Tetryon

MS2 TCDS Integration

User Manual

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Contents

Overview 3
Before you begin 3
Prerequisites 3
Cellular Data Limits 3
How does Traffic Data get uploaded to MS2 TCDS? 3
MS2 TCDS User Interface 4
Configuration 5
MS2 Station ID 5
API Key Profile 5
URL 6
Account Name 6
API Token 6
Traffic Data Upload 6
Email Notification 6
Recipient Address 6
Save config 6
Lane Mapping 7
Travel Direction 7
MS2 Lane Number 7
Upload Status 7
Work Flow – Daily Automatic Upload 10
Work Flow - Manual Upload 10
Creating API Key Profiles 13
Create 14
Modify 15
Set Default Profile 17
Appendix A – Glossary of Terms 19
Appendix B – Support Contact Details 19
Houston Radar 19
MS2Soft 19
Revision History 19

Overview

Houston Radar's Tetryon Cloud Server seamlessly connects with SpeedLane® Pro and Armadillo® Trackers, gathering traffic data from them and centralizing it effortlessly, requiring no user input. This traffic information is accessible 24/7, and users can generate comprehensive reports directly through a web browser.

Tetryon offers an optional functionality to automatically transfer traffic data from Tetryon to MS2Soft's Traffic Count Database System (TCDS) via a machine-to-machine interface. Once set up, data is sent daily to MS2 TCDS, eliminating the need for user involvement. Tetryon's MS2 TCDS integration feature simplifies the process of transferring radar-generated traffic data into MS2 TCDS.

This user manual provides details on Tetryon's MS2 TCDS Integration feature and step-by-step instructions for configuring the automatic data upload from Tetryon to MS2 TCDS.

Before you begin

Prerequisites

To get your traffic data into MS2 TCDS from Tetryon, you need the following:

1. MS2 TCDS Integration should be enabled in your Tetryon account.
2. Autopolling Extension should be enabled in your MS2 account.

Appendix B has contact details if you require assistance in enabling MS2 TCDS Integration or Autopolling Extension.

Cellular Data Limits

Tetryon uploads per-vehicle data to MS2 TCDS. If the Radar connects over a cellular modem with a cellular data plan, approximately 100 MB of data will be transferred for every 1 million vehicles. Please ensure that the cellular data plan is sized appropriately.

How does Traffic Data get uploaded to MS2 TCDS?

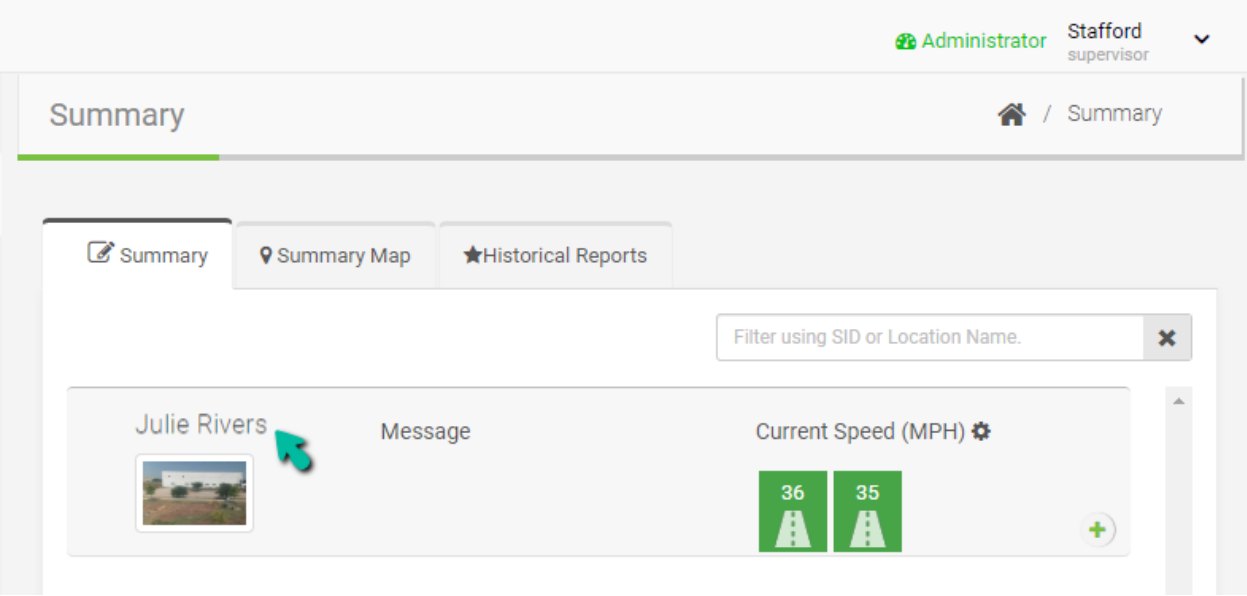
Houston Radar's cloud-connected SpeedLane Pro and Armadillo Trackers establish communication with the Tetryon server at predetermined intervals, for instance, once every 5 minutes. Whenever Tetryon receives a call from a radar, it retrieves the latest vehicle records from that radar and stores them in the cloud server. On a daily basis, Tetryon transfers individual vehicle data to MS2 for each radar location via MS2's Machine-To-Machine API.

Tetryon maintains a record of the days for which data has been uploaded to MS2. In case of a cellular outage that prevents the radar from connecting to Tetryon for one or more days, Tetryon will temporarily suspend the daily uploads until the outage is resolved, at which point it will resume uploading the accumulated data to the server.

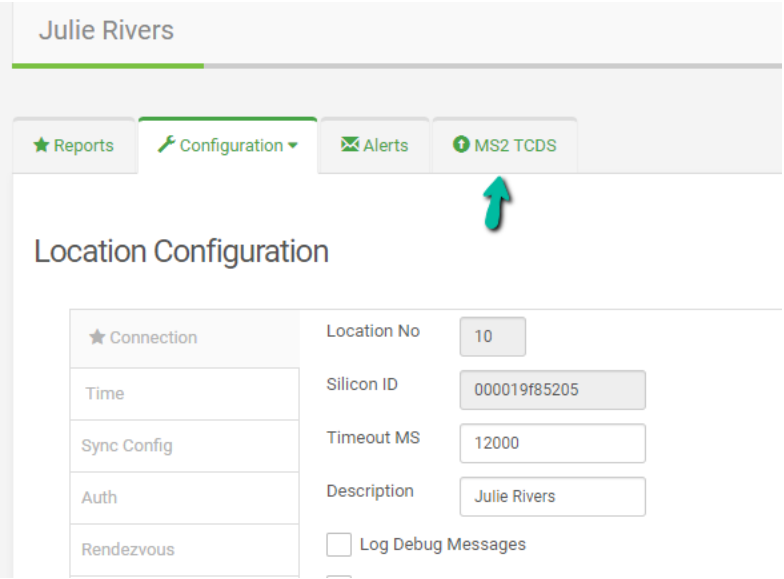
To keep users informed about any issues related to the daily data upload to MS2 TCDS, email notifications can be enabled to alert them promptly.

MS2 TCDS User Interface

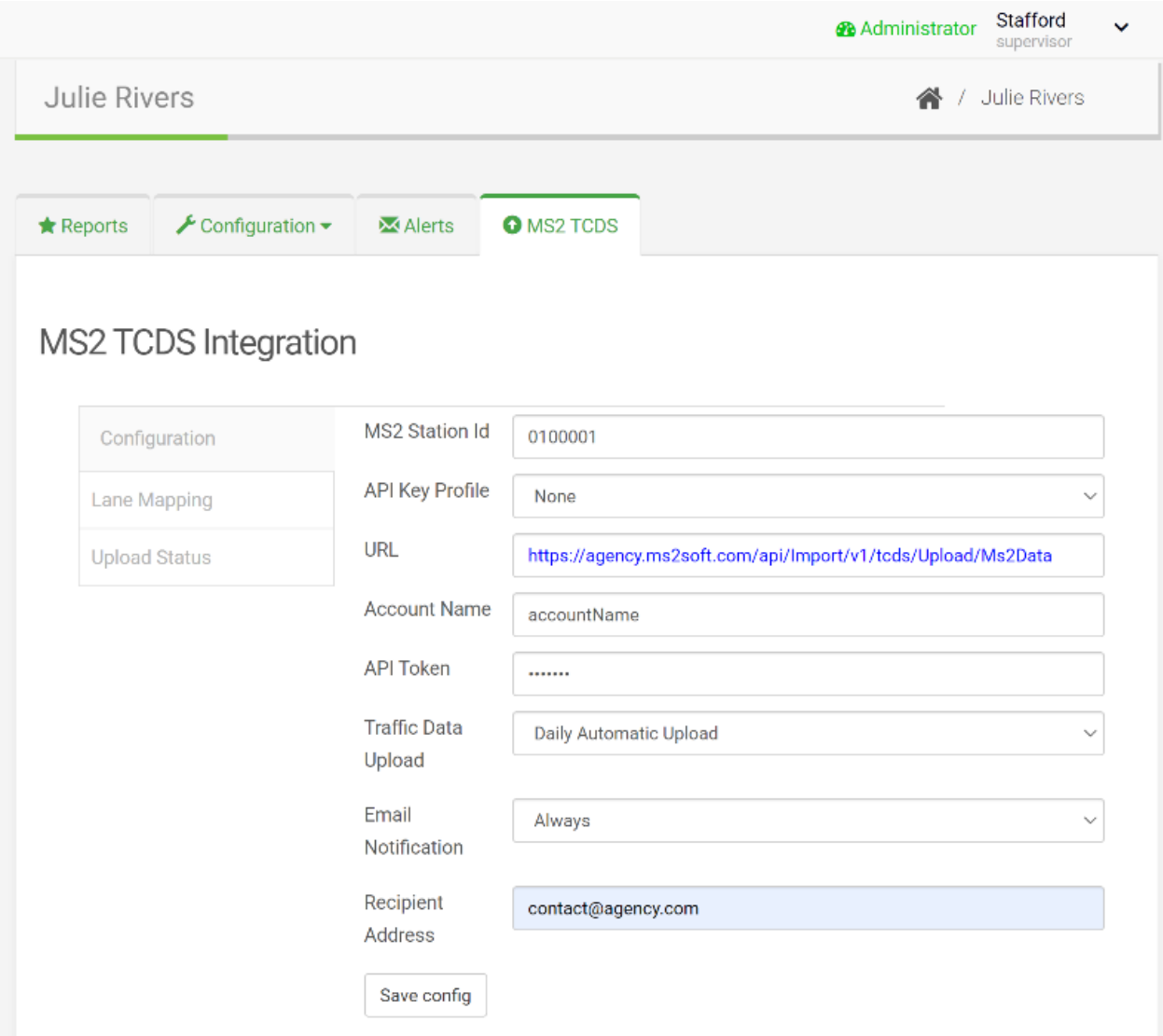
To access MS2 TCDS configuration, log into your Tetryon Account and click on the location.



Click on the **MS2 TCDS** tab.



Configuration

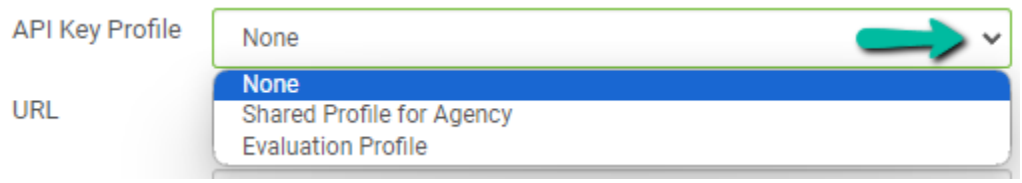


MS2 Station ID

Location in MS2 TCDS where the traffic data will be reported.

API Key Profile

Use a pre-configured API Key Profile which contains URL, Account Name and API Key. You can either use a pre-configured profile or set the API Key Profile to “None” and provide URL, Account Name and API Token in this configuration page. Use the dropdown to choose from pre-configured API Key profiles or use None if you want to manually enter URL, Account Name and API Key.



See section Creating API Key Profiles on how to create an API profile.

URL

Agency-specific API URL to which traffic data should be uploaded.

Account Name

Account Name for the agency within MS2 TCDS

API Token

Unique API Token provided by MS2 Soft to authorize access to the API.

Important Note: Please contact MS2Soft to get Station ID, API URL, Account Name and API Token. Ask for Autopolling Credentials for your account.

Traffic Data Upload

This drop down determines how traffic data is uploaded to MS2 TCDS.

Manual Upload	Use this option to manually upload one or more days of data to MS2 TCDS. Use this for the following use cases: 1. To check validity of the URL, Account Name and API Token. 2. To upload traffic data for temporary count locations.
Daily Automatic Upload	Use this option to automatically upload data once a day to MS2 TCDS.

Email Notification

This drop down determines how email notifications are sent.

On Failure	Send an email notification if upload fails.
Always	Send email notification if upload succeeds or fails.
None	No email notifications are sent.

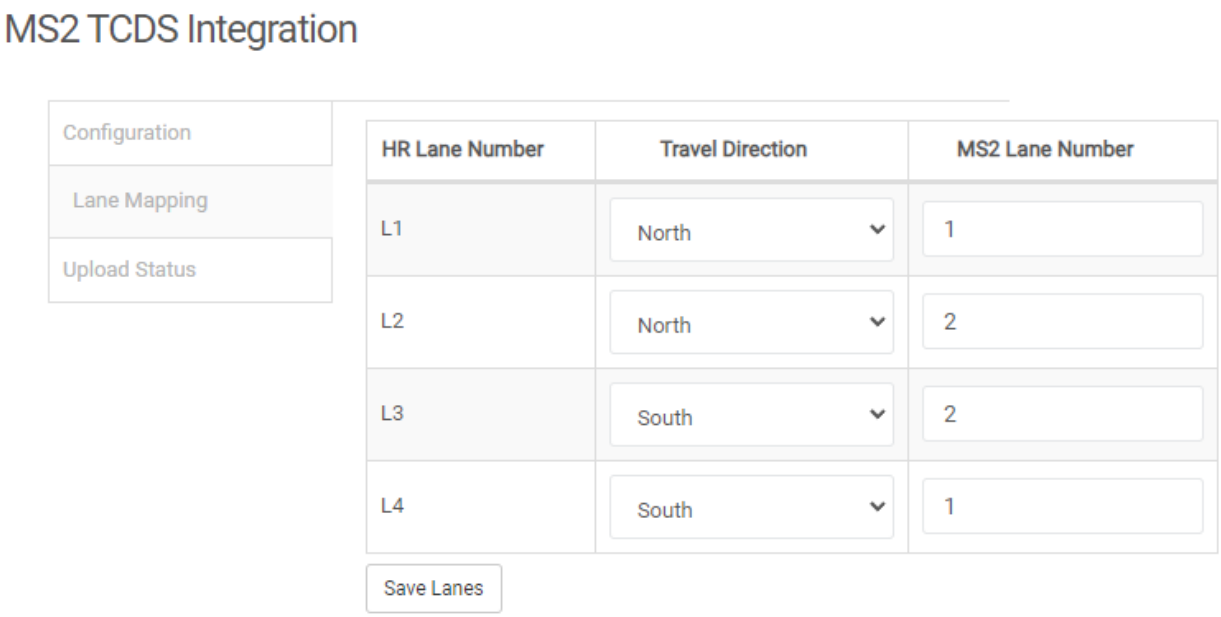
Recipient Address

Comma-separated list of email addresses to which email notifications should be sent. You can provide one or more email addresses.

Save config

Save changes.

Lane Mapping



Travel Direction

Select the direction of travel for each lane. This dropdown has the following entries: North, North East, East, South East, South, South West, West, North West.

MS2 Lane Number

Houston Radar and MS2 TCDS use different lane numbering conventions. Remap the lane number for each Lane to MS2 lane number and save your changes by clicking on **Save Lanes**.

Lane Naming Conventions:

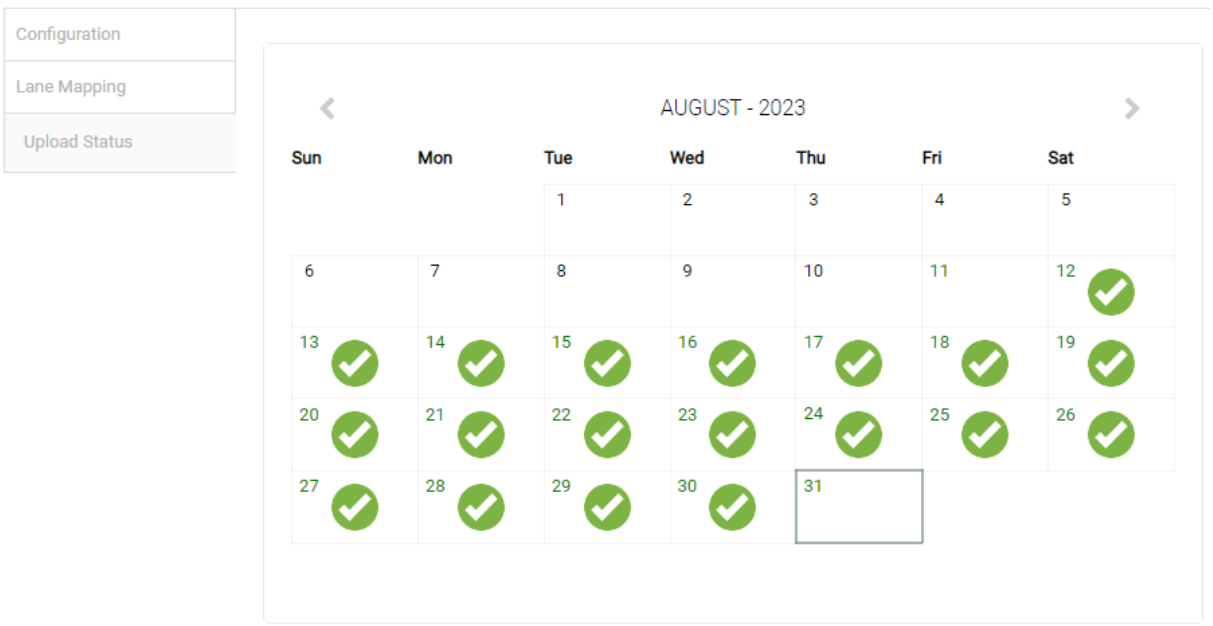
HR: The lane closest to the Radar is Lane 1 and increase sequentially. For a 4- lane road, lane numbers are marked as Lane 1 (nearest the Radar), Lane 2, Lane 3, Lane 4 (furthest from Radar).

MS2 TCDS: Lanes are numbered in ascending order from the curb to the median. On a 4 Lane Road with 2 lanes going North and 2 going South, Northbound Lanes are 1 and 2. Southbound Lanes are 1 and 2. Lane 1 is near the curb. Lane 2 is near the median.

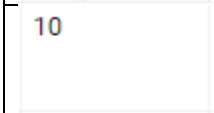
Upload Status

The Upload Status tab shows you a calendar view and gives you an overall upload status for the location.

Upload Status – Calendar View

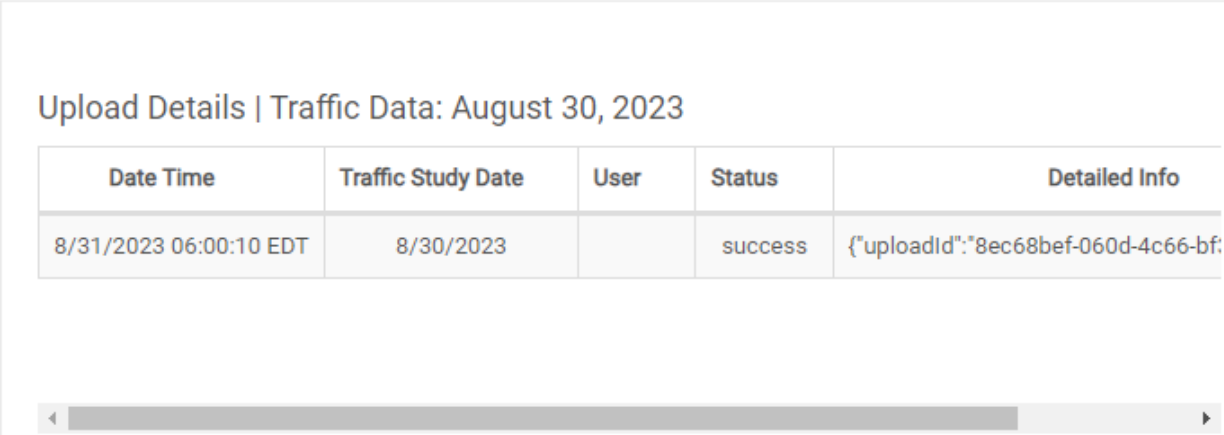


Use the following legend to determine status:

Legend	Description
	Date with black font – No traffic data available for the day.
	Date with green font – Traffic data available for the day.
	Date with green check mark – Traffic data was successfully uploaded to MS2.
	Date with red exclamation – There was an issue uploading data to MS2 TCDS.

Upload Status – Upload Details

To get detailed upload status, click on a day in the Calendar View.



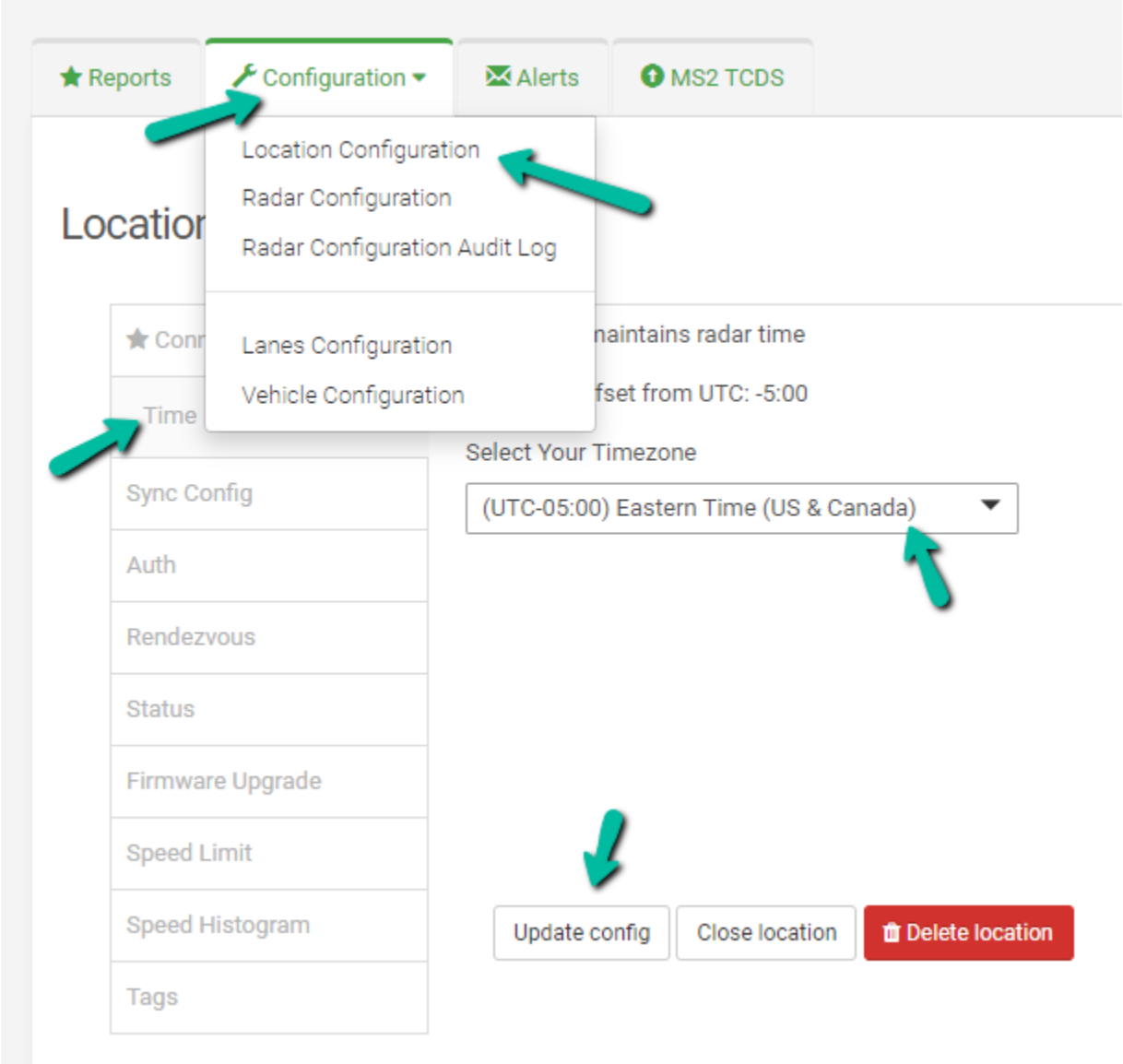
The following information is provided:

Name	Description
Date Time	Date and time when traffic data was uploaded.
Traffic Study Date	Date of traffic study.
User	Logged in user. This field is left blank if Traffic Data Upload mode is set to “Daily Automatic Upload”.
Status	Success or Failure
Detailed Info	On Successful upload: This field shows the UUID returned by the MS2 TCDS API. You can log into your MS2 TCDS account and use this UUID to track the uploaded file Admin Portal -> Upload Manager. On Failure: One of the following failure messages are shown: 1. Invalid API Token. Try entering the Token again. 2. Invalid URL. Please check the URL. 3. Lane Configuration has changed. Please update lane mapping. 4. No vehicles were detected. Please check if Radar is configured and functioning correctly. 5. Tetryon does not have all the vehicle data for the entire day. Please try again later.

Work Flow – Daily Automatic Upload

This is the recommended mode of operation for most locations. To enable Daily Automatic upload to MS2 TCDS, do the following:

1. Ensure that the correct Time Zone is configured in Tetryon for your location.

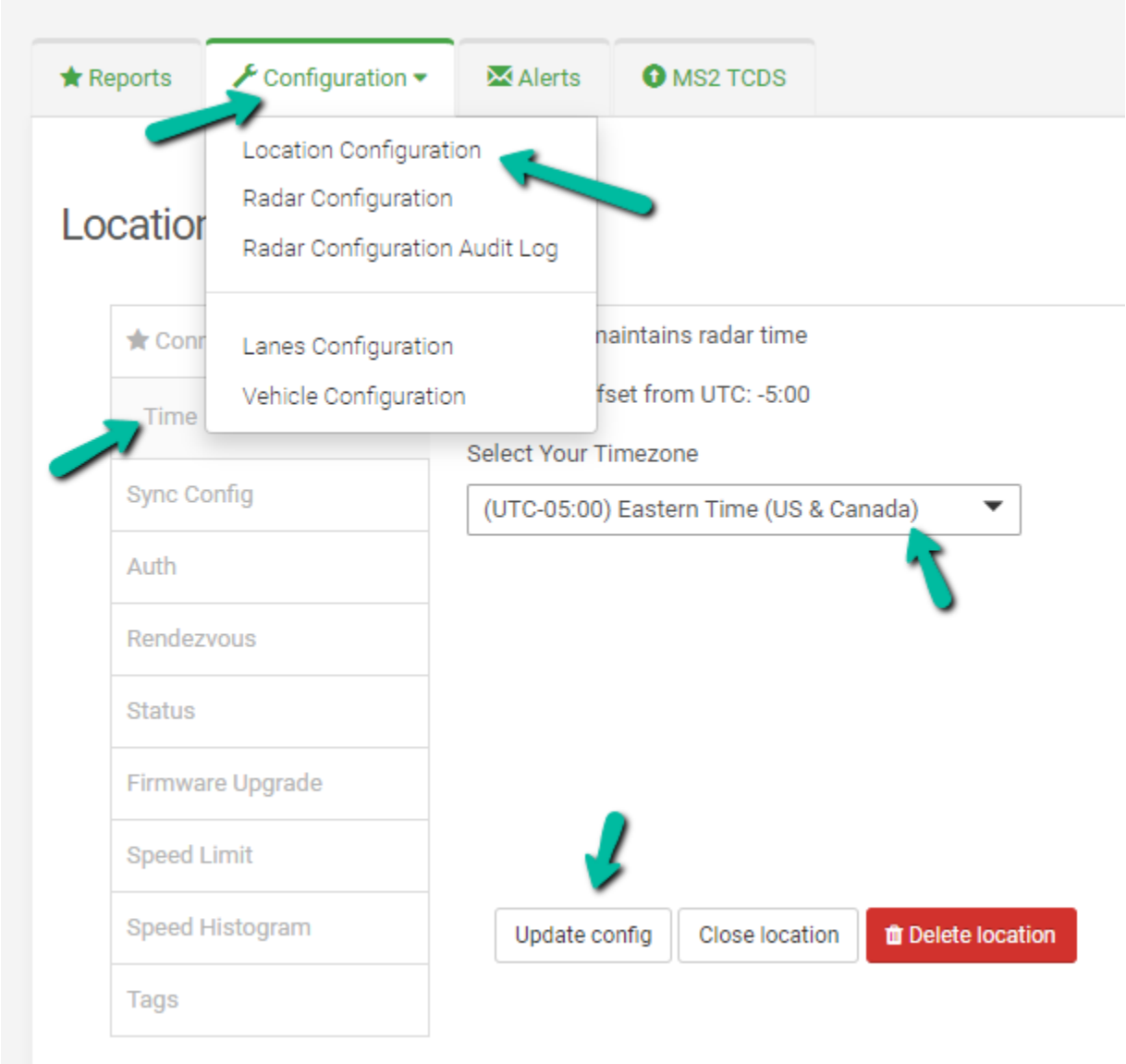


2. Configure **MS2 Station ID**, API Credentials (**URL**, **Account Name**, **API Key**) in MS2 TCDS configuration Page.
3. Set Traffic Data Upload mode to **Daily Automatic Upload**.
4. Save the changes you made.

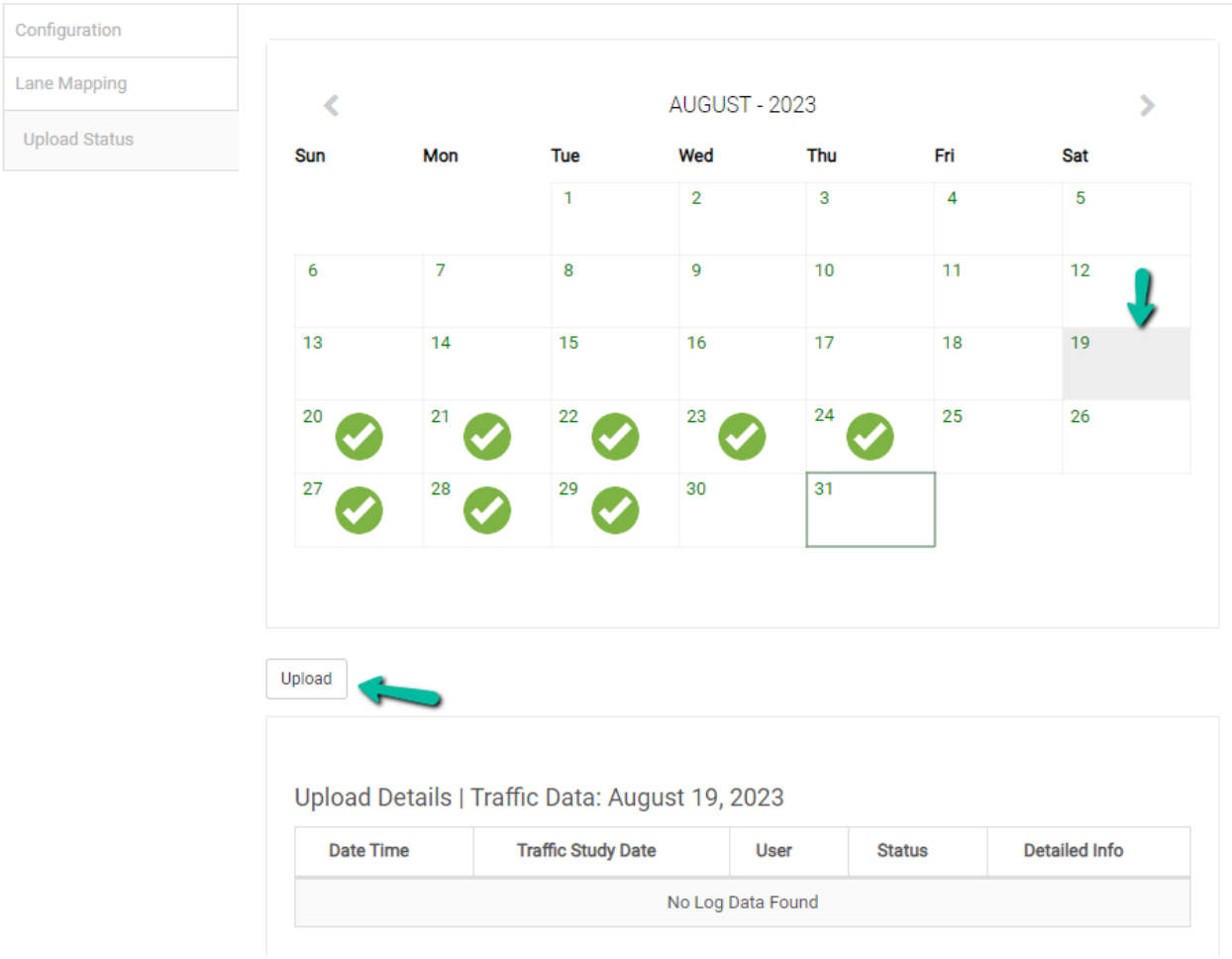
Work Flow - Manual Upload

Use Manual Upload for temporary count locations or to test MS2 TCDS API credentials/connectivity. To setup Manual Upload, do the following:

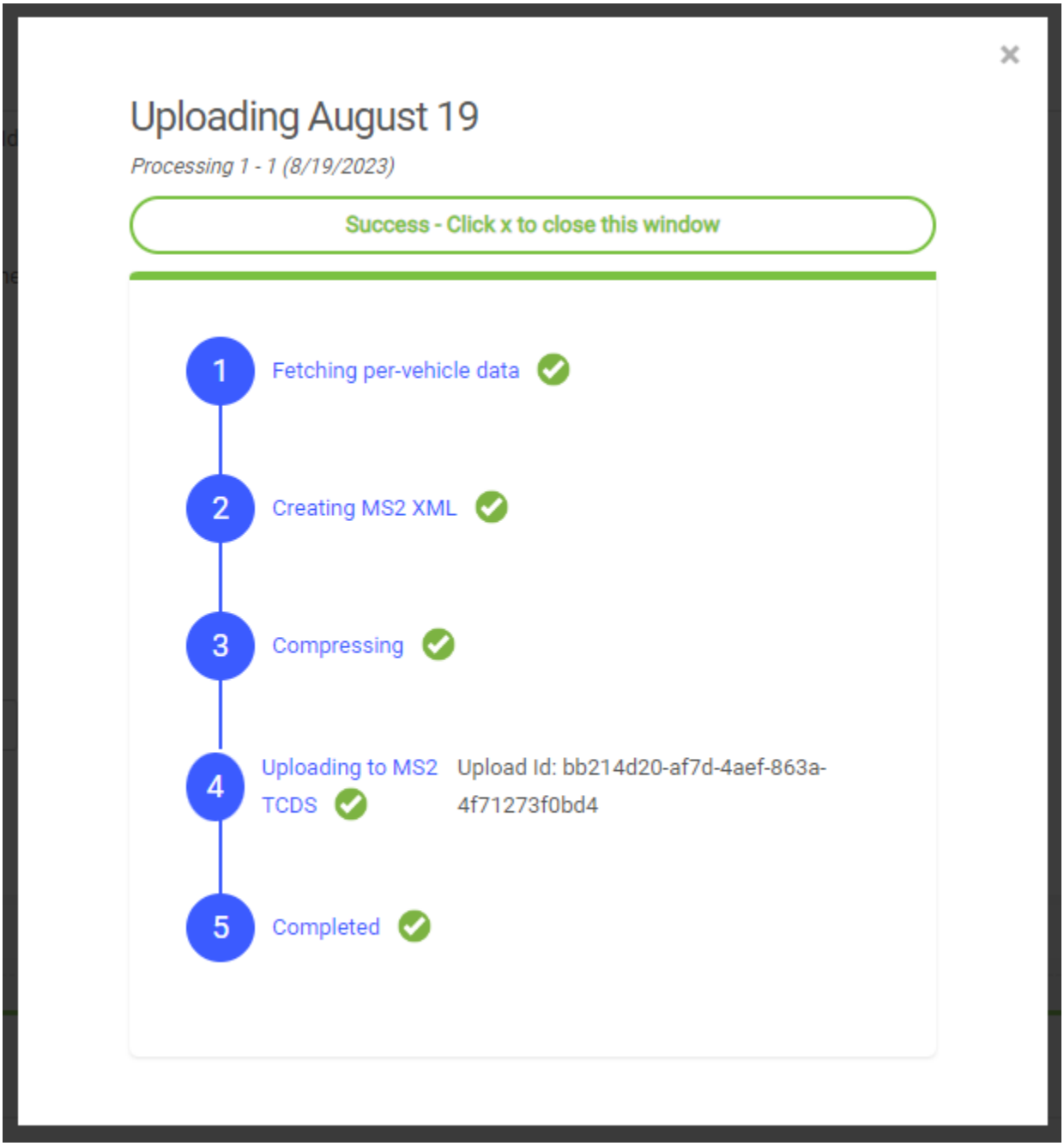
1. Ensure that the correct Time Zone is configured in Tetryon for your location.



2. Configure **MS2 Station ID**, API Credentials (**URL**, **Account Name**, **API Key**) in MS2 TCDS configuration Page.
3. Set Traffic Data Upload mode to **Manual Upload**.
4. Save the changes you made.
5. Go to the Upload Status Calendar View.
6. Use Mouse left-click to select a day from the Calendar view. Use the CTRL + Mouse Left-click to select more than one day.



7. Click the **Upload** button.
8. A modal dialog will show you upload progress. Dismiss the modal dialog when the upload is successfully completed.



Creating API Key Profiles

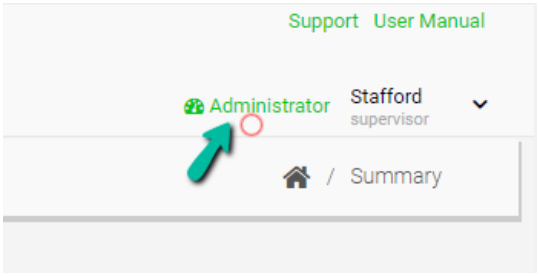
An account administrator can create one or more API Key profiles that can be used to provide shared credentials for multiple radar locations in the same account. An API Key Profile contains URL, Account Name and API Token. All the Radars that use the same API Key Profile will use the same credentials to upload data to MS2 TCDS.

You need to be an administrator to create and edit API Key Profiles.

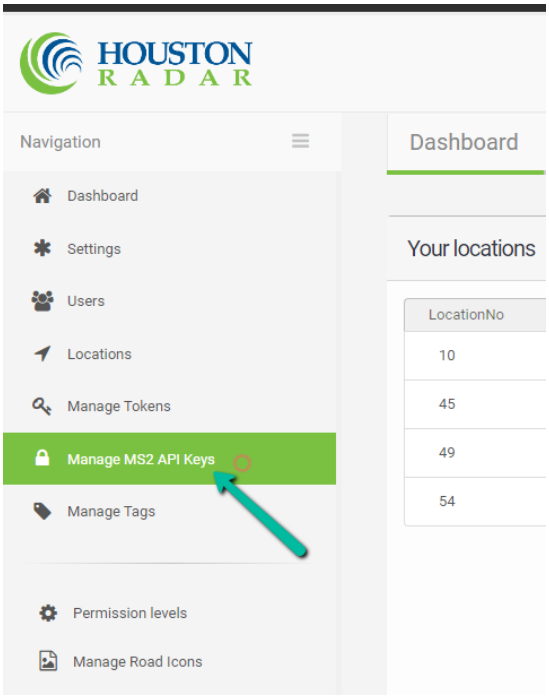
Create

To create an API Key Profile, follow these steps:

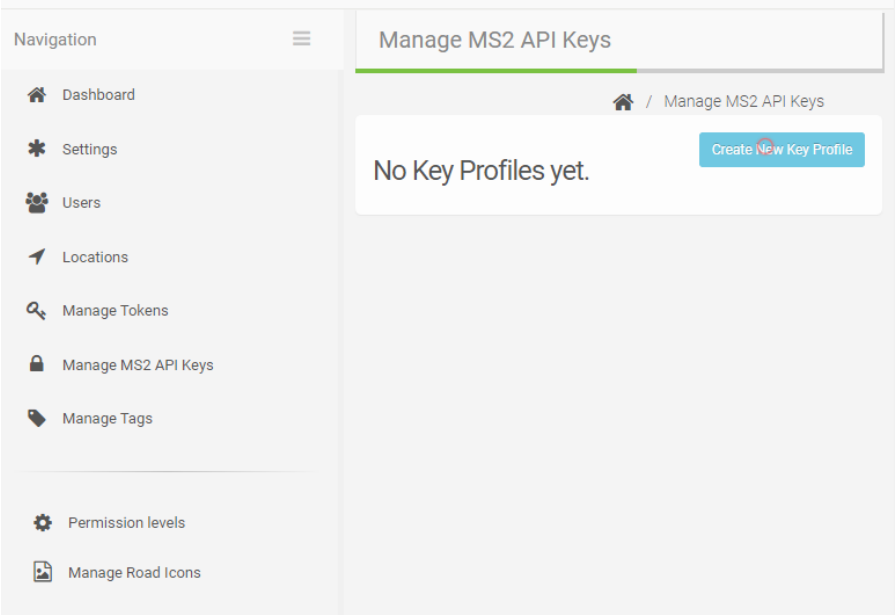
1. Log into your Tetryon account as an administrator.
2. Click on the “Administrator” link on the top right to access the Administrator Dashboard.



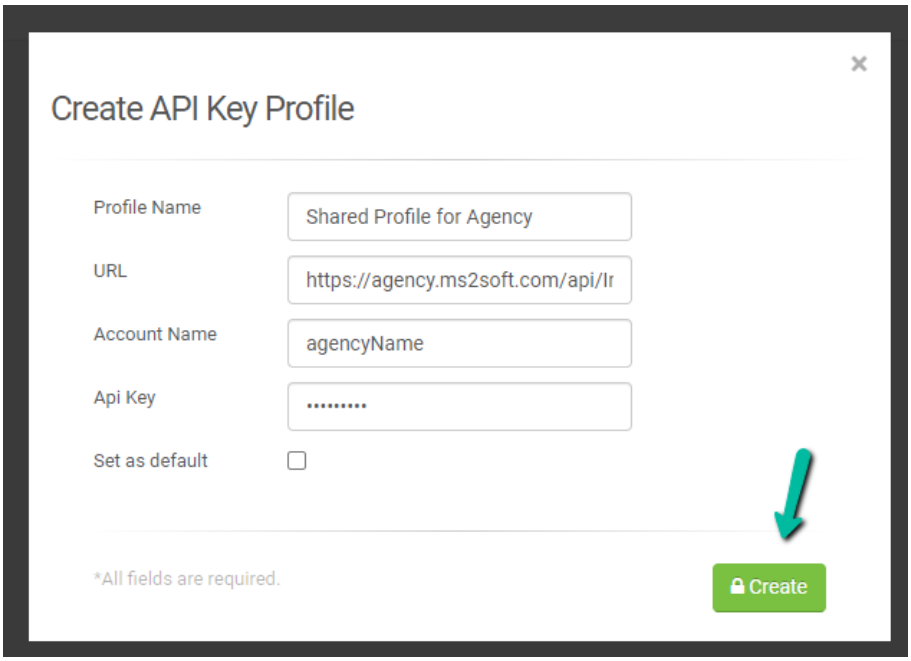
3. In the Administrator Dashboard, click on the “Manage MS2 API Keys”.



4. Click on “Create New Key Profile” to create a new profile.



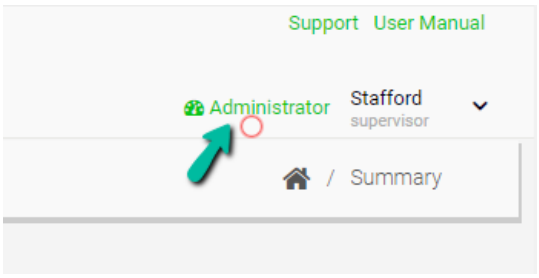
5. Enter details and click on the “Create” button.



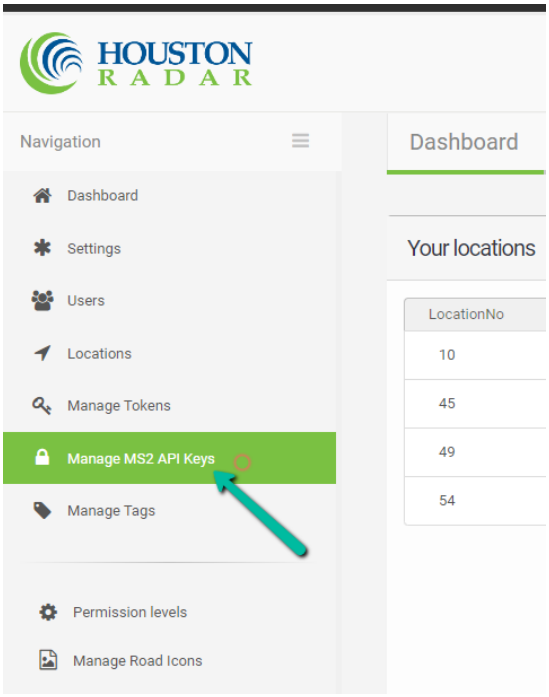
Modify

To modify an API Key Profile, follow these steps:

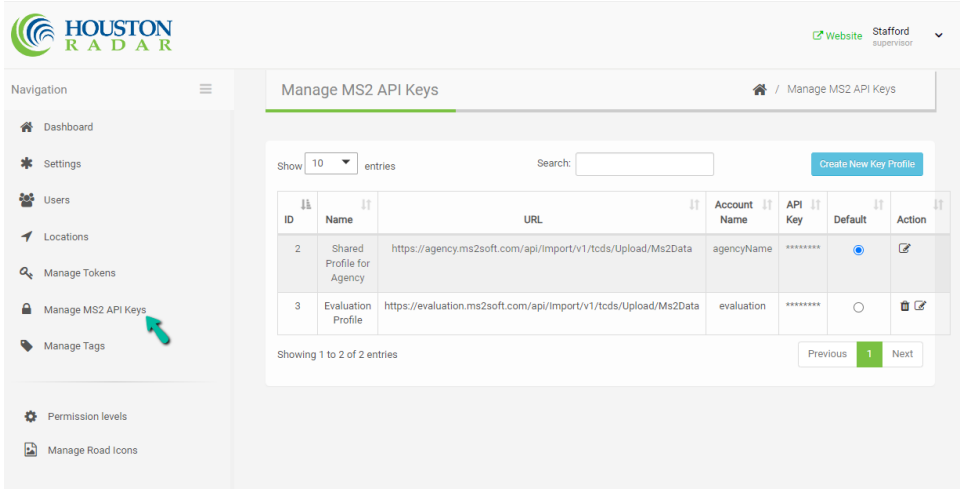
1. Log into your Tetryon account as an administrator.
2. Click on the “Administrator” link on the top right to access the Administrator Dashboard.



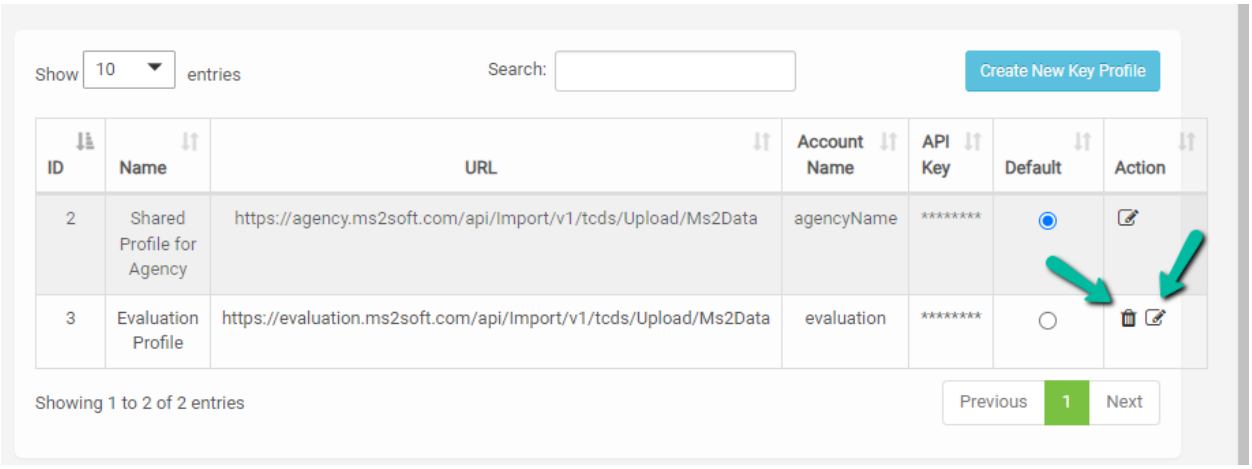
3. In the Administrator Dashboard, click on the “Manage MS2 API Keys”.



4. The API Key Profiles for the account will be displayed.



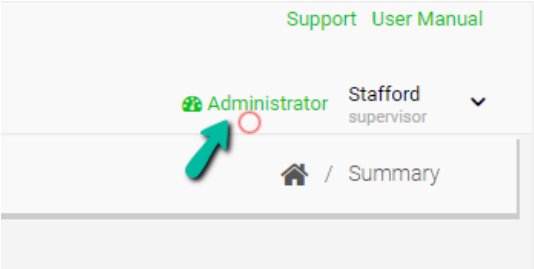
5. To edit or delete a profile, click on the Edit or Delete icons.



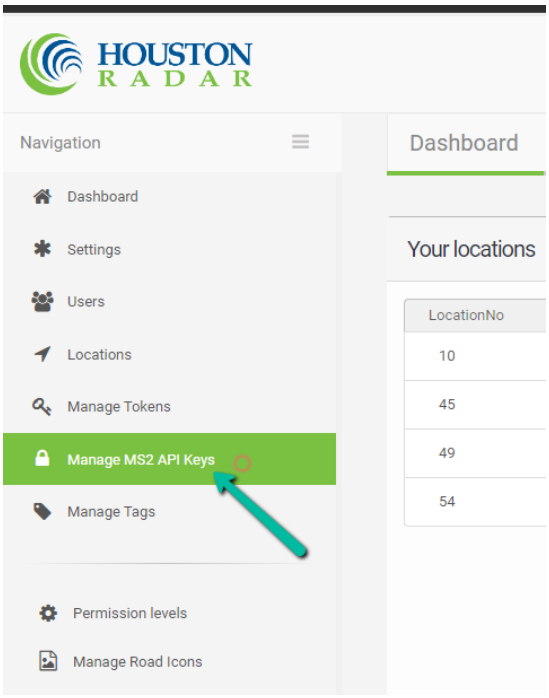
Set Default Profile

If you have one or more profiles defined, you can set one as the default profile. The credentials from the default profile will be used for new Radar locations that need to configured to upload traffic data to MS2 TCDS.

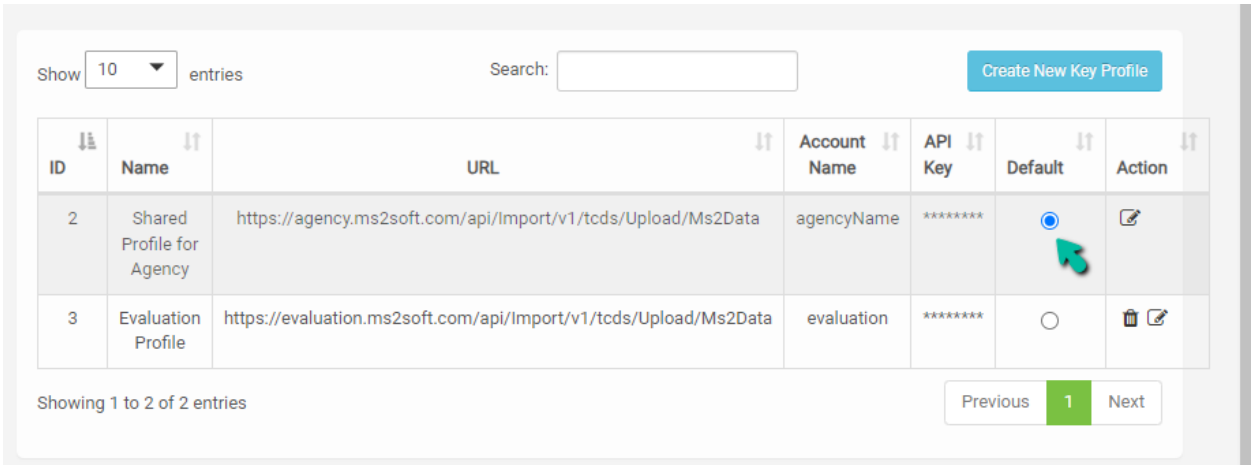
1. Log into your Tetryon account as an administrator.
2. Click on the “Administrator” link on the top right to access the Administrator Dashboard.



3. In the Administrator Dashboard, click on the “Manage MS2 API Keys”.



4. Click on the “Default” Radio button to designate a profile as the default profile.



Appendix A – Glossary of Terms

HR – Houston Radar.

MS2 – MS2Soft.

TCDS – MS2Soft's Traffic Count Database System.

API – Application Programming Interface.

URL – Uniform Resource Locator. Address of a unique resource on the internet.

API Token – Password to authenticate an application to access an API.

UUID – Universally unique identifier.

Appendix B – Support Contact Details

Need help? Have questions?

Houston Radar

Need to enable MS2 TCDS Integration in Tetryon? Call Houston Radar at +1-888-602-3111 and select "Tech Support" option or email contact@houston-radar.com.

MS2Soft

Need to enable Autopolling Extension in MS2 TCDS or get API credentials? Call MS2Soft at +1-734-389-7000 or email mailto:info@ms2soft.com.

Revision History

1. Version 1, September 1, 2023 – Initial Release
2. Version 2, January 25, 2024 – Added section on API Key Profiles