User Manual

marccloud.live

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Overview

Here you'll find a quick overview of the *marccloud.live* platform

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The *marccloud.live* platform is an Industry 4.0 IIoT (Industrial Internet of Things) platform with built in apps for assets & equipments for managing uptime, efficiency, productivity, condition monitoring, control, predictive & preventive maintenance.

- **Supported Browsers**

Marcloud.live platform can be accessed with the following browsers. For an optimal user experience we recommend using Google Chrome.

Browser	Platform	Version
Google Chrome	Cross platform	78 or higher
Mozilla Firefox	Cross platform	70.0.1 or higher
Opera	Cross platform	65.0.3467.48 or higher
Apple Safari	Mac OS X	12.1 or higher
iOS Safari	iOS	12.4 or higher
Chrome for Android	Android	77 or higher
Microsoft Edge	HTML	40.15063 or higher

- **Mobile Application**

A lite version of *marccloud.live* platform can be downloaded on mobile devices. Both iOS and Android version can be downloaded from their respective app stores

On iOS devices

- Open the App Store
- Search *marc.energy*
- Tap the get-icon
- App store will download the application
- The marc.energy mobile lite app will now be accessible from your home screen
- Or you can click here to go to app page on app store directly.

On Android devices

- Open the Google Play Store
- Search *marc.energy*
- Tap the install-icon
- Play store will download the application
- The marc.energy mobile lite app will now be accessible from your home screen.
- Or you can click here to go to app page on app store directly.

> **Suggestion: App Upgrade**
>
> iOS and Android application are upgraded on a continuous basis. We recommend you to update the app on a regular interval.

- **Used as Mobile Web-Application**

The *marc.energy* platform website can be opened as a web-application on most of the mobile devices. The application can be opened from the home-screen of your device.

On iOS devices

- Open the Safari browser
- Navigate to www.marccloud.live
- Tap the menu-icon
- In the menu, tap on the "Add to Home Screen" option
- Choose "Add"
- The marc platform will now be accessible from your home screen

On Android devices

- Open the Chrome browser
- Navigate to www.marccloud.live
- Tap the menu-icon (three dots)
- In the menu, tap on the "Add to home screen" option
- Choose "Ok"
- The marc platform will now be accessible from your home screen

Getting Started

Create an user account

To start using the marccloud.live, you will need an user account. There are two ways of setting up an account.

- You can create an user account and a new company by purchasing the license after which you will be given the admin login
- You can join an existing company by being invited by the admin user already in that company.

In both cases you will receive a verification link in your registered email. To complete account registration you will have to click the verification link and set-up the login credentials i.e. username and password.

> **Information: Password Policy**
>
> *marccloud.live* platform gives access to no one as *user* password is set by the user himself **Marccloud.live platform is only accessible through verified accounts only. The user himself choose the password for their accounts.**

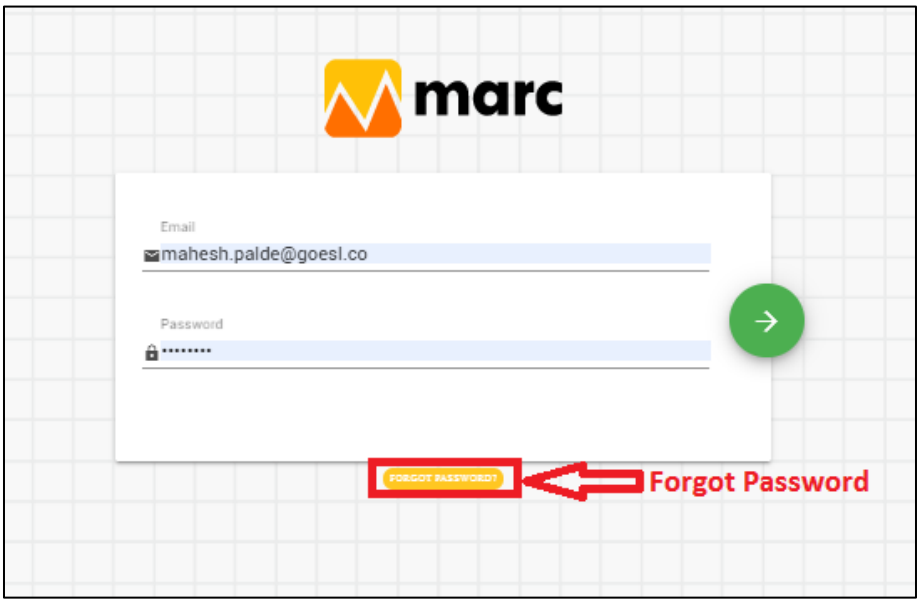
> **Information: No email?**
>
> Be sure to check your *spam folder* in the unlikely case that you haven't received an email in your inbox.

Portal Login

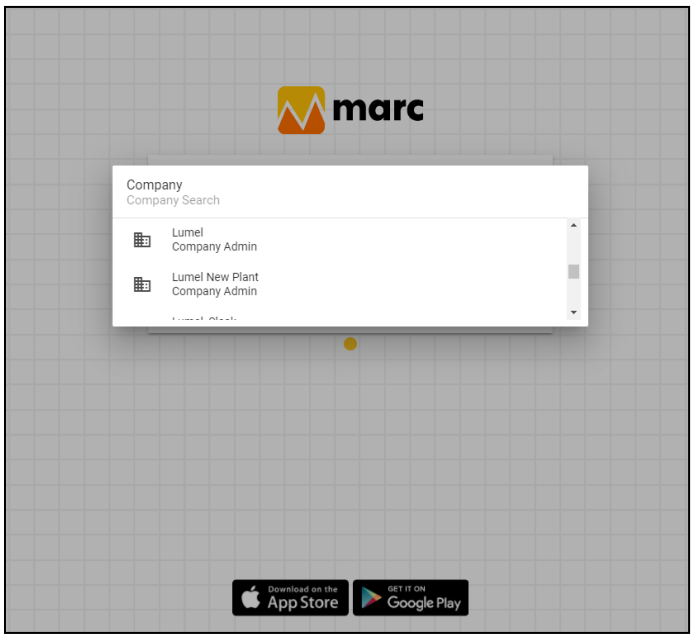
Once you have an user account, it's very easy to login. Just go to www.marccloud.live and log in with your registered email address as Username and Password combination set in registration step.

Information: Forgot your password

You can use the recovery form to request a password *recovery*. We will then send you instructions for setting up a new password on email.



If user has multiple user accounts under various companies, then the user has to select a company in which he has to login.



Adding New Nodes:

If a new node is supposed to be added in a new location then add the location as per following steps.

Location & Groups

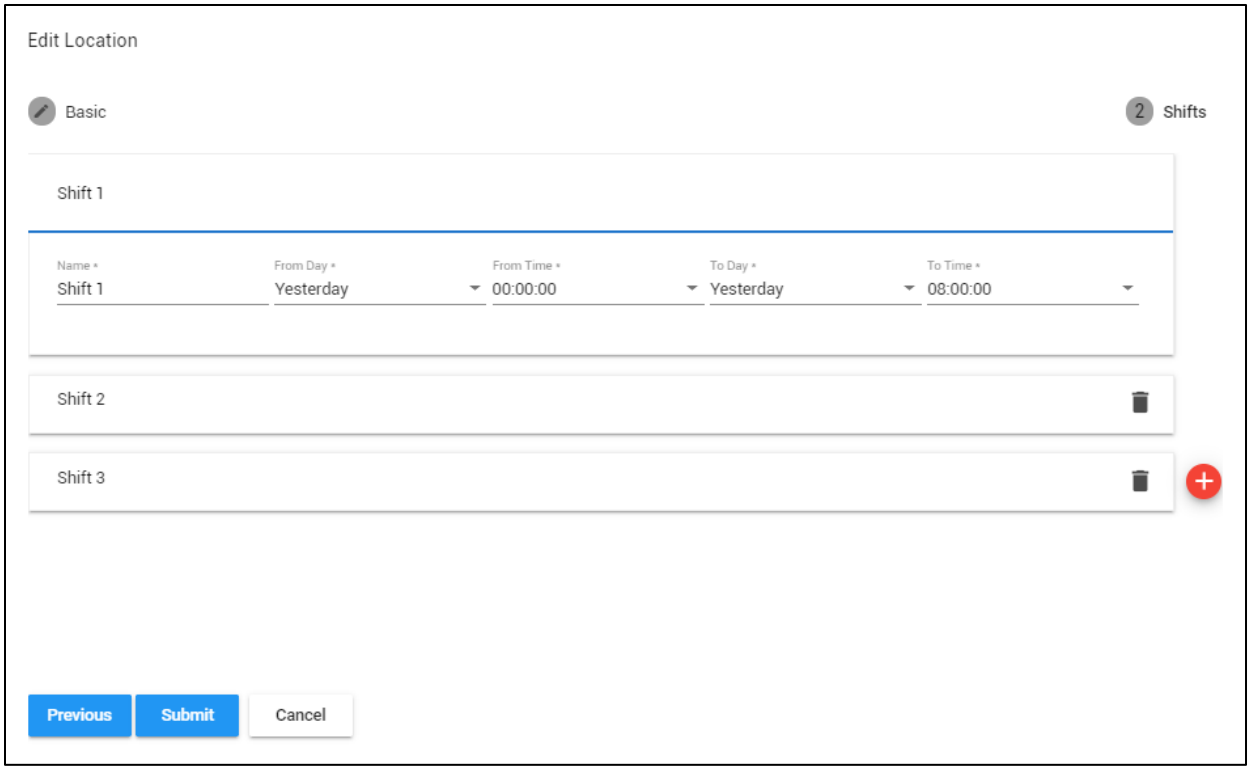
Users or *Admins* have to configure *Location* and *Groups* for a *Company.*
Go to *Location & Groups* under "*Settings>>Location & Group ".*

Location

Locations are the hierarchical mapping for the physical location of any particular company. *Locations* can be started with physical plants, building, and go to floors, rooms, panel, shop floors under any parent location. User have to add shifts for particular locations. This shift time gets reflected in reports.

- Add new location by clicking on plus (+) red sign at the bottom right of the screen.

- User has to add shifts for particular location. This shift time gets reflected in reports.



Locations are where *Nodes* are mapped, enabling search for reporting.

Locations represent the actual physical placement of the *Nodes*. It helps to find the exact node locations in the reports.

Group

Group is the hierarchical mapping for virtual grouping of *Nodes* of any particular company. Group can be created where *Nodes* can be mapped irrespective of their location ie. Two Nodes from two physical location can be mapped to a Group.

Example: Two plants in Germany & New York with two physical locations and their hierarchies respectively with Head office in London are mapped in such a way that the lighting load of both the plants are mapped to a Group calling eg. Lighting to view Group Lighting load in reports.

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Adding Gateway

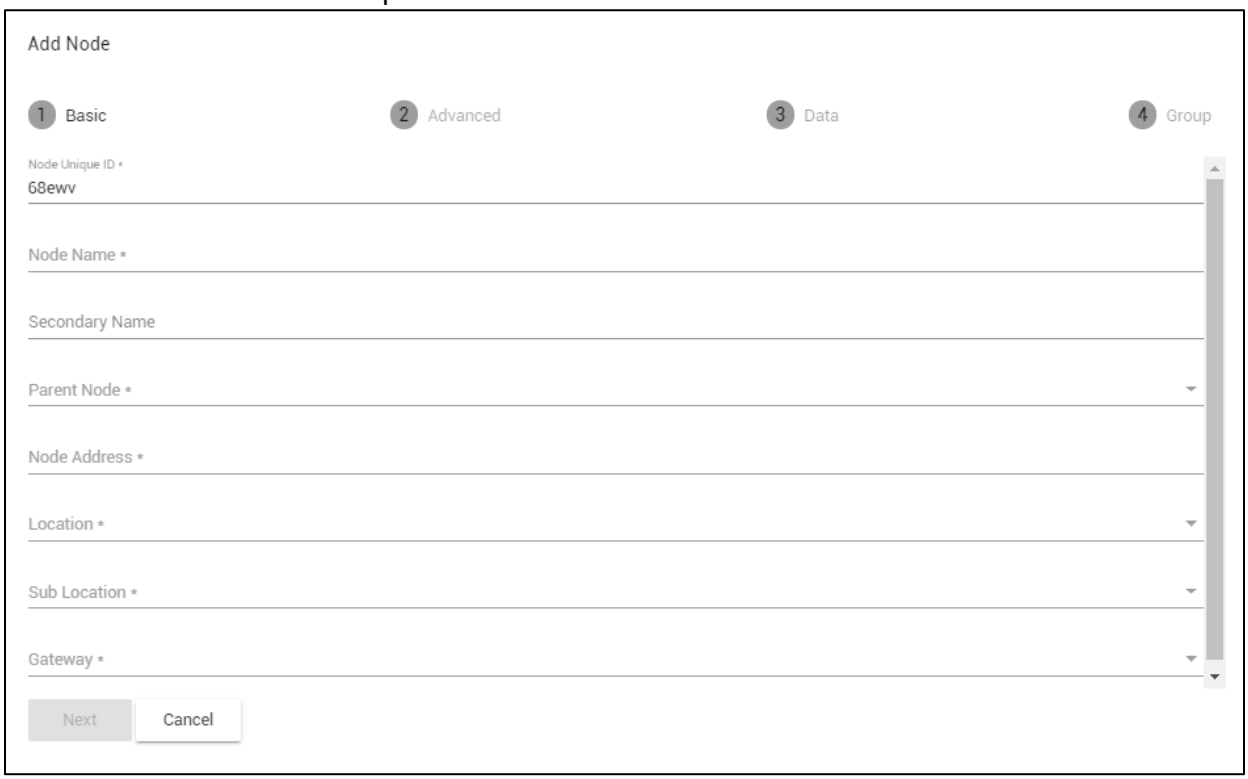
marccloud.live platform requires *Gateways* to send data of the *Nodes* to marccloud.live cloud. marccloud.live platform will provide unique ids for each *gateway* used at site.
For adding new Gateway go to “Settings >> Gateway” and click the plus sign(+)in red at the bottom right side of the screen and fill the required information as shown below:

Gateway model options

- marc.gateway LAN+GPRS base
- marc.gateway GPRS base
- marc.gateway Lumel SM61
- marc.gateway agent

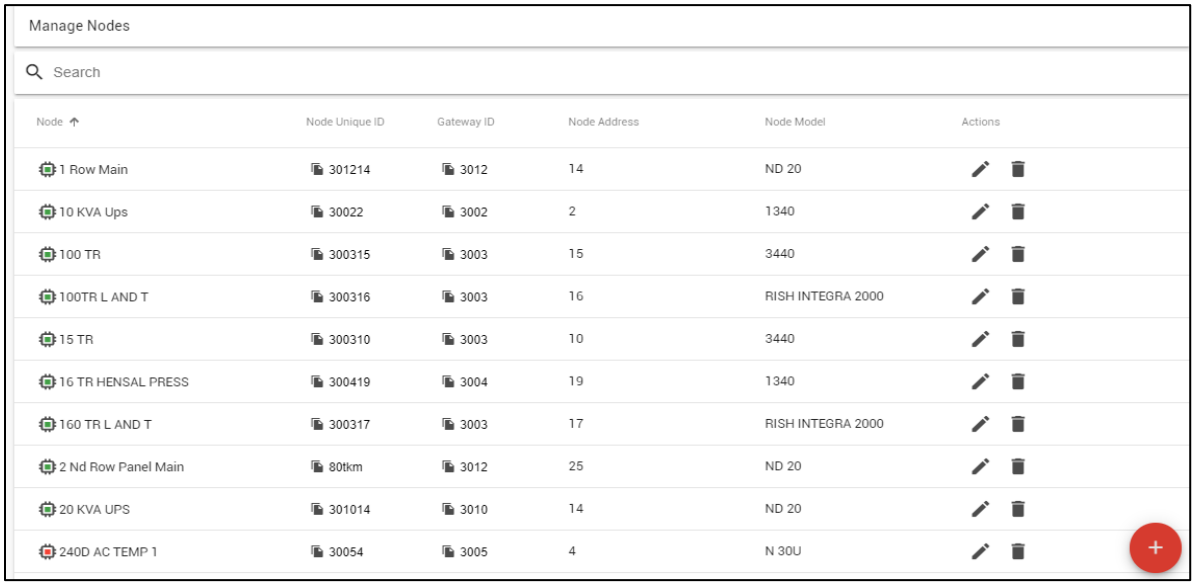
Manage Nodes

Managing your Node from “Settings>> Node” and click the plus sign(+) in red at the bottom right side of the screen.
User has to fill the form & required information related to node or meter.



marccloud.live *platform* will provide unique alphanumeric ids for each *node* used at site. Even the same make & same model will have different unique alphanumeric id. User has to fill all the details.

After the node is added below screen will appear. User can add multiple nodes by clicking on the right side red plus button.



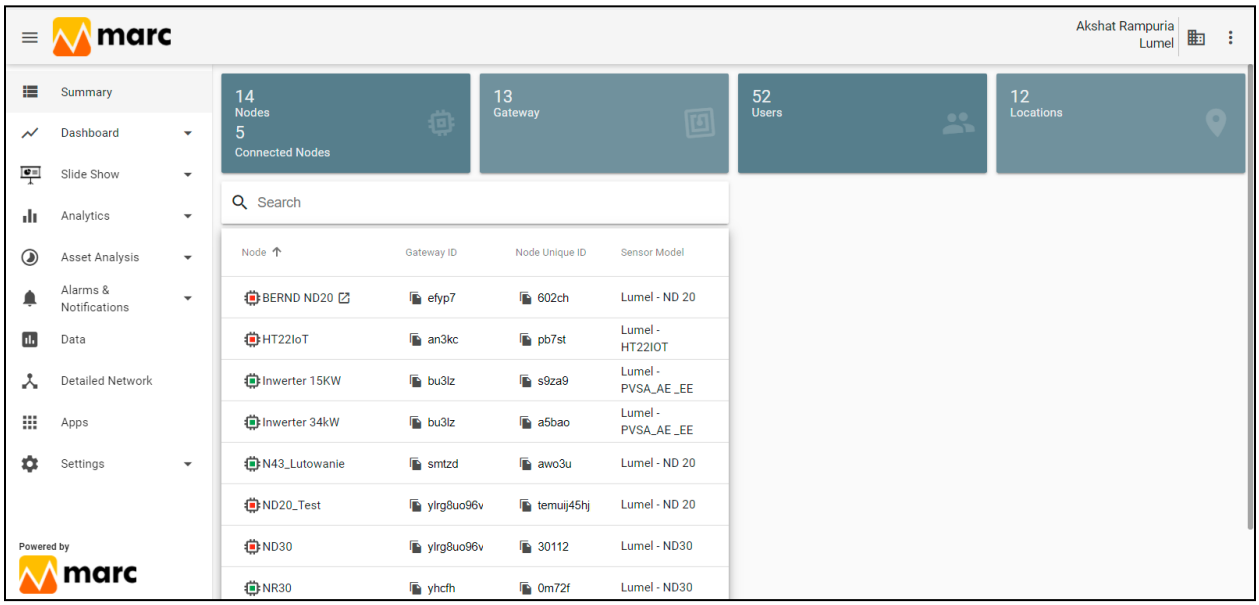
User & Authorization

User

To add User navigate “Setting>>User” single user account can access company across the marc platform. Admin user can add multiple users by clicking on the right side red plus button under the targeted company.

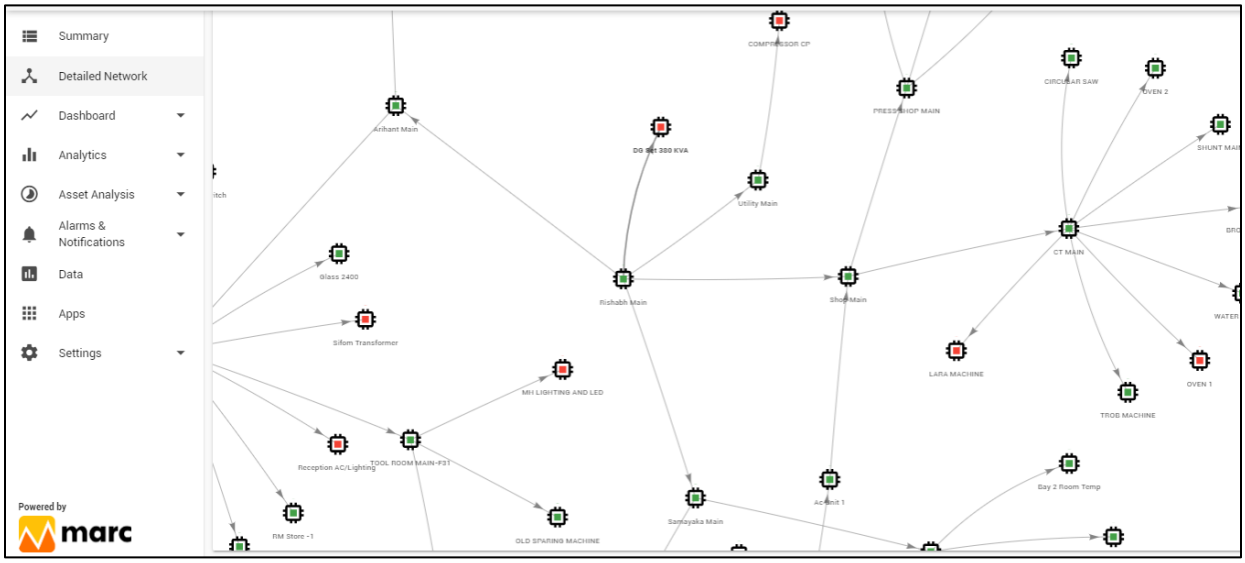
Summary

In summary user gets basic information of the system, like number of nodes connected and their live status of communication, Meter ID, Meter Model, Number of gateways, Users, Location configured in the system.



Detailed Network

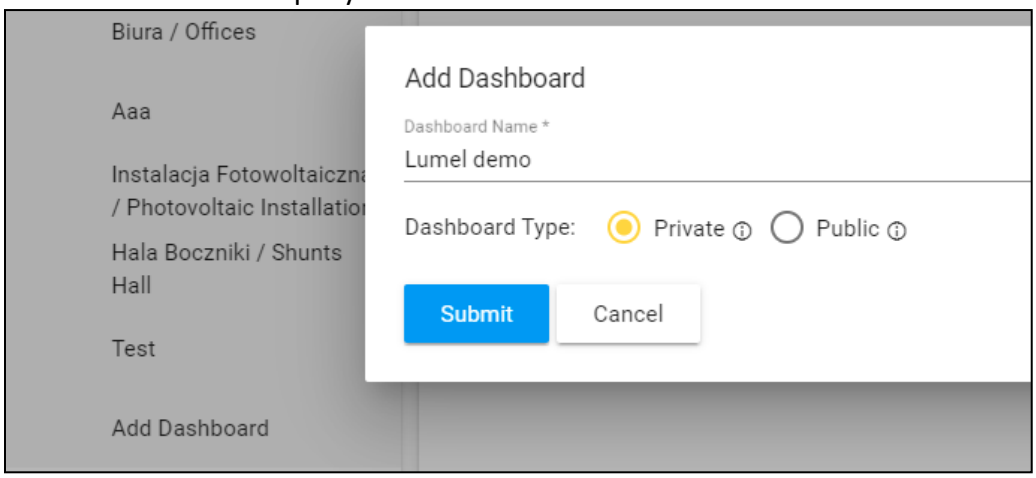
In detailed network user gets the hierarchy of nodes as per their parents node.
Example- “Main Incomer” supply gets distributed in 3 parts of sub-incomer. So “Main Incomer is parent node for 3 sub-incomers. This setting is done at the time of node addition.



Dashboard

Once the setup of marccloud.live is completed and all the *nodes* are configured, it is time to configure the *Dashboard.*
marccloud.live *platform* offers multiple widgets to visualize the real time data. There are different 10 widgets to present real time data visualization.
User can access the widgets after clicking on “Dashboard” & follow below steps.

- In Dashboard user can add new dashboard by clicking on “Add Dashboard” submenu (last under “Dashboard” main menu). User have to give specific name for each personalized dashboard and make it as private if he doesn't want to share it or visualize to others users or make it public to visualize his dashboard design to all other users within the company.



- By clicking on the pencil icon, user can change the mode of dashboard to edit mode.
- User has to start using different available widgets to design his own dashboard as shown below:

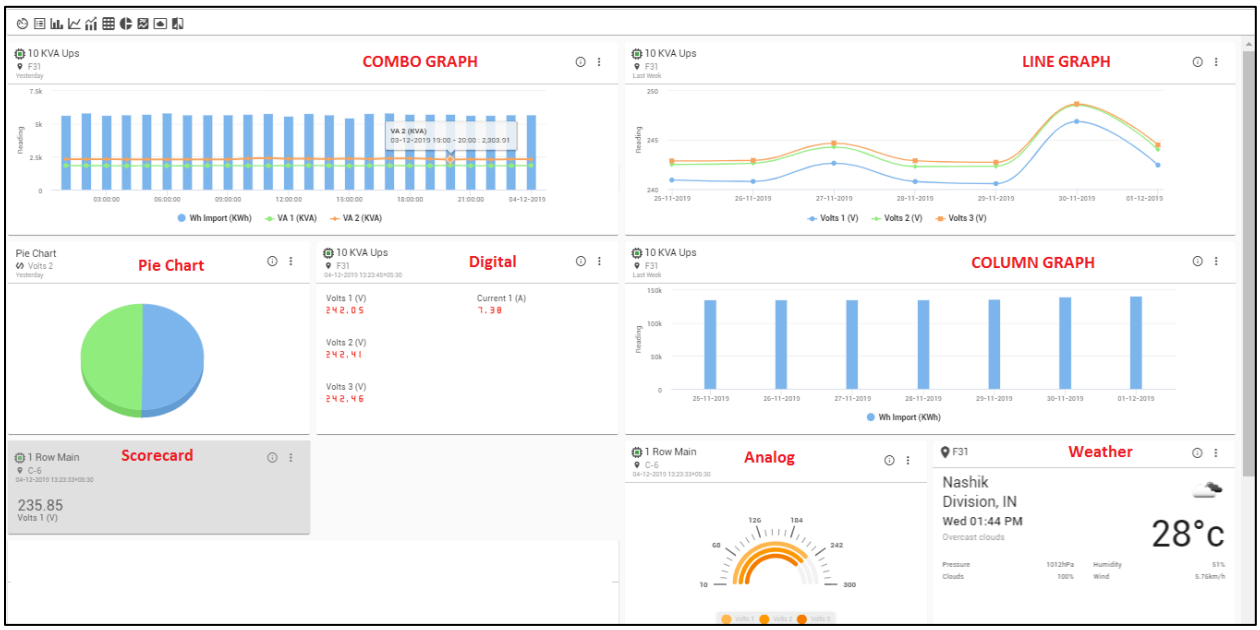
Widget	Description	Setup

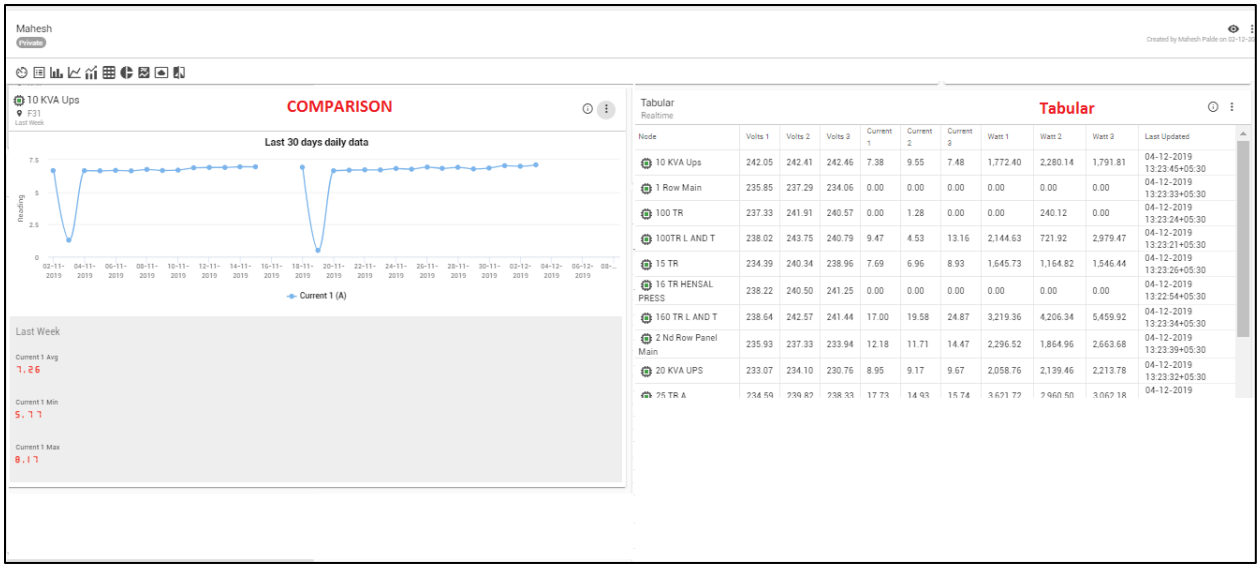
Analog View	Shows a current/historical value in analog format	When you select the "*Analog*" view you can select the *node and parameter* (Max 3) you want to see. You can even select interval (Real time, Today, Yesterday, This week, Last week) and parameter value (Min,Max,Average).
Digital View	Shows a current/historical value in digital format	When you select the "*Digital*" view you can select the *node and parameter*(Max 6) you want to see. You can select interval (Real time, Today, Yesterday, This week, Last week)and parameter value (Min,Max,Average).
Column Graph	Shows a current/historical value of cumulative parameter in Column graph format	Select the *node and parameter(Max3)* you want to see in the graph with interval (Real time,Today,Yesterday,This week,Last week) and parameter value (start,stop reading and difference).
Line Graph	Shows a current/historical value of Instantaneous parameter in line graph format	Select the node and parameter(Max3) you want to see in the graph with interval (Real time,Today,Yesterday,This week,Last week) and parameter value (start,stop reading and difference).
Combo Graph	Shows a current/historical value of Cumulative and Instantaneous parameter in line graph format	Select the *node and parameter(Max3)* you want to see in the graph with interval (Real time,Today,Yesterday,This week,Last week) and parameter value (start,stop reading, difference, Min,Max,Average).

Tabular	Shows a current/historical value of Cumulative and Instantaneous parameter in table format	Select the number of *nodes and number of parameters* you want to see in the table with interval (Real time,Today,Yesterday,This week,Last week) and parameter value (start,stop reading, differance, Min,Max,Average)
Pie Chart	Shows a current/historical value of Instantaneous parameter in Pie chart format.	Select the number of *nodes and parameter* you want to see in the pie chart with interval (Real time,Today,Yesterday,This week,Last week) and parameter value (Min,Max,Average)
Scorecard	Shows a current/historical value in scorecard format	Select the *node and parameter* you want to see in the scorecard. with interval (Real time,Today,Yesterday,This week,Last week) and parameter value (start,stop reading, difference, Min,Max,Average).
Weather	Shows a current weather condition in this widget.	Select the location for which the user wants to see weather condition,
Comparison	Shows a current/historical value in comparison format	Select the node and parameter which the user wants to see in different interval(Real time,Today,Yesterday,This week,Last week) and parameter value (start,stop reading, difference, Min,Max,Average).

- Below screen are common for all 10 widgets for selecting the node, parameter and Interval.

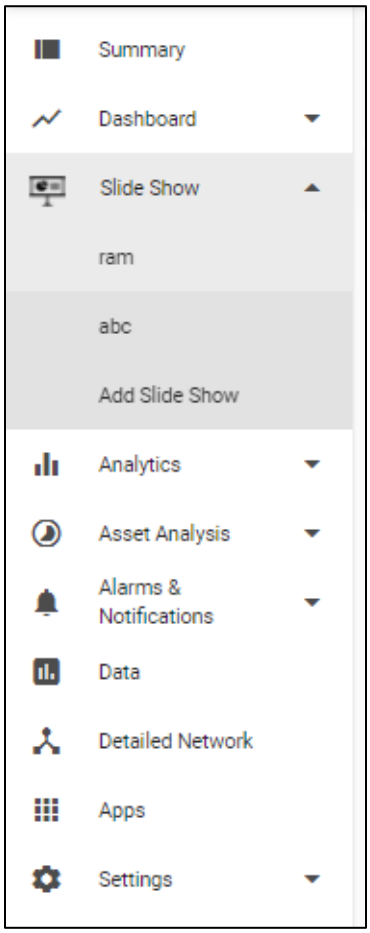
- The final dashboard sample using all available widgets will look like:

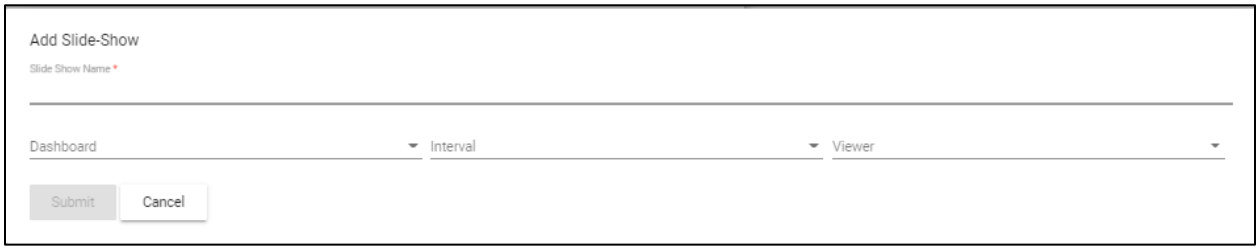



Mahesh
Private
10 KVA Ups
F31
Last Week
COMPARISON
Last 30 days daily data
Reading
Current 1 (A)
Last Week
Current 1 Avg
7.26
Current 1 Min
5.77
Current 1 Max
8.17
Tabular
Realtime
Tabular
Node
Volts 1
Volts 2
Volts 3
Current 1
Current 2
Current 3
Watt 1
Watt 2
Watt 3
Last Updated
10 KVA Ups 242.05 242.41 242.46 7.38 9.55 7.48 1,772.40 2,280.14 1,791.81 04-12-2019 13:23:45+05:30
1 Row Main 235.85 237.29 234.06 0.00 0.00 0.00 0.00 0.00 0.00 04-12-2019 13:23:33+05:30
100 TR 237.33 241.91 240.57 0.00 1.28 0.00 0.00 240.12 0.00 04-12-2019 13:23:24+05:30
100TR L AND T 238.02 243.75 240.79 9.47 4.53 13.16 2,144.63 721.92 2,979.47 04-12-2019 13:23:21+05:30
15 TR 234.39 240.34 238.96 7.69 6.96 8.93 1,645.73 1,164.82 1,546.44 04-12-2019 13:23:26+05:30
16 TR HENSAL PRESS 238.22 240.50 241.25 0.00 0.00 0.00 0.00 0.00 0.00 04-12-2019 13:22:54+05:30
160 TR L AND T 238.64 242.57 241.44 17.00 19.58 24.87 3,219.36 4,206.34 5,459.92 04-12-2019 13:23:34+05:30
2 Nd Row Panel Main 235.93 237.33 233.94 12.18 11.71 14.47 2,296.52 1,864.96 2,663.68 04-12-2019 13:23:39+05:30
20 KVA UPS 233.07 234.10 230.76 8.95 9.17 9.67 2,058.76 2,139.46 2,213.78 04-12-2019 13:23:32+05:30
25 TR A 234.59 239.82 238.33 17.73 14.93 15.74 3,621.72 2,960.50 3,062.18 04-12-2019

Slide Show

User can create a slideshow by using created dashboards. Company Admin users can create a slideshow using multiple dashboards to scroll with them one by one periodically as per time set under “Interval” settings. Also Admin users can dedicate the created slideshow to any user other from “Viewer” settings. Further allotted users can show the same on screen.





Historical Data Analysis using “Analytics” main menu:

The historical data reports shows the data that is logged over a period of time selected by you. Below is a step-by-step guide on how to configure a data report.
Users can access all widgets from “Analytics>>Consumption/trends/Time Slice/SCADA/Custom Excel.
In our *marccloud.live platform* we use 5 widgets to represent the historical data.

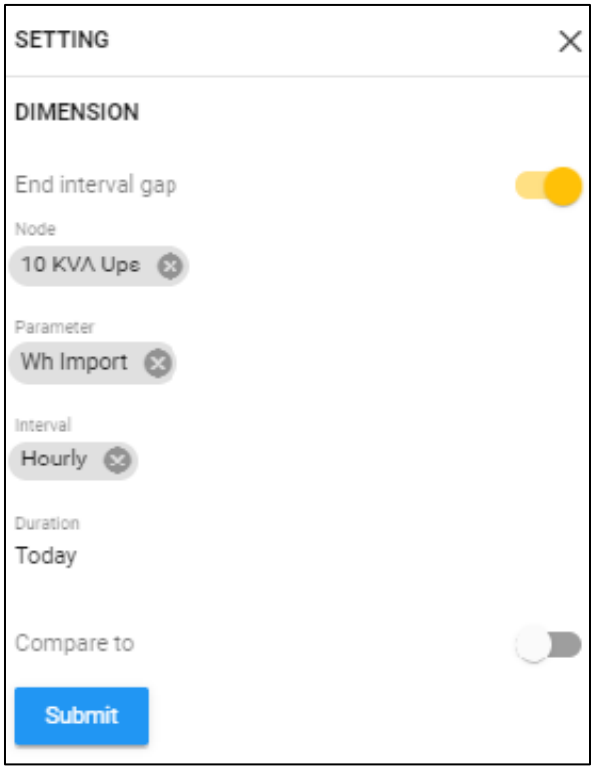
Widget	Description	Setup
Consumption	Shows consumption of various cumulative parameters for selected node. a. Single Node multi parameter report b. Multi Node single parameter report	Select the node of which consumption you want to see and of any date with different time intervals and duration. You can compare the consumption of two nodes by generating reports through multi node option.
Trend	Shows trends of various instantaneous parameters for selected node.	Select the *node* of which trend you want to see and of any date with different time intervals. You can compare the trend of any two dates for the same node by simply clicking on compare toggle key. It also has a facility to download/Email the report.
Time Slice	Generate reports at various time intervals like shiftwise , TOD etc.	Select the number of nodes for which you want to see the slice report shiftwise or TOD wise as per the location set. Also you can configure user ID for auto email at the end of shift or day.
Custom Excel Report	Report in customized Excel format	You can upload your own Excel template and get the reports as per latest template.
SCADA	Like SCADA system you can create the SLD	User can set background Image first and then set the actual type of image and parameter which he wants to see.

Consumption

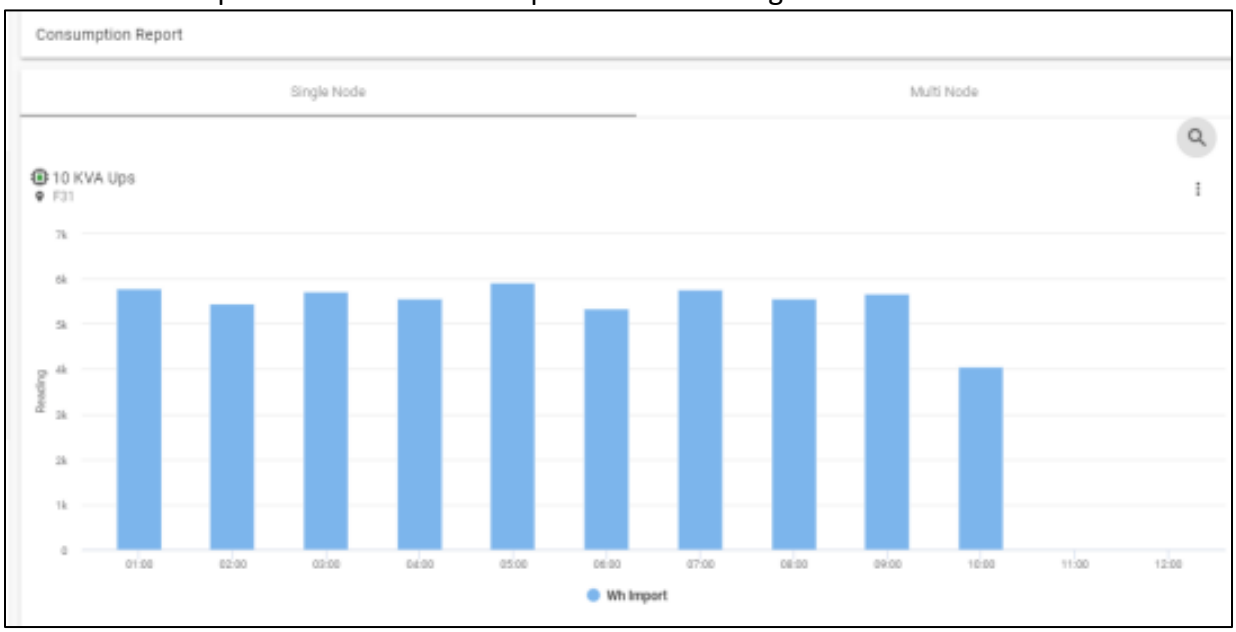
"Consumption" option useful to analyze the processed data of cumulative parameters sampled from remote devices.

- User gets "Consumption" menu from "Analytics"
- Users get 2 options to generate a consumption report. He gets only cumulative parameters for selection.
    1) Single node multi parameter
    2) Multi Node single parameter

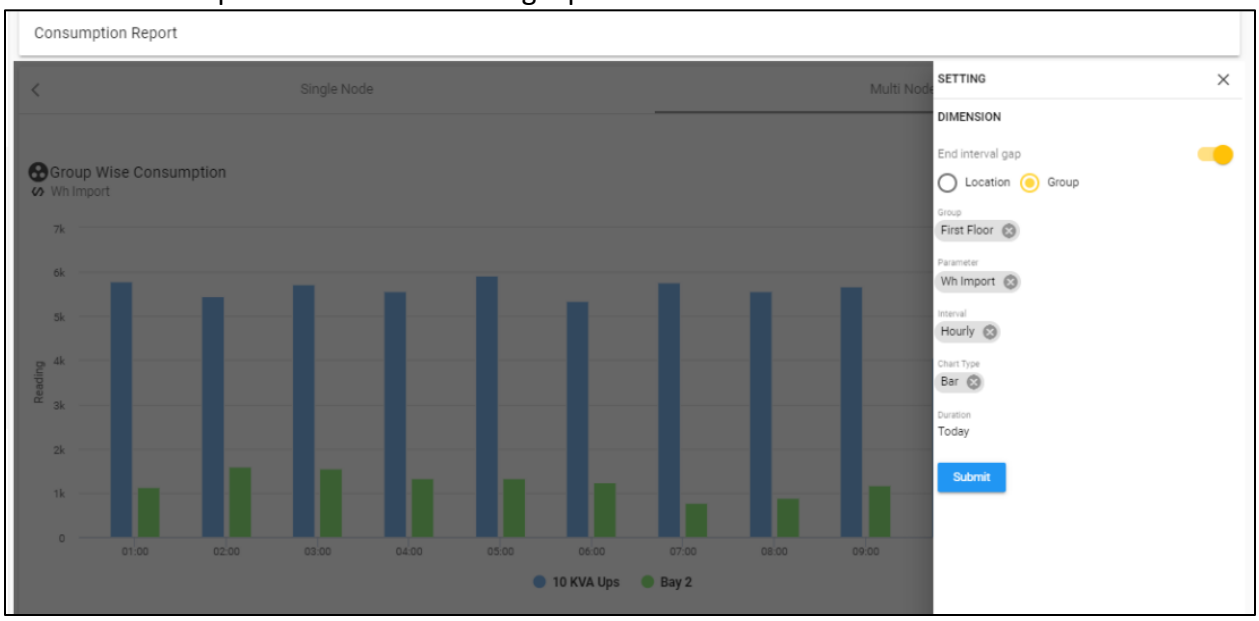
- If a user wants historical data of any specific node he has to fill the details in the below format. This format comes from left side search Button.



- User has provision to select multiparameter of a single node.

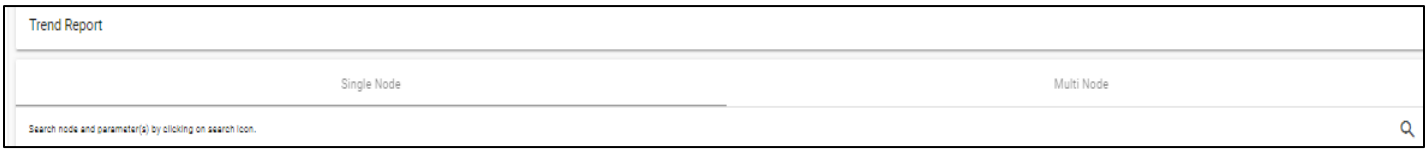


- User has provision to select a single parameter of multi node.



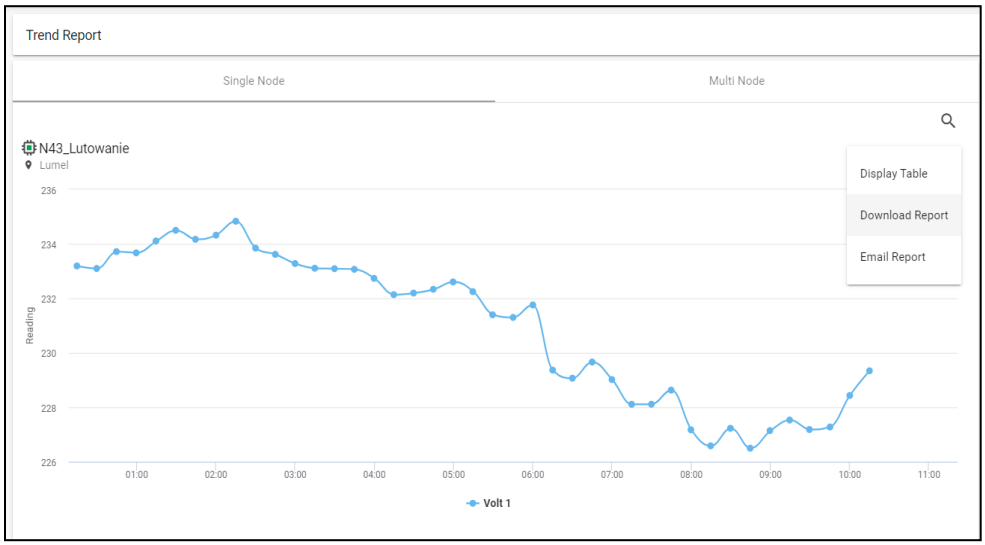
Trends

- User can select “Trends” menu from “Analytics”



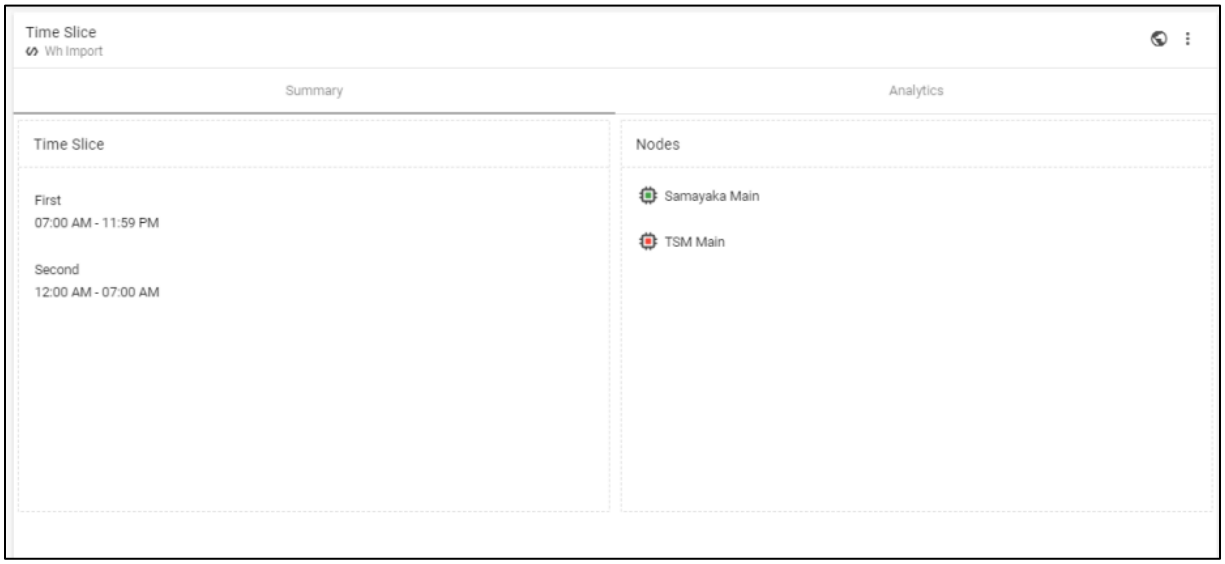
- Users get 2 options to generate a Trend report. He gets only Instantaneous parameters for selection.
  Single node multi parameter
  Multi Node single parameter

- Select the parameters of which user wants to see trends. Also the user has the facility to download the report.

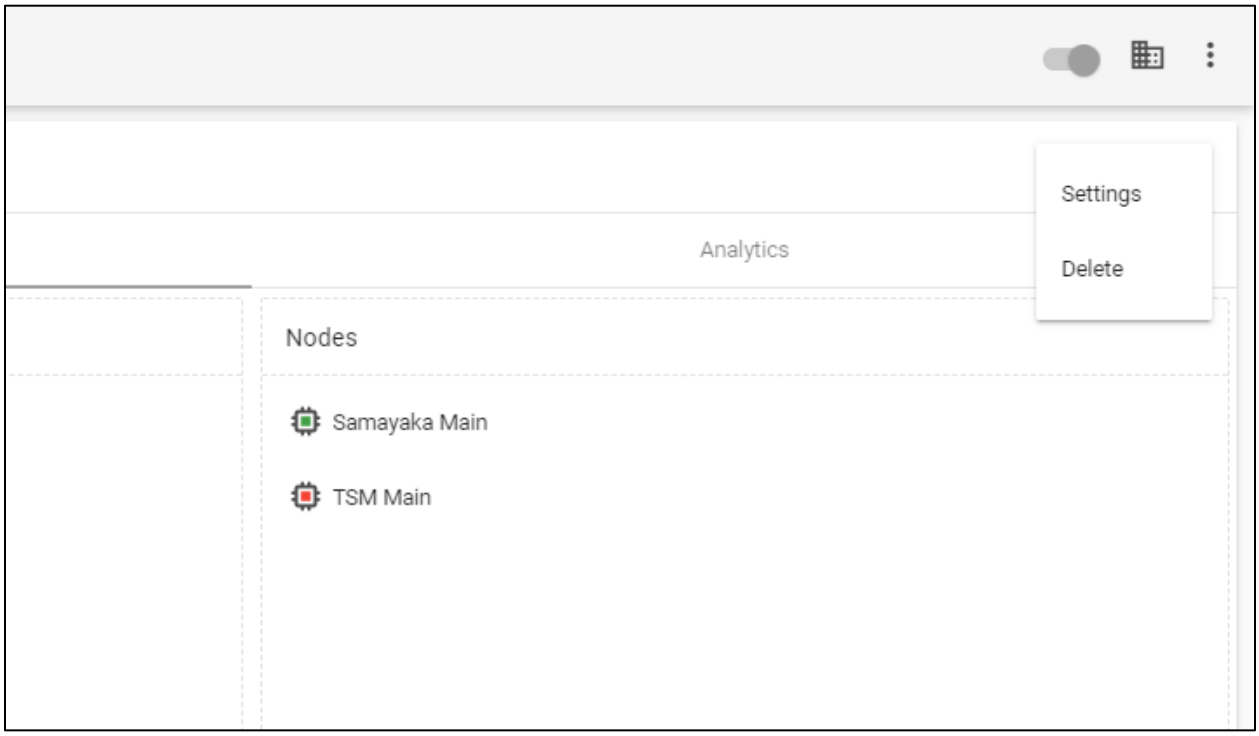


Time Slice

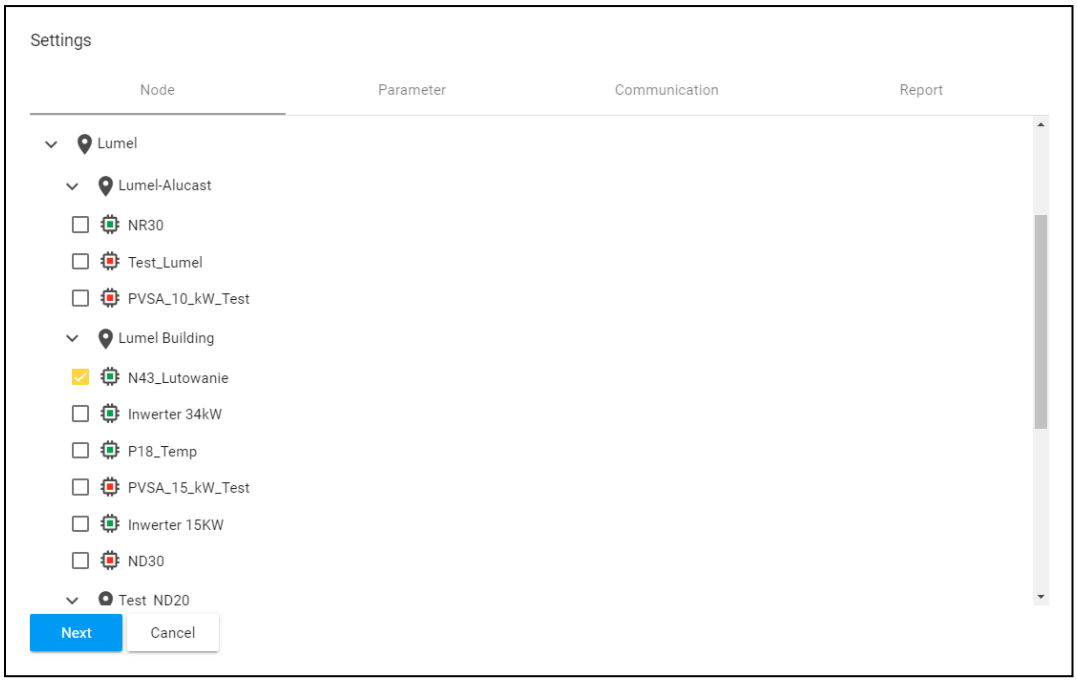
- Generate reports at various time intervals like shiftwise , TOD etc.
  Note- Shift Or TOD time interval should be added in the Location & Group menu.
- User has to get this widget added from “App” menu after that Time slice gets added in “Analytics”
- Click on Analytics and select Time Slice report.



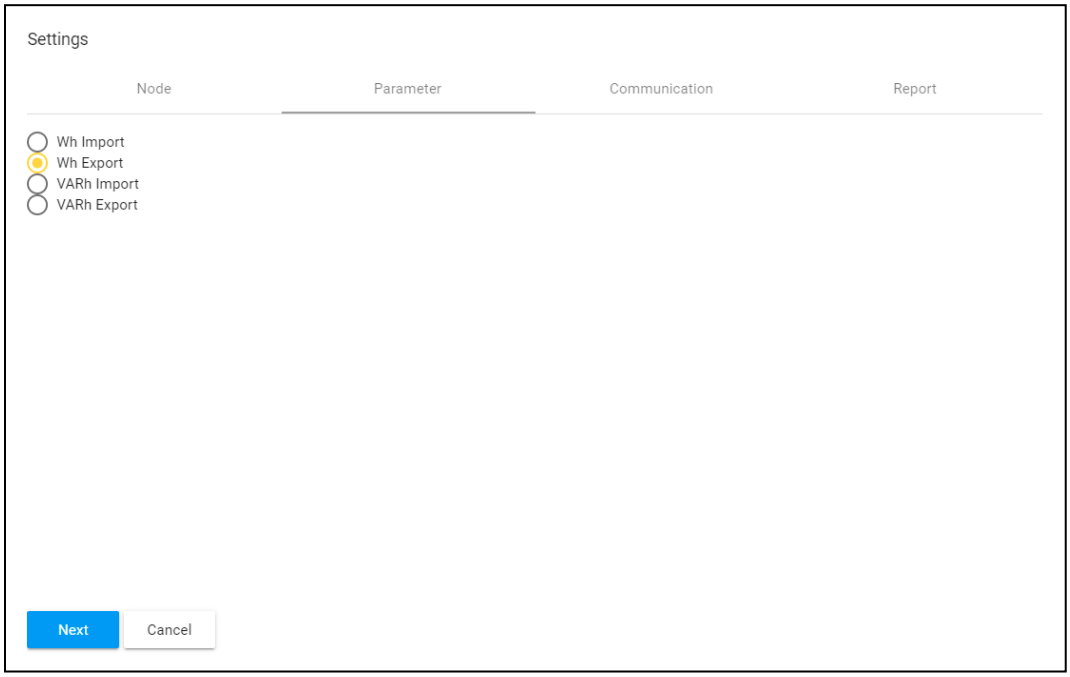
- User has to do time slice setting by going to search button.



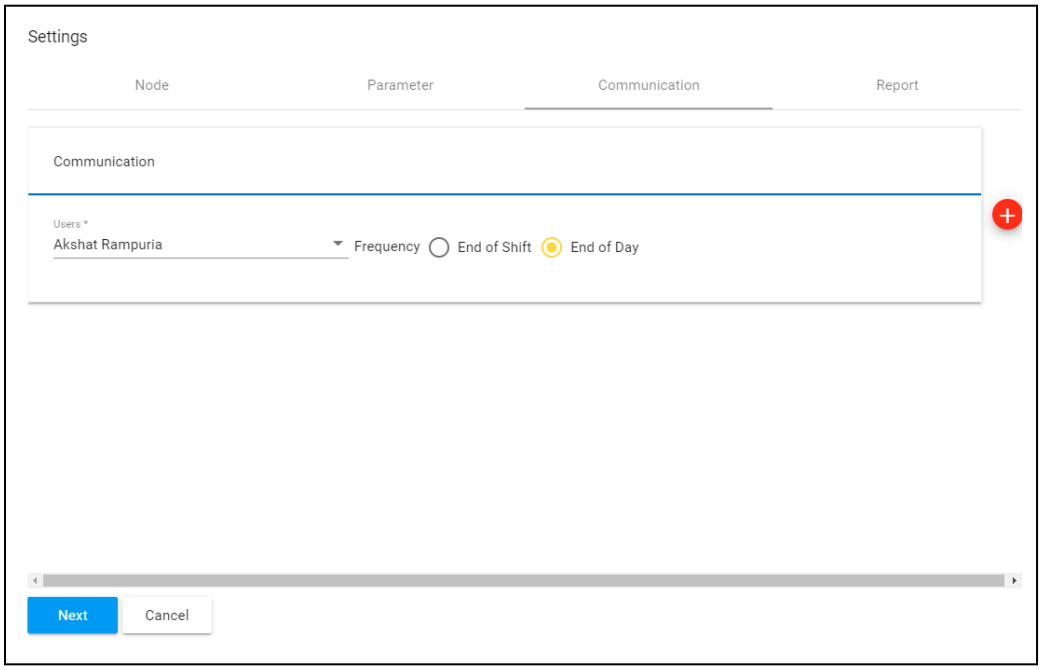
- Select the “Node”.



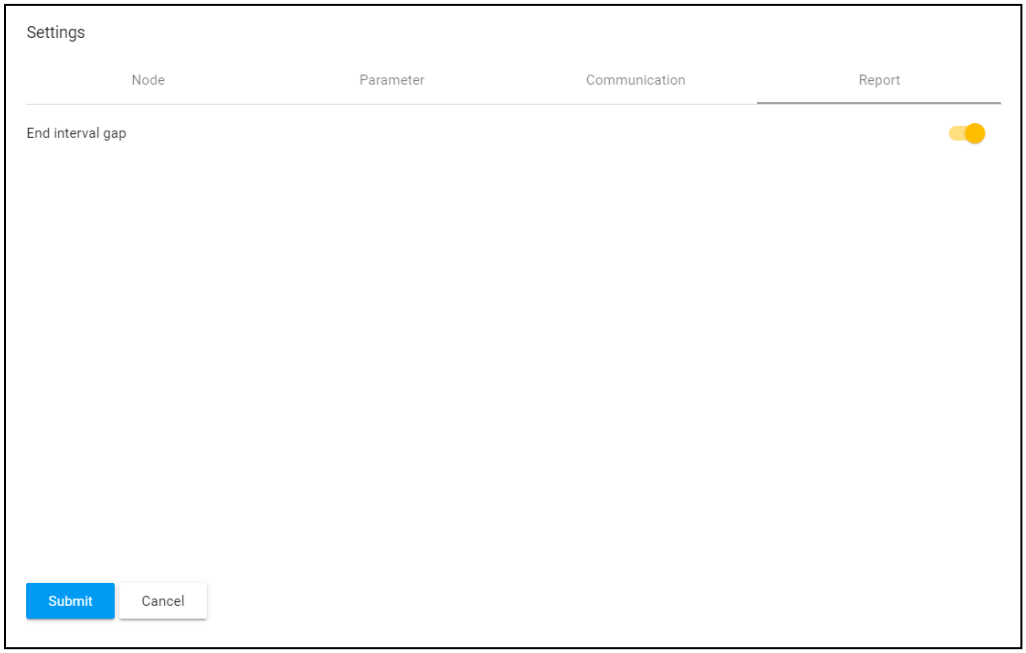
- Select the “Parameter”.



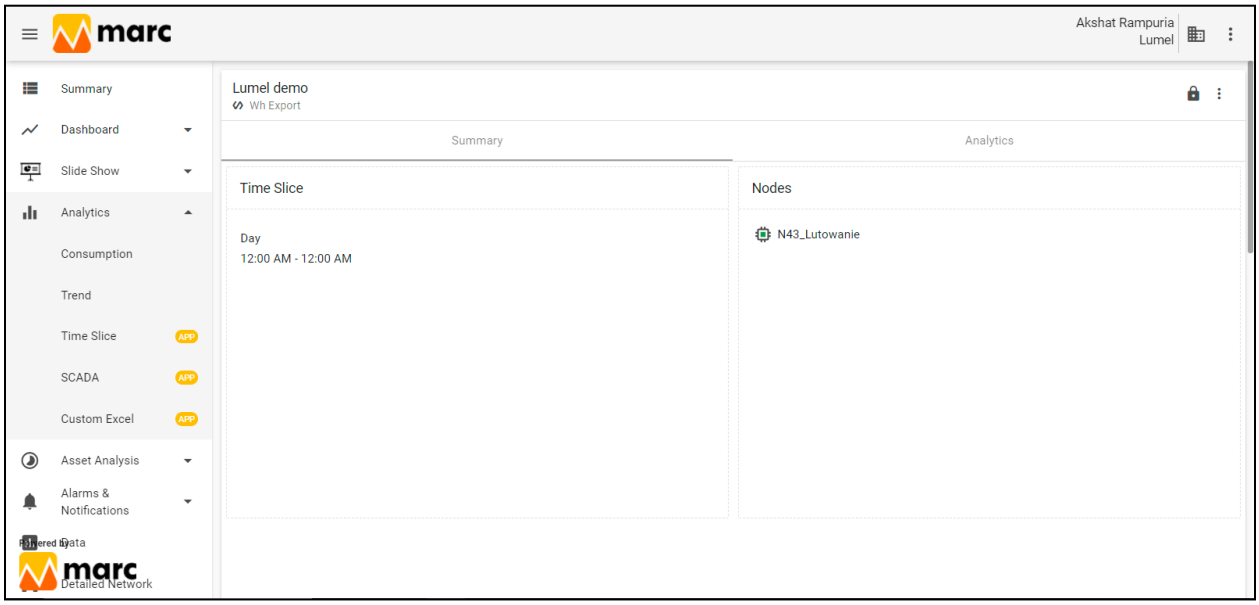
- User has to do the communication setting to decide when and which user receives the Auto Email.



- Click on submit Button



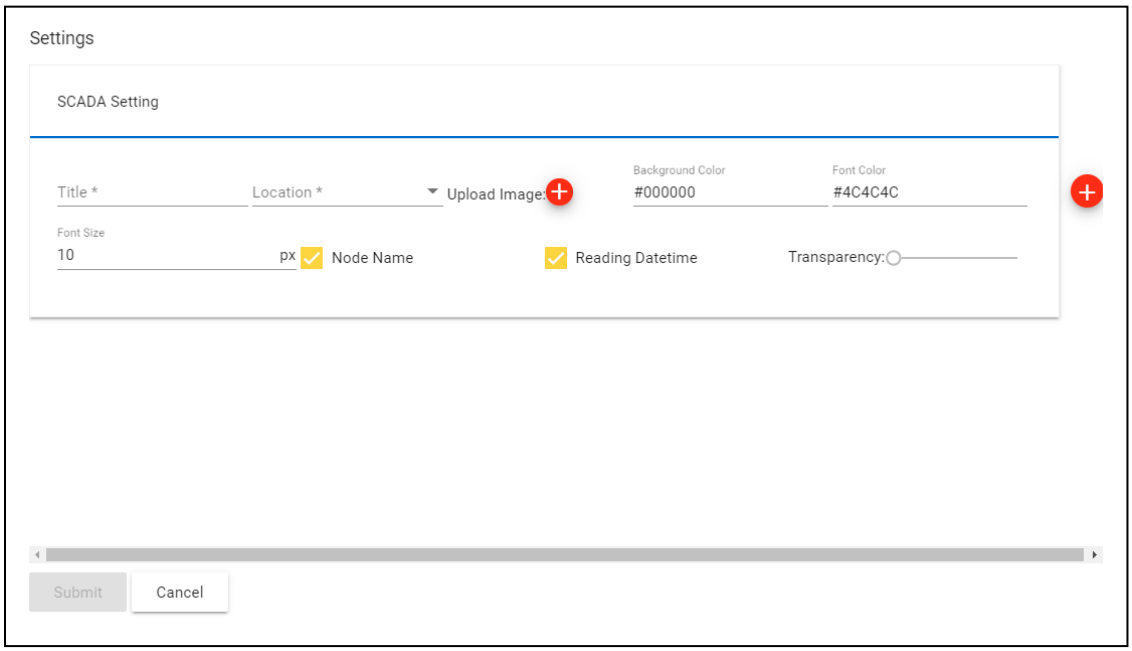
- Time slice report gets added in the front screen.



SCADA

In SCADA system user can create the SLD
For accessible SCADA user has to add “SCADA” app from “App” menu. Then open this app from ”Analytics>>SCADA”

- Click on “Setting” menu as given in the above screen and fill details.

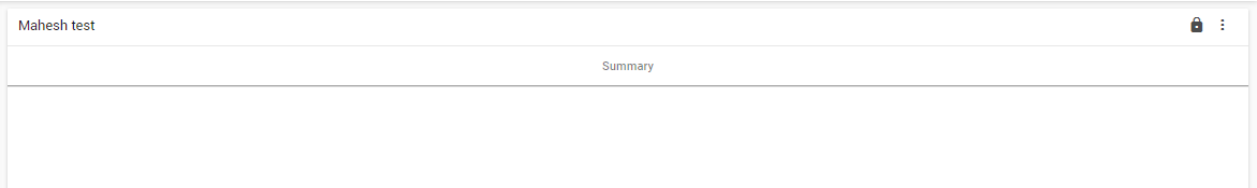


- Click on Image shown in screen and add node and parameters (Max 3).

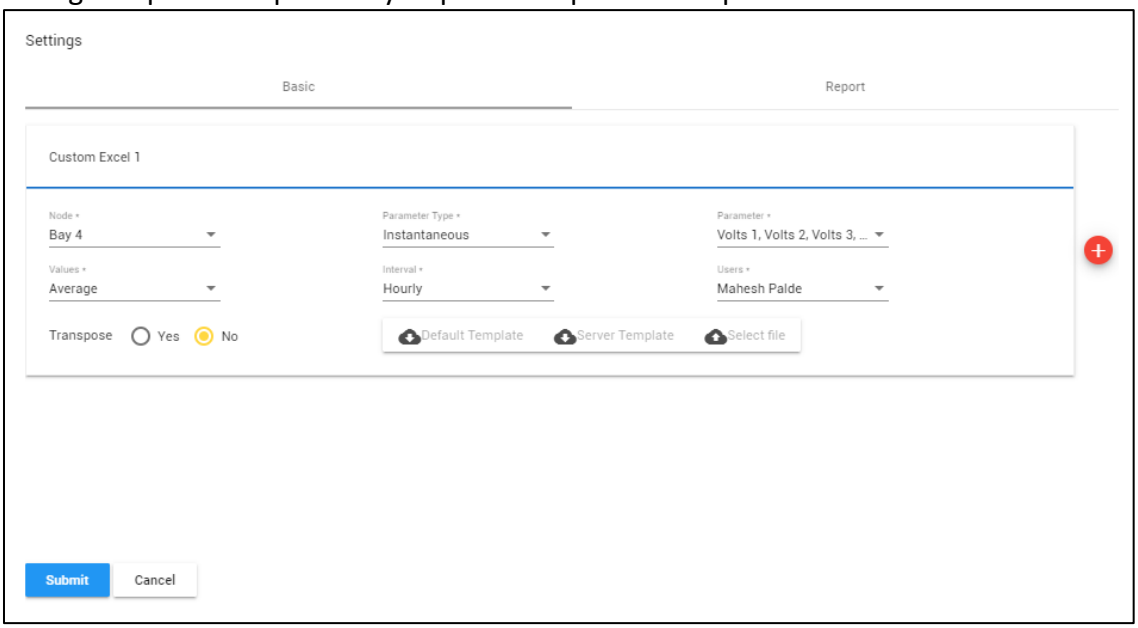
- User gets below SCADA visualization view.

Custom Excel

User can get Report in customized Excel format. Click on app menu and add “Custom Excel” app in analytics. Click on “Custom Excel”.



- User has to select Node & parameter required for custom report. User can get existing template from “server template” & upload with new template on “select file” as required.
- User gets updated report daily as per new updated template.

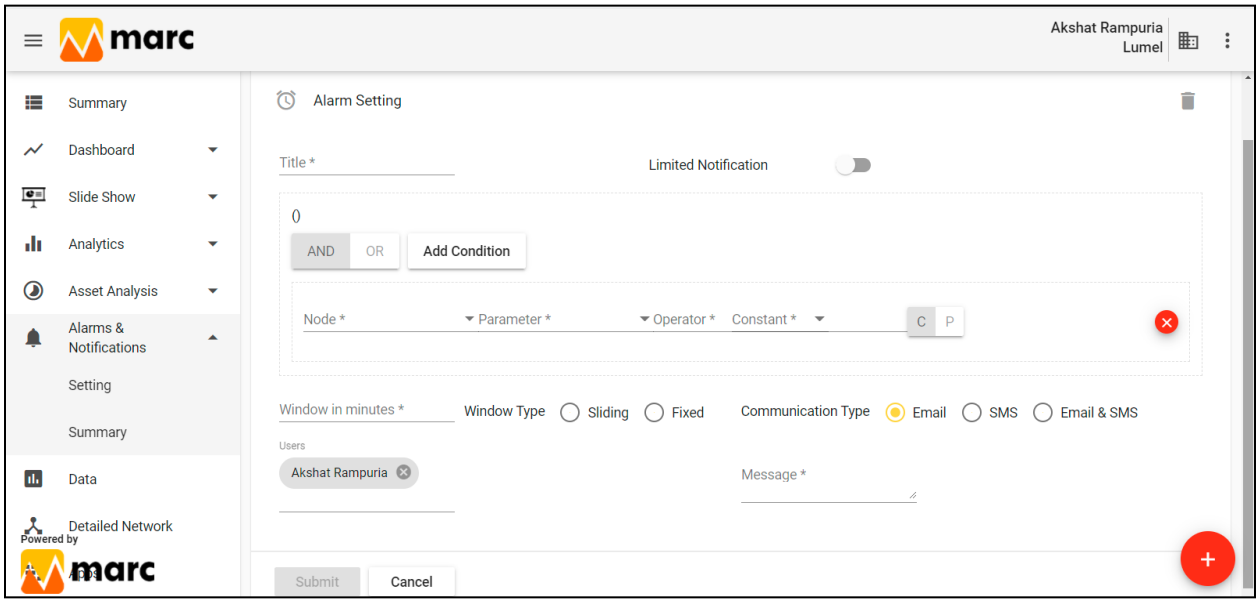


Alarms & Notification

marccloud.live platform gives you an alarm and flashs a message alerting you to anomalies and irregularities in expected operations, for instance; equipment failures or anomalies against set points, such as plant ceasing to operate or excessively high temperatures being reached.
Review all alarm history *on one screen* enables you to identify any recurring issues keeping you in control.

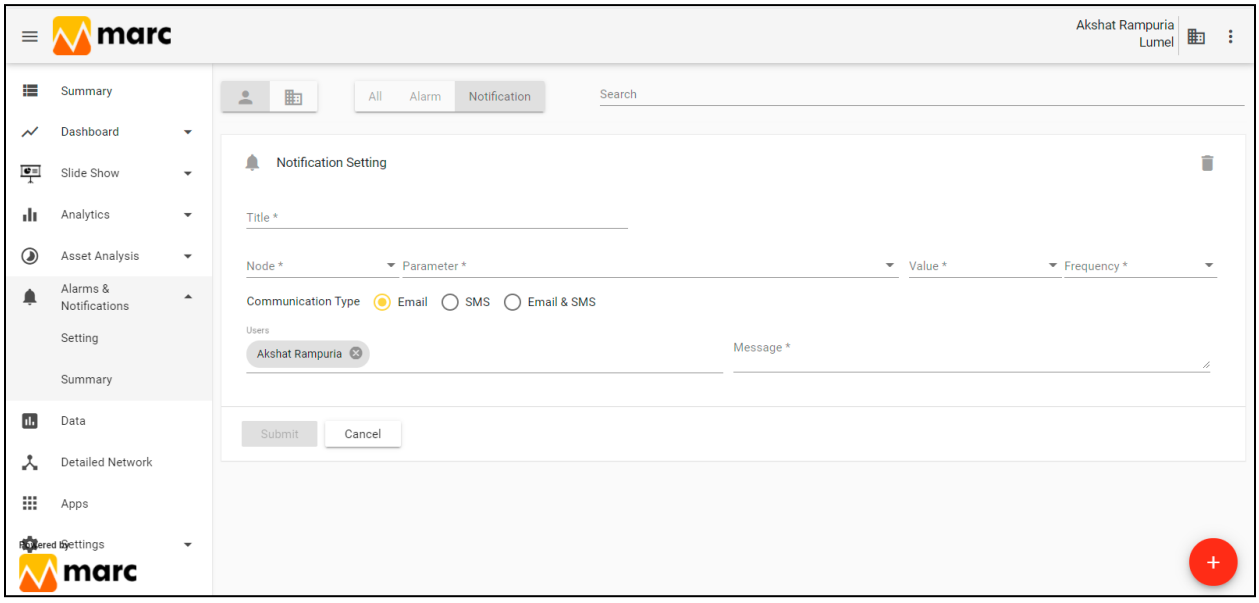
Alarms:
You can simply set the Alarms for different parameters with the help of various arithmetic operations and can get the email and message in abnormal condition.
To configure alarms follow below step-

1) Click on “Alarm and Notification” Menu & go to “Setting” tab.
2) Click on red plus sign at the bottom right side of the screen.
3) User has to select the “Alarms” and submit button.
4) User has to fill Title of alarm,Alarm Logic(AND/OR),Window type(For which mention alarm logic is true to trigger the action),Communication type,Users & alarm message etc.
5) Click on “Submit” Button.



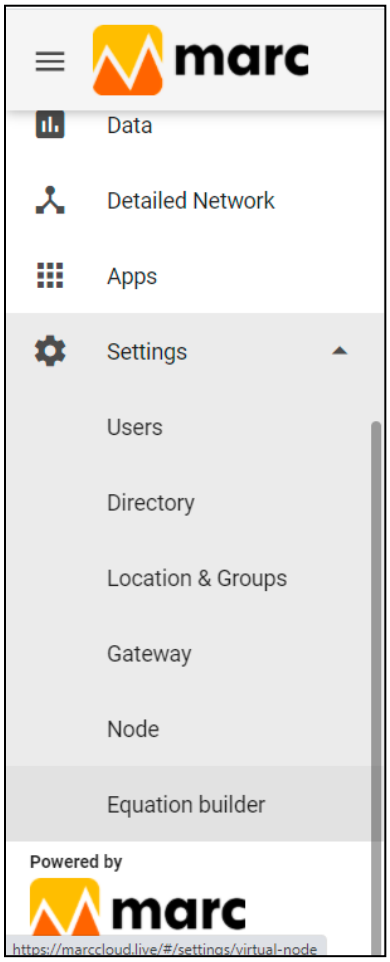
Notification:

You can set the notifications for various nodes and parameters of that particular node from the notification setting menu as displayed below



Equation Builder

Users can generate the equation by using existing nodes and parameters. Real time values of these equations are available in a "SCADA" view.



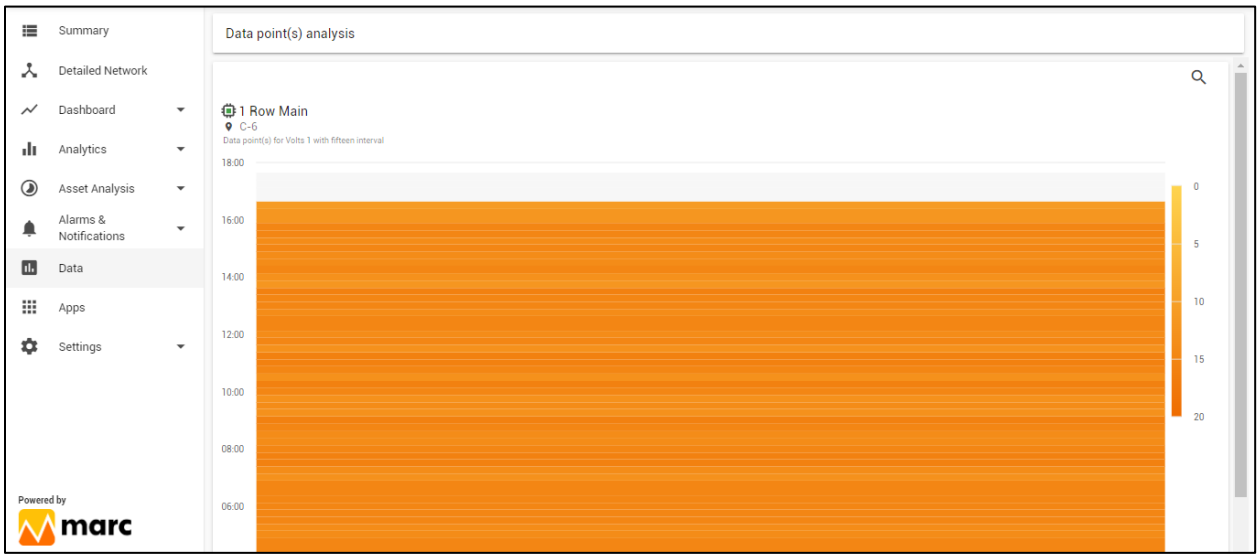
Users have to create their own equation as per screenshot attached below.

Time Zone

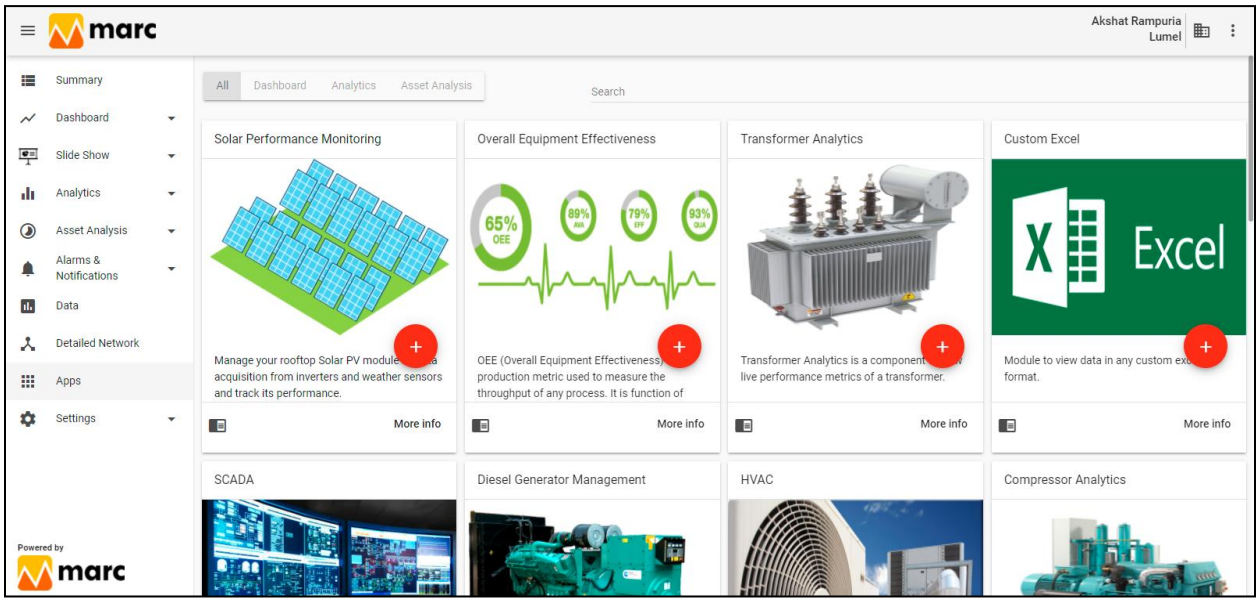
In profile, there is User and Node timezone settings. You can set your timezone from this setting. If setting is OFF, then default UTC will apply to all dates seen on application. Node Timezone will always be ON. Reports will be generated on Node Timezone.

Data point(s) Analysis

In Data points analysis the user gets the count of the number of samples received of a particular node in 15 minutes intervals.



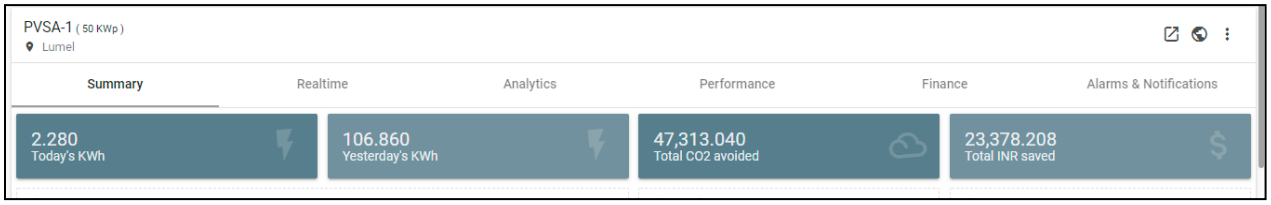
Apps



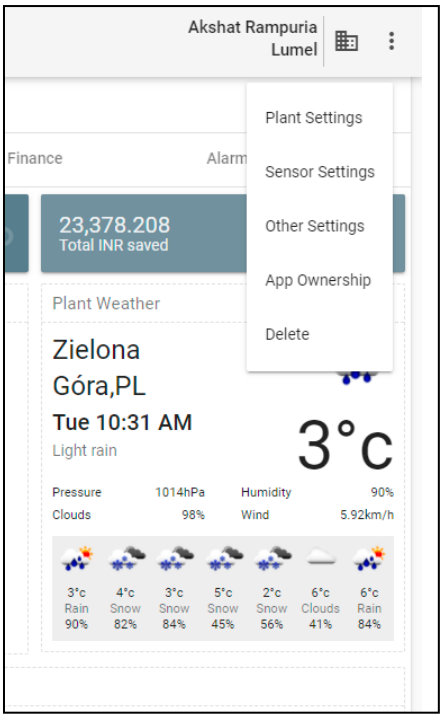
- **Solar Plant**

The Solar app helps you manage your installed solar plant by conquering the solar inverter into the software along with the optional weather station configuration. This enables the user to optimize the solar installation and improve the performance of the plant by proactively acting on alerts and alarms.
The app gives you real time analytics of the inverter parameters along with Performance Factor, Capacity Utilisation factor, CO2 savings, INR saving as an additional add-on alongwith the financial dashboard which gives you real time NAV against the investment.

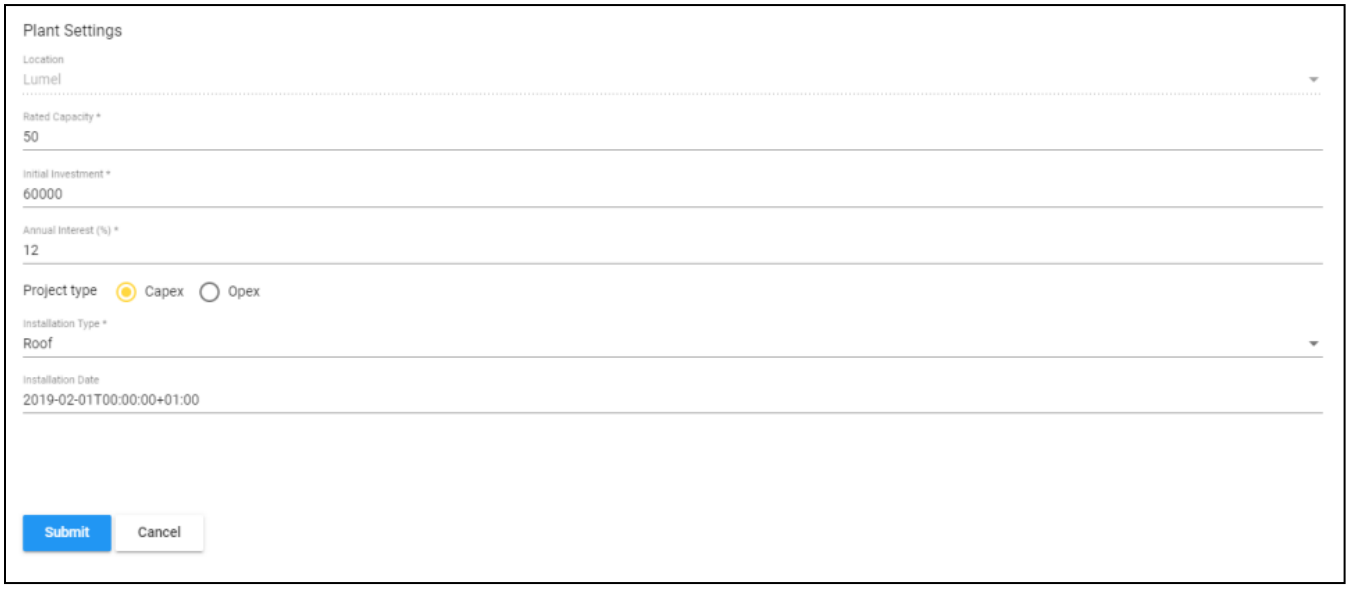
- Add App from the App widget.
- Click on Solar Monitoring



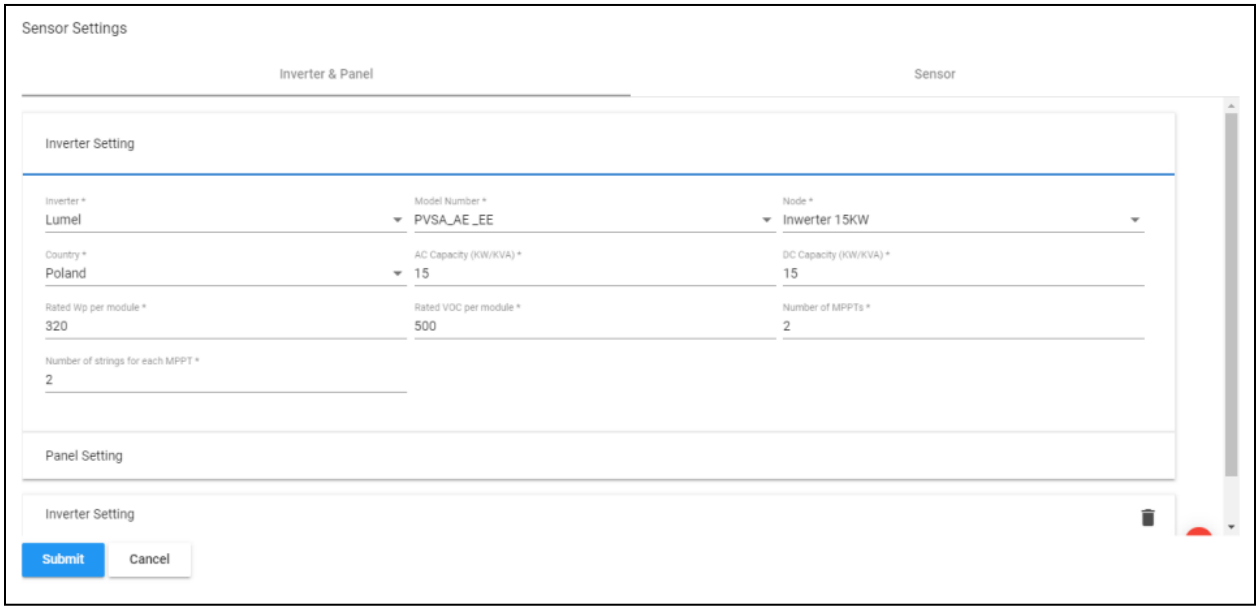
- User has to configure the plant settings, Sensor Settings & other settings.



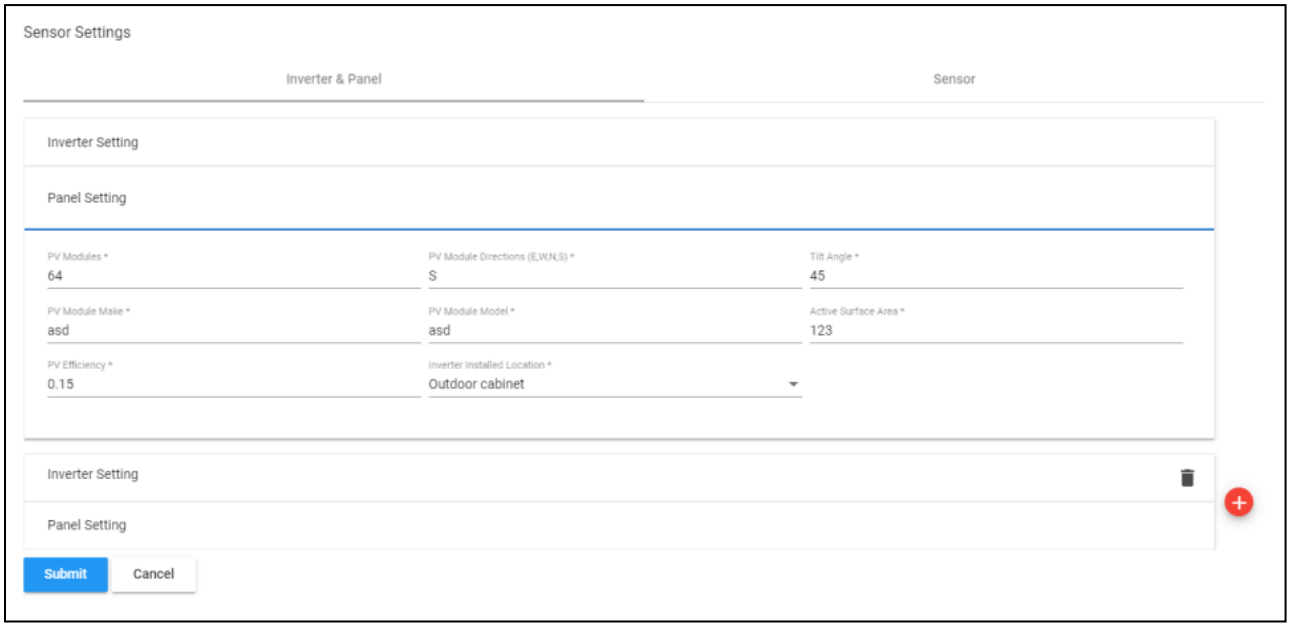
- User has to fill “Plant Setting”.
- User has to fill details of plant like Initial investment,Location,Installation date,Capacity etc.



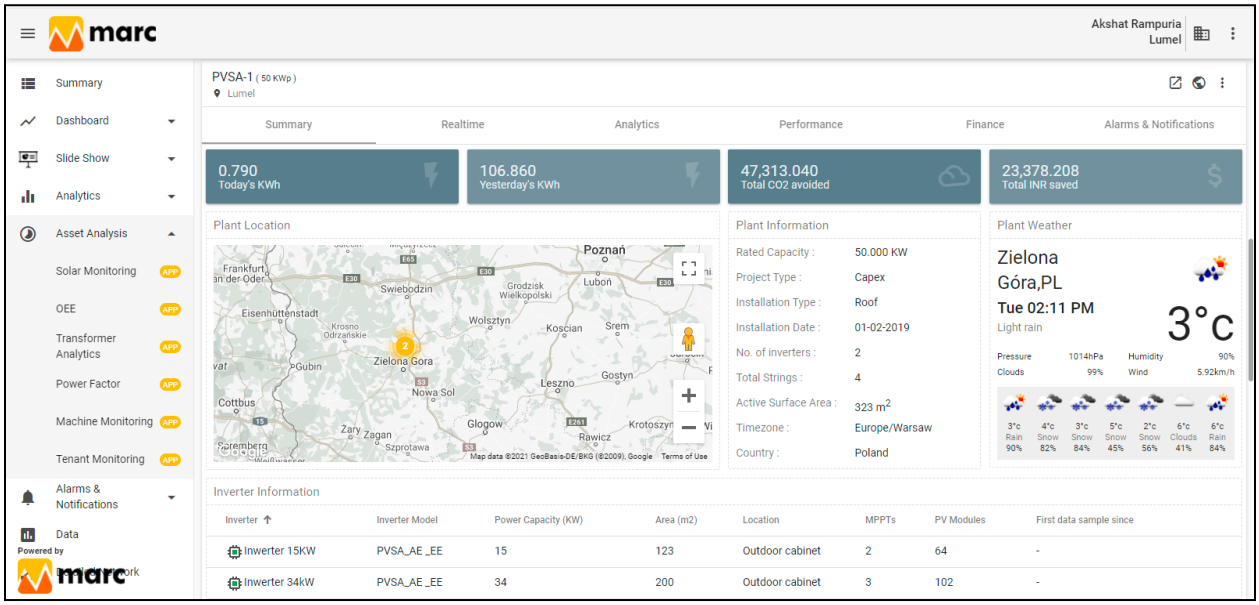
- Sensor Setting
  1)Inverter Setting
  User has to add inverter node, inverter model, Capacity etc.



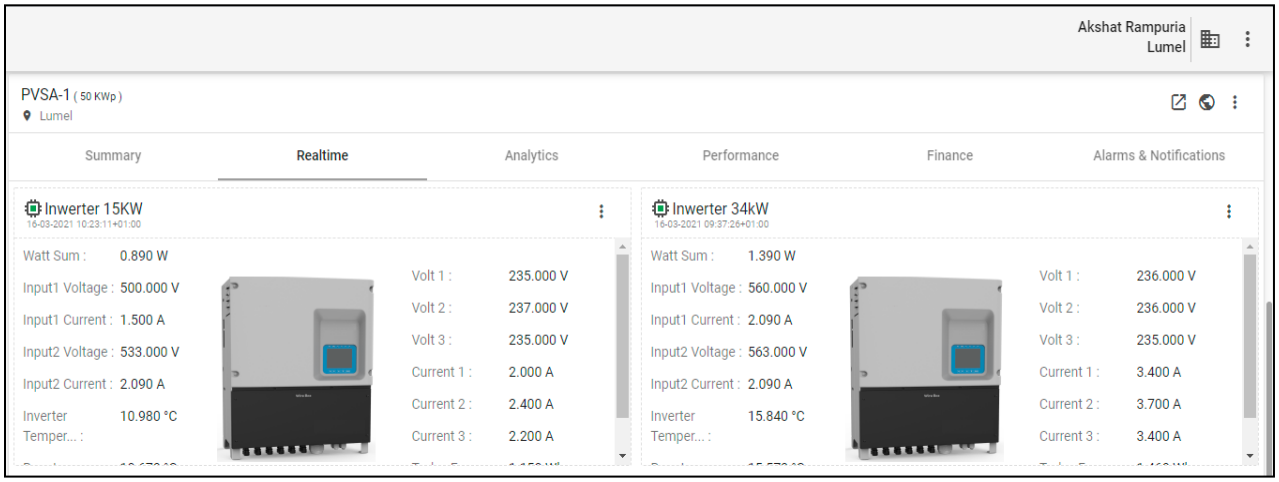
2)Panel Setting
User has to fill the panel details given in below image.



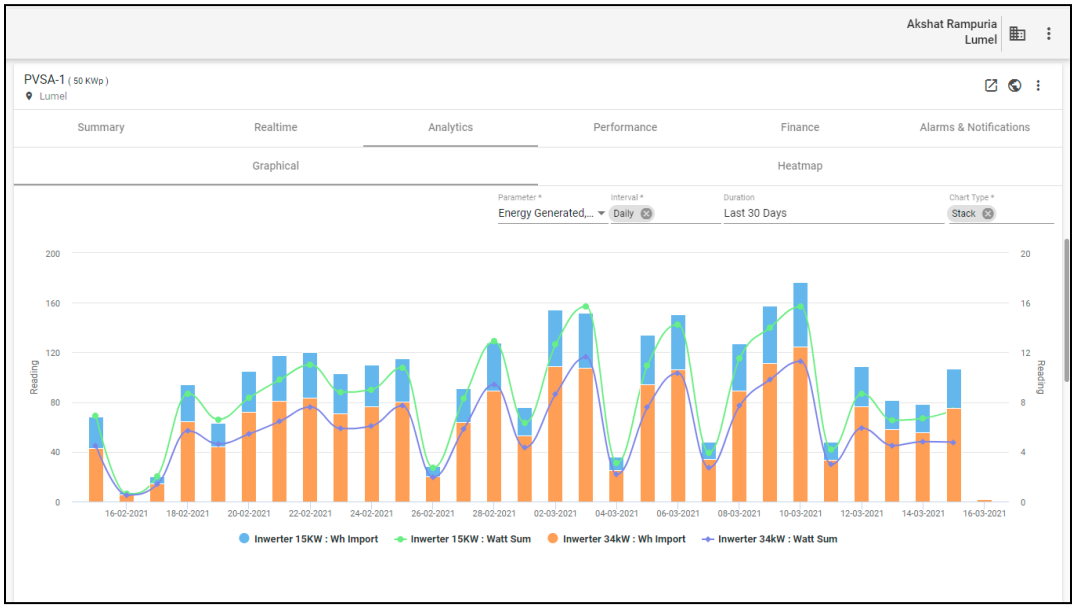
- In summary menu user gets Total Kwh generated by today & Yesterday, Total Co2 Avoided to generate & total amount saved in INR. Also get Inverter and panel details, Total string, Area coverage, Inverter Model, Location, Capacity, Installation Date etc.



- In real time user gets details regarding each inverter, like Input Output Voltage & Current, PFavg.

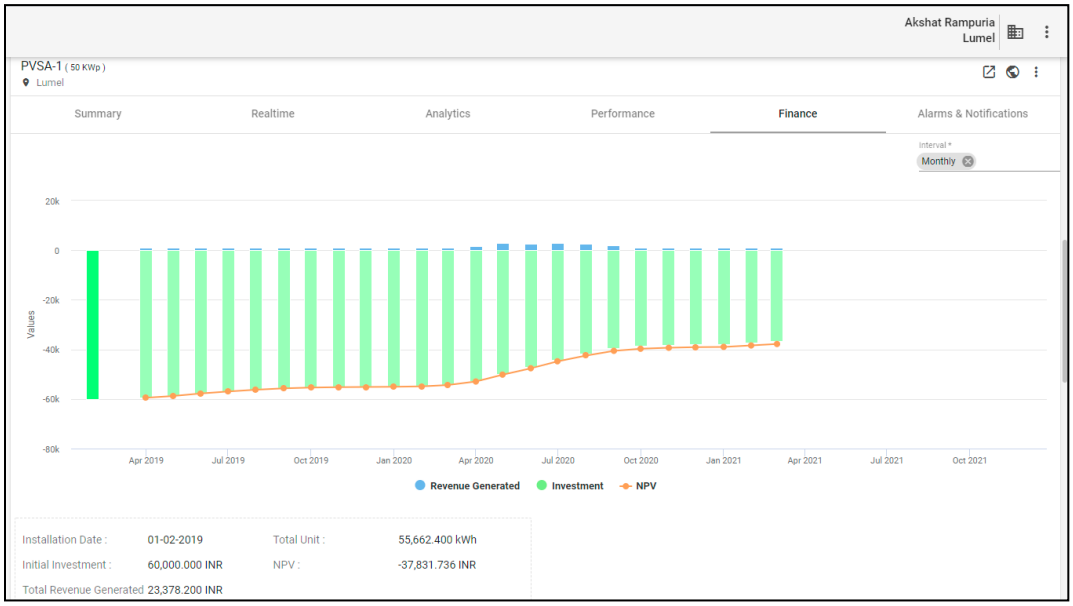


- In Analytics user gets details of all parameters in graphical form.

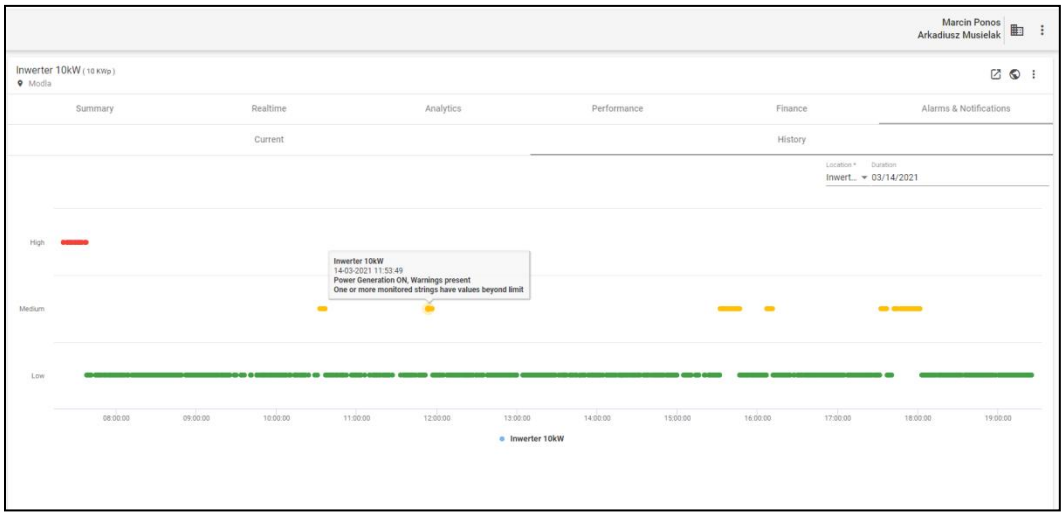


- In Performance user gets details of each inverter parameter like Power & Energy.

- In finance user gets details of payback of solar system.



- In Alarms & Notification user gets details of status parameter of faults. Faults level is defined in 3 level,1) Critical(Red) 2) Warning(Yellow) 3) Normal(Green)



- **Transformer Analysis**

MARC-TRANS is a complete energy intelligence Platform for Commercial and Industrial Consumers. It helps to monitor energy consumption , reduce inefficiencies and prevent losses , helps in preventive maintenance, and optimizes performance.

Why MARC-TRANS?
- Keeps a real-time check on the transformer losses.
- Provides intelligence for preventive maintenance and helps predict failures.
- Helps to improve the lifespan of a transformer.
- Increases capital utilization & optimize energy consumption

- **Weather**

Helps to get the current live weather data of your location on your dashboard.
Parameters like temperature, pressure, clouds, humidity & speed of wind will be right on your finger tips.

- **Overall Equipment Efficiency**

Data collection and reporting helps to increase the efficiency of your manufacturing enterprise. MARC - OEE understands the key to your success, as a manufacturer relies on your ability to optimize and produce quality parts while maximizing equipment efficiency.
Our dynamic OEE tracking, analyzing and reporting tools can play an essential role in your success by helping you to-
* Increase efficiency and productivity on the plant floor
* Eliminate unplanned downtime
* Respond instantly to changes in performance effectiveness
* Reduce direct and indirect costs associated with poorly functioning equipment, inferior quality, and excess waste

- **Comparison report**

Comparison widget is a dashboard component to know how your system is performing in the form of quick summarised data. Plotting the line graph of selected parameter of any node helps you to catch any abnormal performance of system which in turn probes you to take action to avoid further damage.

For example, if you select the time interval as daily then this application will show the data for today , yesterday & last week data whenever you login and view the dashboard, which will help you to study the behavior of your system over the week on a daily basis.

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