[redacted]

CREATE a SOFT
Intelligent Digital Solutions

Installation and User Guide

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Introduction

This user guide offers full startup and use instructions for Digital Twin Studio (SimTrack) at the [redacted] facility, including registering devices on the Power Packet portal, adding devices to the Modbus, and adding entities for utilization tracking.

Base Navigation

Asset Tracking and **Utilization** pages may be accessed from the home page.

Asset Tracking

Displays asset quantity, locations, and general information about each asset.

Asset Lookup

To view a list of assets by location, select the location from the dropdown menu under **Locations**. Dropdown menus are accessible via the arrows next to location names. Use the text fields to search assets via their UPI/asset tag, badge number, or description. Select **Lookup** to view results.

Asset Count by Type

Displays total asset quantity by selected location.

Utilization Tracking

Select **Utilization** from the home page.

System Summary

Displays total number of assets and average utilization among them as a percentage.

Reporting

Displays asset utilization according to the following categories:

Utilization per Location

Utilization by Time

Utilization by Date

Average Overall Utilization

Average Overall Utilization from the **Summary** section is broken down here into graphs displaying utilization over periods of seven and 3O days.

System

RFID Monitor

Monitors the RFID readers active at a given site. A green box indicates a reader is connected and running, a red box indicates the reader is either off or disconnected. *Last 30 Read Tags* displays a list of recently read tags. IPs Overview displays the statuses and connection records of the RFID readers associated with each IP address.

Power Monitoring

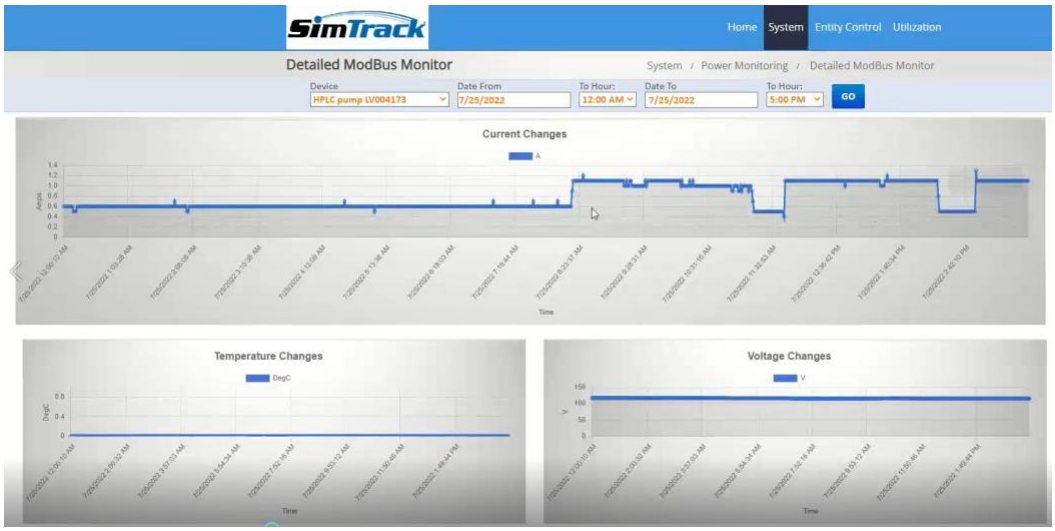
Additional readers or power monitors may be added from this page.

Monitor Bus

Displays fluctuation in current for a specific device, selected from the *Modbus* dropdown menu. Changes in amperage, voltage, and temperature are displayed for each unit, if applicable.

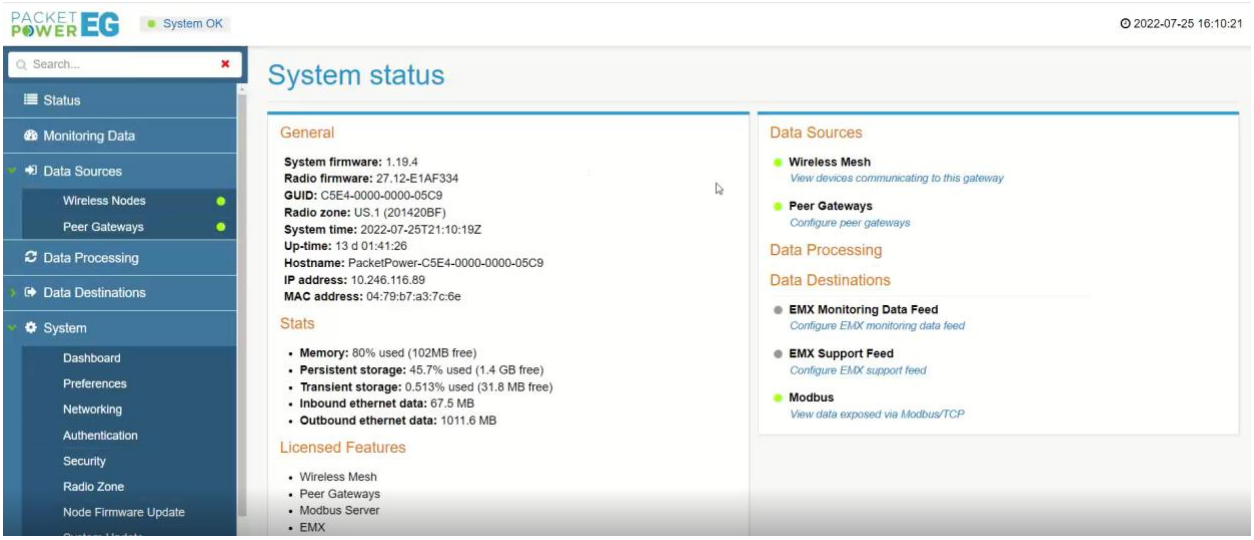
Detailed ModBus Monitor

Displays fluctuations in amperage, voltage, and temperature from a user-defined date and time range. The values on the y-axis which determine idle and usage status are configured on each device.

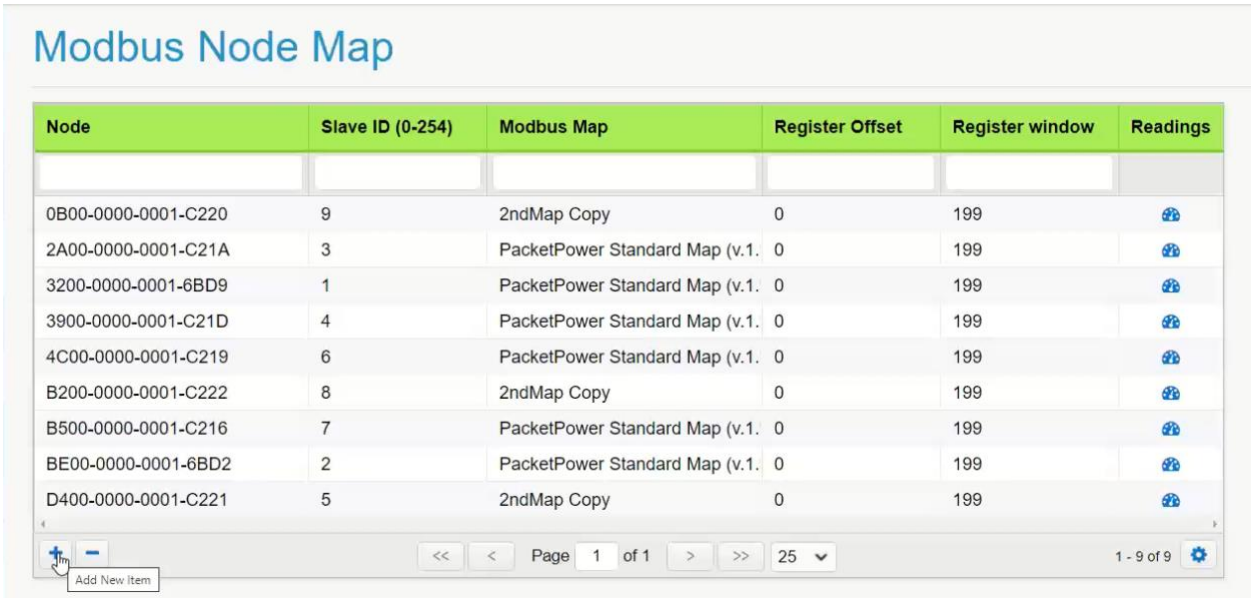


Packet Power

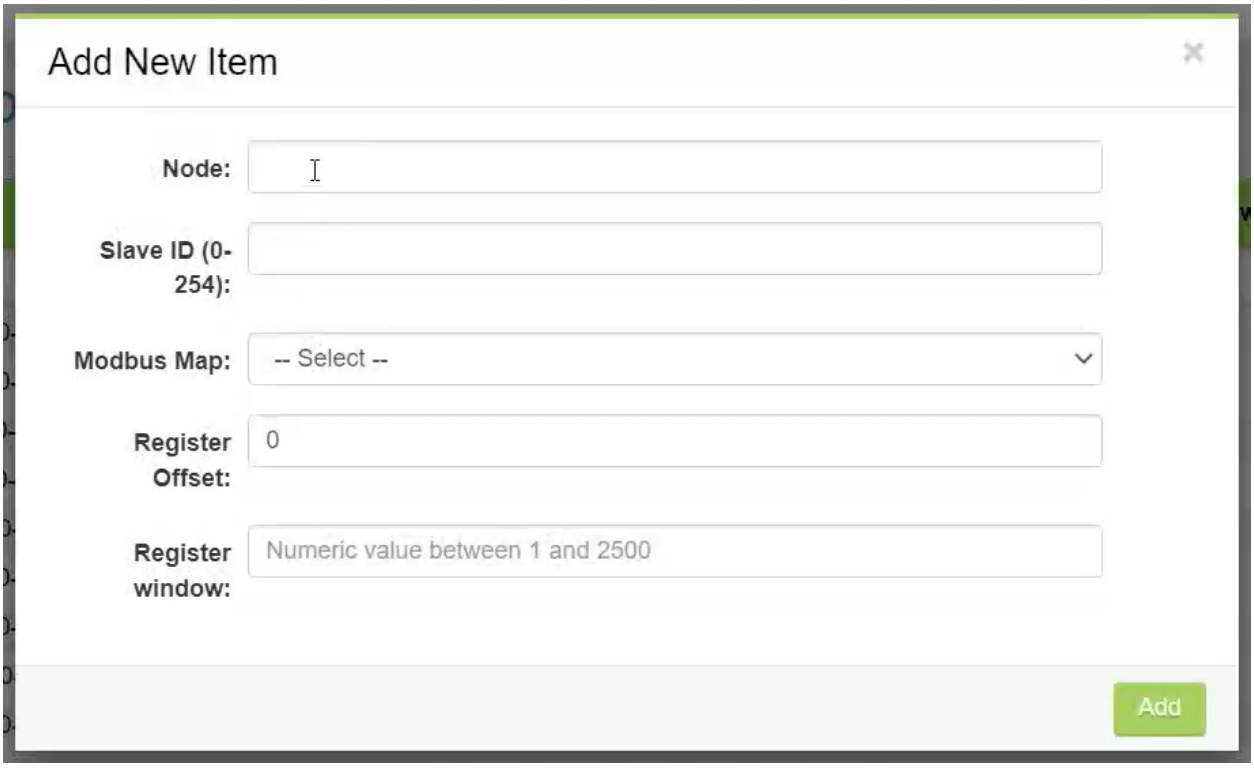
Registering a Device



To register a new device, select the *Data Destinations* dropdown menu, then *Modbus* and *Node Map*.



Select the icon to add a new item.



Node is the identifier for the Node.

Slave ID must be unique, and will correspond to the *ModBus ID* on the SimTrack portal. Care must be taken to not enter a duplicate, as this will override the previous entry.

Register Offset must be set to *0*, and *Register window* must be set to *199*.

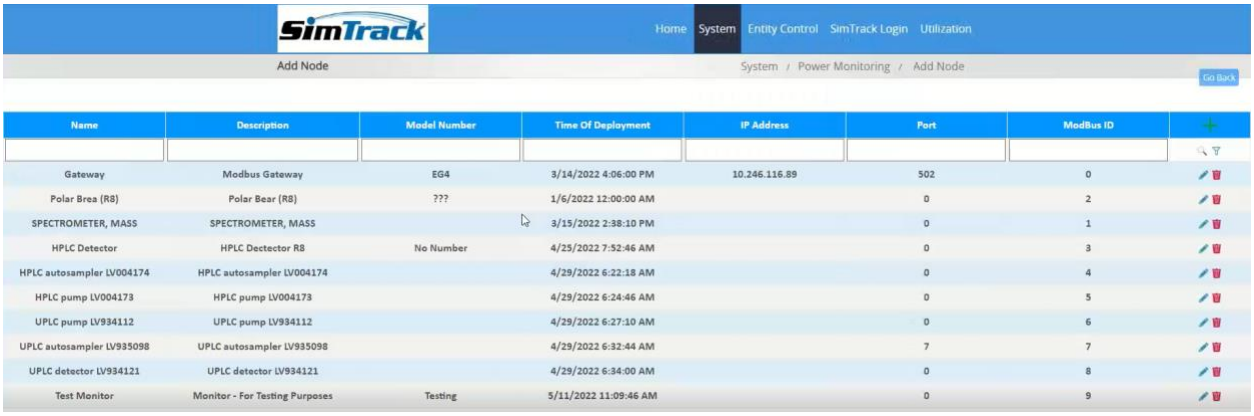
Select *Add* to register the item.

Entity Control

Adding an Entity

To add a new entity, the entity must first be registered as outlined in **Registering a Device** (pg. 5).

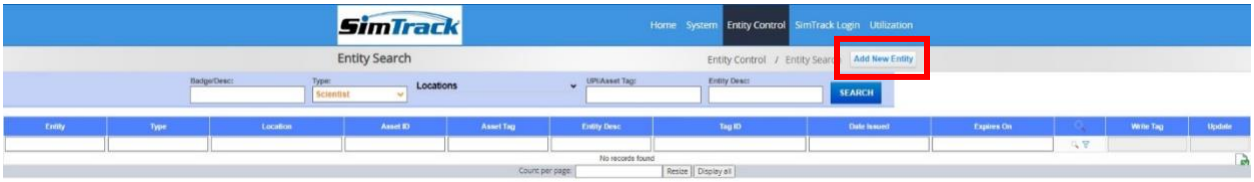
Once an entity has been registered in the gateway, hover over *System*, then *Power Monitoring* and select *Add Node*.

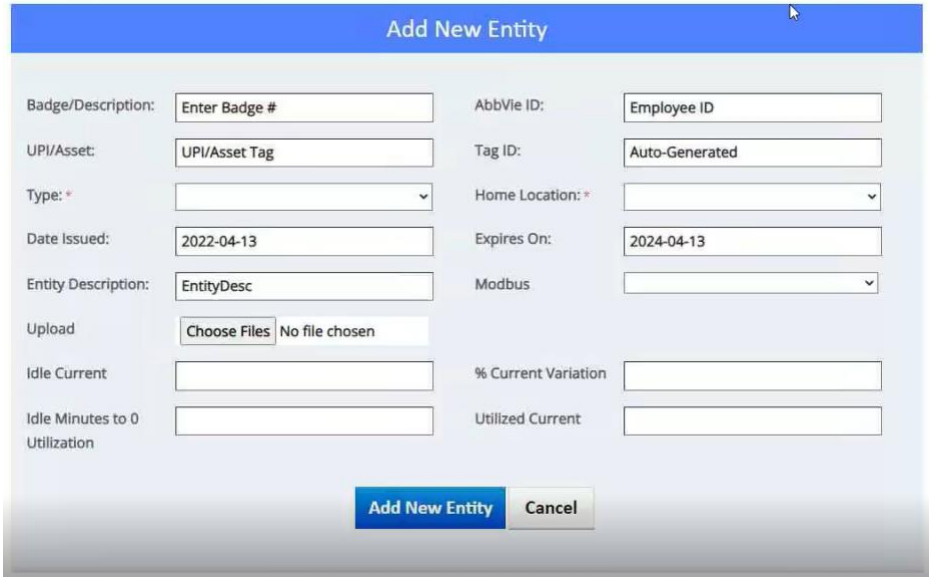


Name	Description	Model Number	Time Of Deployment	IP Address	Port	ModBus ID
Gateway	Modbus Gateway	EG4	3/14/2022 4:06:00 PM	10.246.116.89	502	0
Polar Brea (R8)	Polar Bear (R8)	???	1/6/2022 12:00:00 AM		0	2
SPECTROMETER, MASS	SPECTROMETER, MASS		3/15/2022 2:38:10 PM		0	1
HPLC Detector	HPLC Dectector R8	No Number	4/25/2022 7:52:46 AM		0	3
HPLC autosampler LV004174	HPLC autosampler LV004174		4/29/2022 6:22:18 AM		0	4
HPLC pump LV004173	HPLC pump LV004173		4/29/2022 6:24:46 AM		0	5
UPLC pump LV934112	UPLC pump LV934112		4/29/2022 6:27:10 AM		0	6
UPLC autosampler LV935098	UPLC autosampler LV935098		4/29/2022 6:32:44 AM		7	7
UPLC detector LV934121	UPLC detector LV934121		4/29/2022 6:34:00 AM		0	8
Test Monitor	Monitor - For Testing Purposes	Testing	5/11/2022 11:09:46 AM		0	9

Select the + icon and add the node with its *Description*, *Model Number*, and the *ModBus ID* which corresponds to the *Slave ID* defined in the *Modbus Node Map*.

An entity with the defined *Modbus* may now be created. Select *Add New Entity* from the *Entity Search* page.

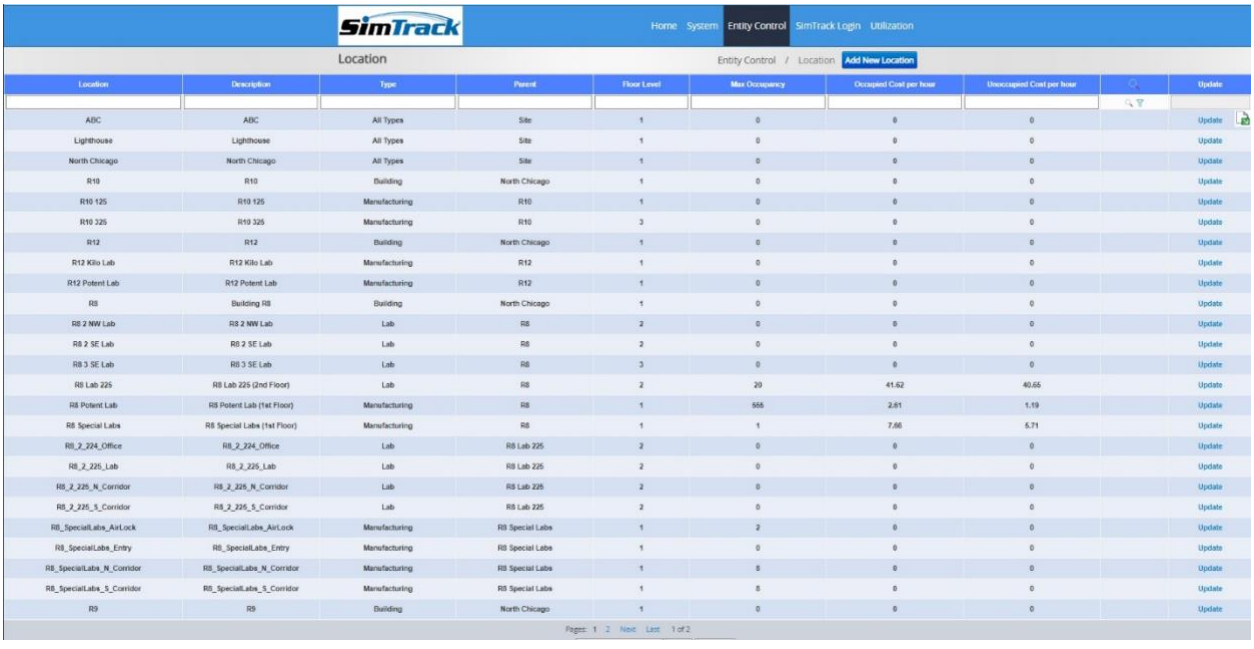




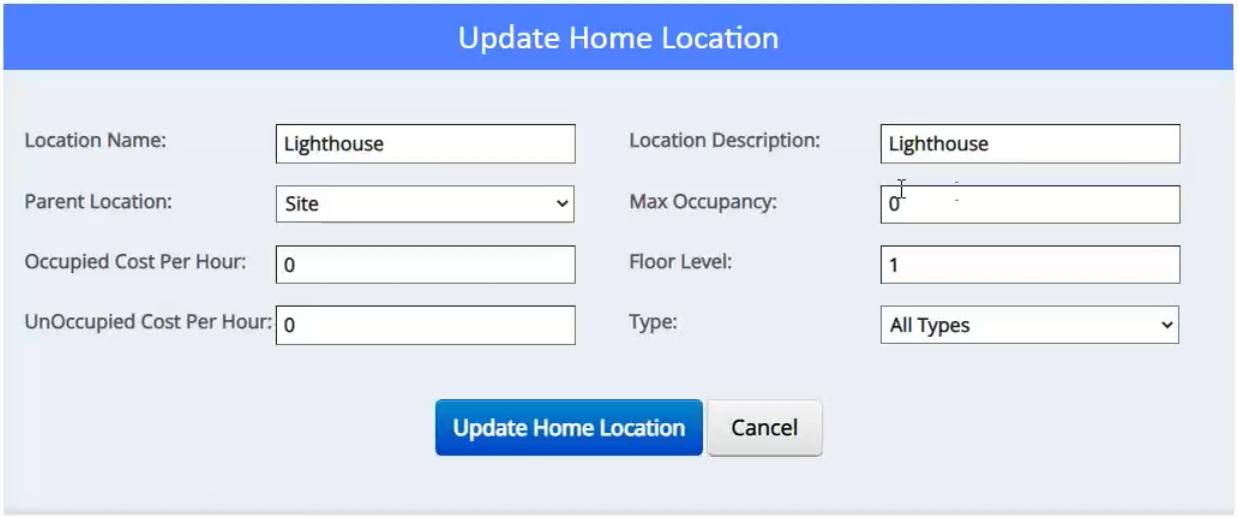
The Modbus will now be listed under the *Modbus* dropdown menu. Select *Add New Entity* to add the entity. The entity is now available for tracking under *Utilization*.

Home Location

Displays a list of all locations. Select *Update* in a location's row to modify that location.

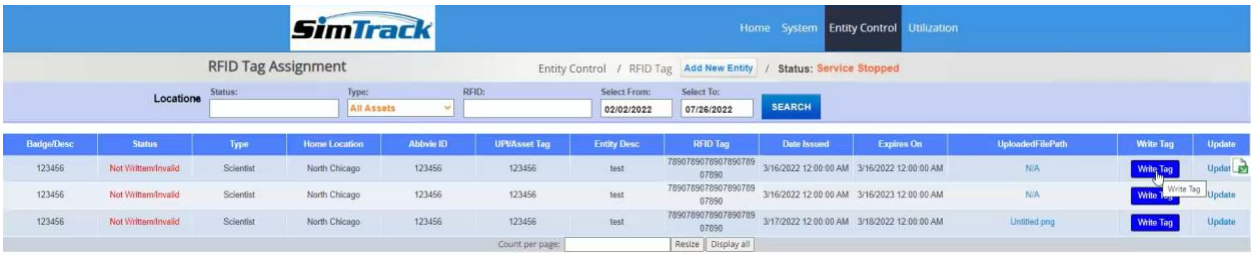


Update Home Location



RFID Tag Assignment

Write tags or instruct tablet to write tags. Select *Write Tag* to command tablet to write a tag. Select *Add New Entity* to add a new entity.



Updating Entities

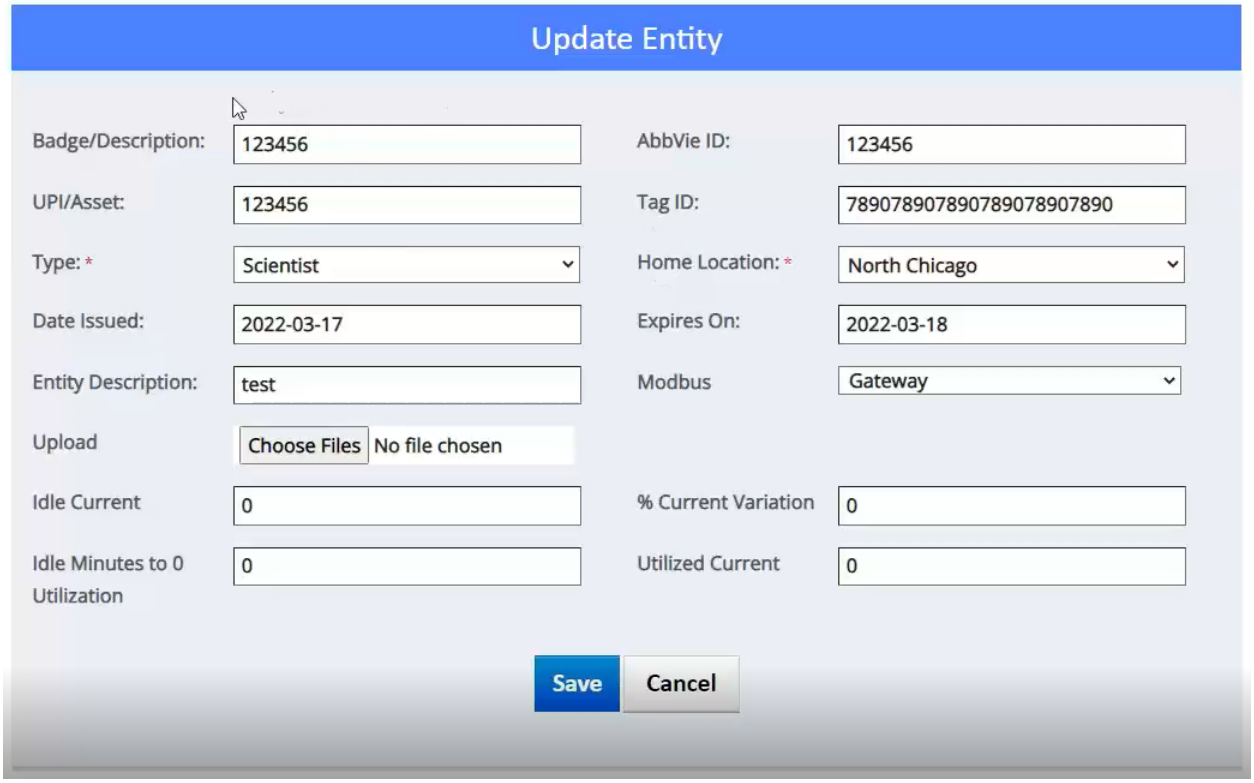
Select *Update* in an entity's row to update the entity. The value in the *Tag ID* field is what is written to the RFID device. The *Modbus* field refers to the parent which is providing the entity with power utilization data.

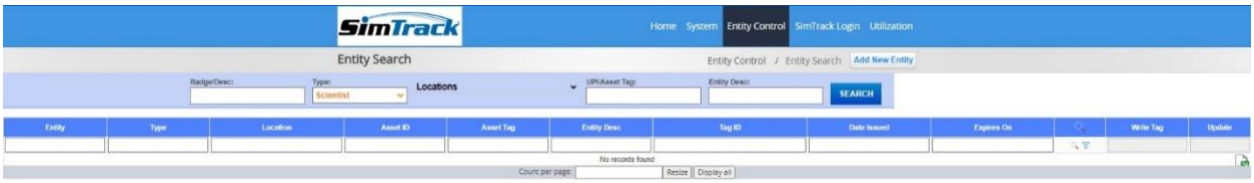
The *Upload* field allows an image to be uploaded for display.

The *Idle Current*, *% Current Variation*, *Idle Minutes to 0 Utilization*, and *Utilized Current* fields are where current levels are defined.

- *Idle Current* defines the current level when the device is not in use.
- *% Current Variation* defines acceptable current variance, expressed as a percentage.

- *Idle Minutes to 0 Utilization* defines the time, measured in minutes, that the device must be at the *Idle Current* level in order to be considered not in use.
- *Utilized Current* defines the current level when the device is in use.



Entity Search

Search for entities by badge number, location, type, or description.