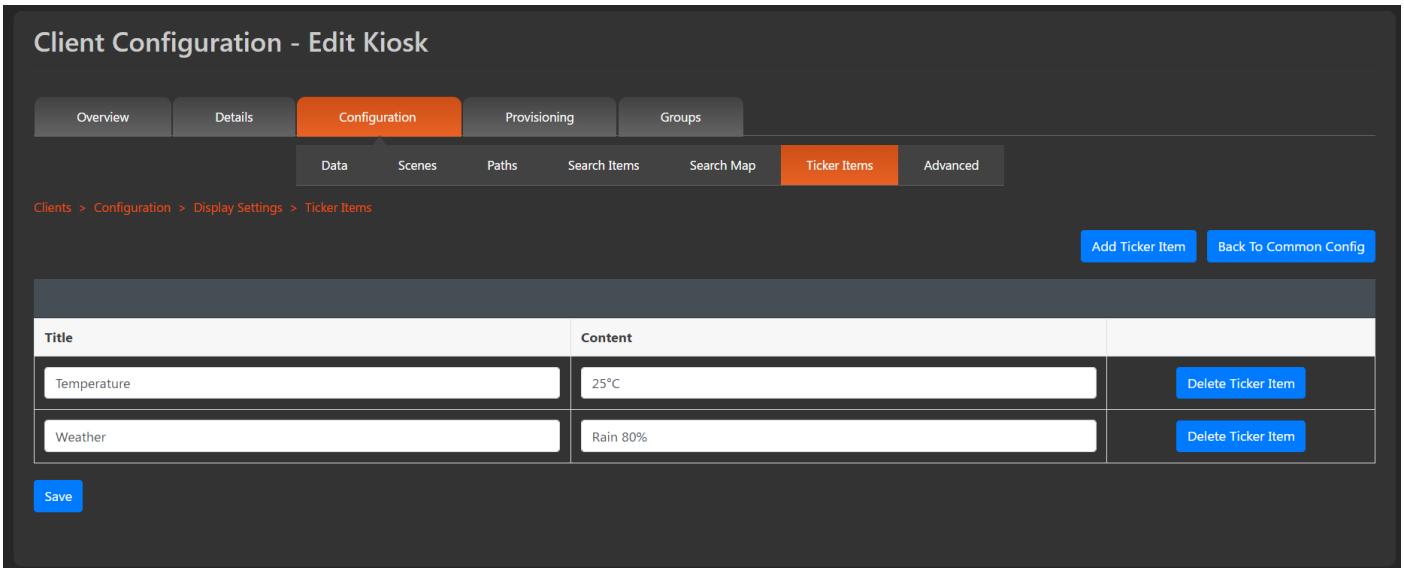
In the **Search Items** tab, you can set a title, type, add keywords and add or delete items:



In the **Search Map** tab, you can select an item, scene and paths to add or delete.



The **Ticker Item** tab allows you to add or delete a ticker item.



Finally, in the **Advanced** tab, you can add a Json code to make full use of the customization.

Template Examples

Currently only custom templates are available.

Default	Dark	Smart pi
Free Template Coming Soon	Free Template Coming Soon	Free Template Coming Soon

8. URL

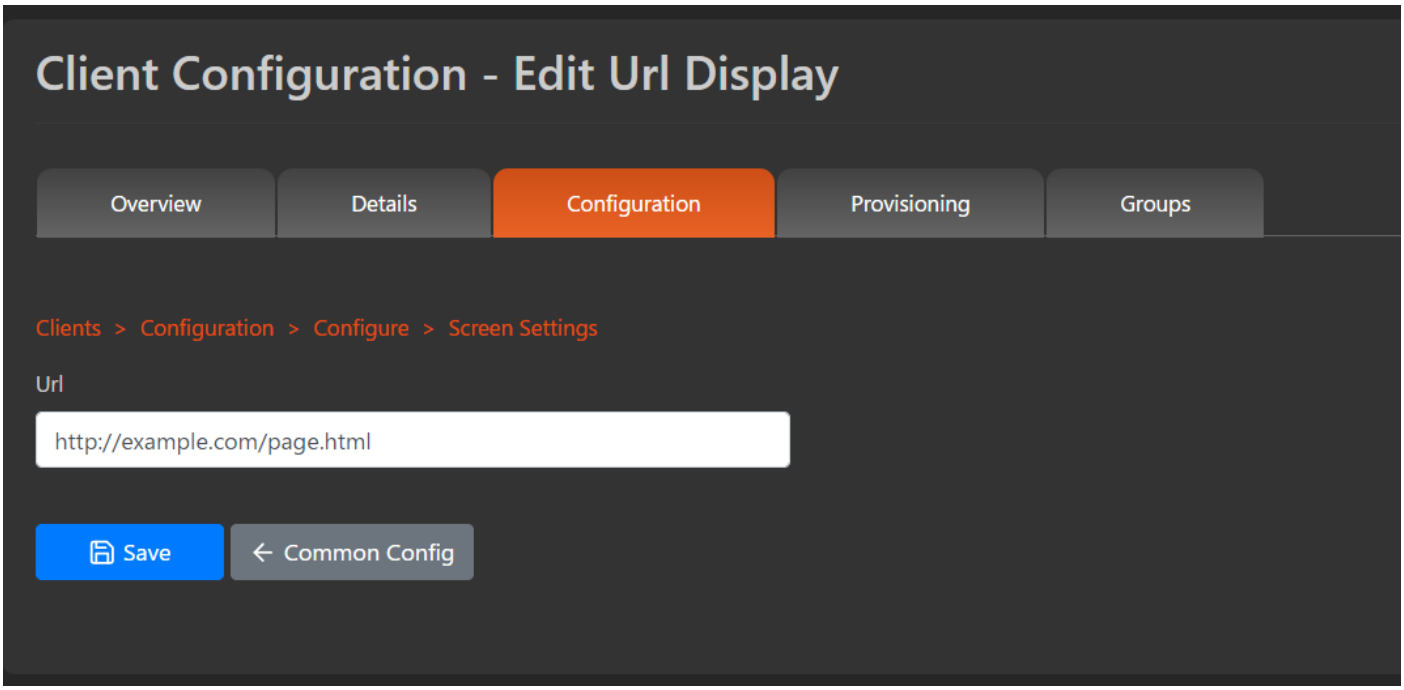
This display type can be used to allow any website, CMS or other digital signage to be displayed as an overlay in the Smart pi EYE System.

The Messages Overlay and other Smart pi EYE features can still be used.

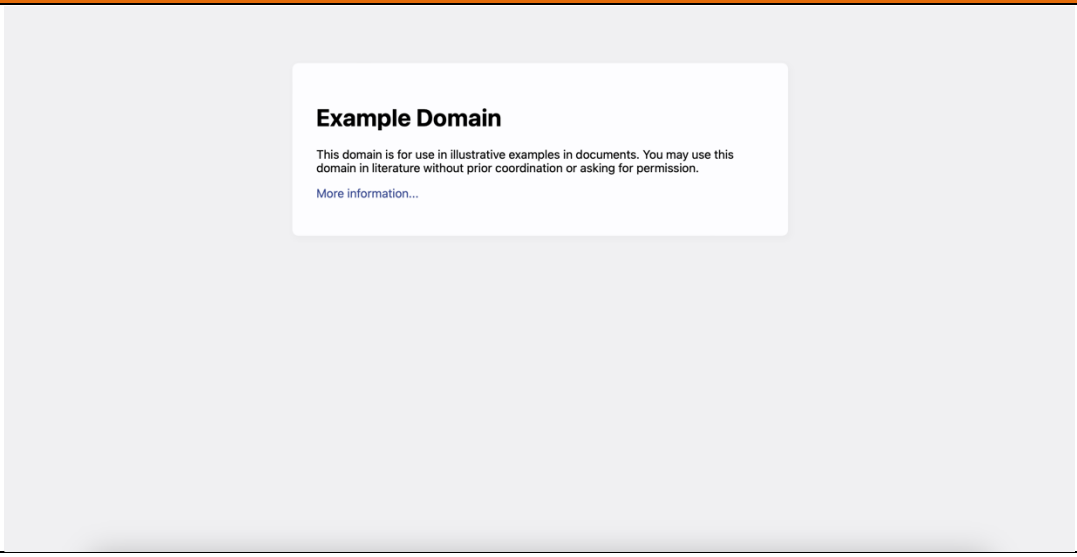
Simply add in the web address of the URL you would like to display, and it will be displayed Fullscreen on the Client Endpoint.

Please note the **Client** will need access to the webserver serving the content.

.



Template Examples

Default


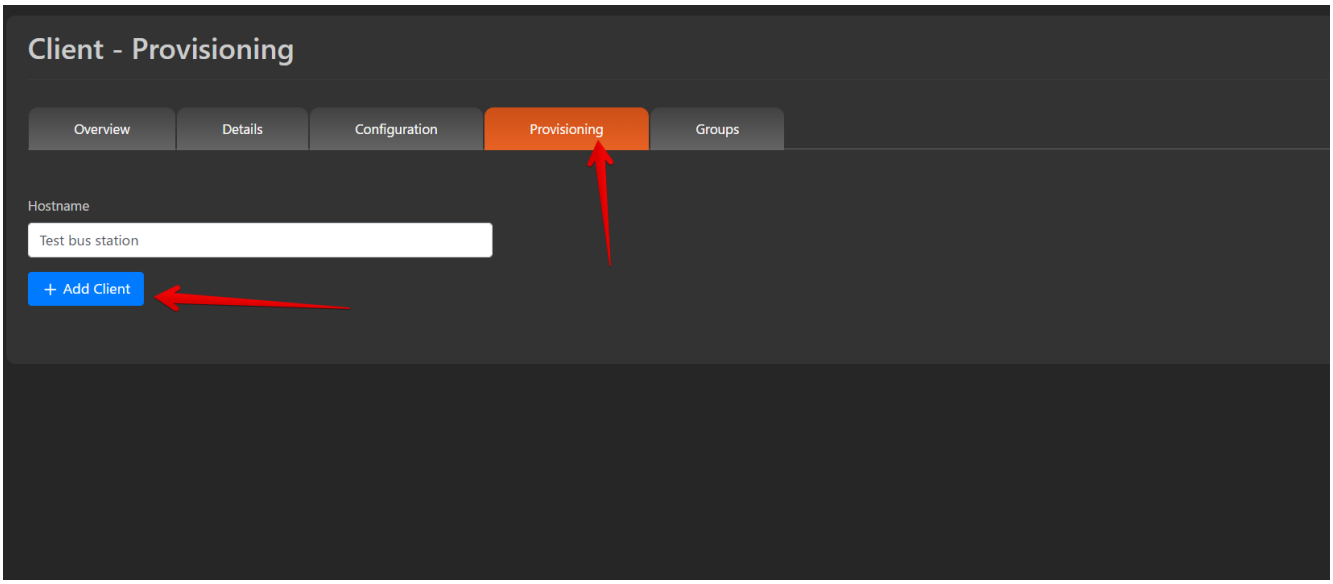
5.2.4 Provisioning

Provisioning can be used to pre provision / configure devices before they are available or have been connected to the Smart pi EYE server.

Once entered here, they will appear under the client section and can be configured.

Then first time the client connects it will display the configured settings and not the clock.

Hit the **Provisioning** tab, from the Clients main tab. Here you can add a new client by giving it a name.



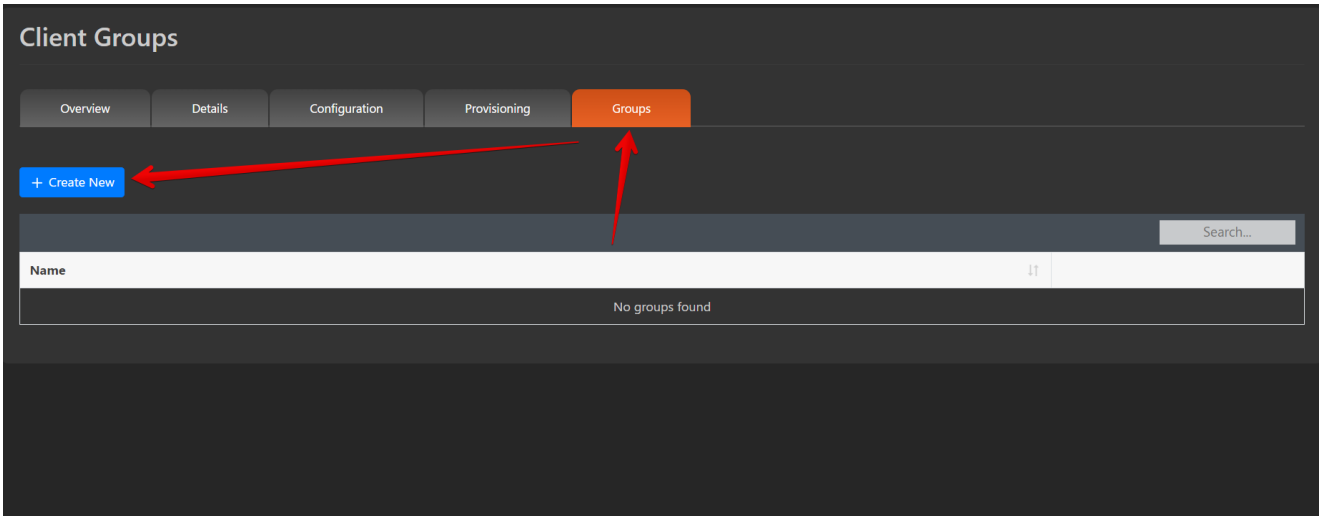
Click **Add Client** to add a client.

5.2.5 Groups

Groups are used to easily manage multiple clients (displays) that are in the same area.

This allows for messages, Real Time Text and other features to be grouped rather than individually setting up each client.

A client can be a member of more than 1 group.

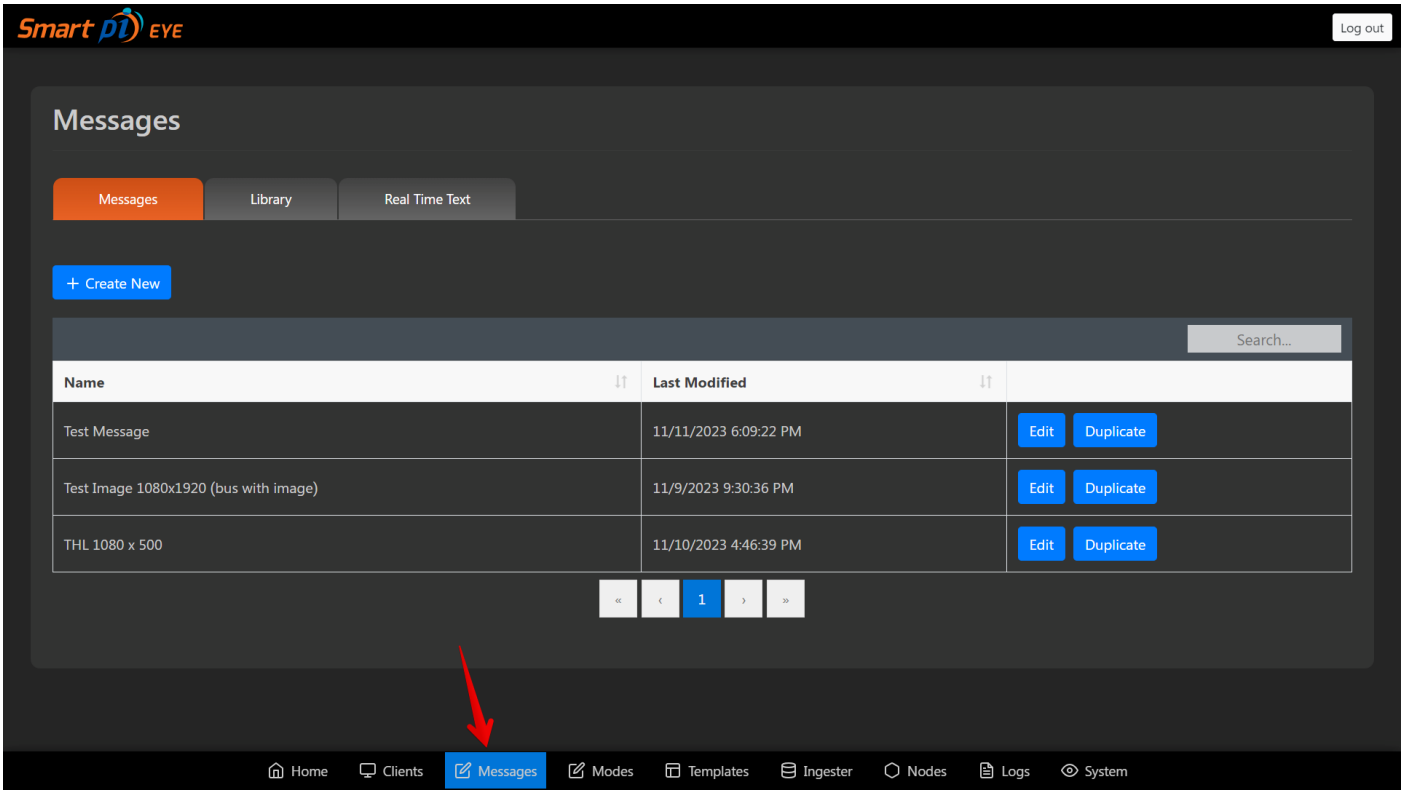


5.3 Messages

The Smart pi EYE server has a build in Messaging system, basic library and the ability to add Real Time Text Messages.

In the messages tab, you can send real-time messages, add media and create new messages.

Messages are layered over the top of the device type display or configured to only appear in sections of the display.

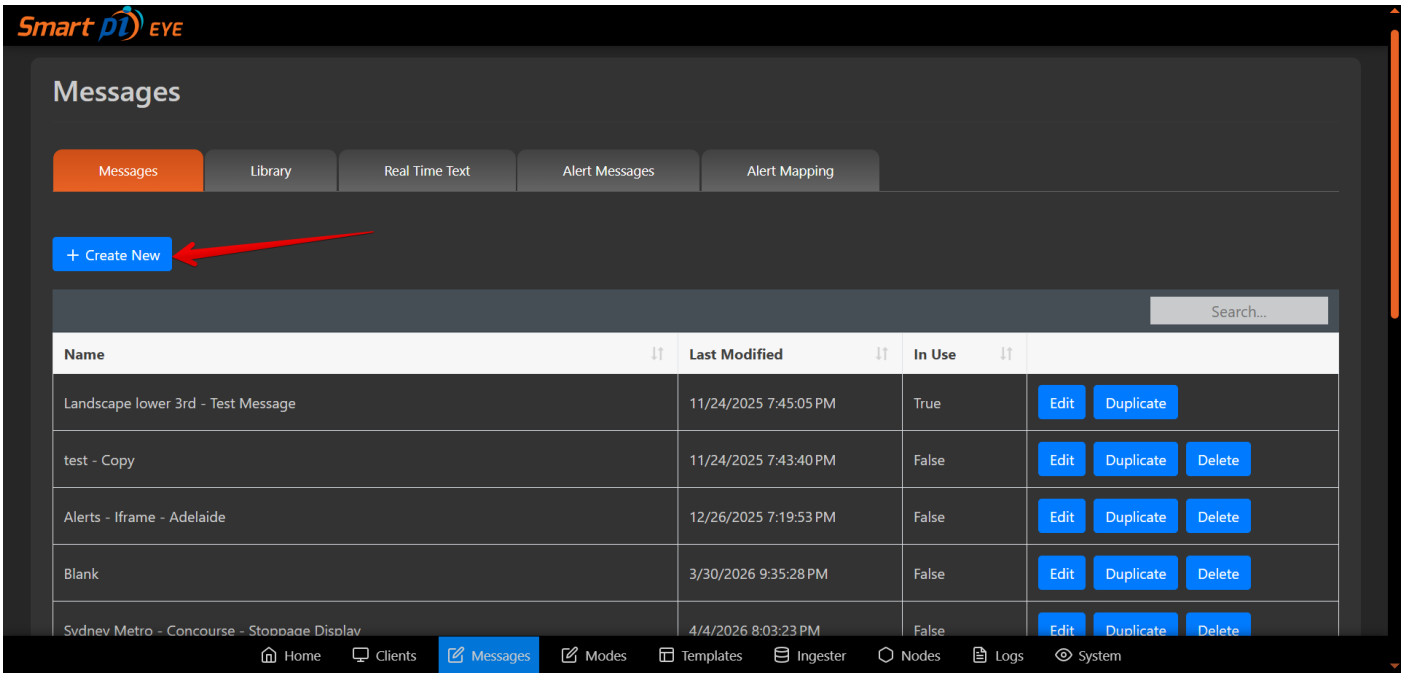


Videos can now be added to messages. Add a video in the same way as an image, either from the graphical editor or the library, and it will display within the message using the template styling.

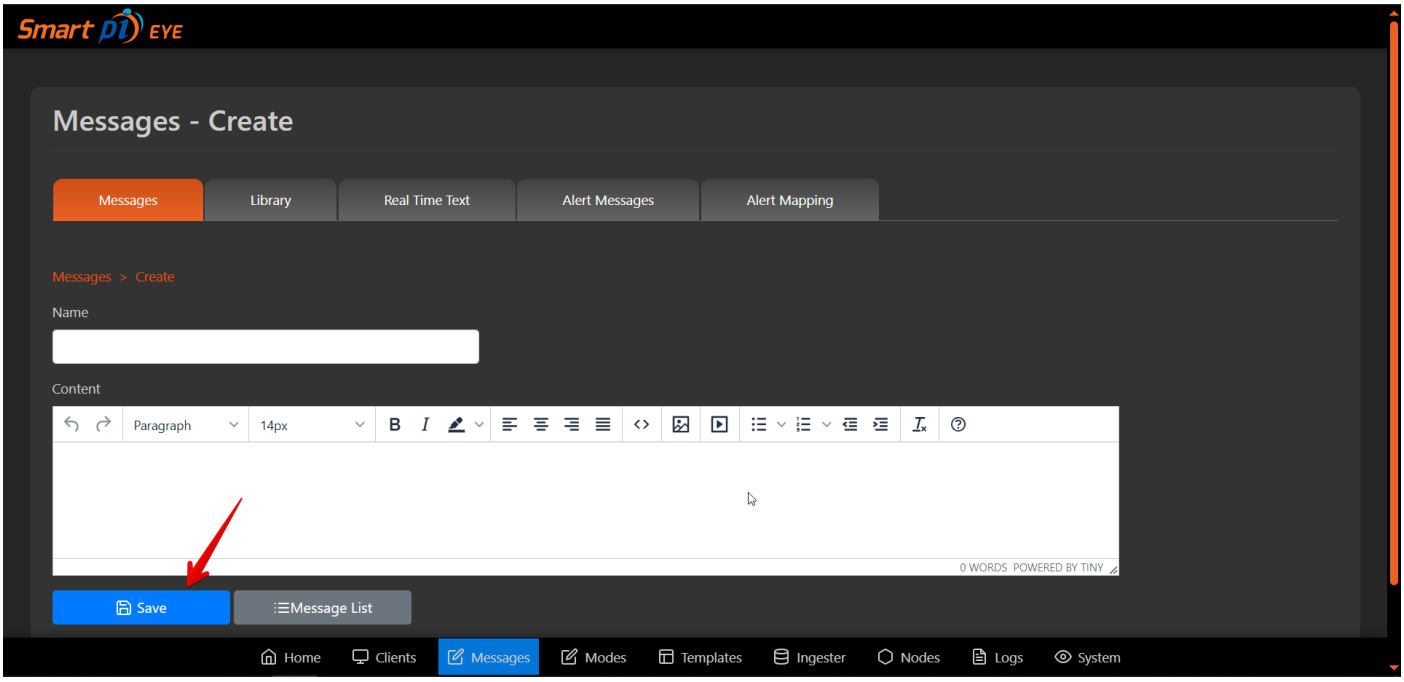
5.3.1 Create New message

New messages can be created in within the Master User Interface.

Simply click **Create New** to start creating a new message.



Enter your message Name in the textbox that opens and hit **Save** to save the progress.

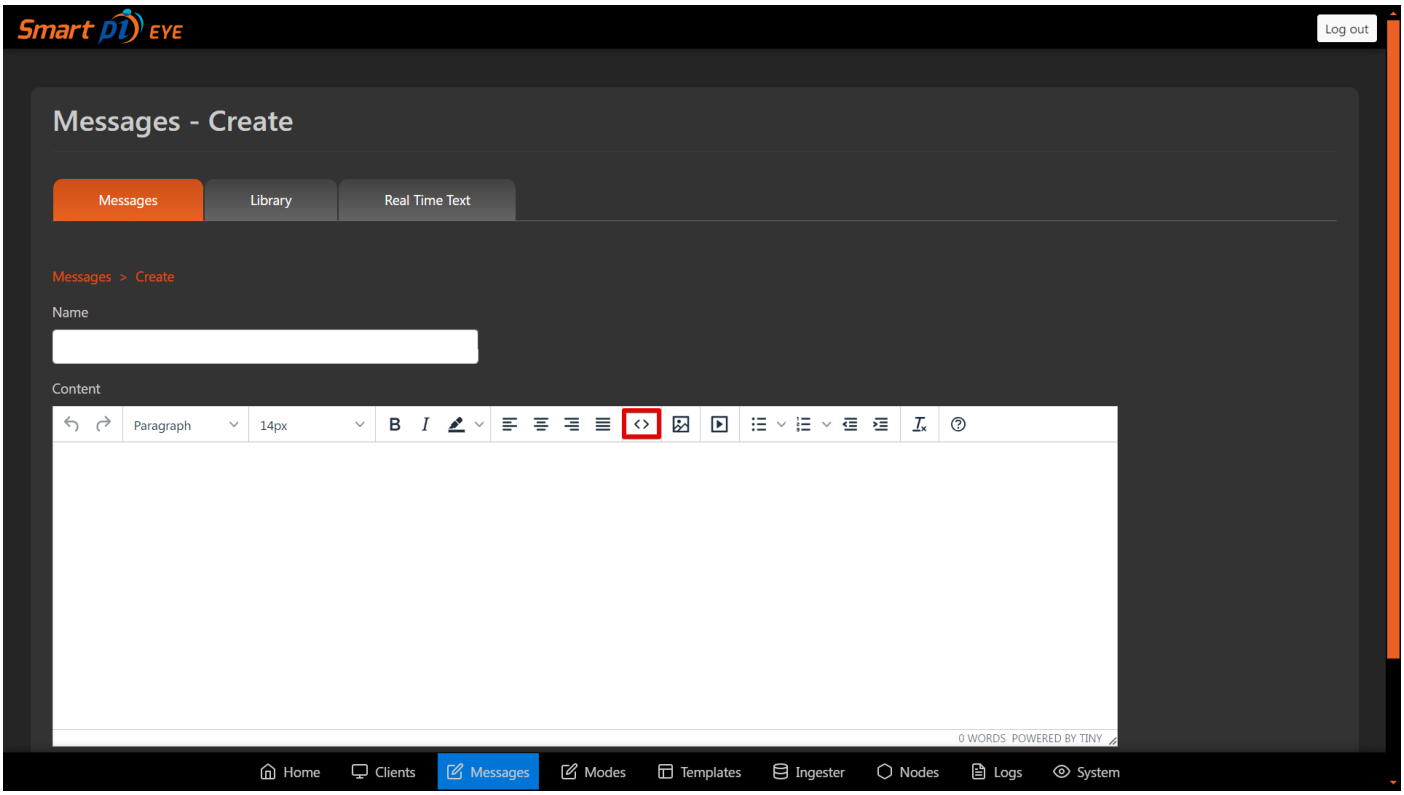


There are two ways to edit the message within the message editor.

By default, the message editor is in graphical mode, Images, text and other library content can be added and arranged within the editor. All messages will automatically have the templates CSS applied to ensure it follows the design required for each screen.

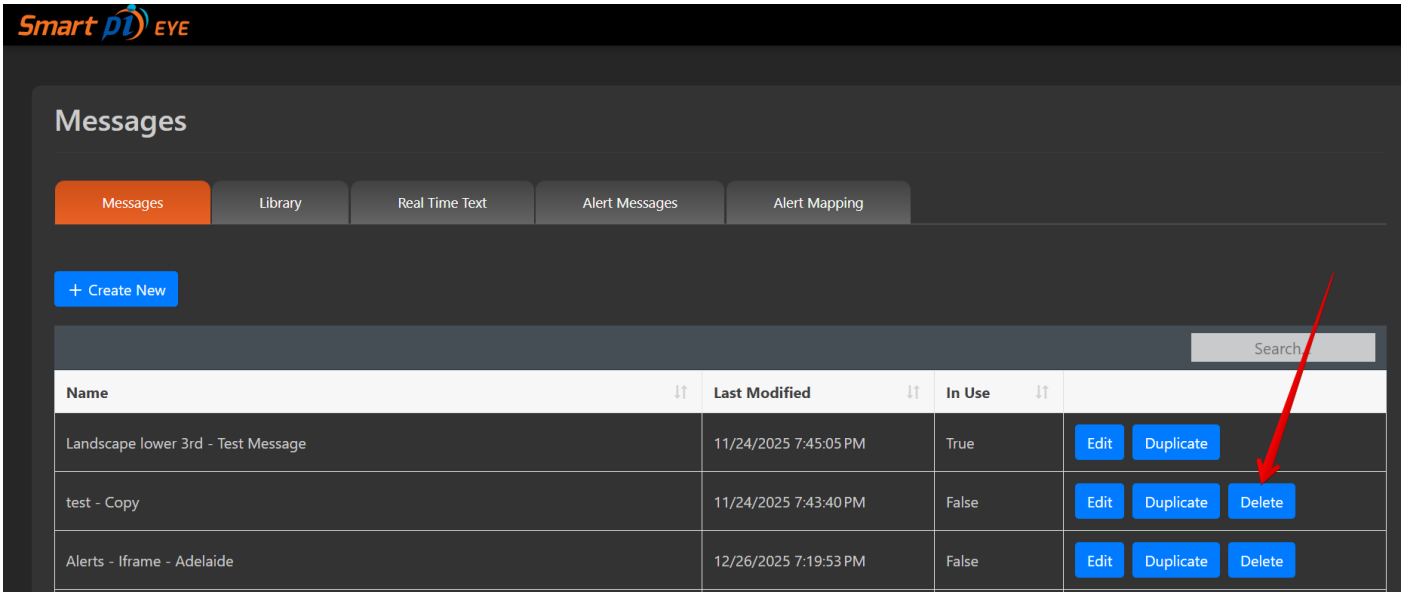
For advanced users you can hit the code “<>” icon and use html and inline CSS to generate any message desired.

Messages can also pull content from other http / https servers.



5.3.2 Delete a message

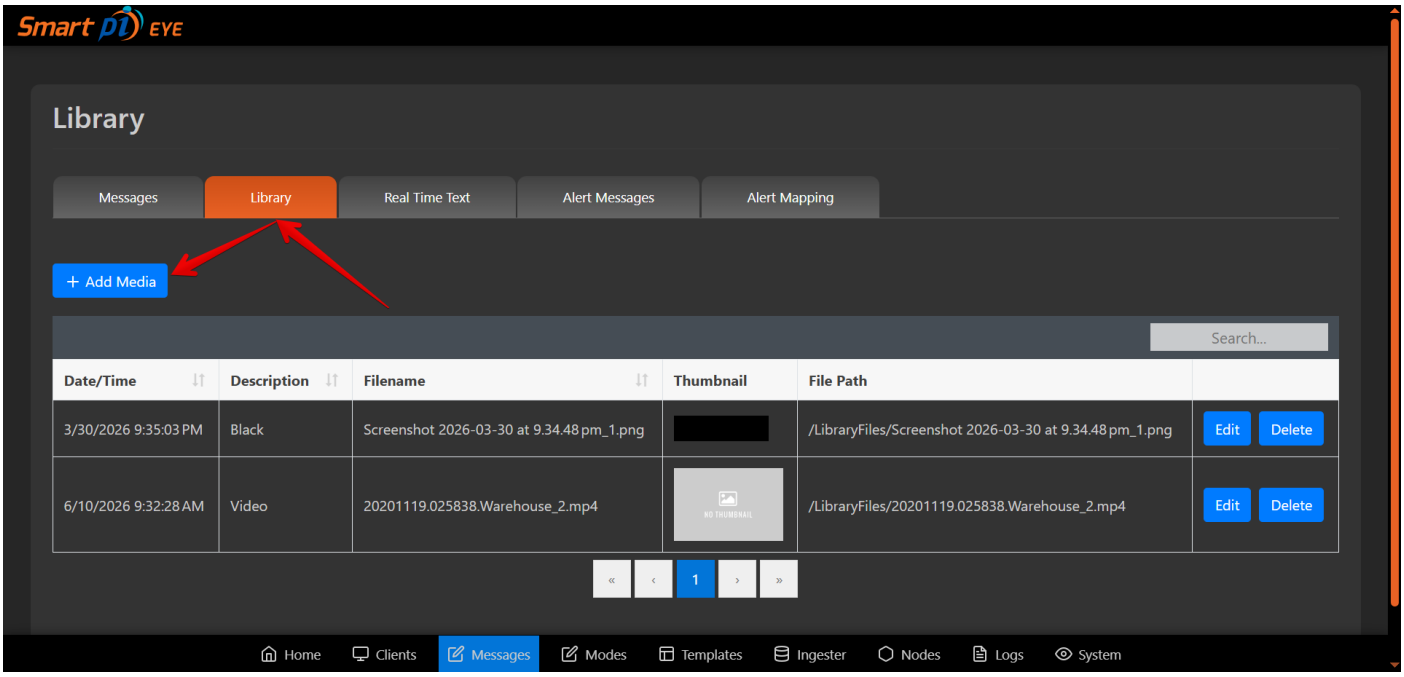
You can delete a message from the same screen by clicking the **Delete** button.



5.3.3 Library

The Smart pi EYE has a library engine to ensure it is easy to manage and use digital content within the Smart pi EYE system.

Choose **Library** from the top and hit **Add Media** button to start uploading media.



Select a file from your computer, add a short description and hit **Save**.

Media supported includes most web formats including:

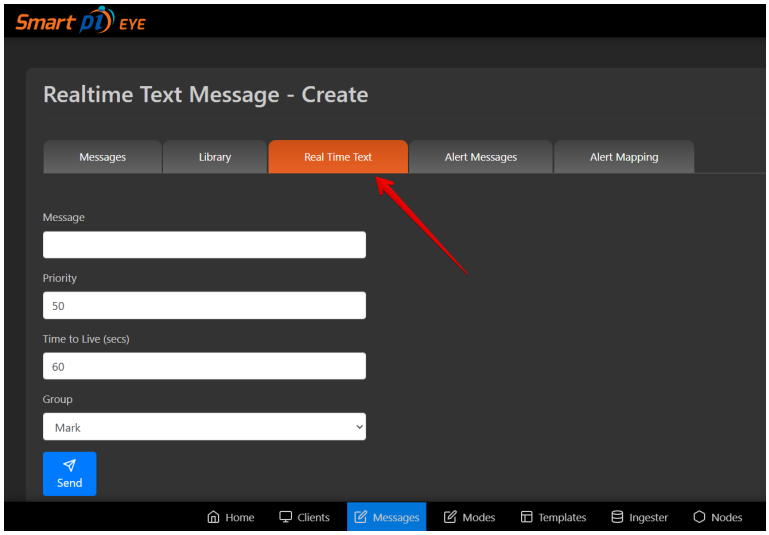
Type	File Extension	Notes

Image	.png	
Image	.jpg/.jpeg	
Image / Animation	.gif	Gifs are great for LED Displays with animated content
Image	.svg	
Video	.mov	
3D model	.gltf	For Kiosk Display Types
3D model	.gltb	For Kiosk Display Types

Other formats not mentioned may also be supported.

5.3.4 Real Time Text

Hit **Real Time Text** from the top, and add your message, priority, time to live and group (if any). Finally, hit **Send** to send your message.



Message: is the message text to be displayed

Priority: This is the priority of the message, the higher the number, the higher the priority, lower priority messages will be queued. Messages above a priority of 90 will override any current message.

Time to Live (secs): This is how long the message will be displayed for on the selected screens (group)

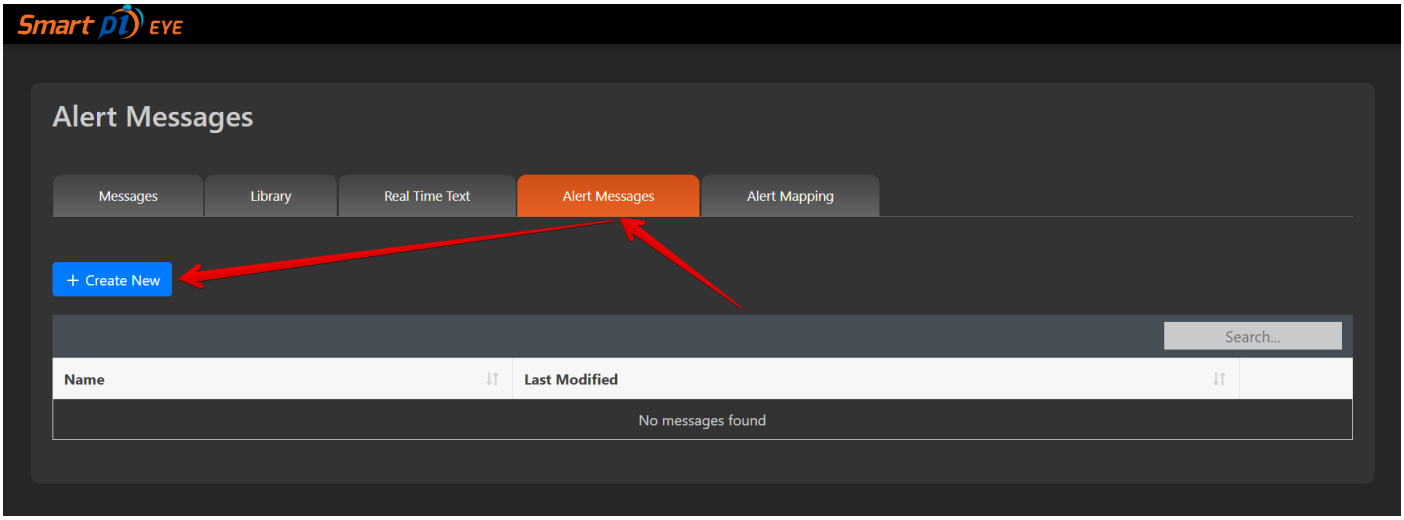
Group: This is the pre-configured group of screens to send the message to.

Note: This functionality is also available via the API.

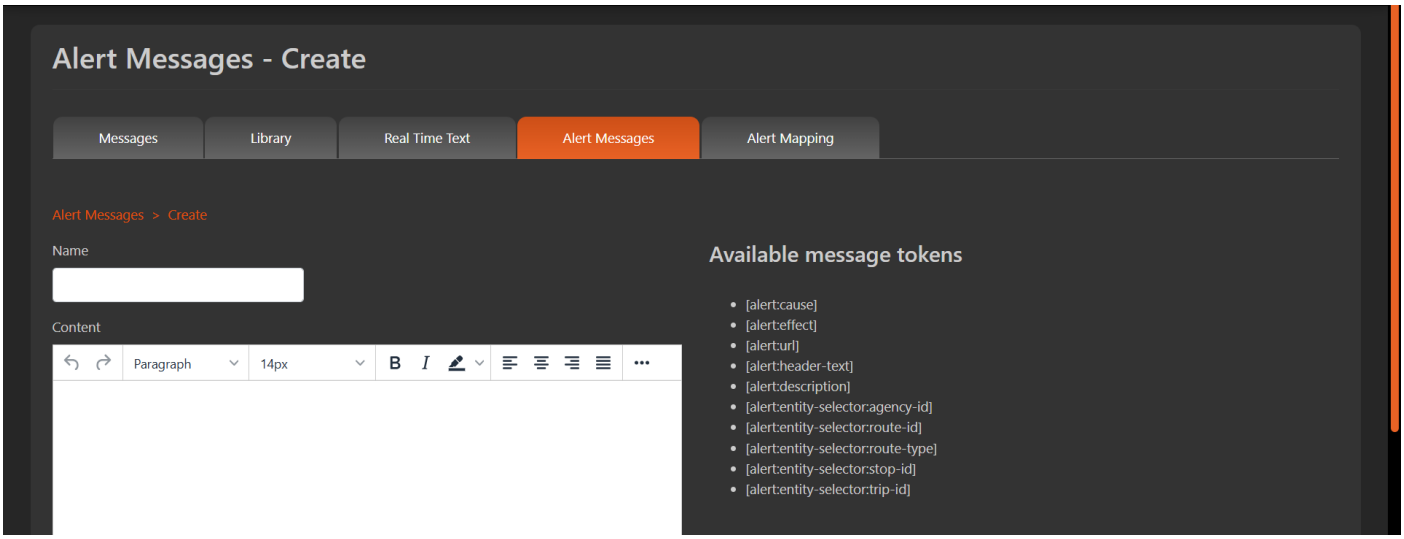
5.3.5 Alert Messages

Alert Messages let you prepare message content that is shown when a service alert is received. This works alongside the GTFS-R alert feed, so alert information carried in the real-time data can be presented on screen using a message you have set up in advance. Alerts can be shown across the different display modes.

Choose **Alert Messages** from the tabs at the top of the Messages section and click **Create New**.



Give the message a **Name** so it can be identified in the list and when mapping alerts to it later.



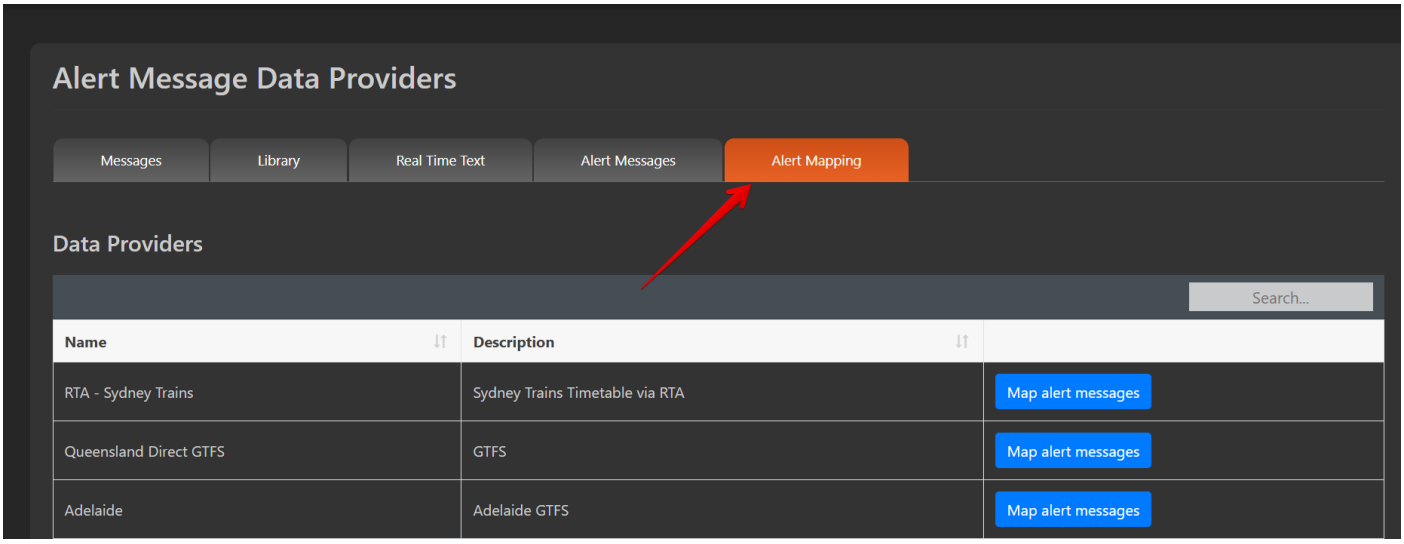
Use the **Content** editor to build the message that will appear on screen. The editor works the same way as the standard message editor, with controls for paragraph style, font size, bold, italic, text colour and alignment. Enter fixed text as needed, and insert tokens where you want live alert data to be filled in automatically when an alert is received.

The **Available message tokens** are listed to the right of the editor. Add a token to the content and it will be replaced with the matching value from the incoming alert.

5.3.6 Alert Mapping

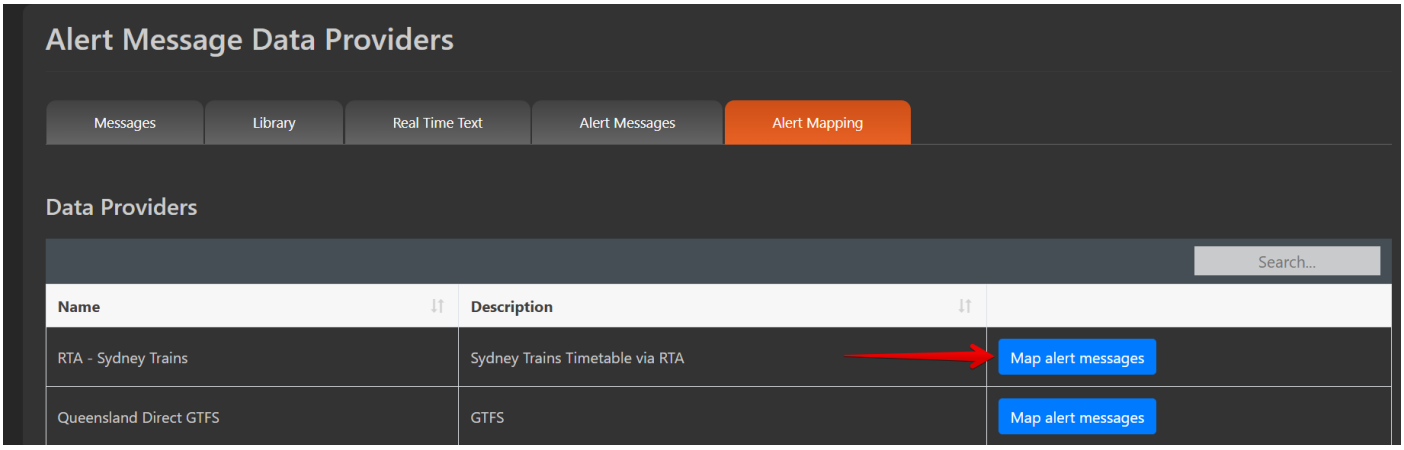
Alert Mapping controls which alert messages are used for each data provider. Where Alert Messages holds the content, Alert Mapping decides which of those messages a given feed will draw on when an alert is received, so different agencies can use different alert content from the same system.

Choose **Alert Mapping** from the tabs at the top of the Messages section to open the page.



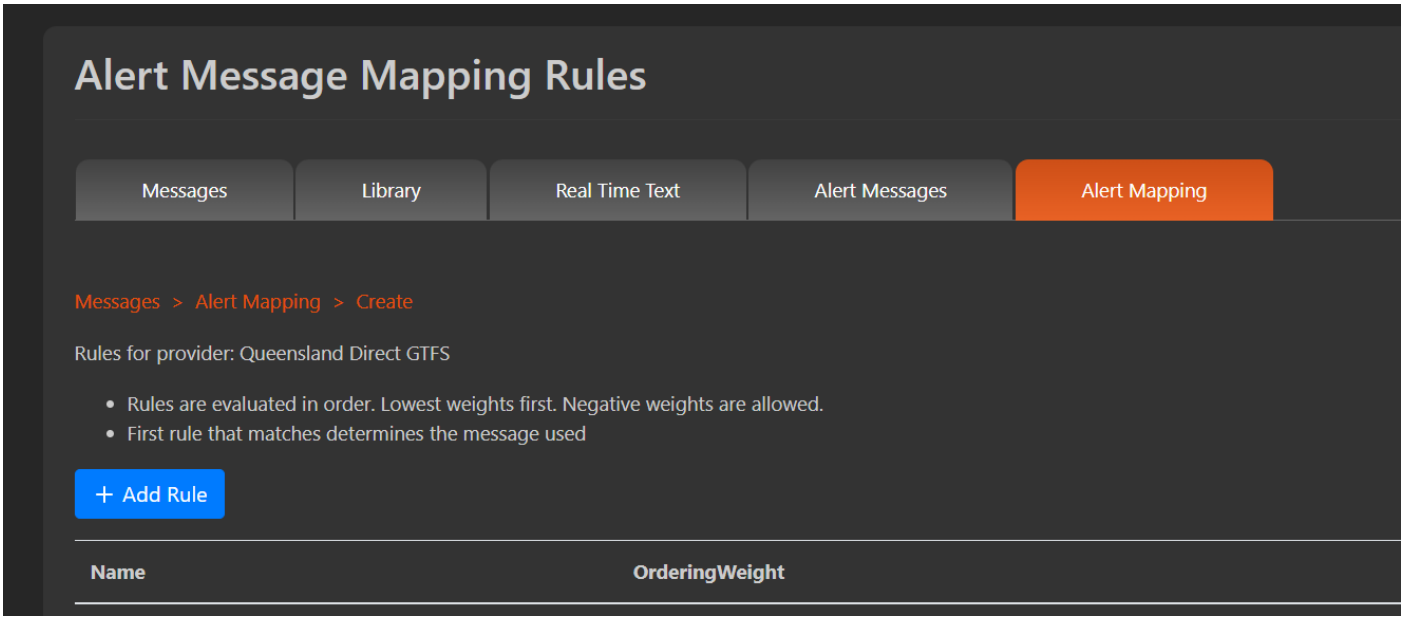
The page shows the **Alert Message Data Providers** list. Each row is one of your configured data providers and displays its **Name** and **Description**, which are usually your incoming GTFS and GTFS-R feeds. Use the **Search** box to find a specific provider when the list is long.

To set up mapping for a provider, click **Map alert messages** on its row.



Mapping is handled through rules. Each rule matches an alert against an alert message, and the rules for a provider are evaluated in order to decide which message is used:

- Rules are evaluated in order, lowest weight first. Negative weights are allowed.
- The first rule that matches determines the message used.



Existing rules are listed by **Name** and **OrderingWeight**. To add a rule, click **Add Rule**, set its details and ordering weight, then save. Set the ordering weights so that more specific rules are evaluated before general ones, since evaluation stops at the first match.

Repeat this for each provider that needs alert content. A provider with no matching rule will not display a prepared alert message, even if alerts are present in its feed.

5.4 Modes

Modes can be used to configure all client-based parameters in the system group, them together and automate them.

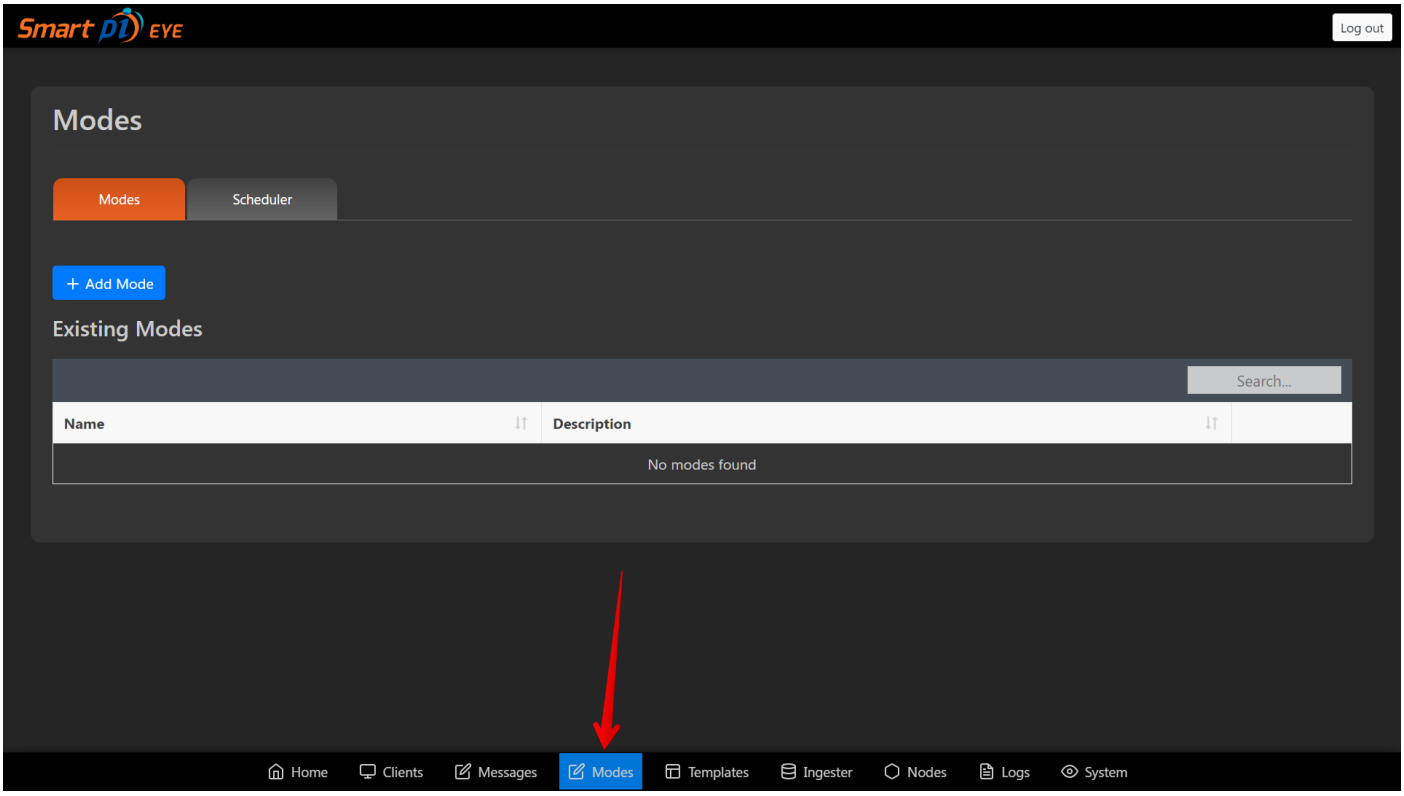
Modes can be controlled via the; Master User Interface, User Logins (with group permissions), Scheduled via the built in scheduler or externally via the REST API.

You configure a mode with the same parameters used to configure a client and can select 1 or more clients.

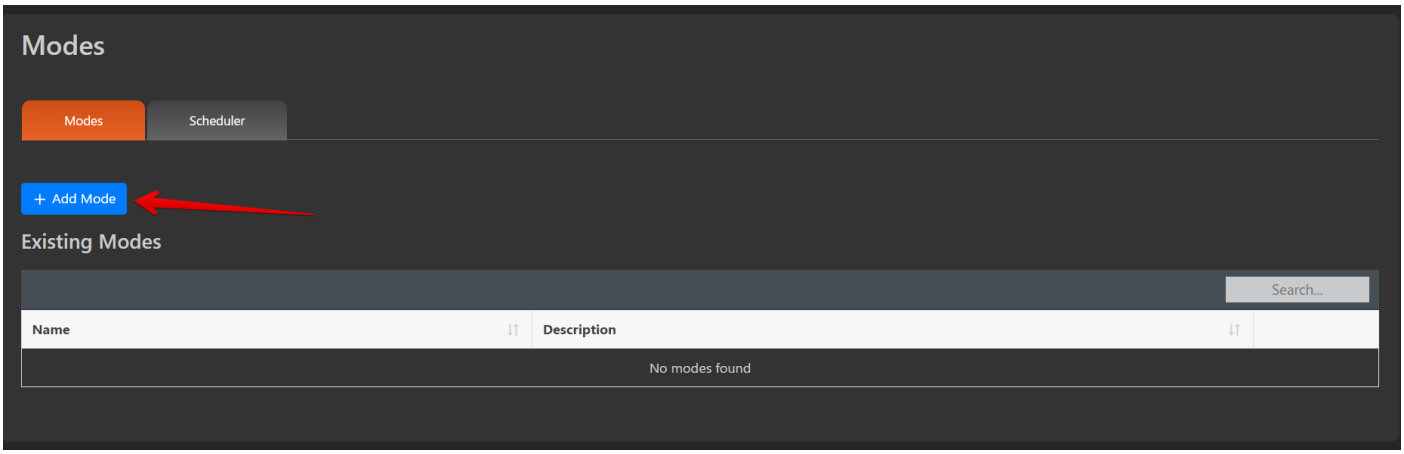
Each Mode can be put into a group which can be linked via LDAP to allow users access via the User Interface.

5.4.1 Add a Mode

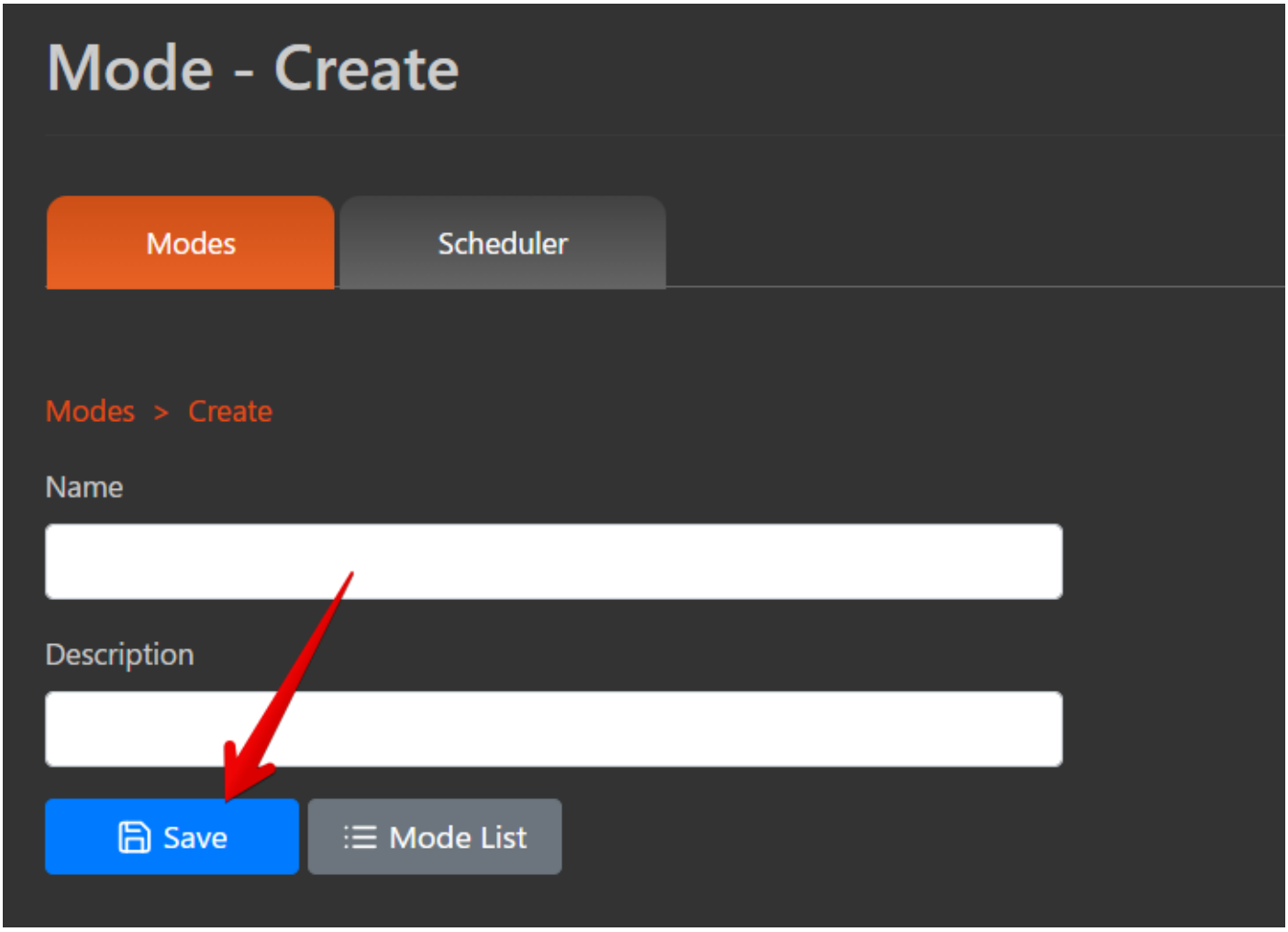
From your main dashboard, click **Modes** at the bottom to launch Modes options.



Under **Modes**, you can click **Add Modes** to add a mode.

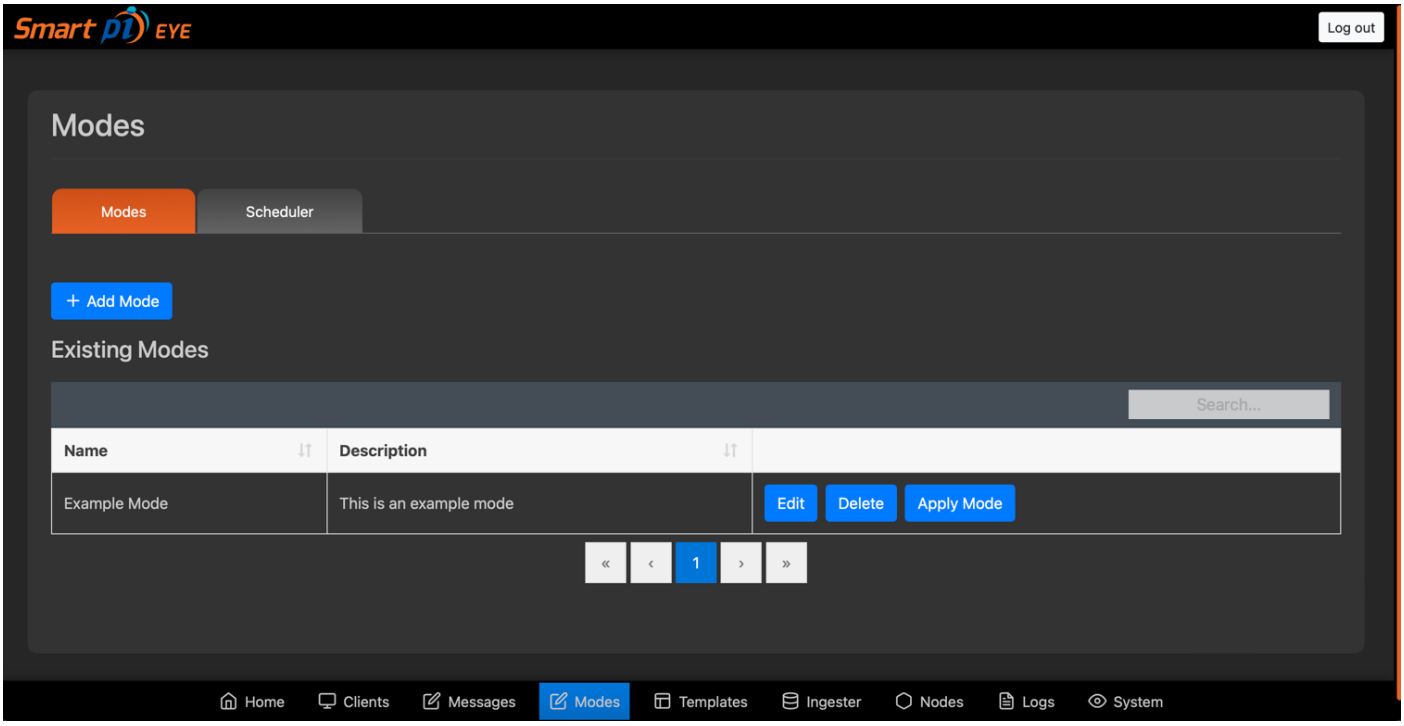


Give it a name and a description before clicking **Save** to save the progress.

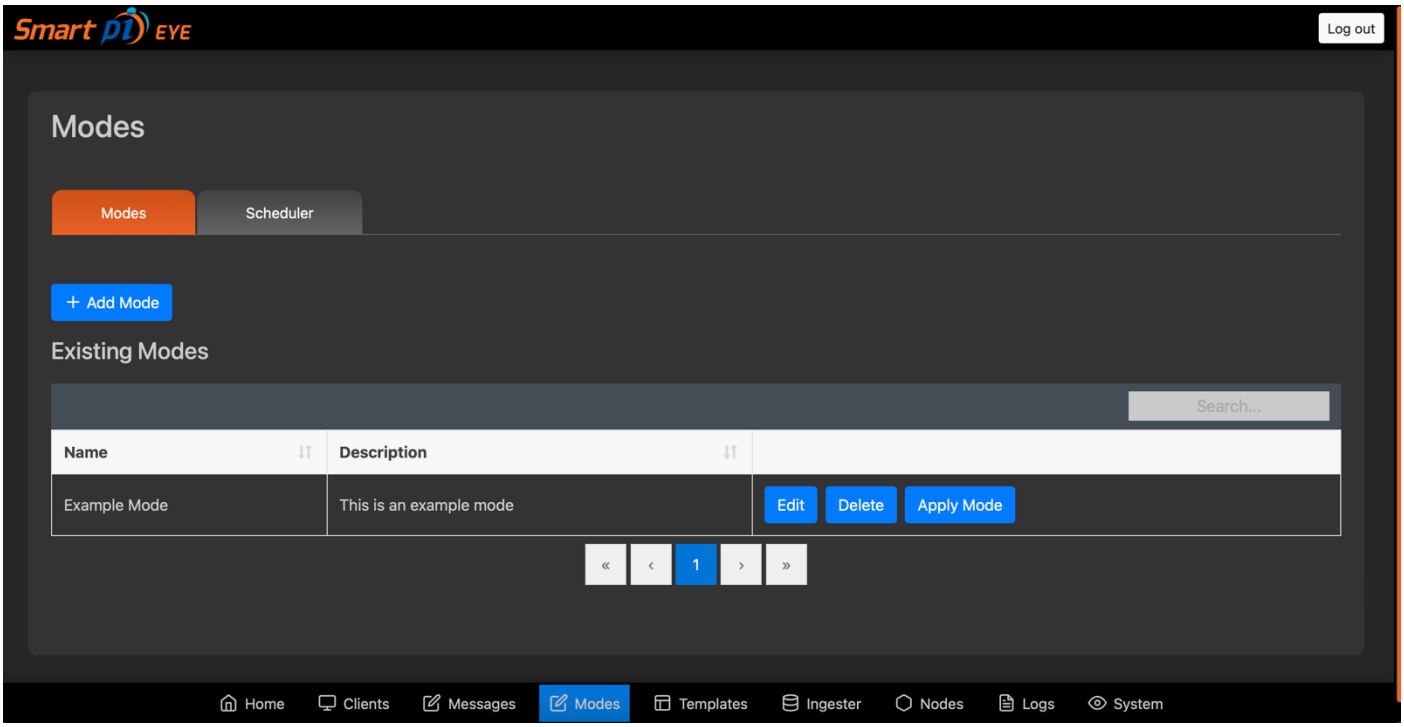


5.4.2 Edit a Mode

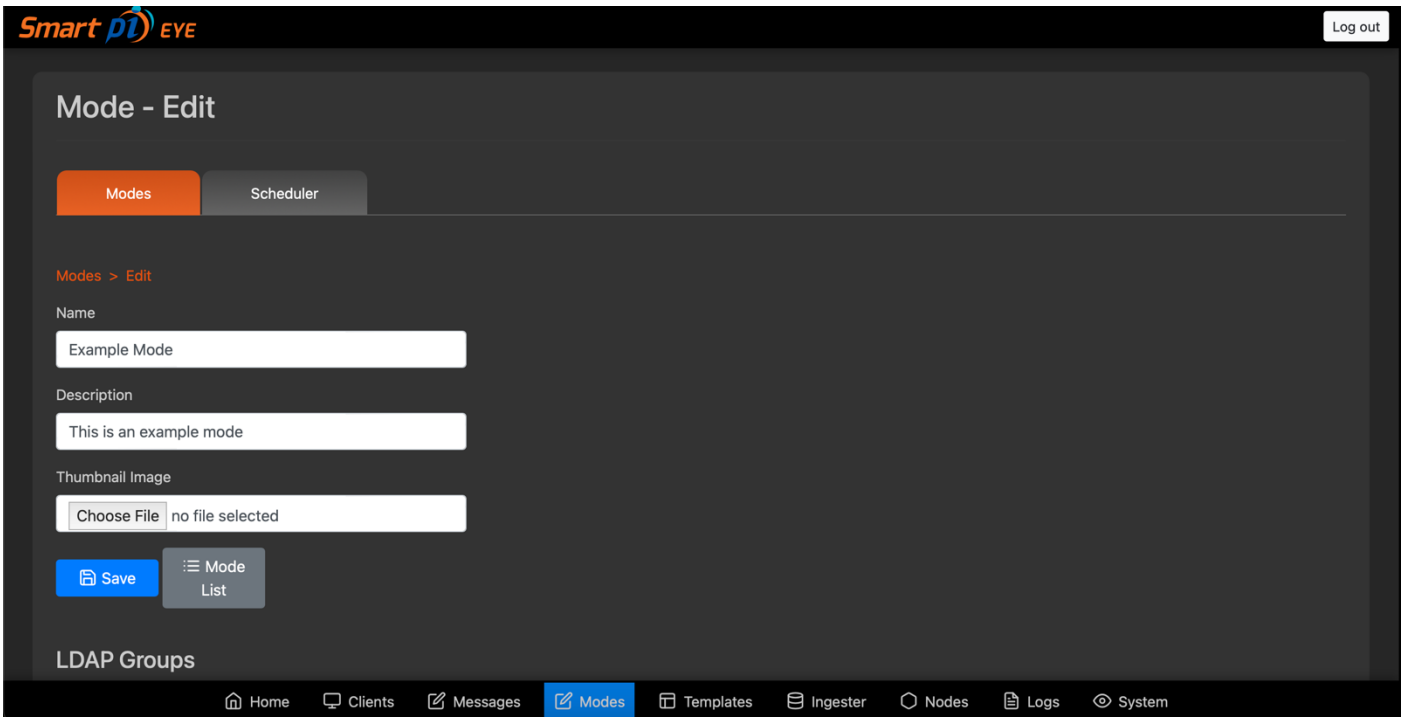
Once a mode has been created you can edit, delete, and apply the mode via the Master UI.


Smart pi EYE
Log out
Modes
Modes
Scheduler
+ Add Mode
Existing Modes
Search...
Name
Description
Example Mode
This is an example mode
Edit
Delete
Apply Mode
«
‹
1
›
»
Home
Clients
Messages
Modes
Templates
Ingester
Nodes
Logs
System

Click the **Edit** button to edit the desired mode.

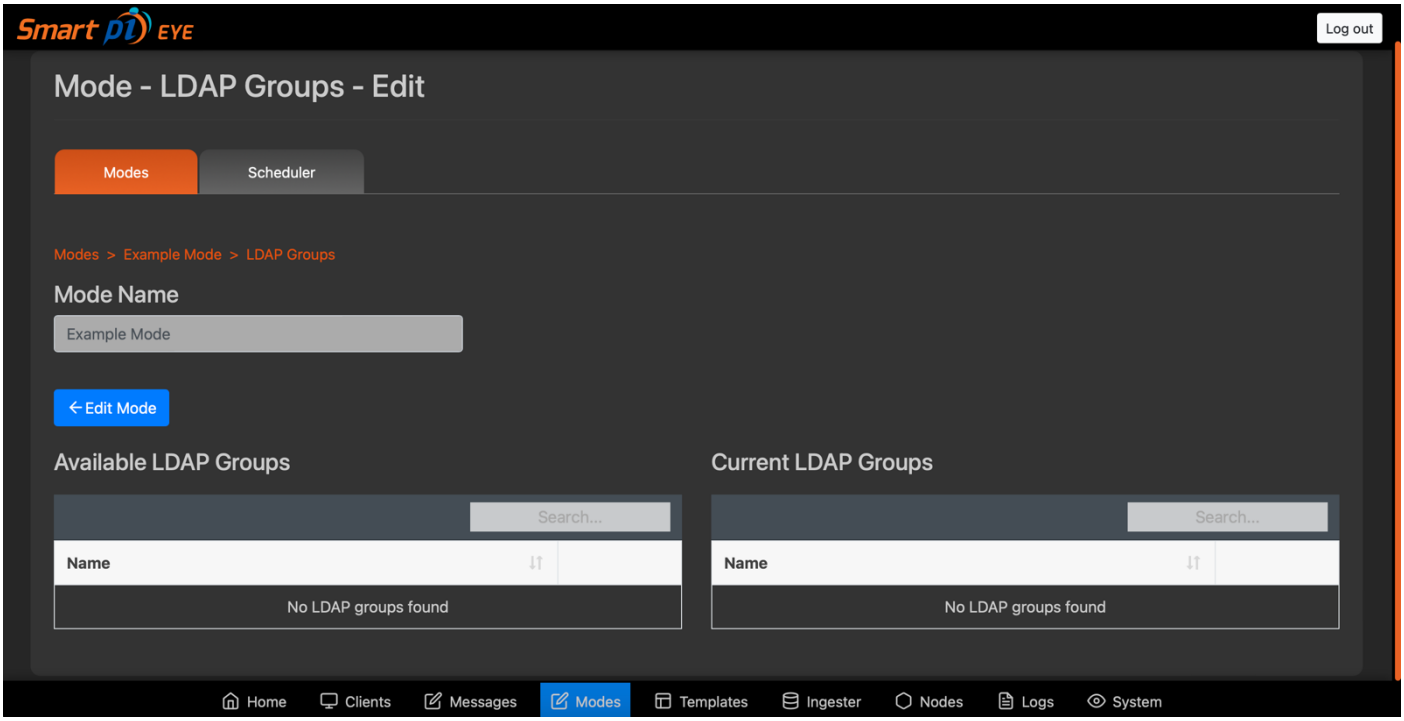


Once you client edit you can select a thumbnail that will be displayed in the user interface for the mode, click save once selected.



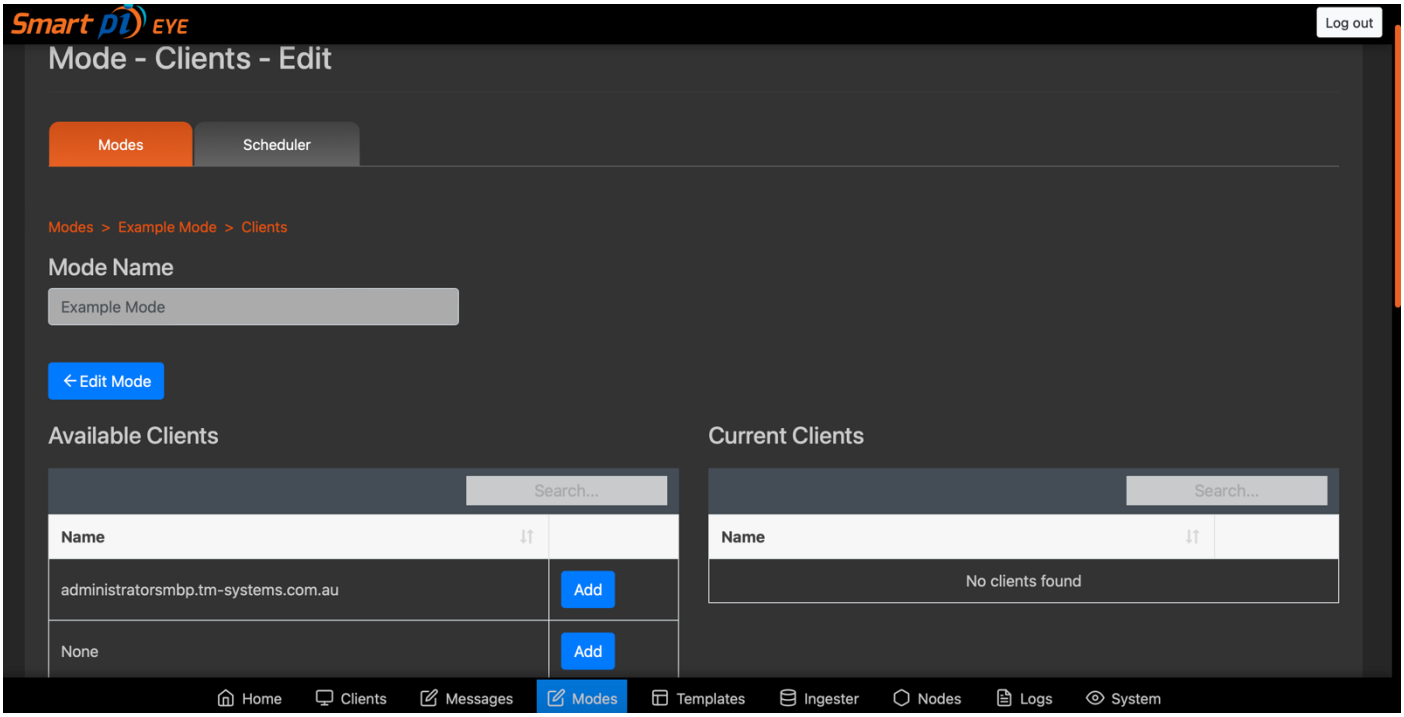
Once you mode is saved you are able to configure it, you can choose which LDAP security groups can access the mode. (see the **System** Configuration section for LDAP configuration requirements).

Simple select the LDAP groups you would like to access the mode.

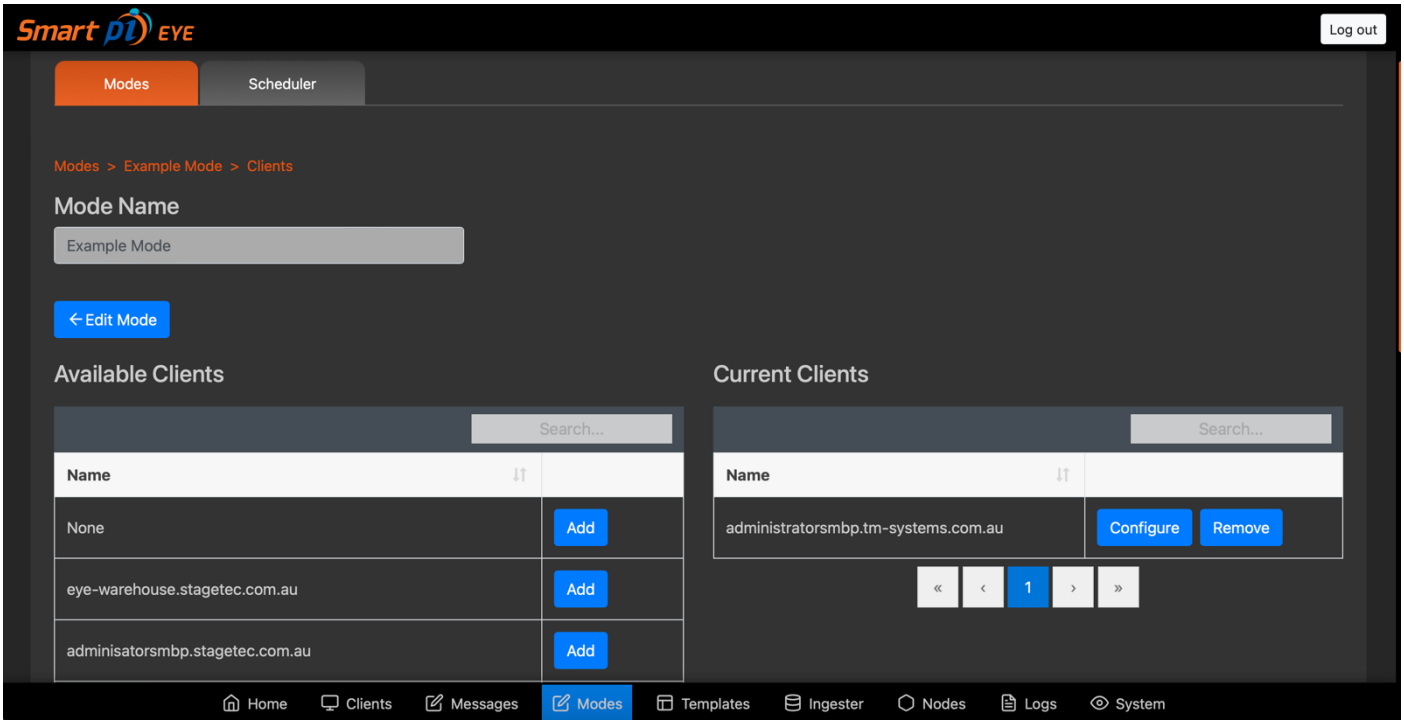


It is now time to configure what the mode should do. All client features are possible to be configured within the mode.

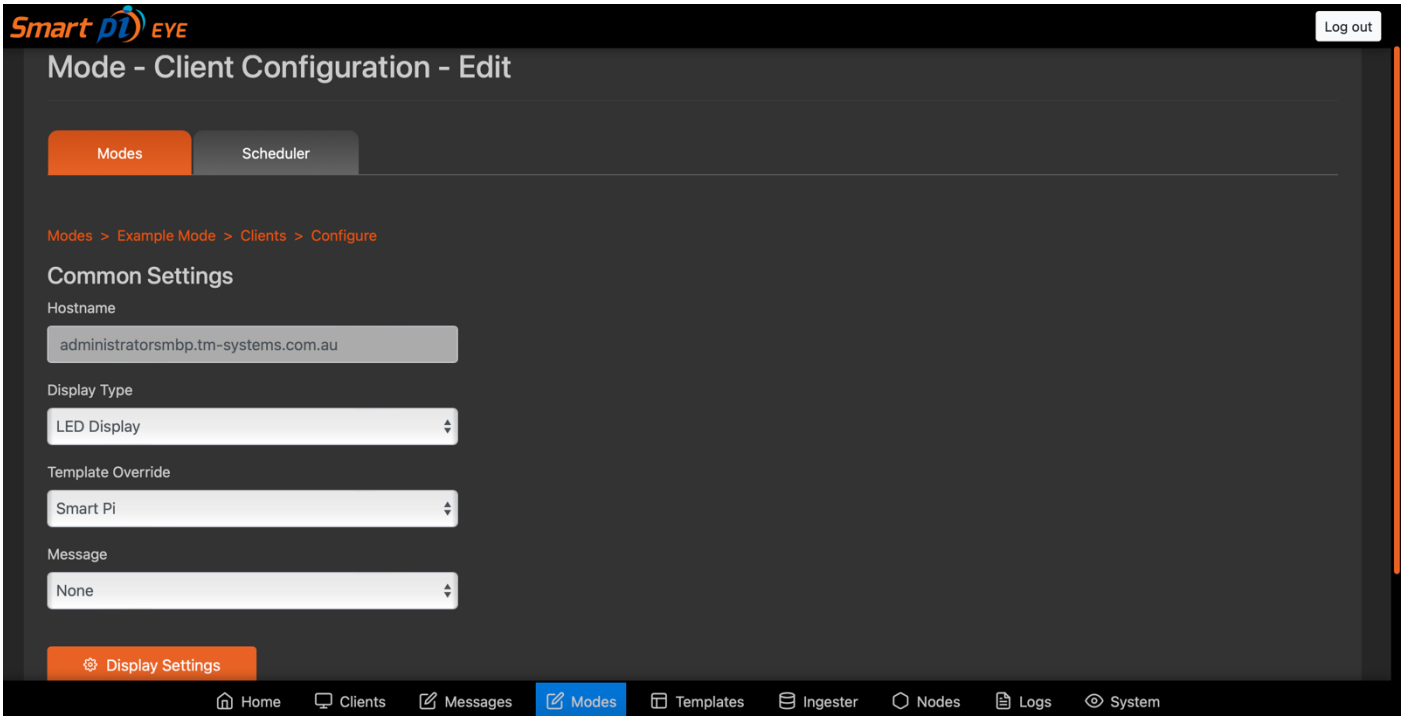
First select the clients you would like the mode to control.



You can select Single or Multiple Clients.

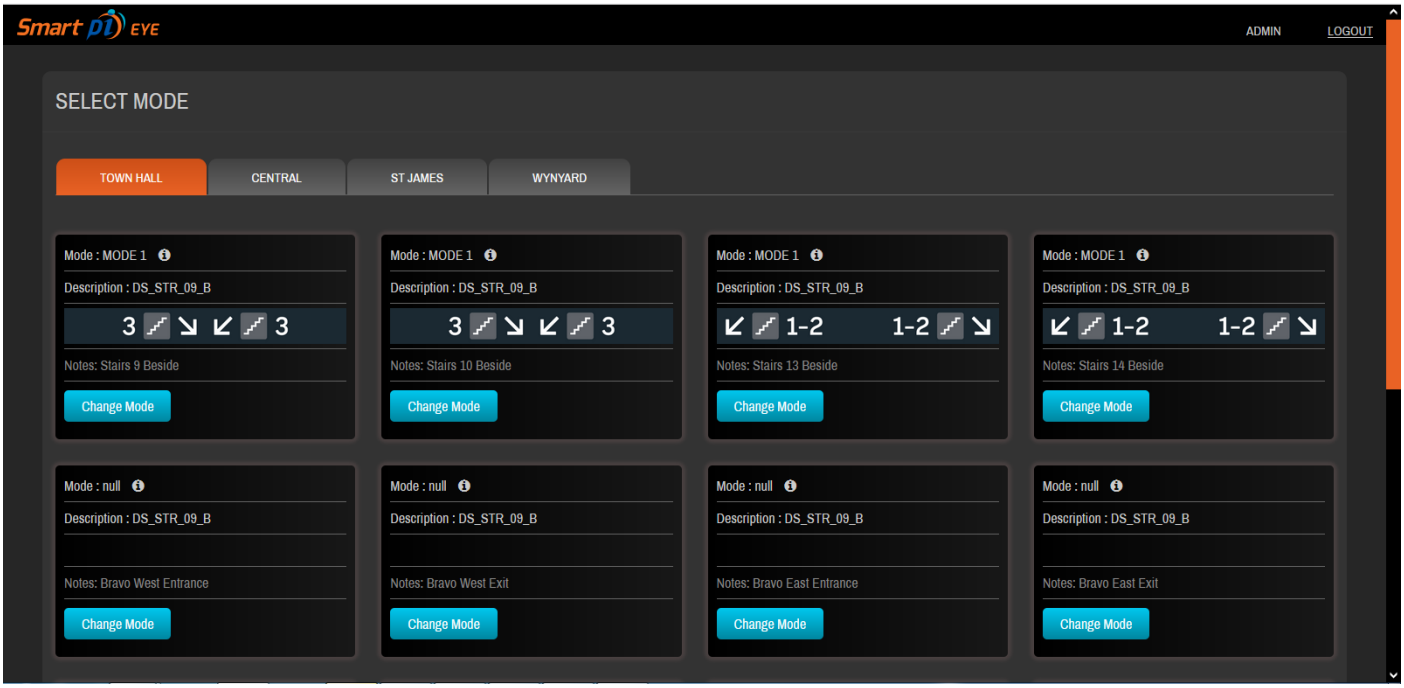


Once you have selected each client you would like the mode to control, you can simply click configure on each client and set the desired parameters, each client is configured separately and does not have to have the same settings as other clients in the mode (see clients section for details).

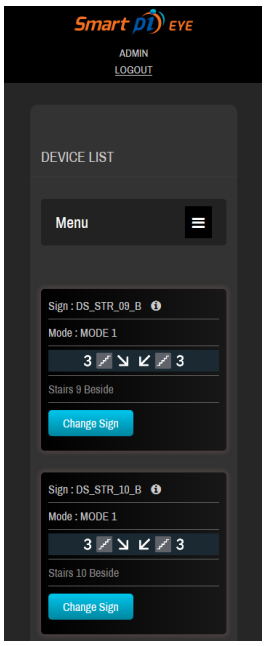


5.4.3 User Interface

Below is an example of User Modes Logged in via the Desktop User Interface, each tab can be configured to be linked to a LDAP security group allowing different users to have different permissions, it is possible to be in more than 1 security group.

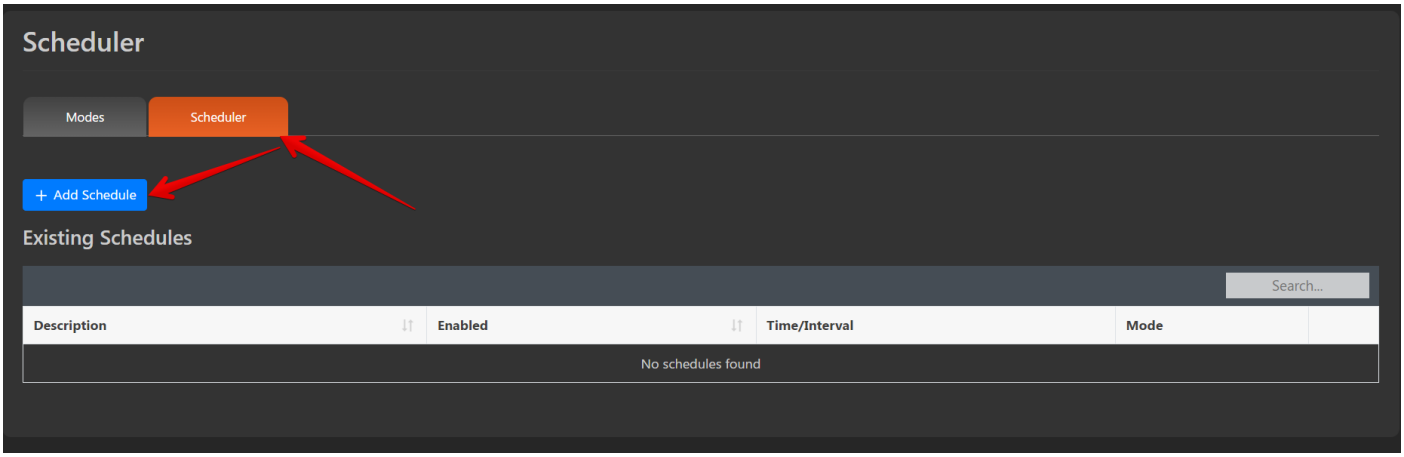


Below is the same example accessed via a mobile device, the system will automatically detect a mobile device and show this interface.



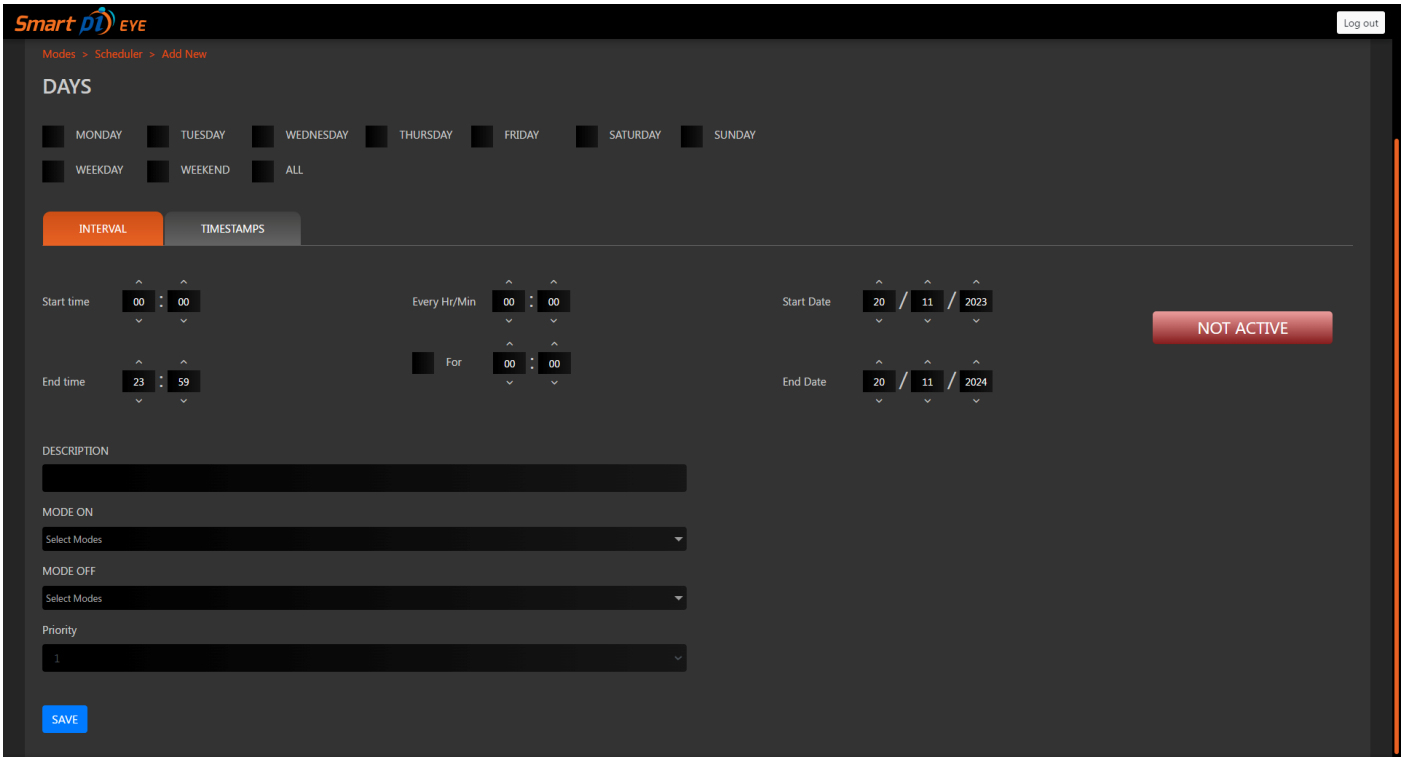
5.4.4 Add a Schedule

Similarly, you can add a schedular by clicking the button at the top. Once there, you can add a schedule by clicking the **Add Schedule** button.

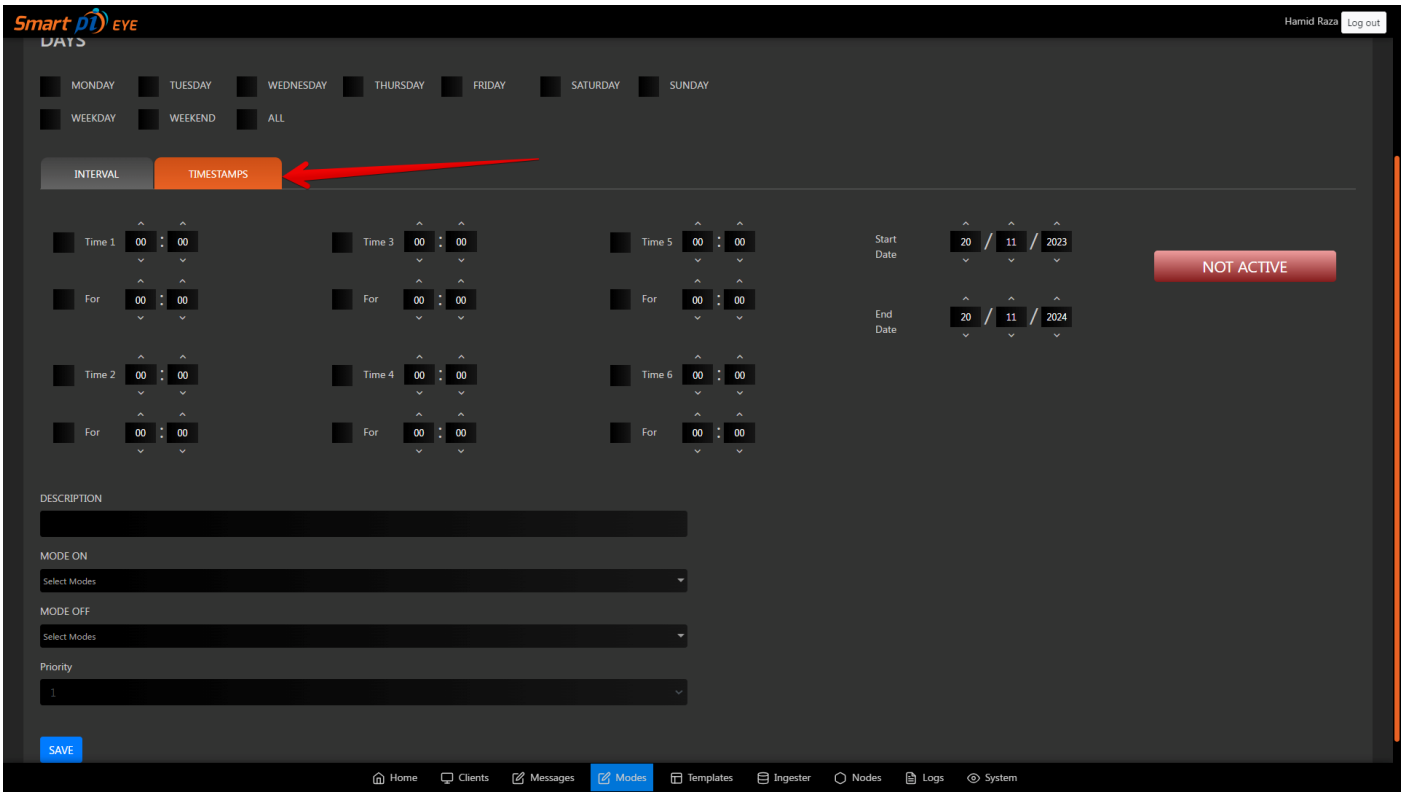


5.4.5 Edit a Schedule

Select the days, start time, end time, mode on, mode off and priority.



Alternatively, you may also choose **Timestamps** if you'd like it to run it only on the specific intervals set by you.



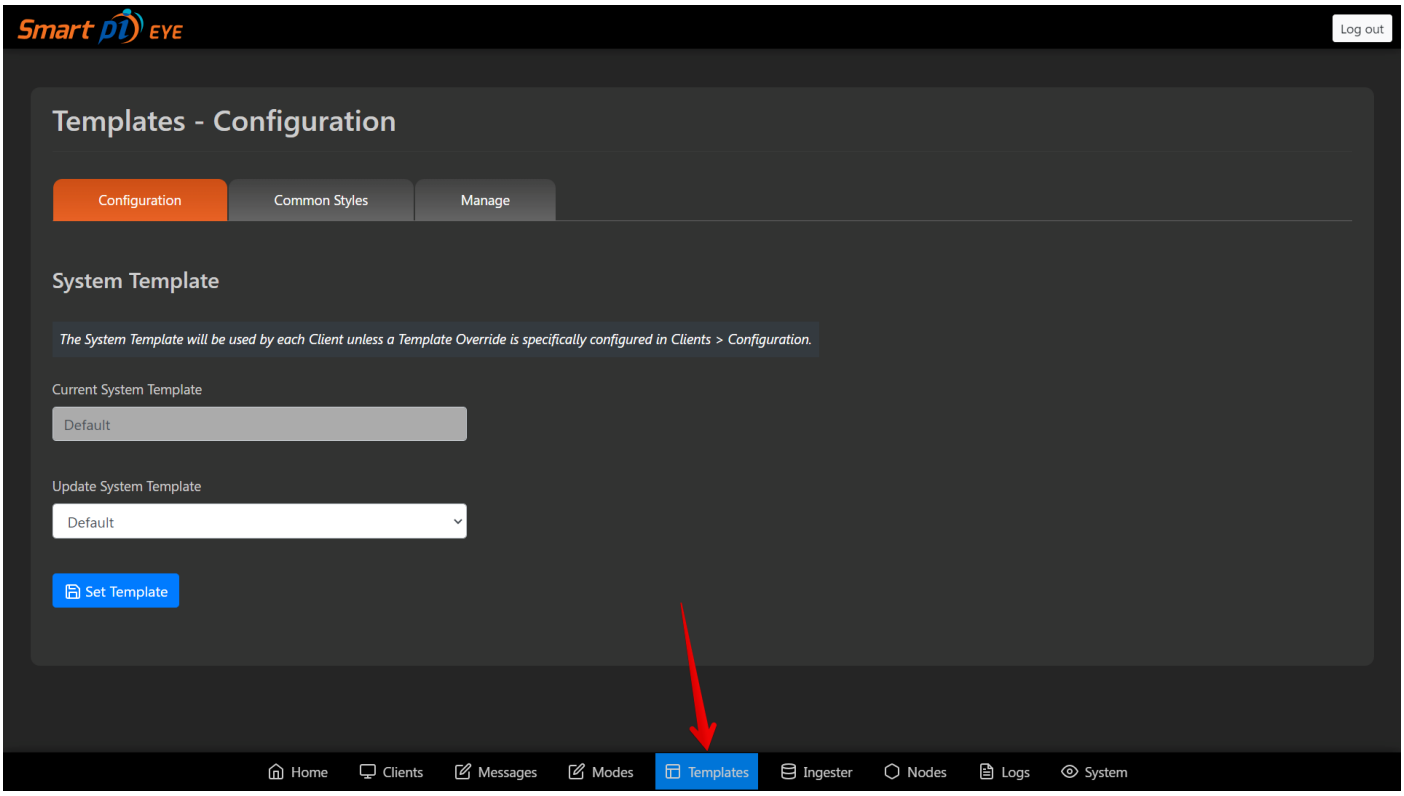
5.5 Templates

A simple templating system has been implemented within SmartPi EYE to provide a way to customize the look of Display Types.

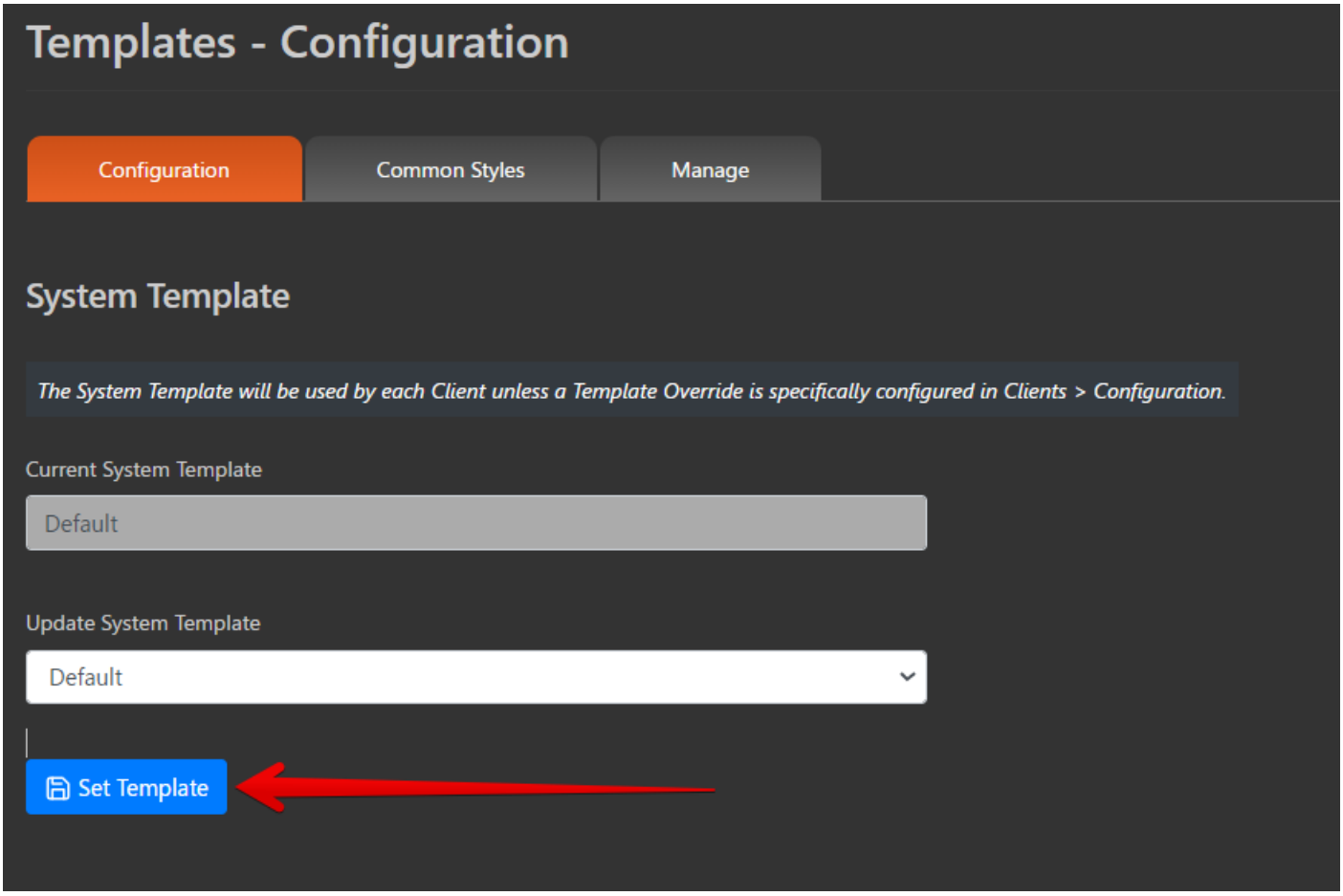
This system works by dynamically switching to a template's defined stylesheet and dynamically applying the defined classes and styles for each element within the Display Type. This means that the class and style attribute for almost every HTML element used within the Display Types can be defined directly. Others can of course be targeted via cascading.

5.5.1 Configuration

To access **Templates** options, click **Templates** from the dashboard:

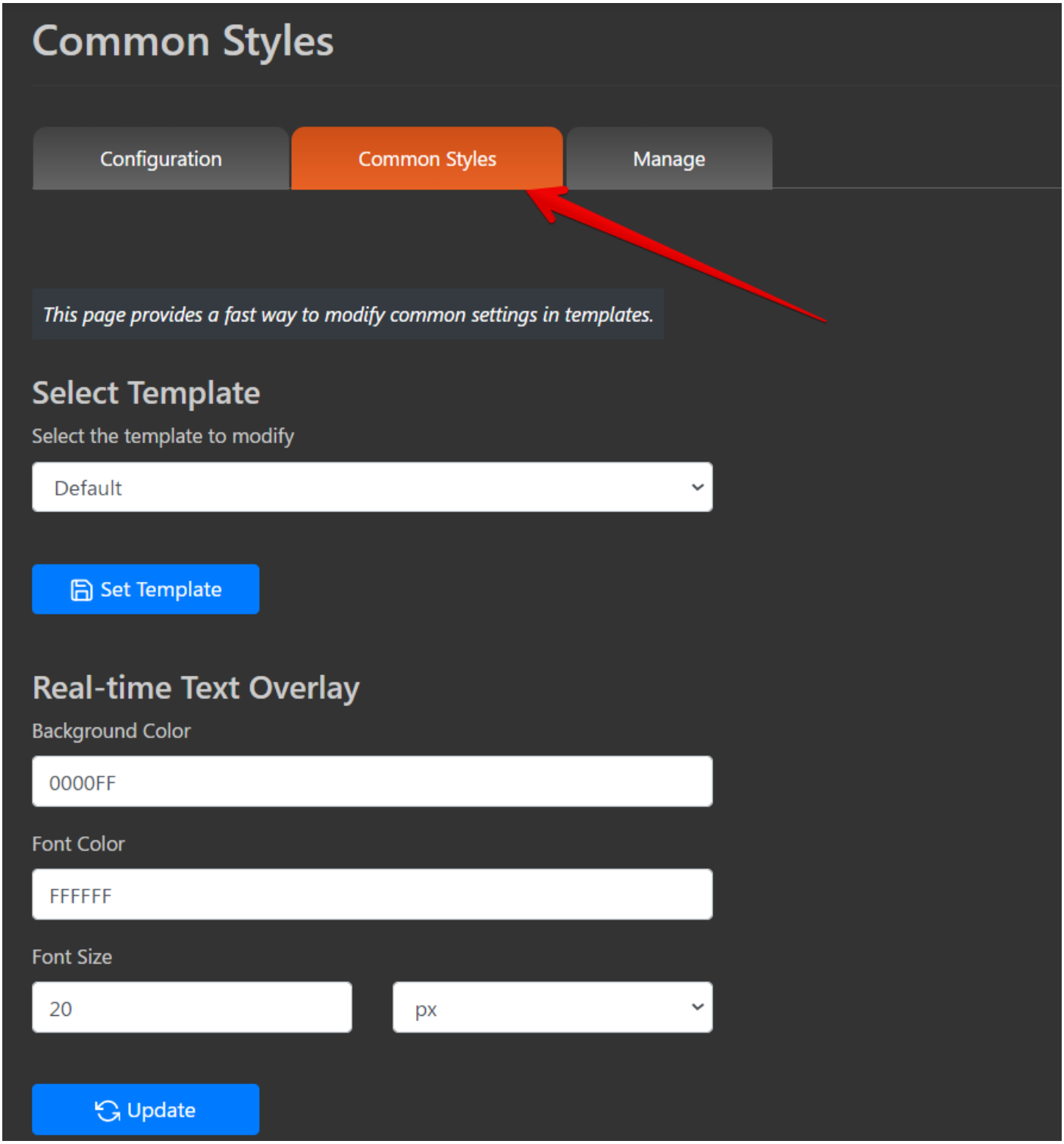


Here you can update system template from the given options: Default, Dark and Smart Pi. Click **Set Template** to save changes.


Templates - Configuration
Configuration
Common Styles
Manage
System Template
The System Template will be used by each Client unless a Template Override is specifically configured in Clients > Configuration.
Current System Template
Default
Update System Template
Default
Set Template

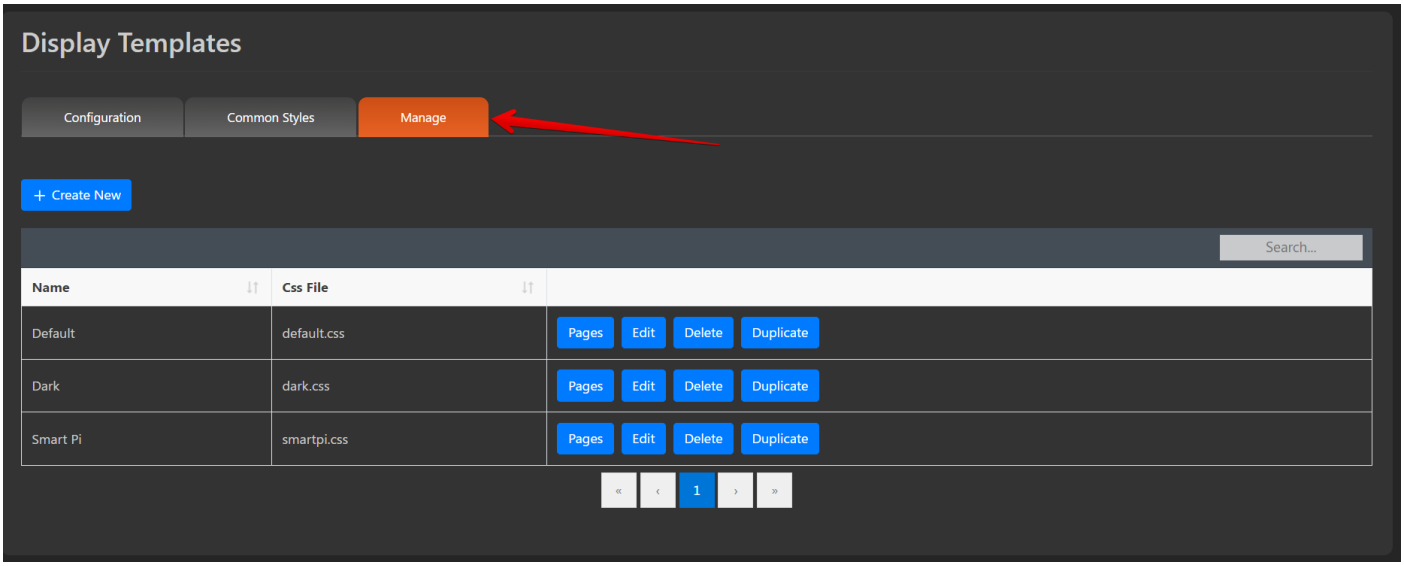
5.5.2 Common Styles

Hit **Common Styles** at the top to customize the background color or choose a template. Hit **Update** when you're done making the changes.

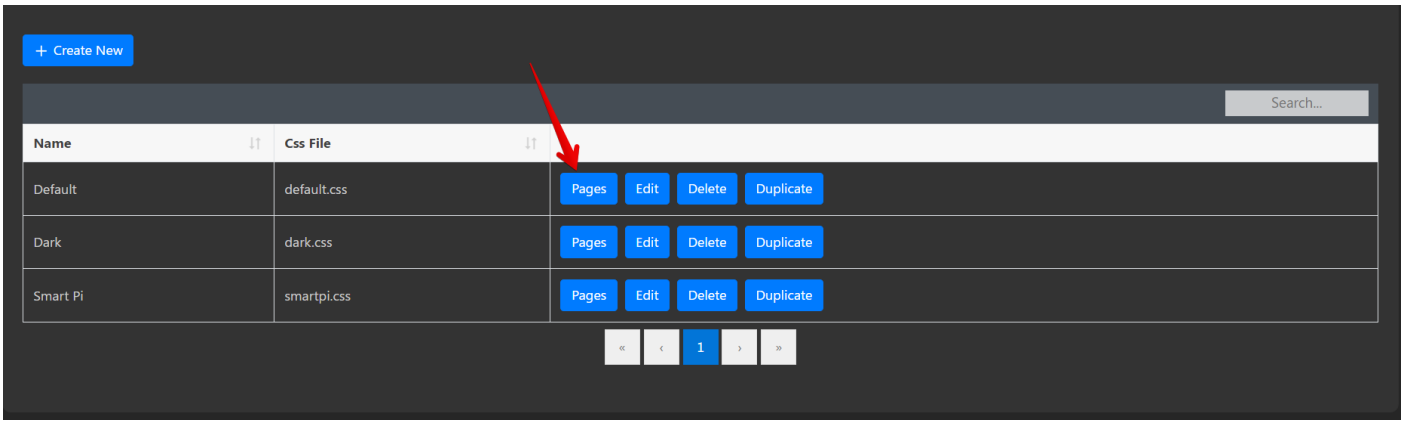


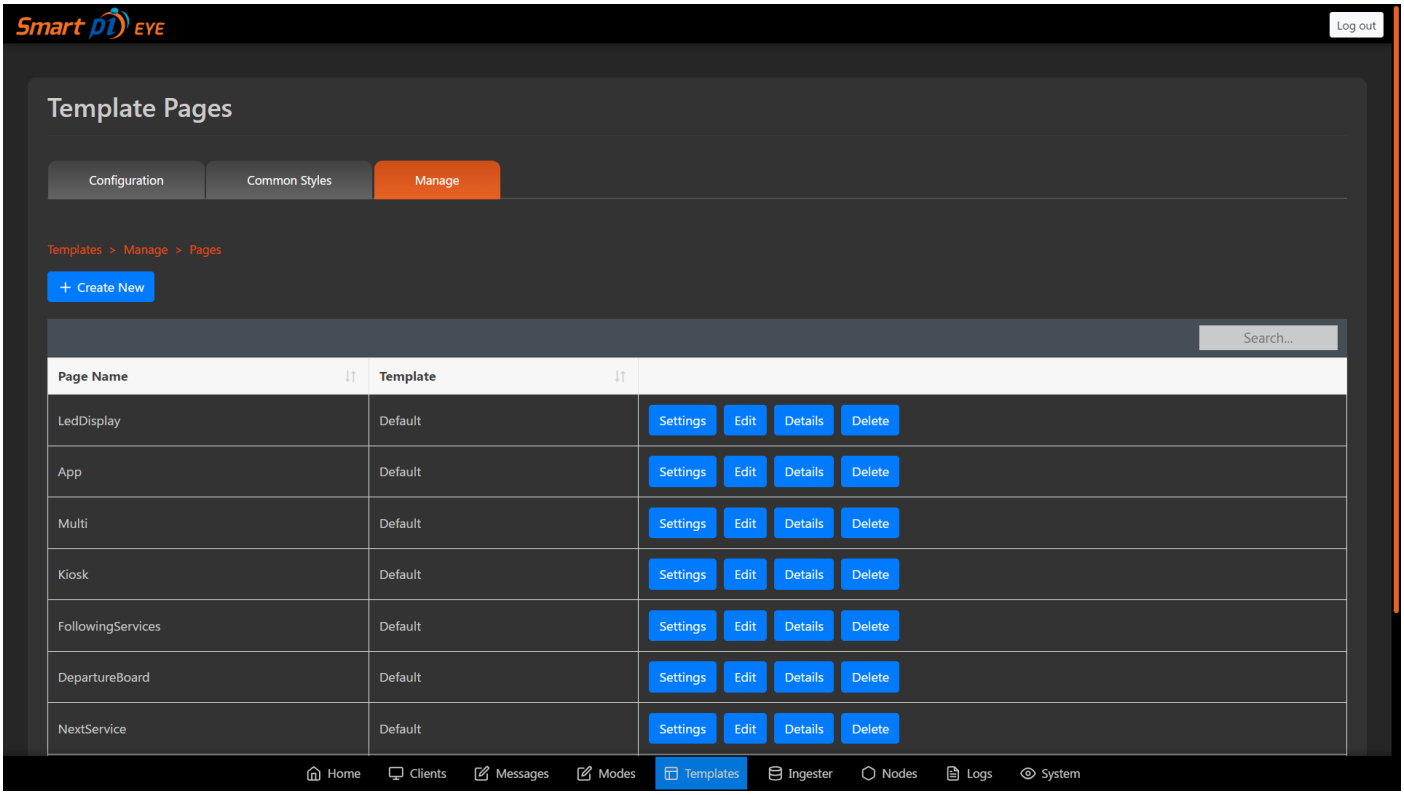
5.5.3 Manage

As the name suggests, you can create new, delete, edit or even duplicate the templates on this page. Simply click **Manage** to access these settings.

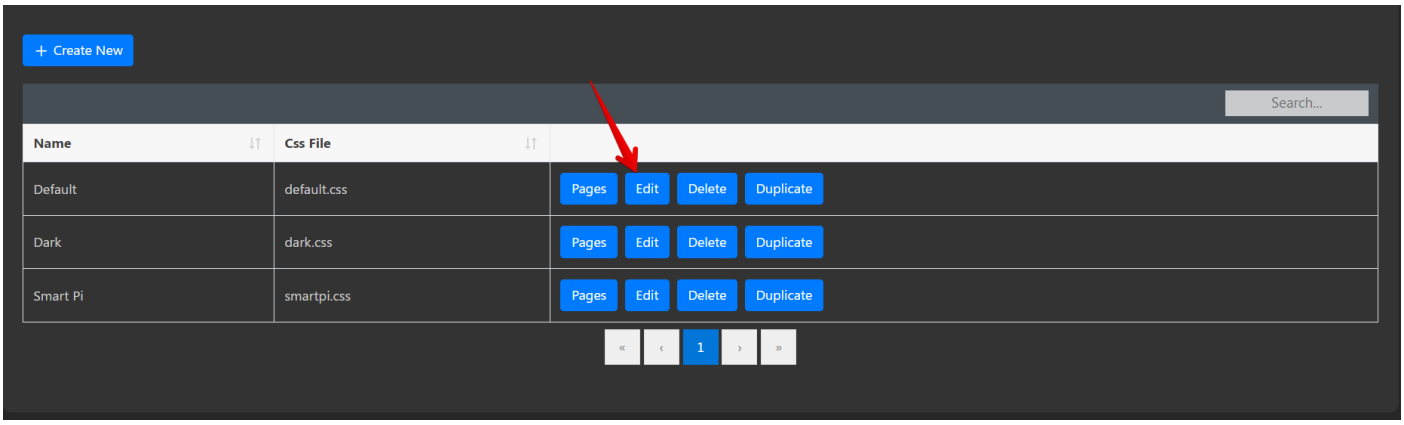


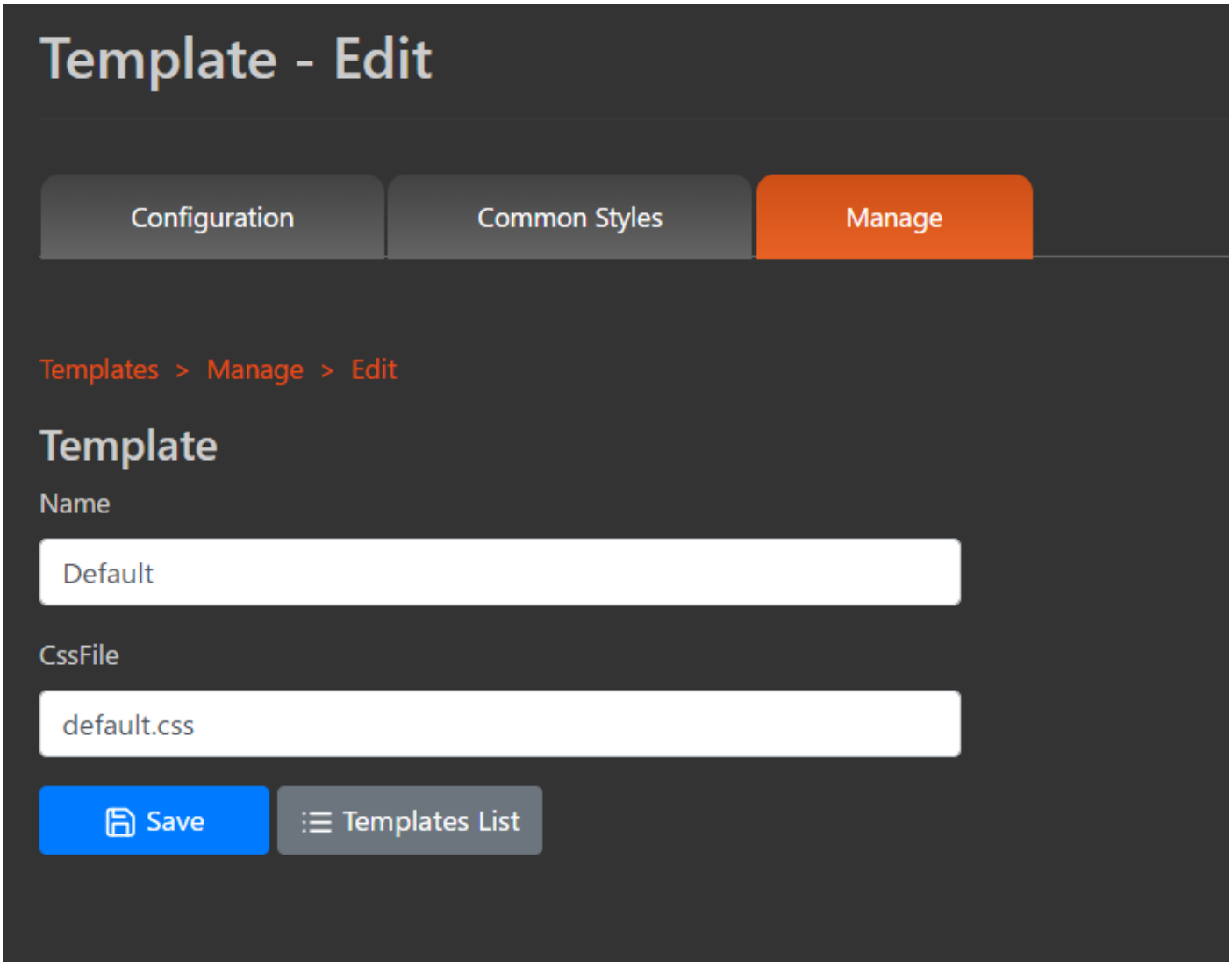
Clicking the **Pages** button opens the list of current pages that are live:





The **Edit** button opens the edit menu.



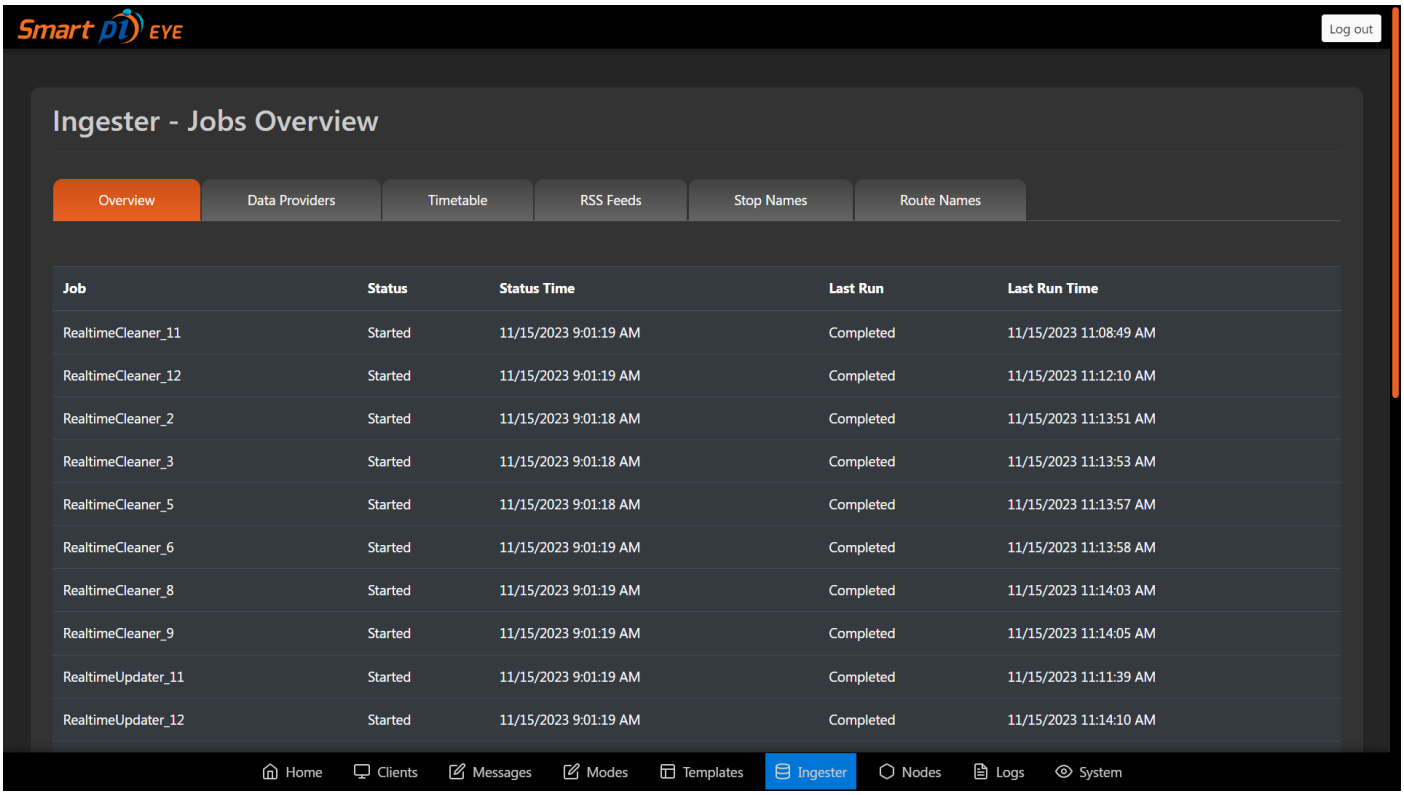


Similarly, for delete and duplicate buttons, you can take the appropriate actions right from this screen.

5.6 Ingester

5.6.1 Overview

An ingester is a program that reads data entering the system through a communications port. To access the ingester menu, click **Ingesters** from the main dashboard.



It will already have the **Overview** tab open where you can see the jobs, their status, last run time etc.

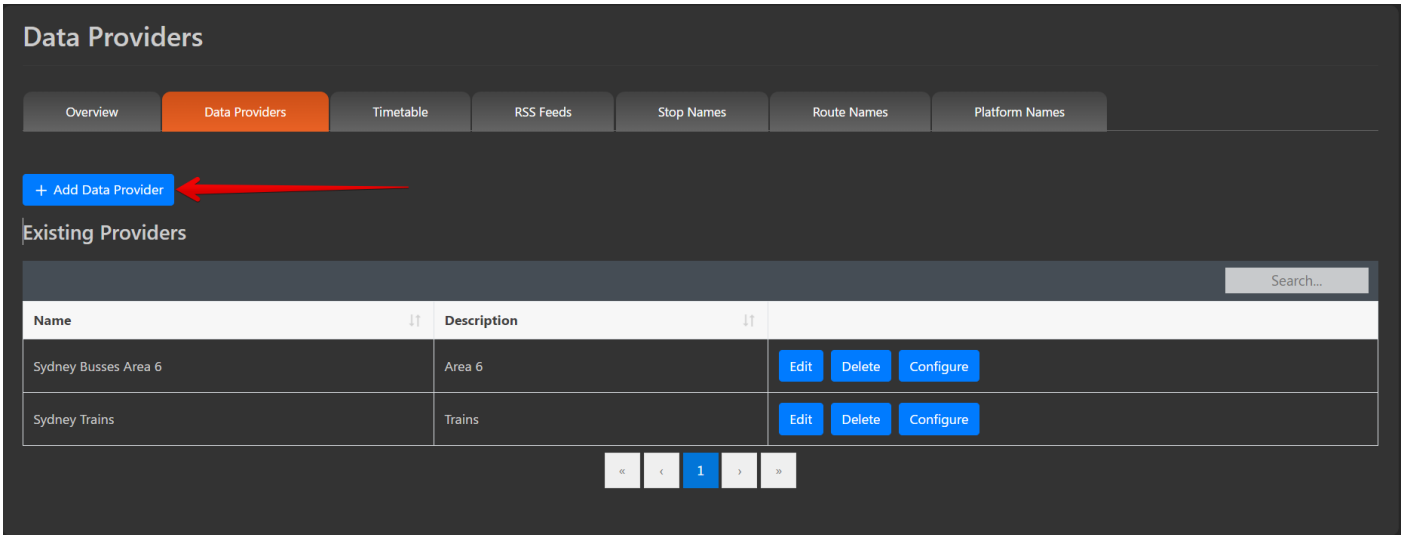
Ingester database management has been improved for more reliable handling of stored feed data.

Per Feed Mappings

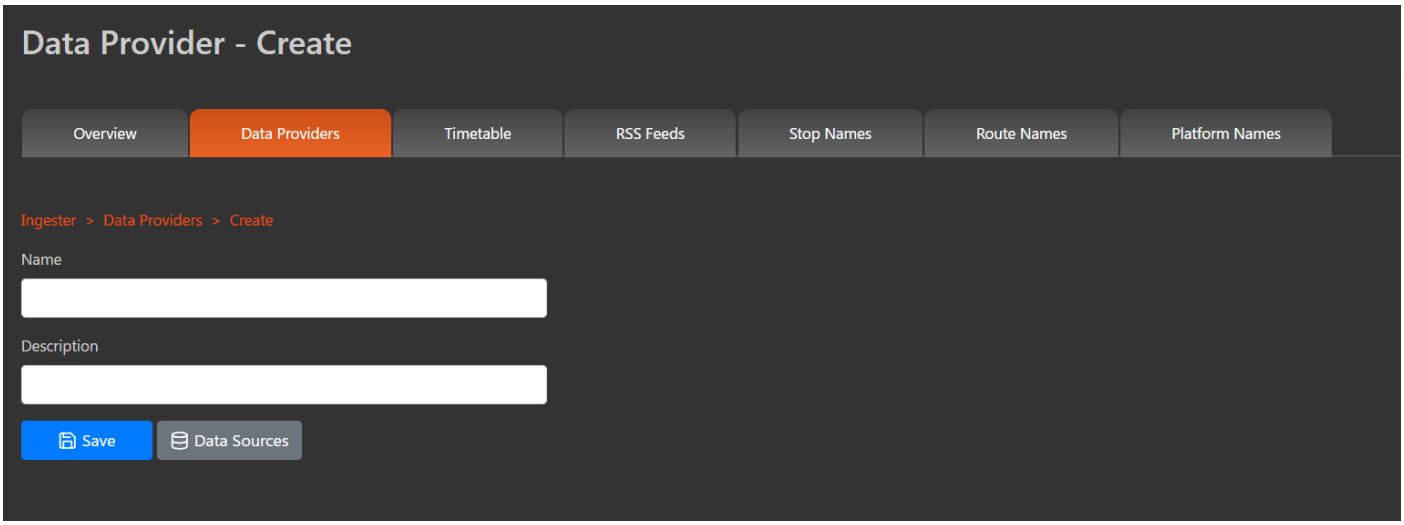
Replacements and mappings, such as platform names and headsigns, can be applied on a per GTFS feed basis. This lets you use different values for the same field depending on the incoming feed, which is useful when several agencies share a system but need their own naming. When creating or editing a mapping, select the GTFS feed it applies to before saving. If no feed is selected, the mapping applies across all feeds.

5.6.2 Data Providers

Here you can add, edit, delete or configure a data provider(s). Click **Add Data Provider** to start adding one.

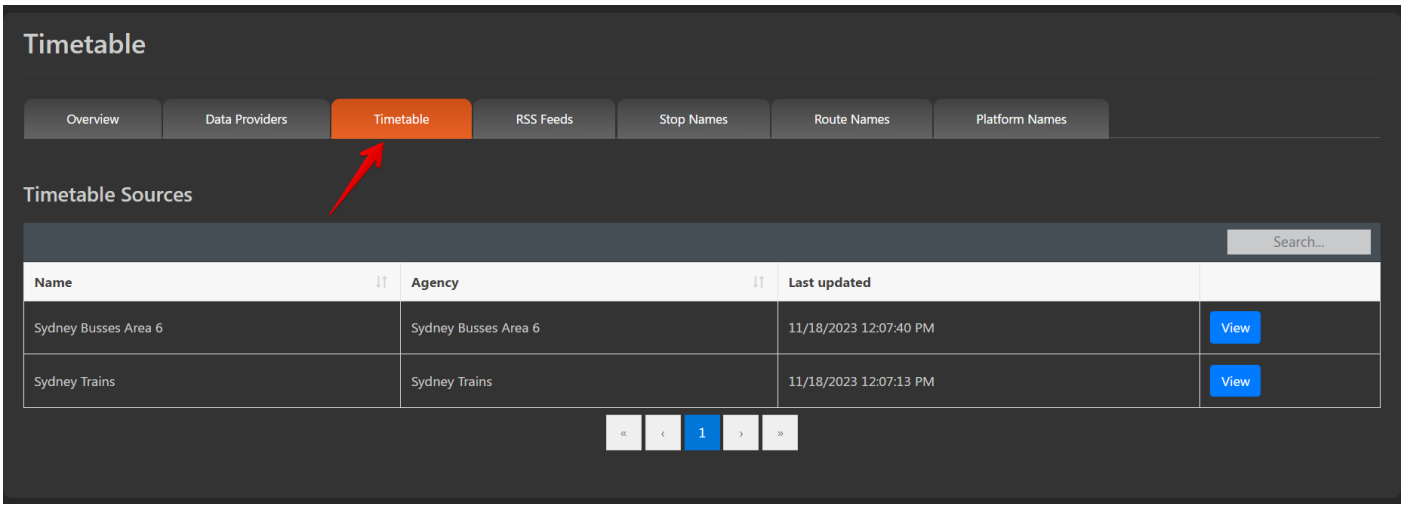


Give it a name and a description and click **Save**.

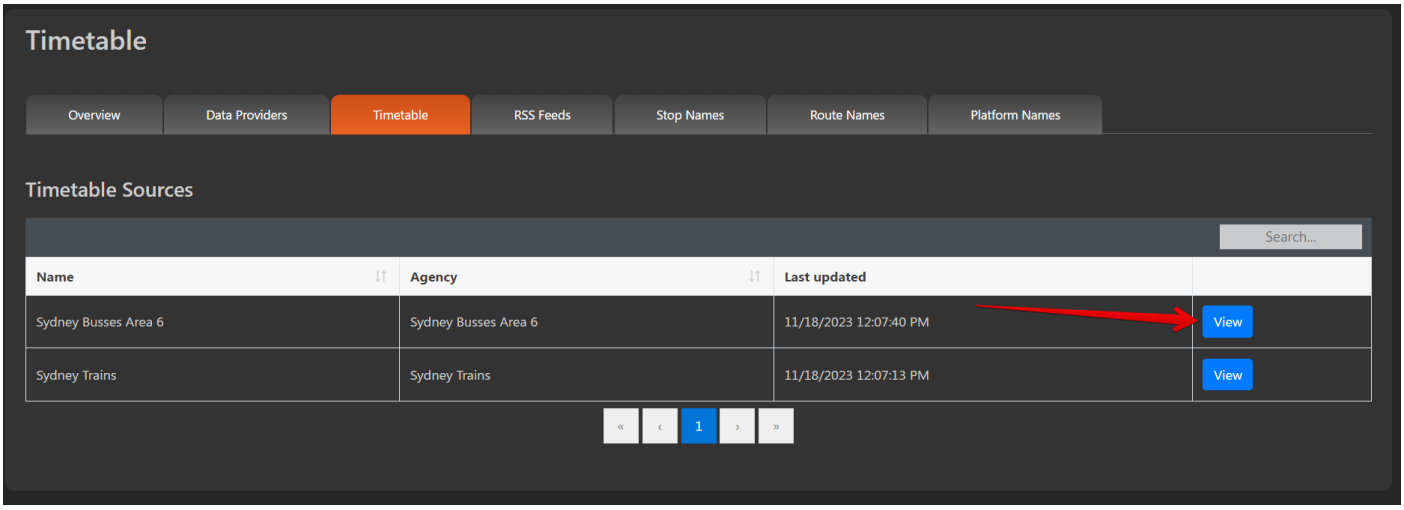


5.6.3 Timetable

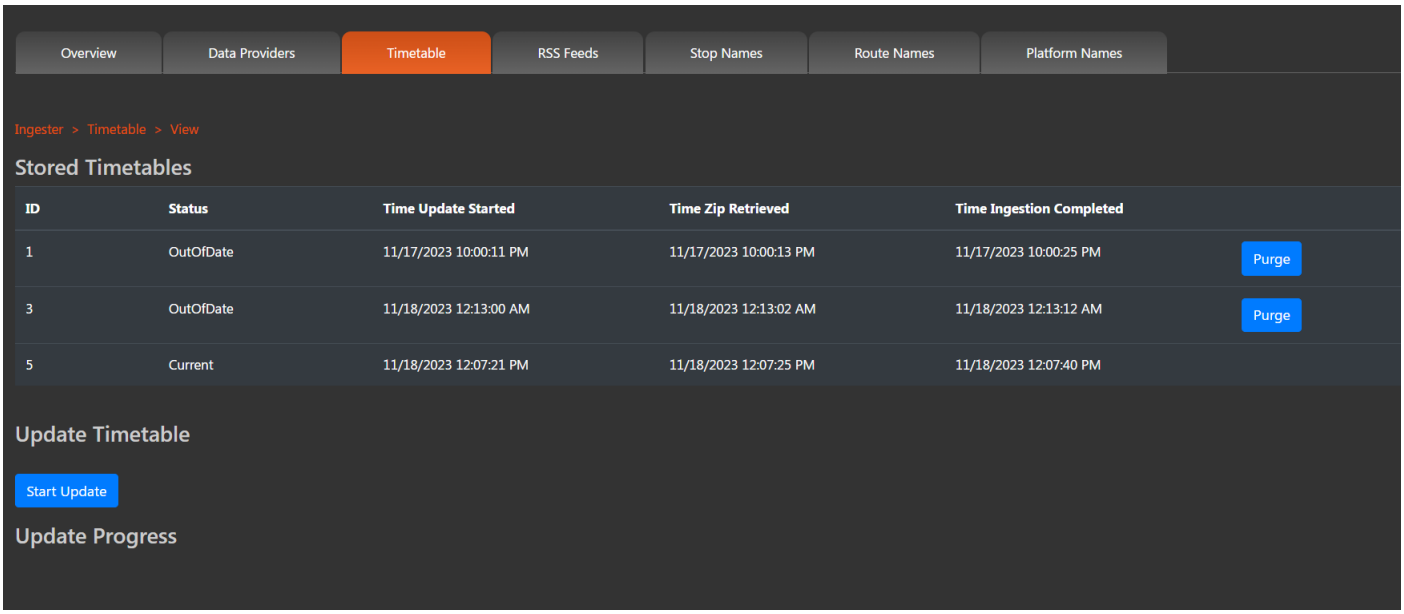
Click **Timetable** at the top to see the stored timetables.



Click **View** to view the timetable.

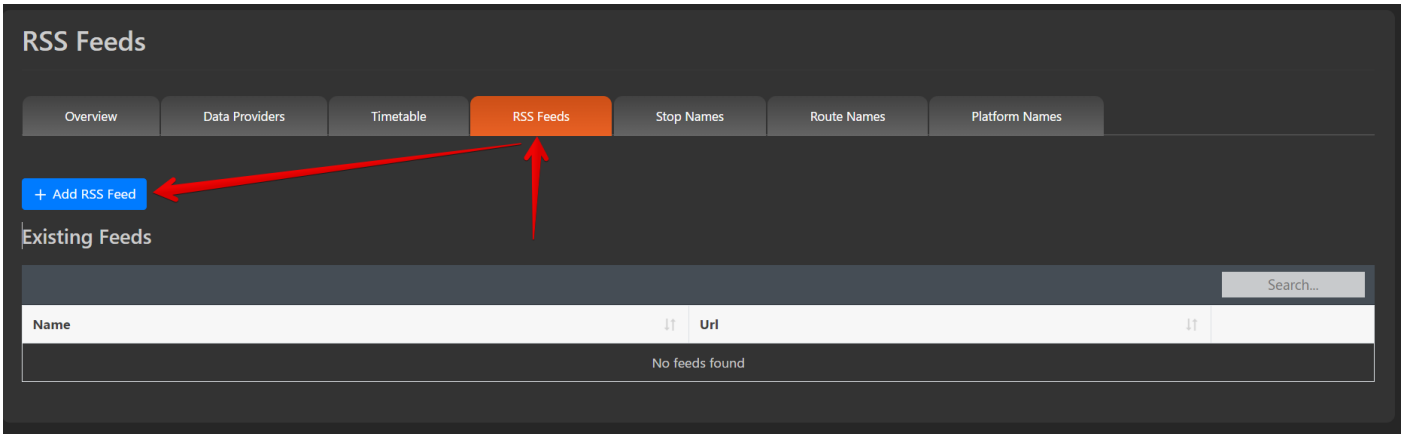


On this page, you can either purge the timetable or start an update.

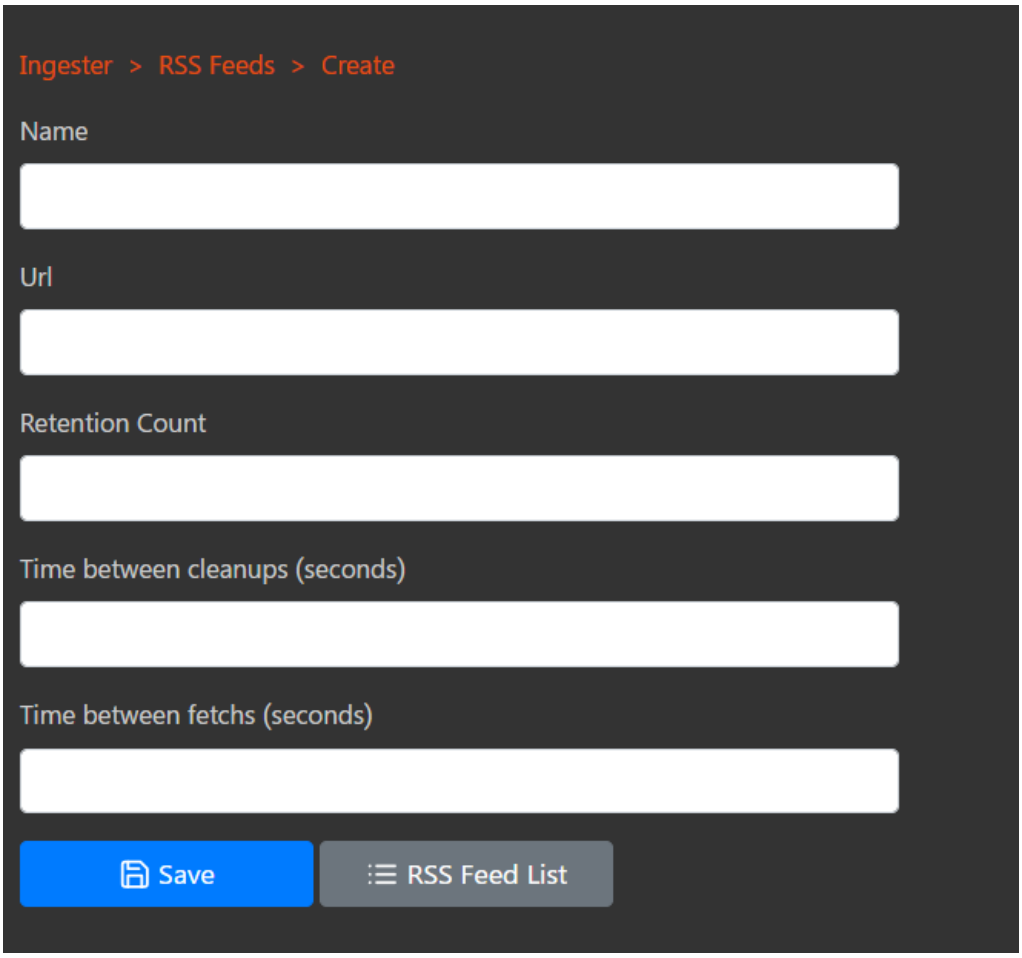


5.6.4 RSS Feeds

Similarly, you can add a RSS Feed by clicking **RSS Feeds** at the top and choosing **Add RSS Feeds** on the next page.



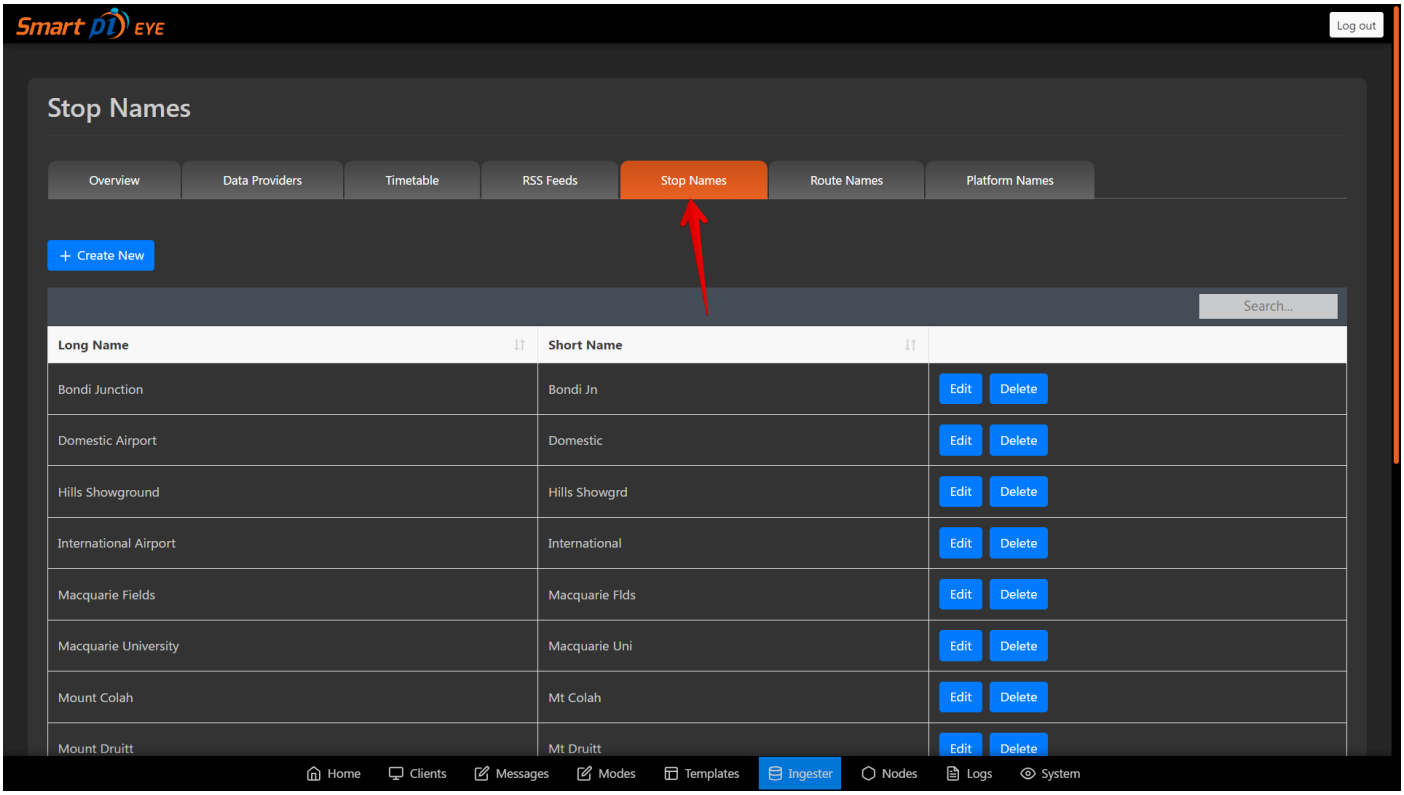
Give it a name, URL, retention count and time between cleanups and fetchs before clicking **Save**.



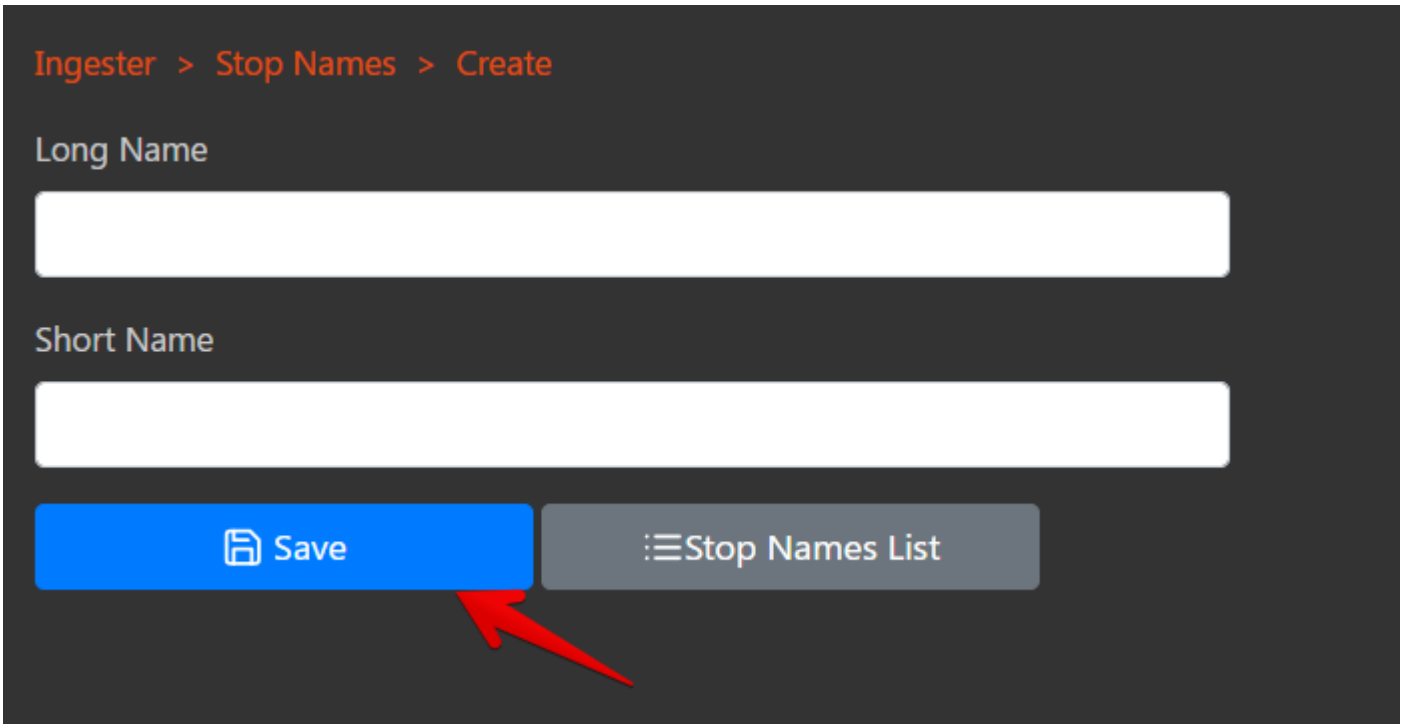
GTFS-R service alerts can be shown across the different display modes, so alert messages carried in the real-time feed appear consistently regardless of the display type in use.

5.6.5 Stop Names

Click **Stop Names** at the top to either add a new stop name or edit an existing one.

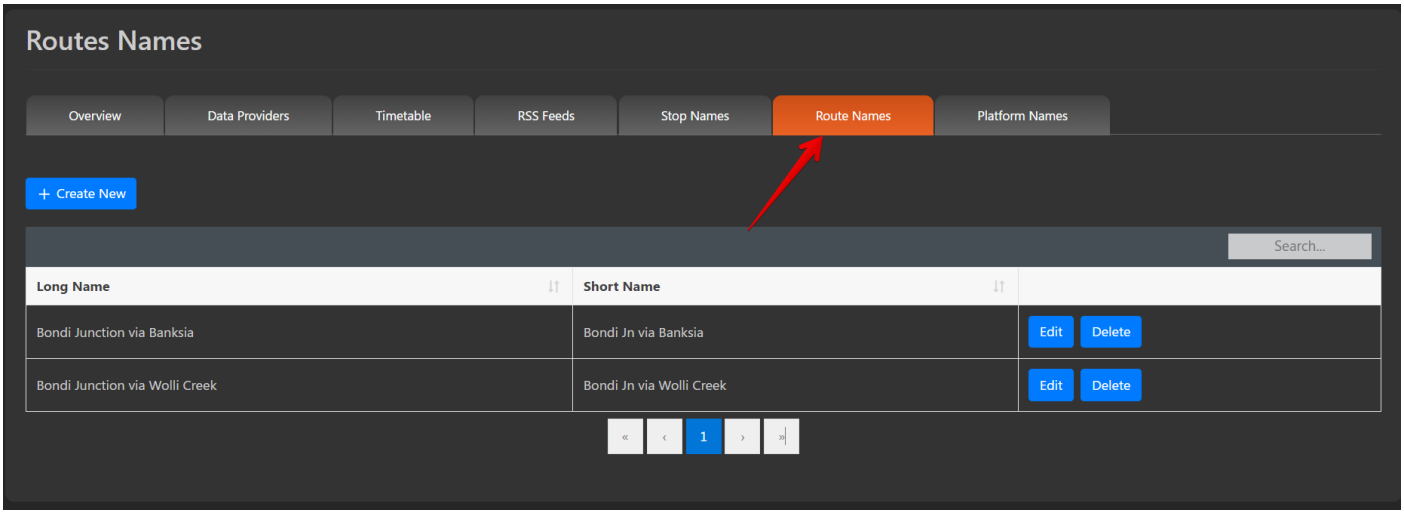


Click **Create New** at the top left, then on the next screen give it a long name and a short name. Finally hit **Save** to continue.

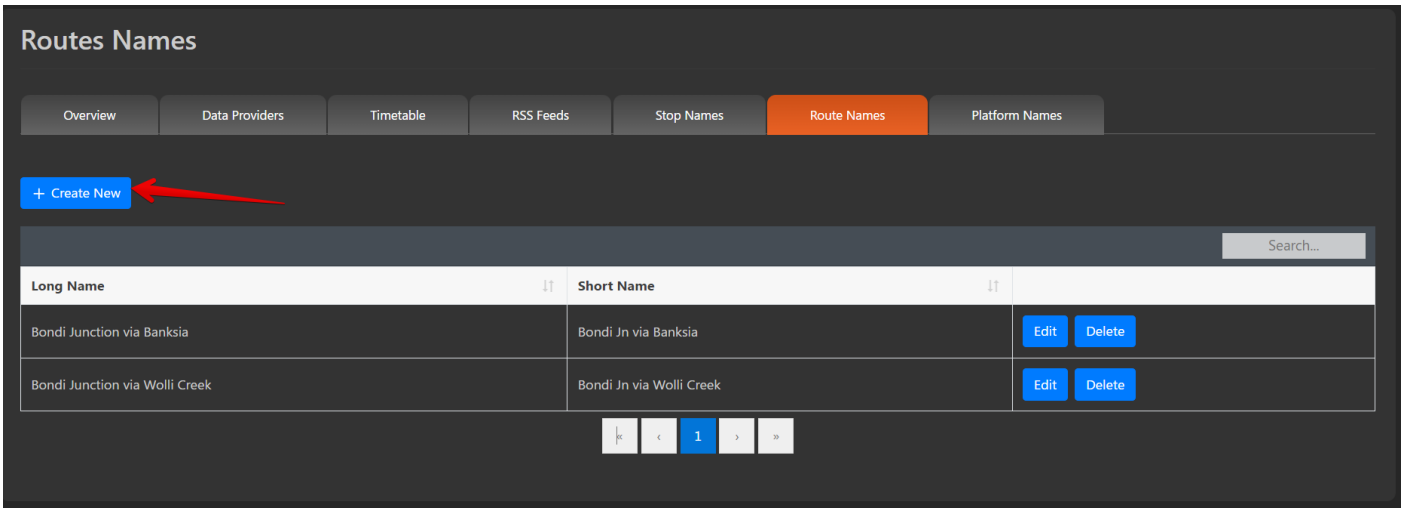


5.6.6 Route Names

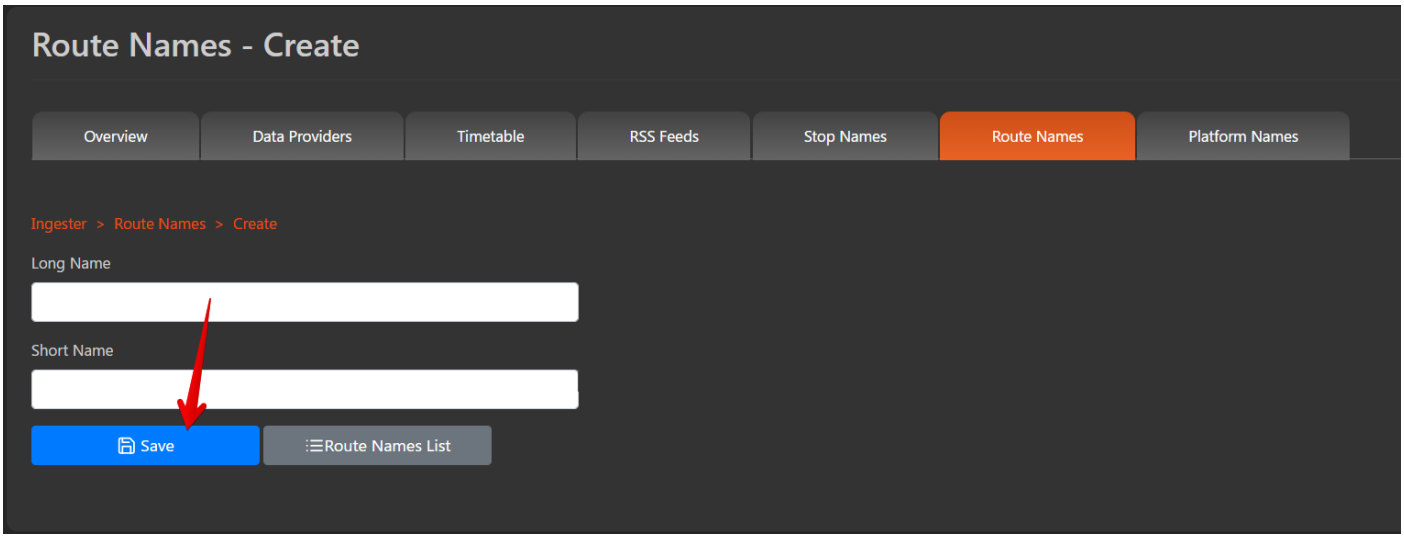
Similarly, click **Route Names** at the top to either create a new one, or edit and existing one. You can also delete an existing route name from this page.


Routes Names
Overview
Data Providers
Timetable
RSS Feeds
Stop Names
Route Names
Platform Names
+ Create New
Search...
Long Name
Short Name
Bondi Junction via Banksia
Bondi Jn via Banksia
Edit
Delete
Bondi Junction via Wolli Creek
Bondi Jn via Wolli Creek
Edit
Delete
1

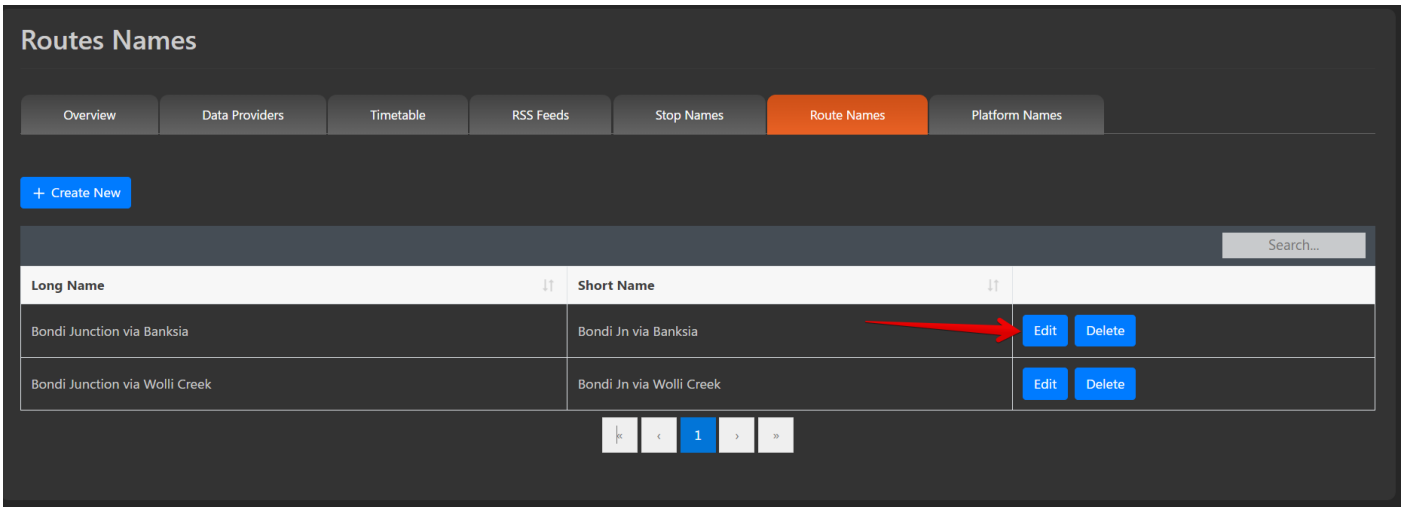
To add a route name, click **Create new.**



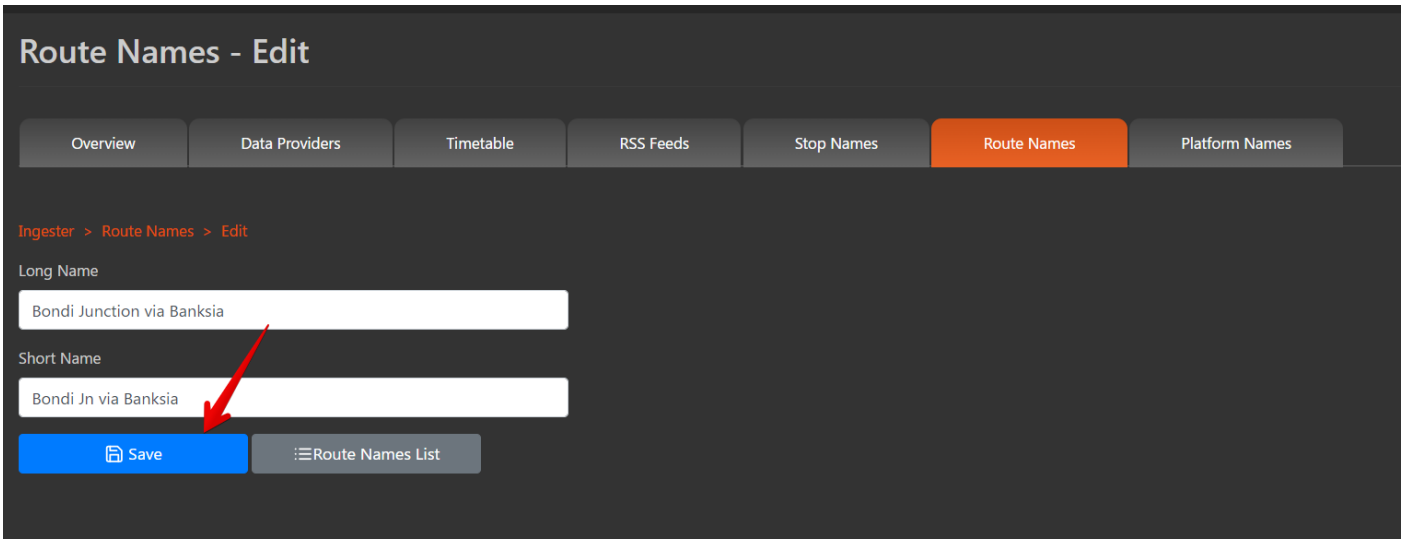
Then give it a long name and a short name before clicking **Save**.



To edit a route name, click **Edit**.

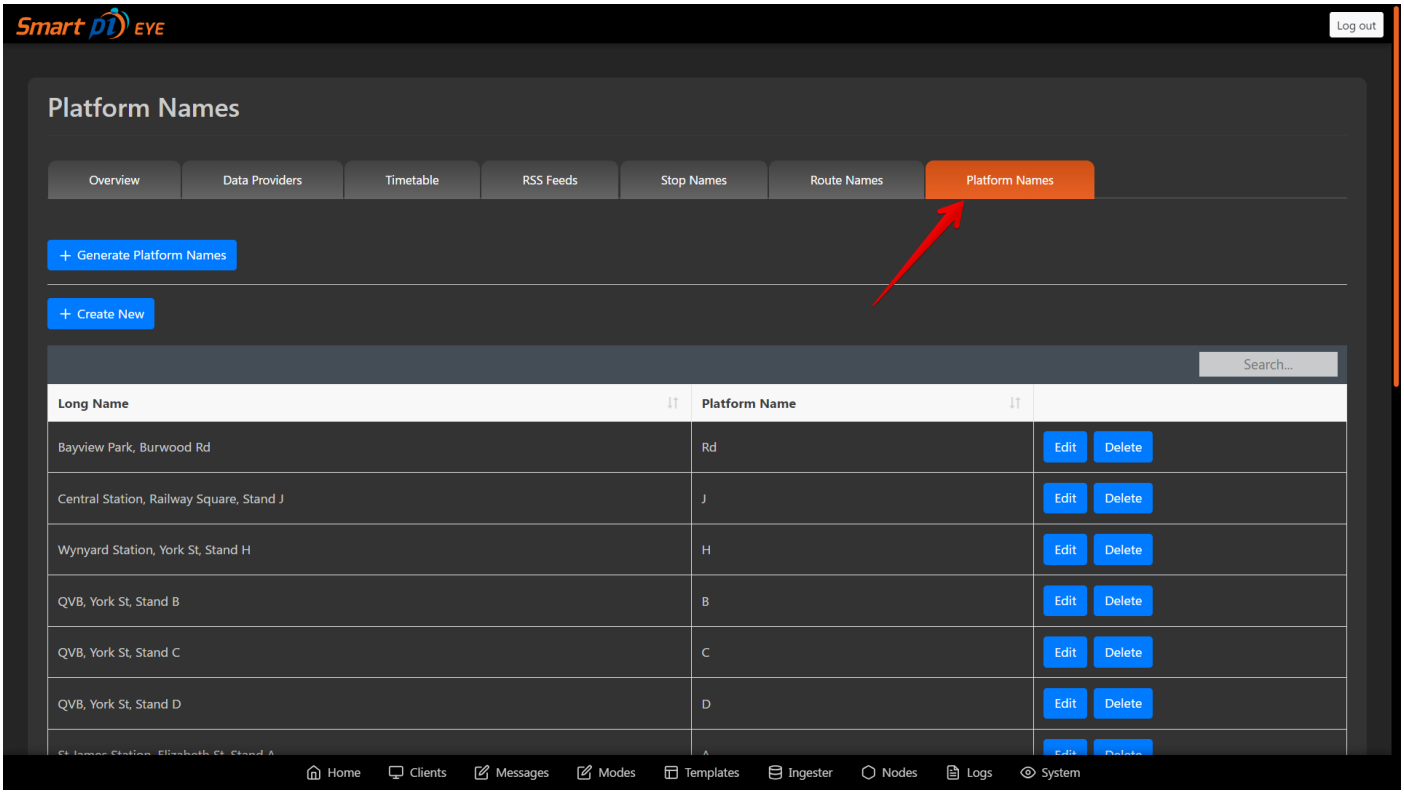


Then change its long name and a short name before clicking **Save**.



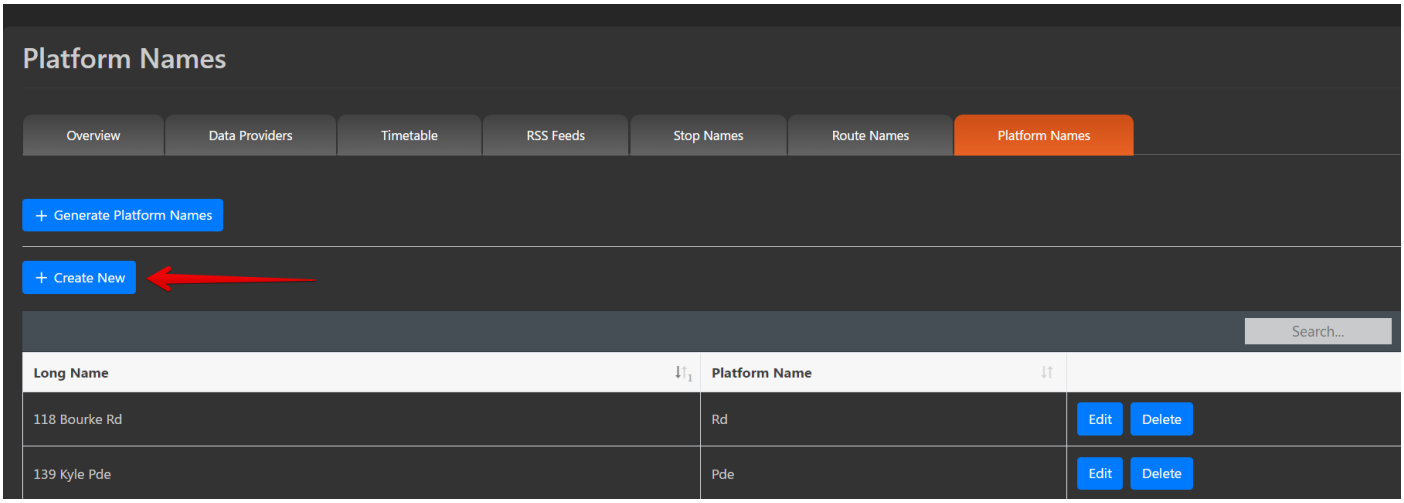
5.6.7 Platform Names

Click **Platform Names** at the top to open up the options.

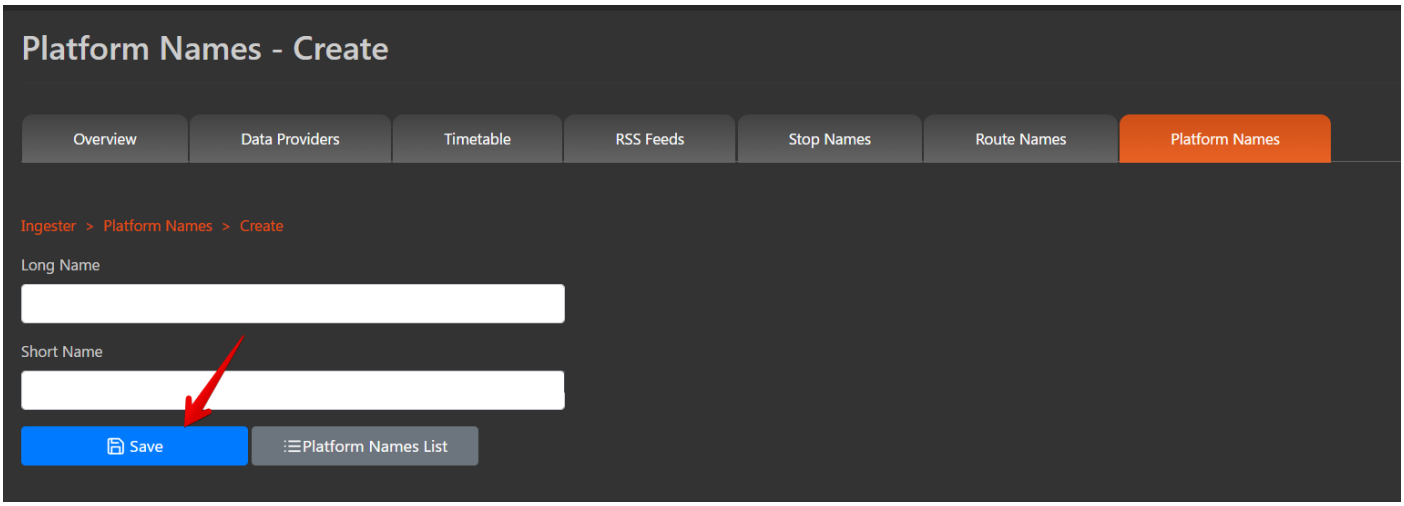


Here you can either create a new platform name or generate one.

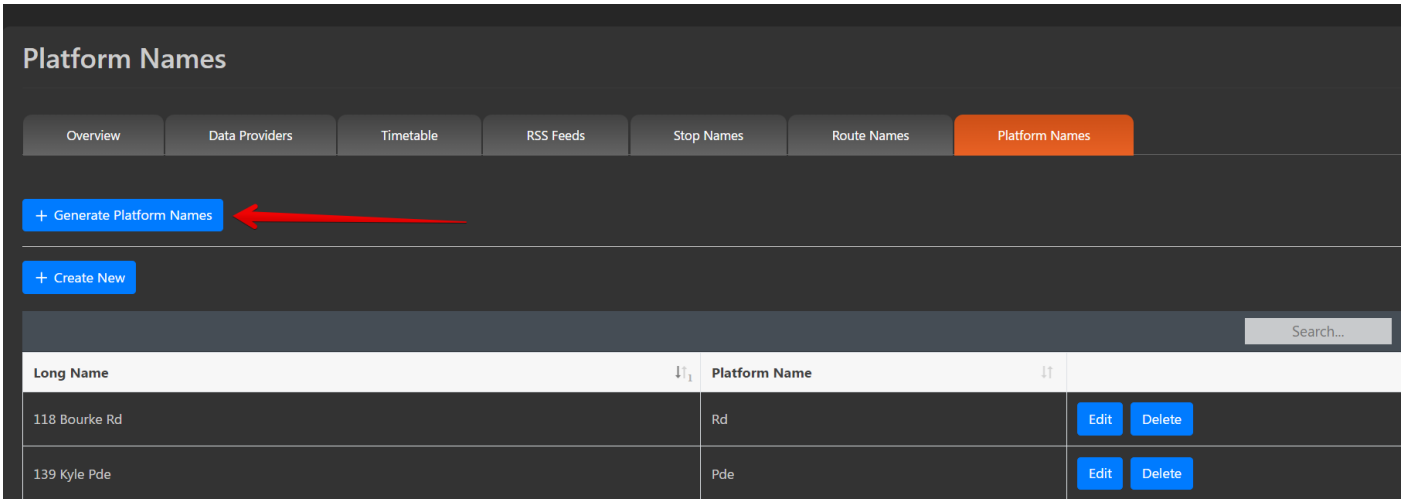
To create a new platform name, hit **Create New**.



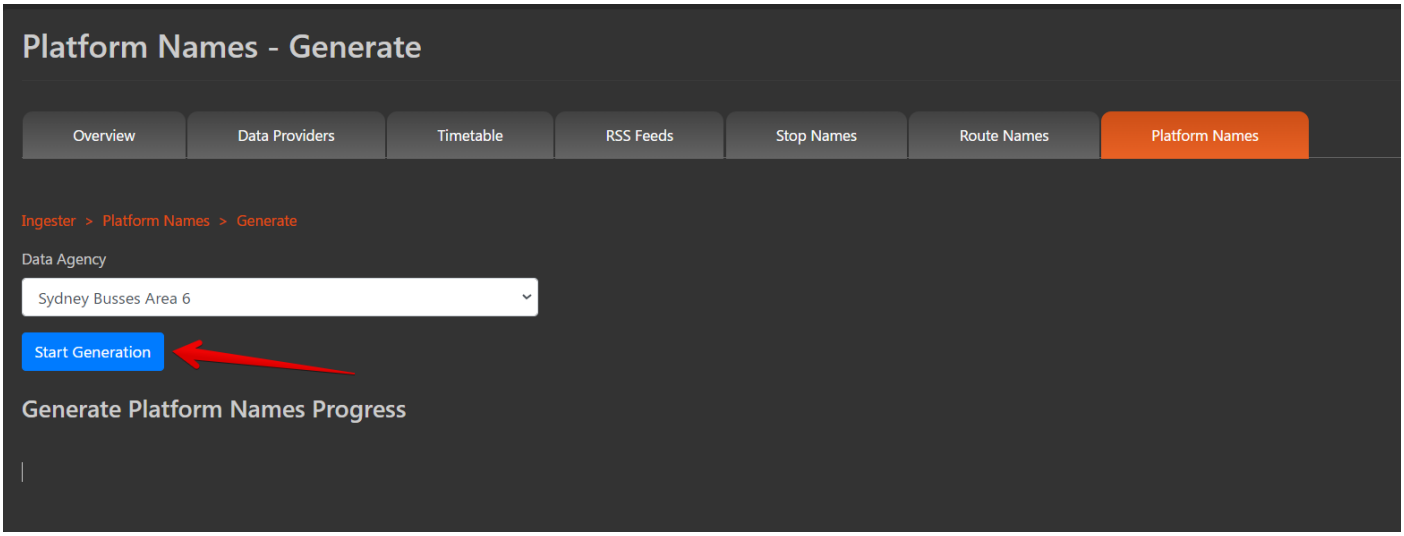
Then give it a long name and a short name before clicking **Save**.



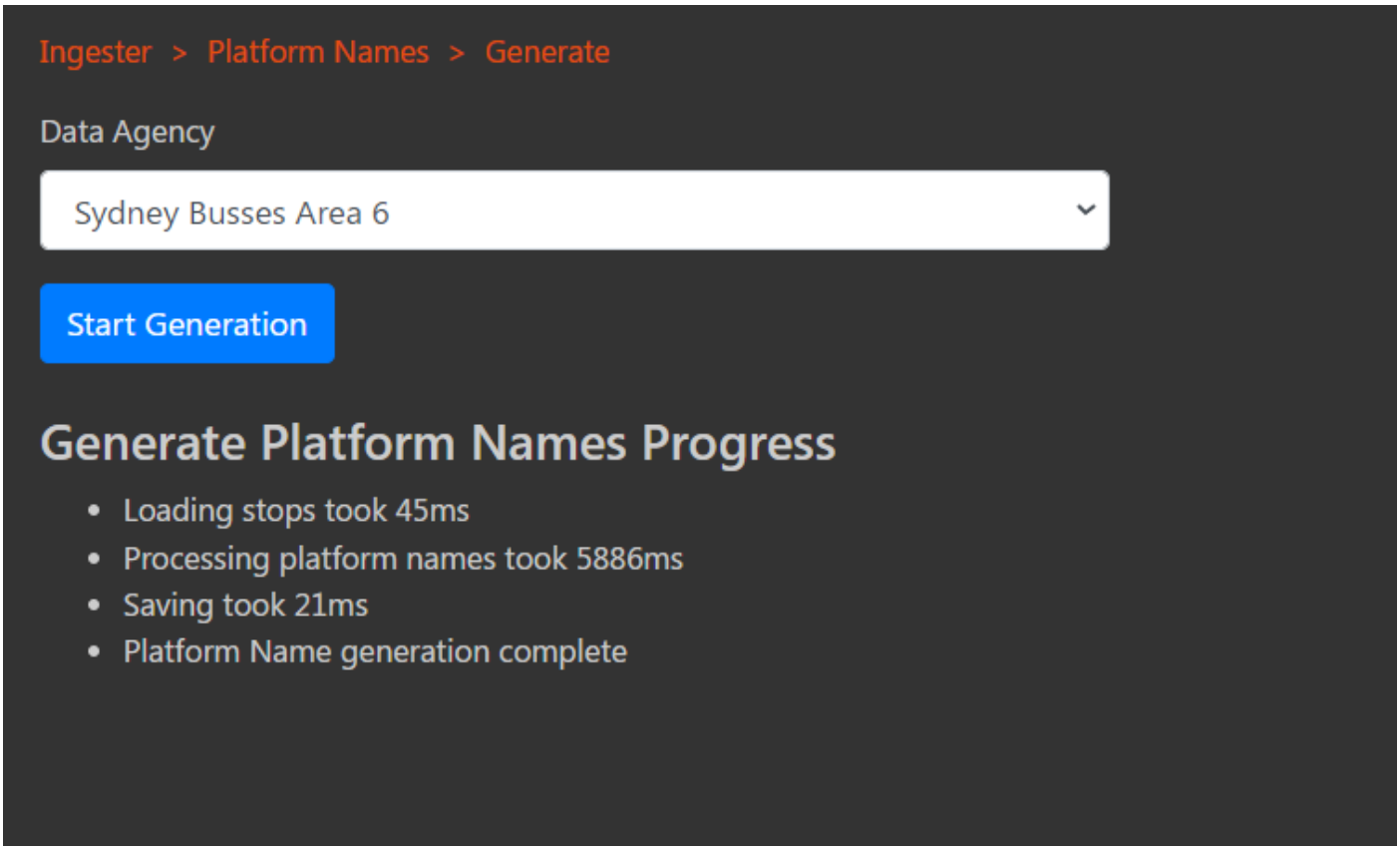
To generate a new platform name, hit **Generate Platform Names**.



Then select the Data Agency from the dropdown menu and click **Start Generation**.

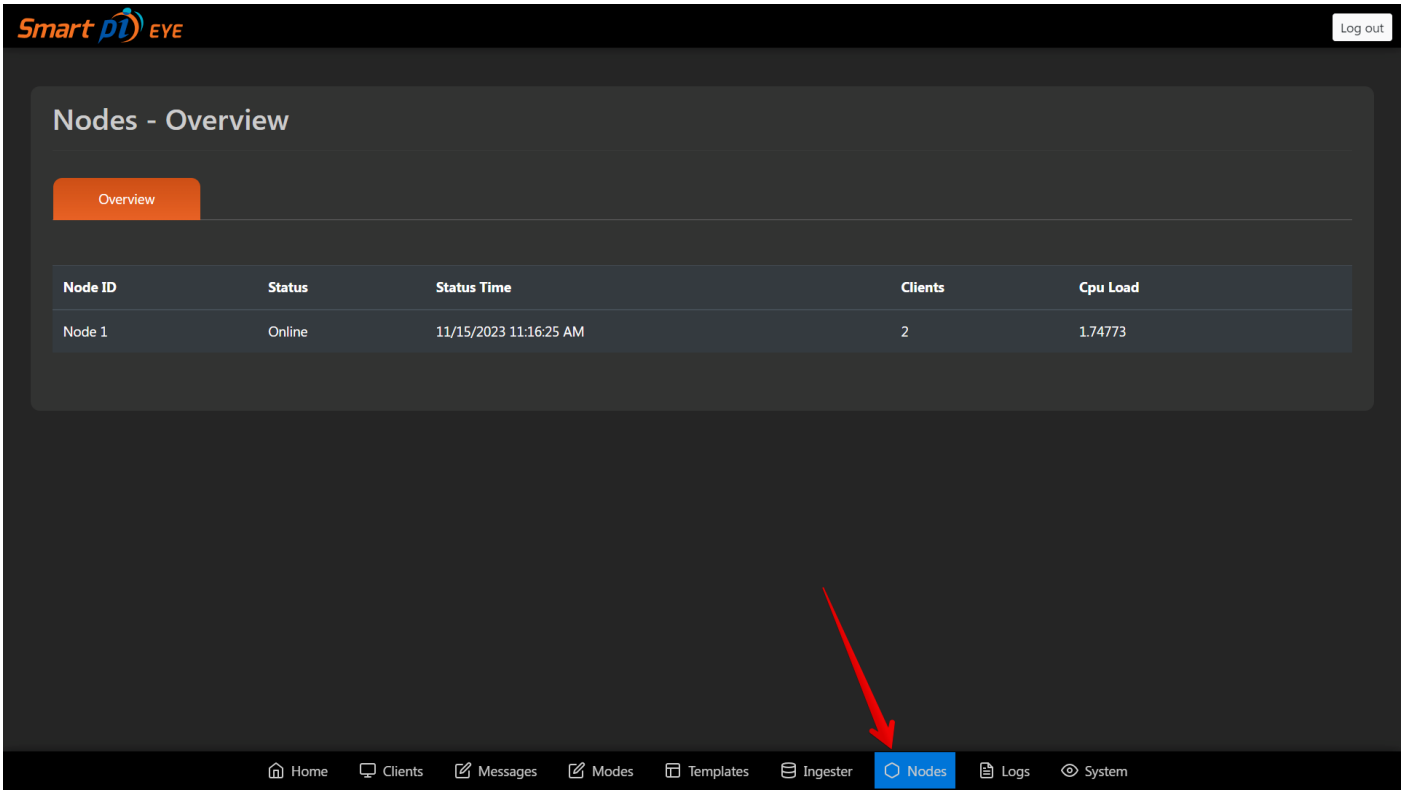


The process will take a few seconds to complete.



5.7 Nodes

Click **Nodes** from the main dashboard to open up the nodes overview.



The nodes page will allow you to view configured nodes and their current status.

This includes:

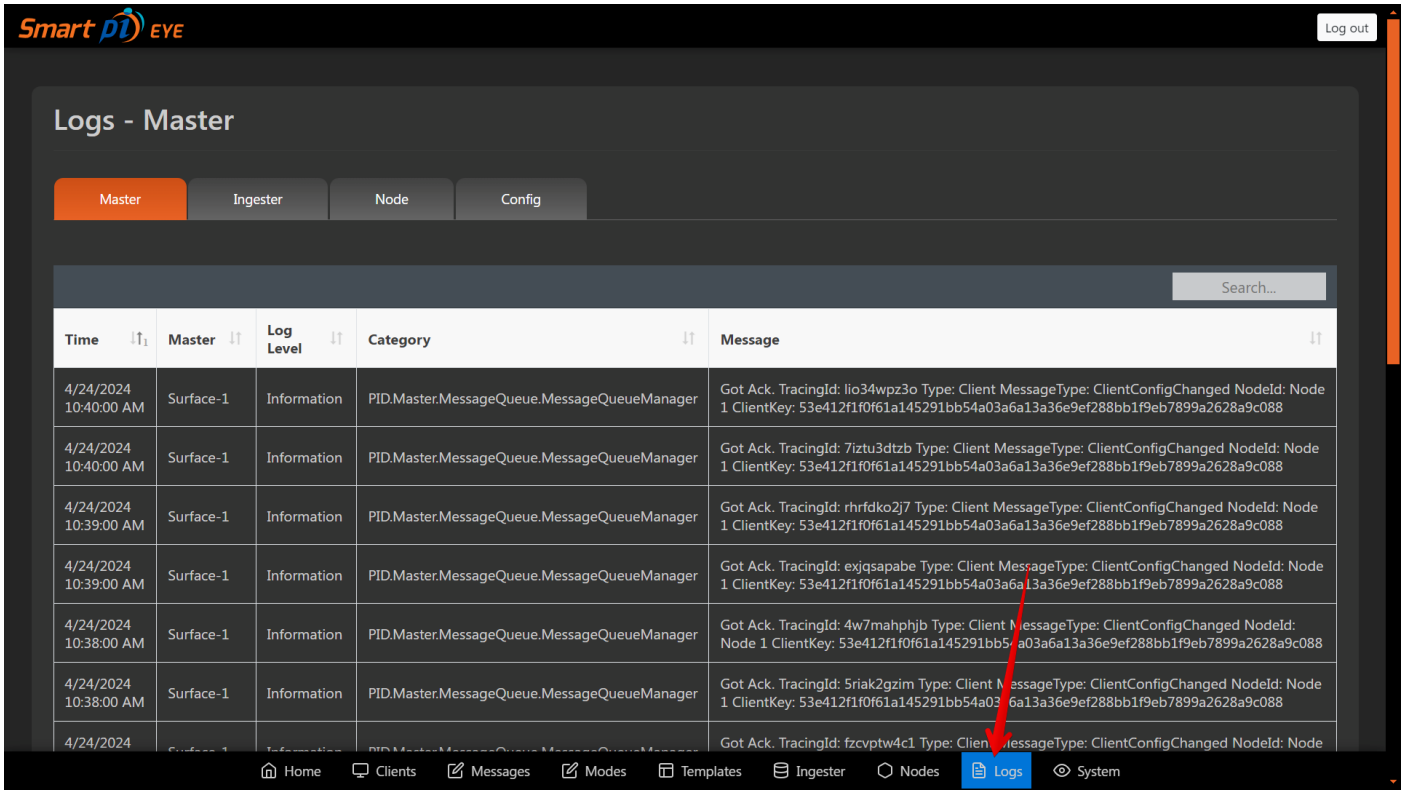
Item	Description
Node ID	The ID configured within the node application
Status	The current status of the node
Status Time	The last time the node contacted the database / master
Clients	How many clients are connected to the node
CPU Load	The current CPU load of that specific node

Notes:

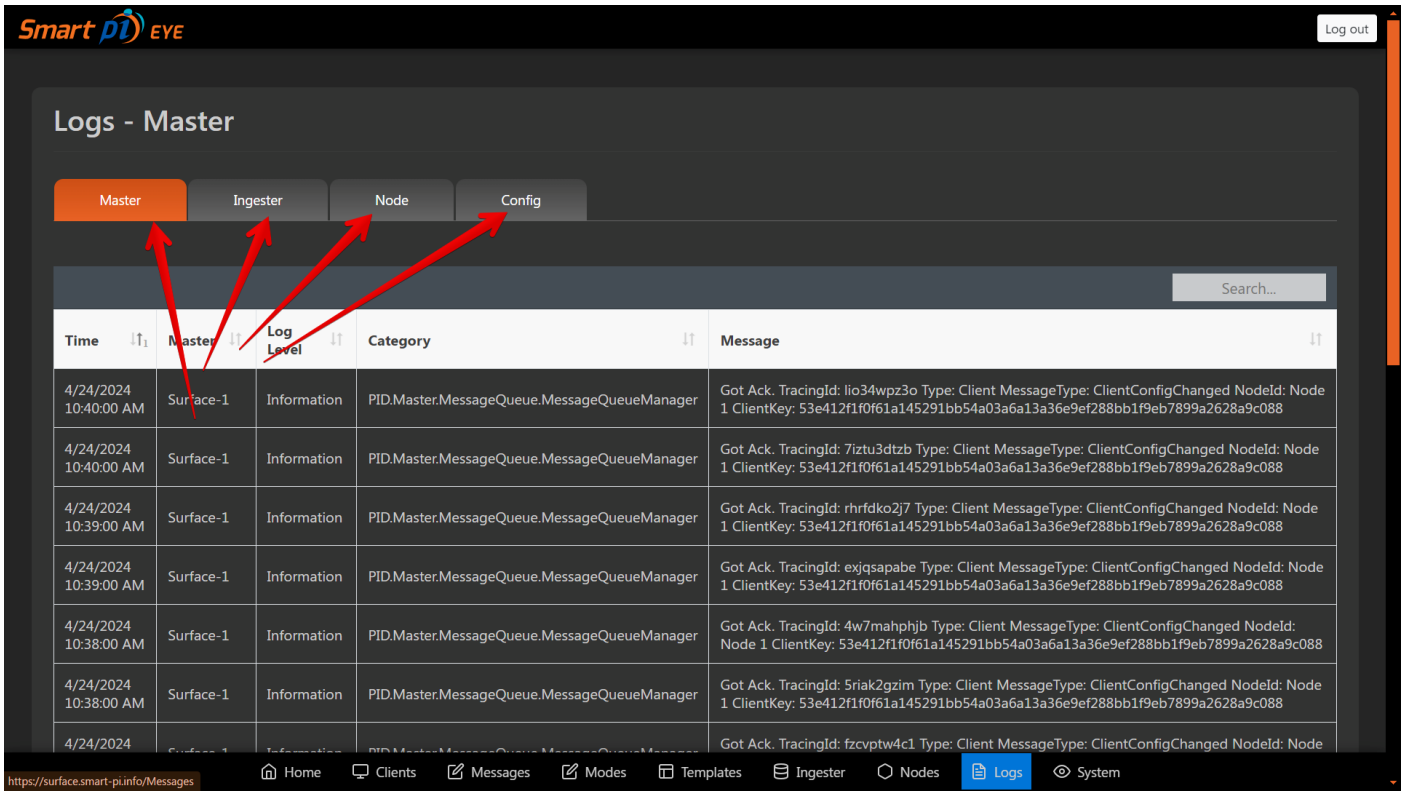
- There is no limit to how many nodes are connected to a system.
- Nodes can be used to either add capacity or redundancy

5.8 Logs

Click **Logs** from the main dashboard to open up the logs menu.



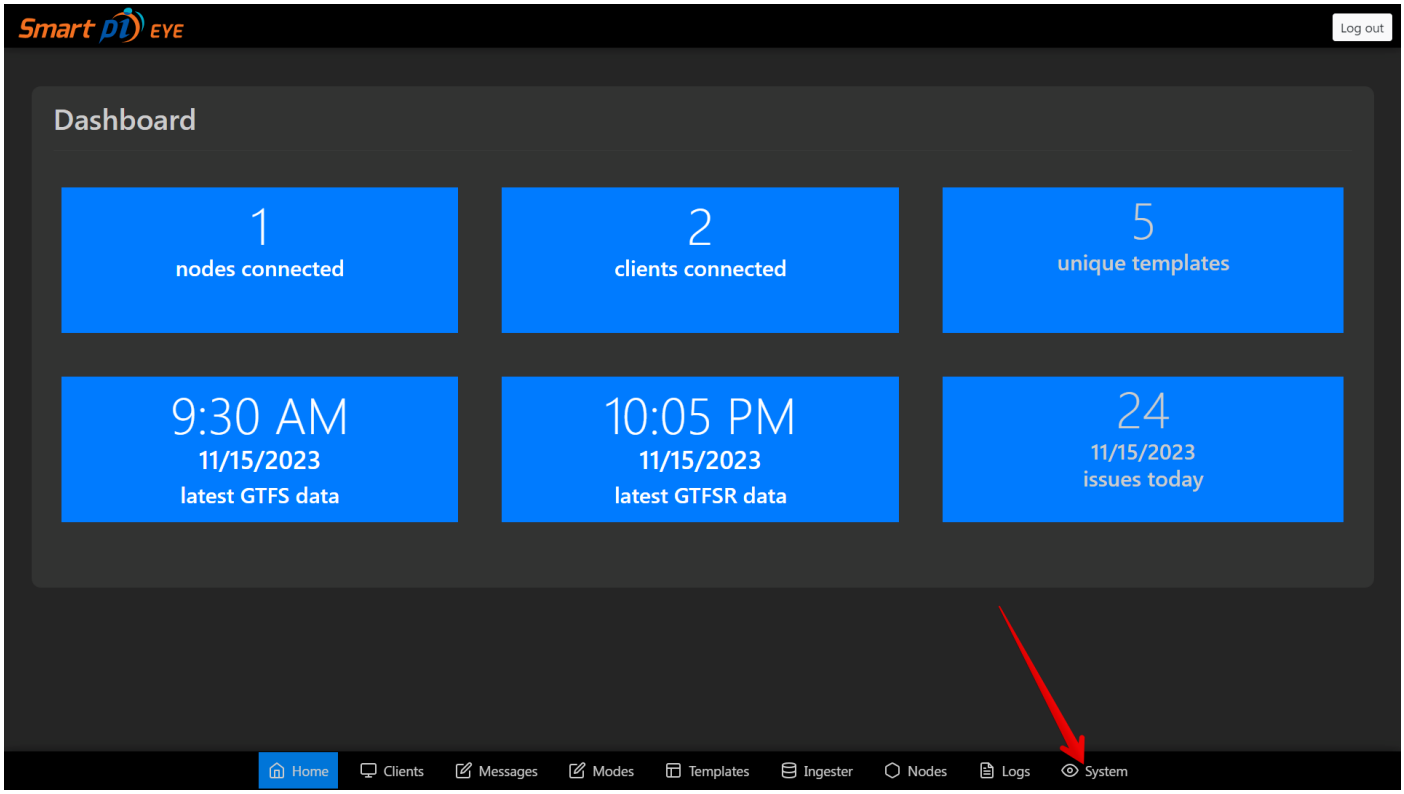
Switch between Master logs, Ingester logs, Node and Config by clicking the respective button.



Logging has been refined to reduce excessive entries, which makes the logs easier to read and lowers storage use. The available log views remain Master, Ingester, Node and Config.

5.9 Systems Tab

To access the administration interface please click on **System** tab from the bottom of the screen to enter further settings.

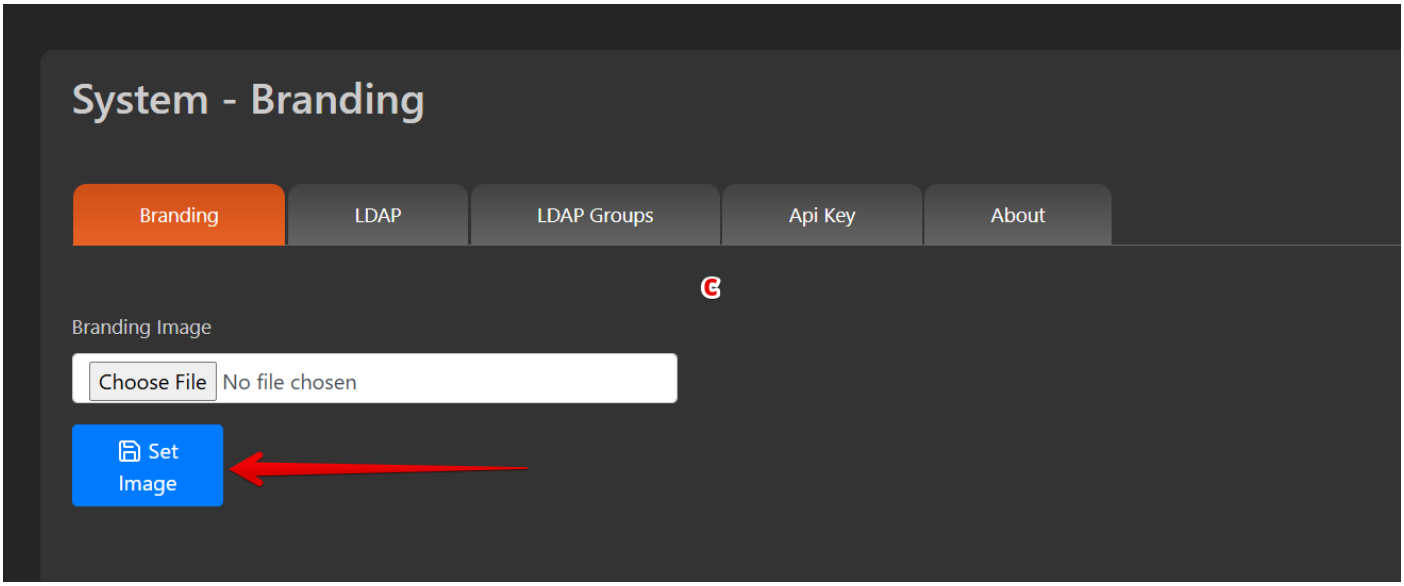


The Admin Panel of Smart pi EYE showcases settings required by an admin screen to control other connected screens. It comes with various sections like Branding, LDAP, LDAP Groups and About.

5.9.1 Branding

You can set your own branding/logo here in the Smart pi EYE. Simply click **Choose file** and then select an image from your computer. Once done, hit **Set Image** to save changes.

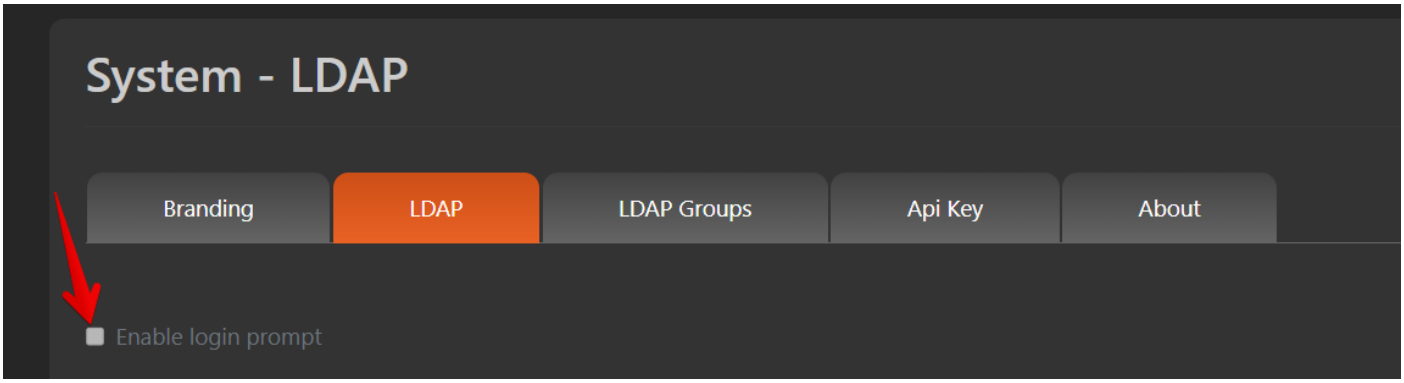
This will change the Smart pi EYE Logo to one of your choice throughout the system.



5.9.2 LDAP

This section allows you to use LDAP (Lightweight Directory Access Protocol) protocol for accessing and maintaining distributed directory information services over a network. Allowing user to limit access with login prompt.

Start by clicking the radio button of your choice to choose whether you'd like to enable or disable the login prompt.



Proceed with adding the values in these fields:

LDAP Server: Your LDAP Server address.

LDAP Server Port: Your LDAP Server Port.

LDAP User: Username for login.

LDAP Password: Password for login.

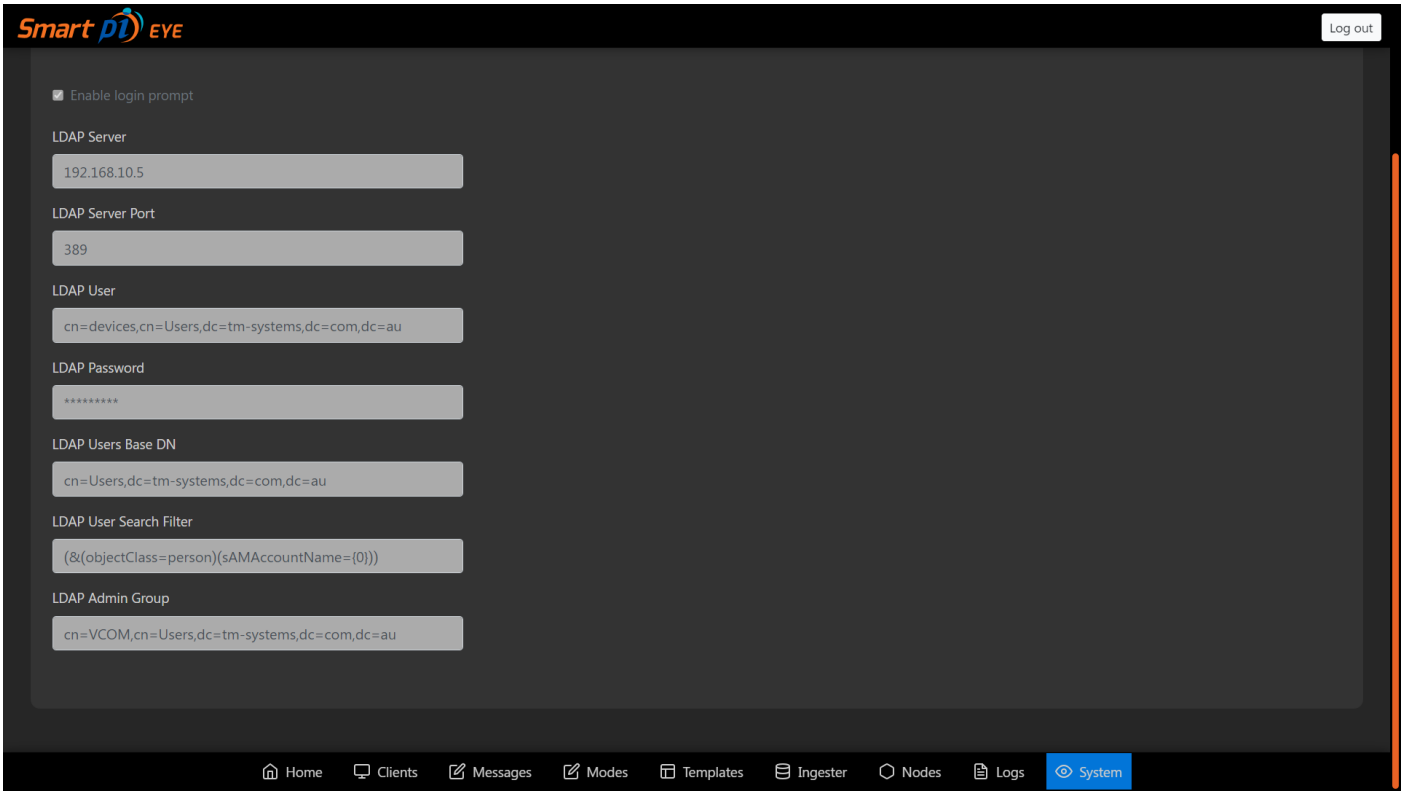
LDAP Users Base DN: The Base DN is the starting point an LDAP server uses when searching for users authentication within your Directory. The first output displayed is your Base DN: "DC=example-domain,DC=com"

LDAP User Search Filter: Add a user search filter as per your own preferences.

LDAP Admin Group: name entered in the ADMIN GROUP will represent a group of users with administrative privileges and special permissions within the directory or network.

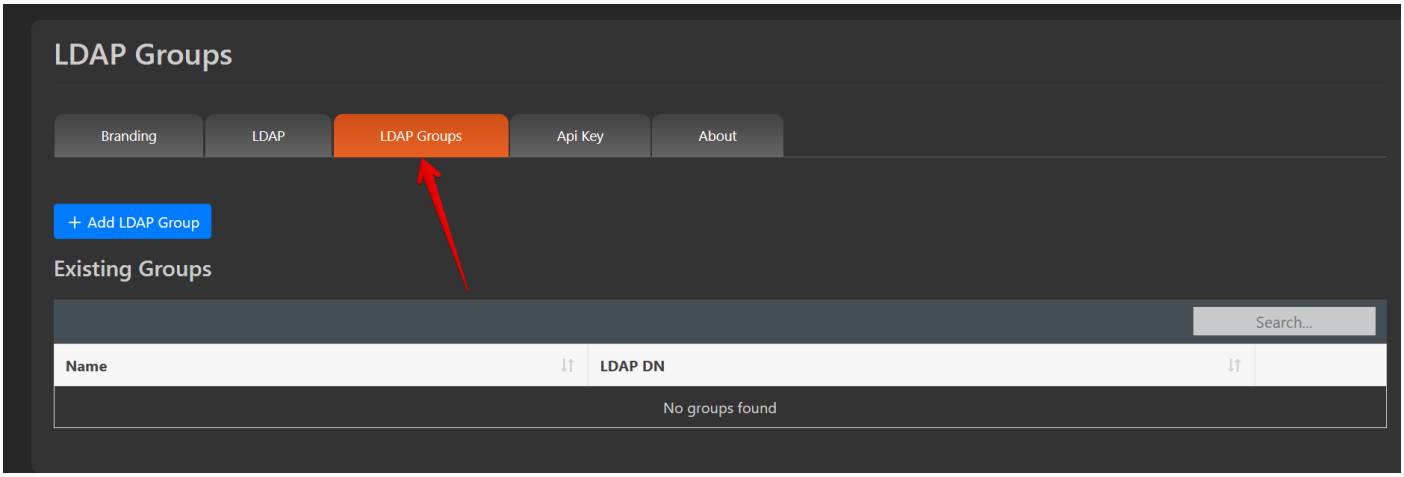
Notes:

- Users can only access the user modes section and are not able to administer the system.
- It is possible to be in both the Users and Admin groups if access to both parts of the system is required.
- LDAP groups is used for the user modes section to limit access to different groups as needed. Users can be members of multiple groups.

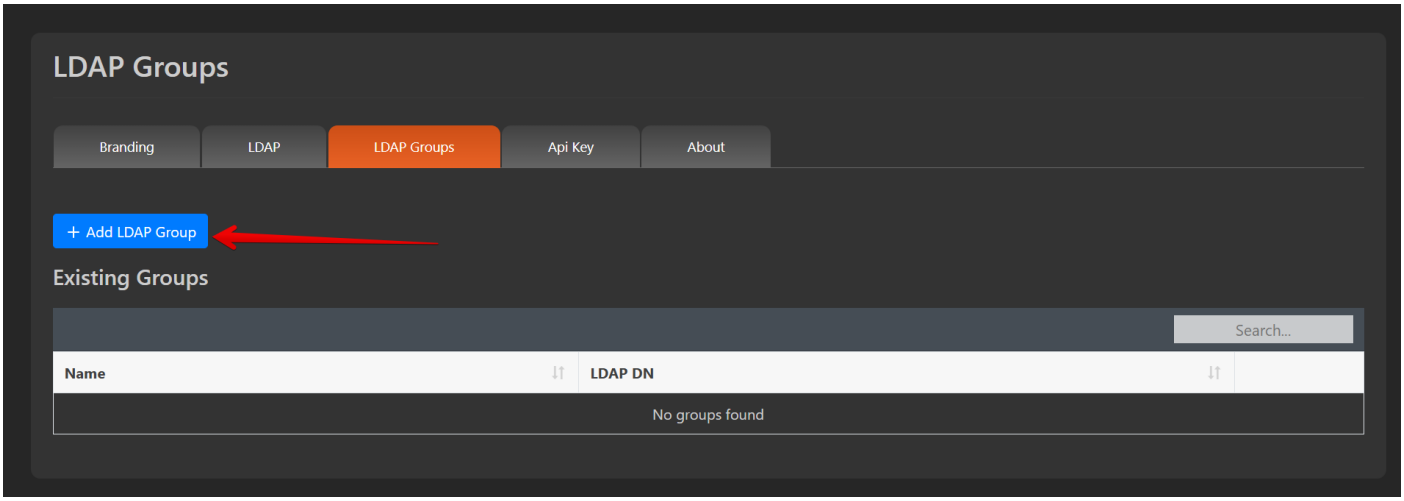


5.9.3 LDAP Groups

LDAP groups will allow you to manage which users have access to specific user modes and groups.



Click **Add LDAP Group** to continue.

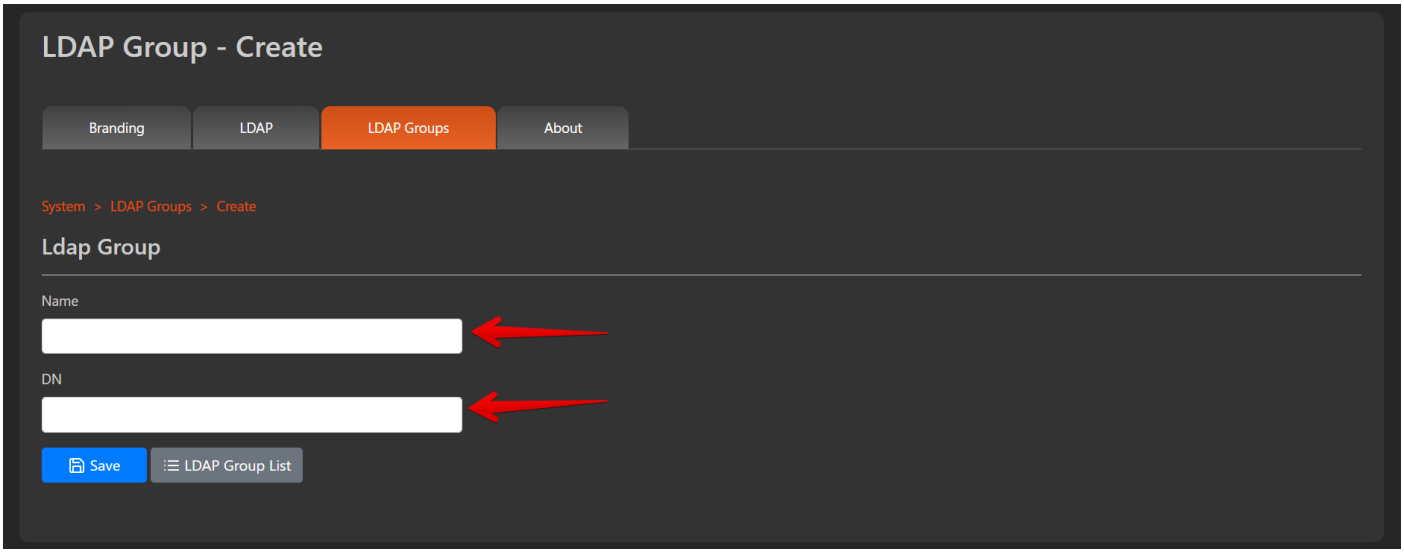


Give it a name and a DN (Distinguished Name i.e. the unique path to its place in the directory). Here's an example:

cn=John Doe,ou=Users,dc=example,dc=local

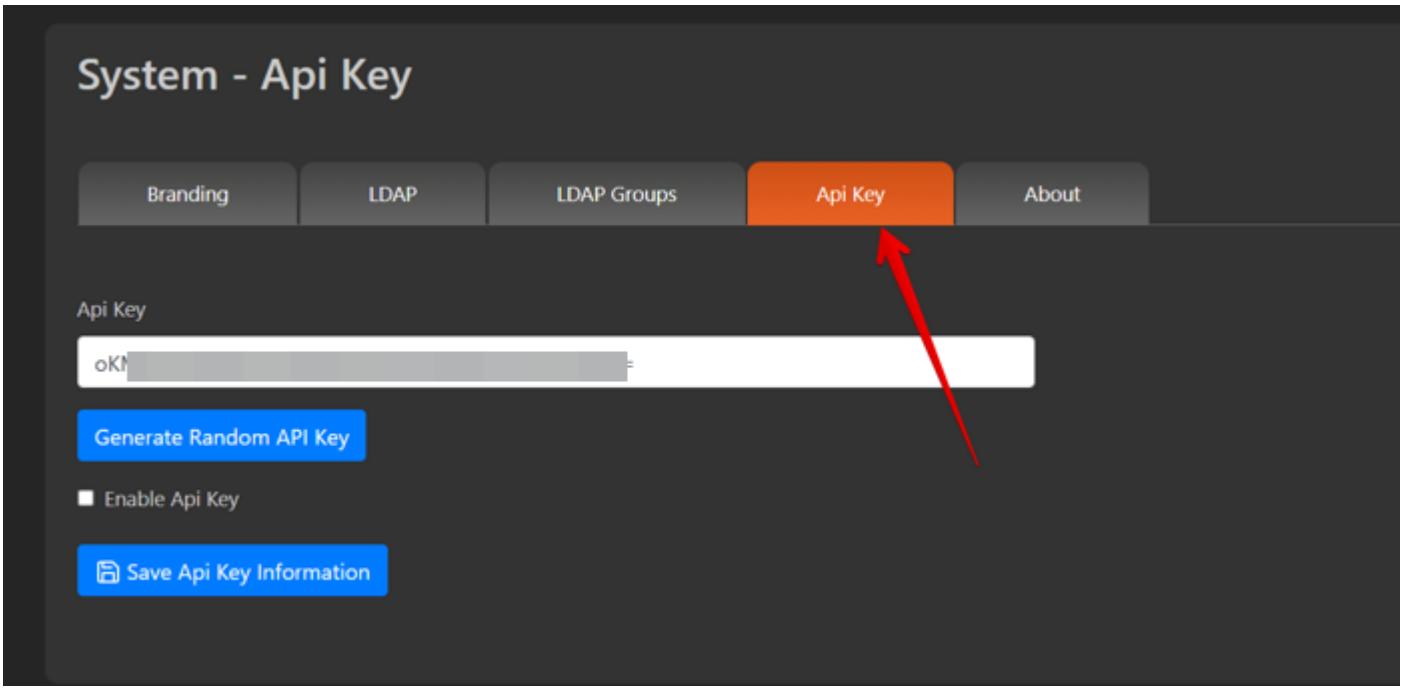
cn=Finance,ou=Users,dc=example,dc=local

Once added, click **Save.**



5.9.4 Api Key

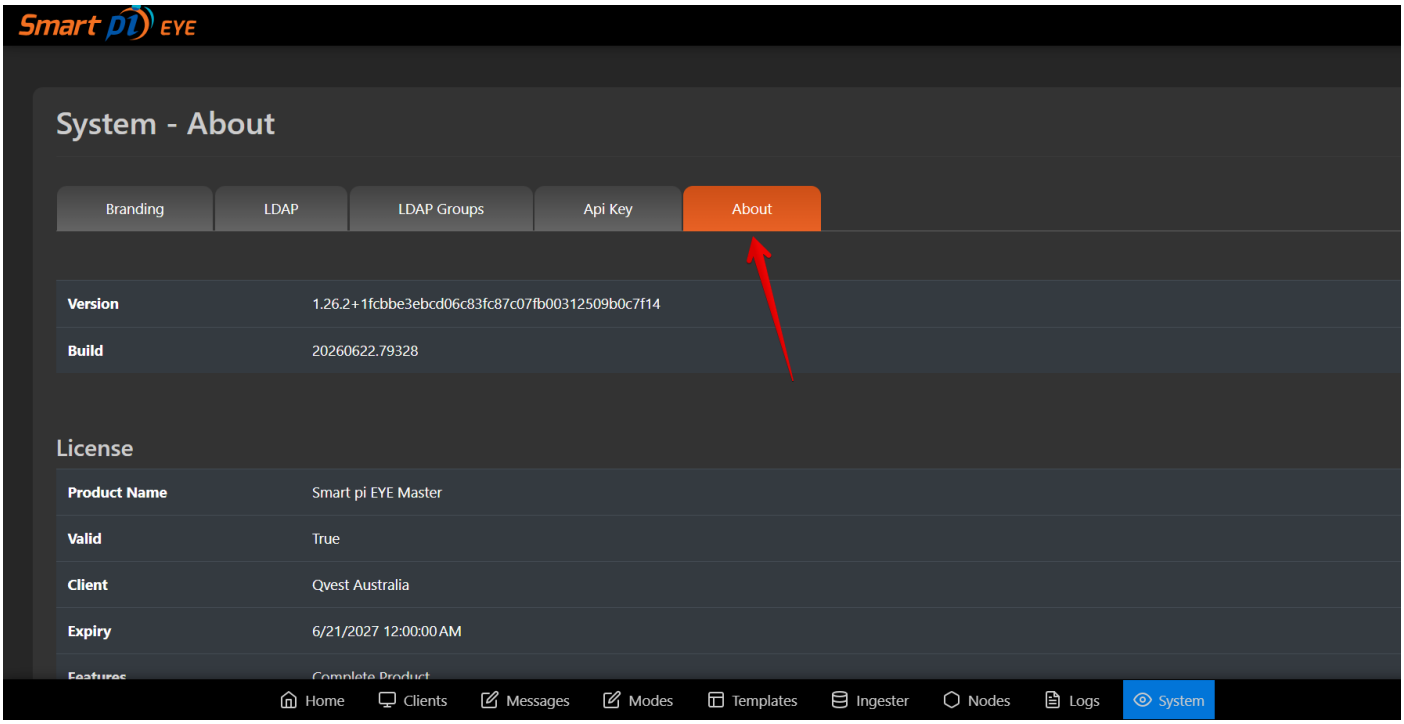
The API Key controls access to the Smart pi EYE ReST API, which allows other systems to integrate with and pull data from the server. Manage the key from the **Api Key** tab in the System section.



The current key is shown in the **Api Key** field. To create a new one, click **Generate Random API Key**, which replaces the value in the field.

Tick **Enable Api Key** to require the key for API access. Leaving it unticked disables key based access.

Once you have set or generated the key and chosen whether to enable it, click **Save Api Key Information** to apply the change. Any external system that connects to the API will need to use the current key.

5.9.5 About

The about section shows the version and build you're currently on.