Process Manual

Web Interface for ABB Ventilation Controller

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1. Basic Features of Web Interface

A. Setup/Configuration: This module provides the web interface to setup the server address, port on which the server runs and the publisher text. Moreover, the setting up the modes namely, Auto and Manual modes is also done here.

B. Publish Message: This module provides the web interface to publish the values that are being selected or toggled through setup/configuration.

C. Subscribe Message: This module provides the web interface to subscribe to status messages that the ventilation controller sends.

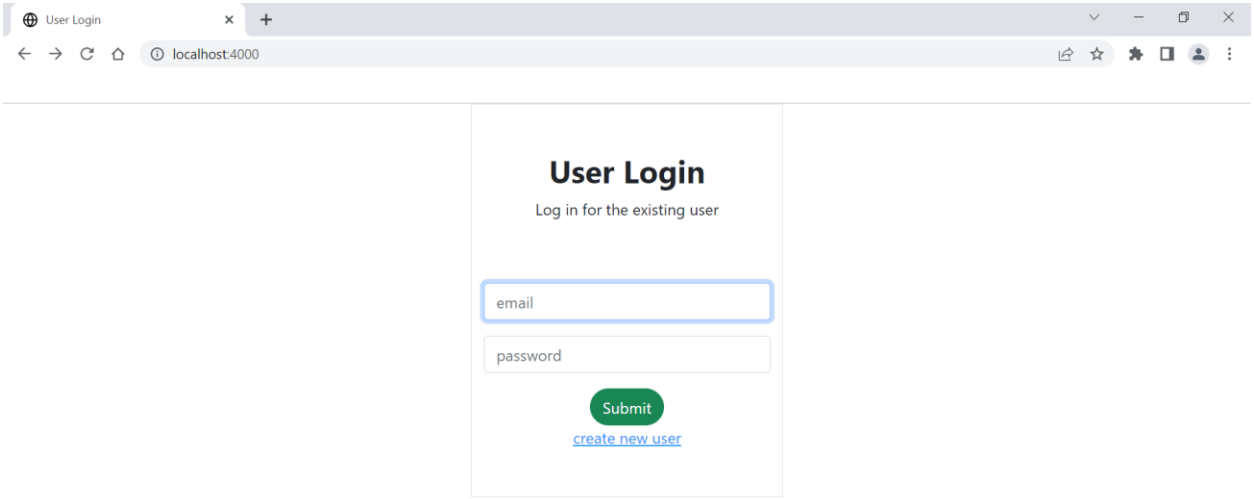
D. View Access Logs: This module provides the web interface to view user's activities.

E. Ventilator Monitor: This module provides the interface to view all the logged data of sensor's measurements.

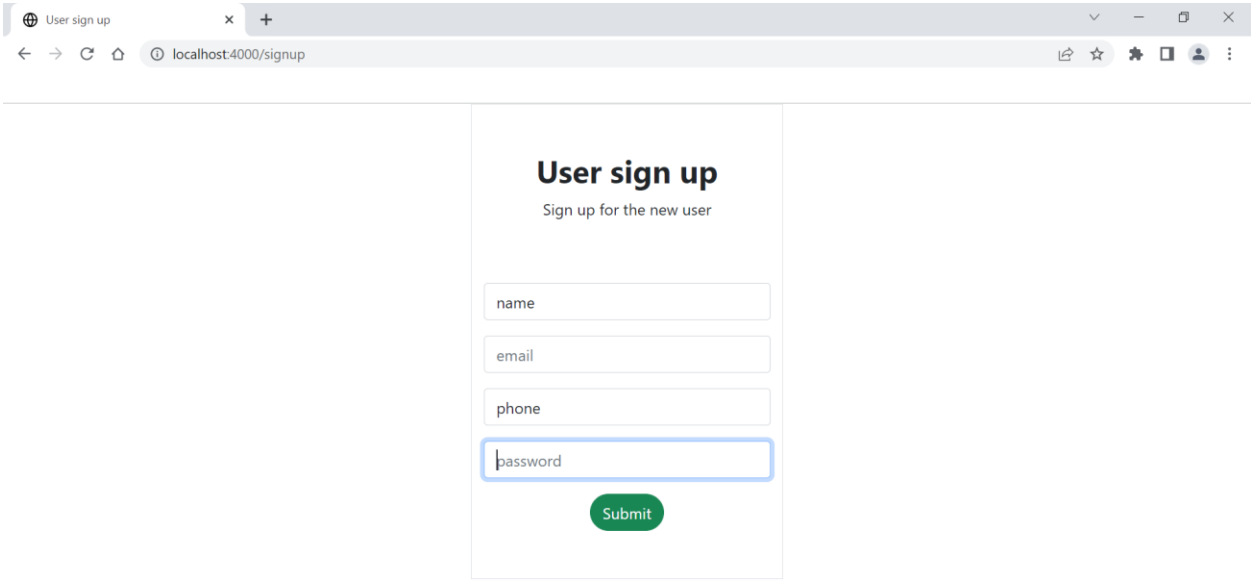
2. Detailed Process

Accessing the system

It can be accessed using the url: http://localhost:4000/ .When the URL is loaded in the browser the login page, the login page will appear as shown below.

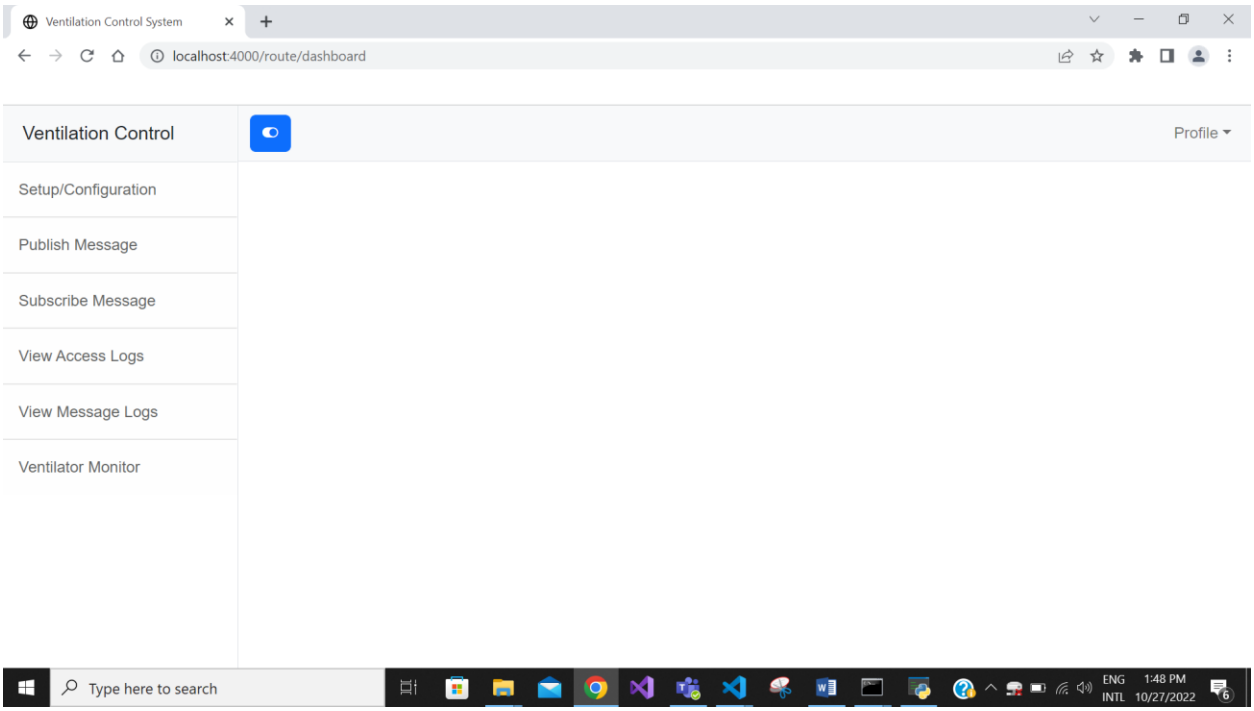


User Sign Up can be done using **create new user** icon as shown above. The sign up screen appears as:



The new user's details are entered in this form,user gets created while clicking submit button.

Main Page: This page appears after user gets logged in to the system. The page is shown as:



As displayed above, the main screen consists five modules namely,

a. Setup/Configuration

b. Publish Message

c. Subscribe Message

d. View Access Logs

e. View Message Logs

f. Ventilator Monitor

Setup/Configuration

The dynamic values for the parameters namely,

1.Server

2.Port

3.Publisher Text

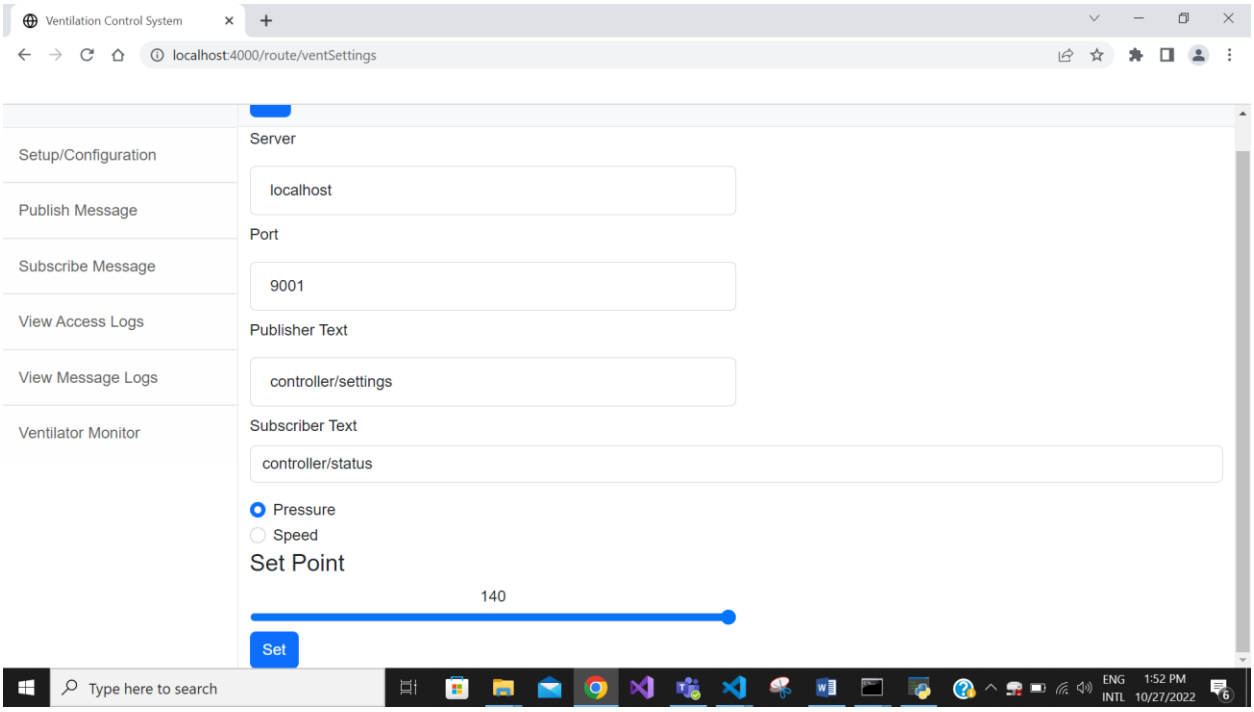
4.Subscriber Text

5.Pressure

6.Speed

7.Set Point

Can be selected /entered by user from this module as shown below.



1. Server specifies the server address of the application (node.js). Values entered **localhost**.

2. Port refers to the Web Socket port which acts as a listener to the mqtt service running on 1883 port. Values entered **9001**.

3.Publisher Text refers to the two topics controller/settings or controller/status operating with the Ventilation Controller the topics to be published is specified here.

4.Subscriber Text refers to the two topics controller/settings or controller/status operating with the Ventilation Controller the topics to be subscribed is specified here.

5.Pressure Radio Button if checked the ventilation control system goes into Auto Mode.

6.Speed Radio Button if checked the ventilation control system goes into Manual Mode.

7.**Set Point** offers the side bar values ranging from 0 to 140.Users can drag the bar right/left.

With the selection of above mentioned values the UI guides the ventilation controller simulator to toggle the modes Auto, Manual with the mentioned topic controller/settings or controller/status. The simulator achieves the set point as selected by user through web interface. The **Set** button at the bottom of the page sends the parameters thus entered, to the ventilation controller simulator.

Publish Message

This module consists of the parameters namely,

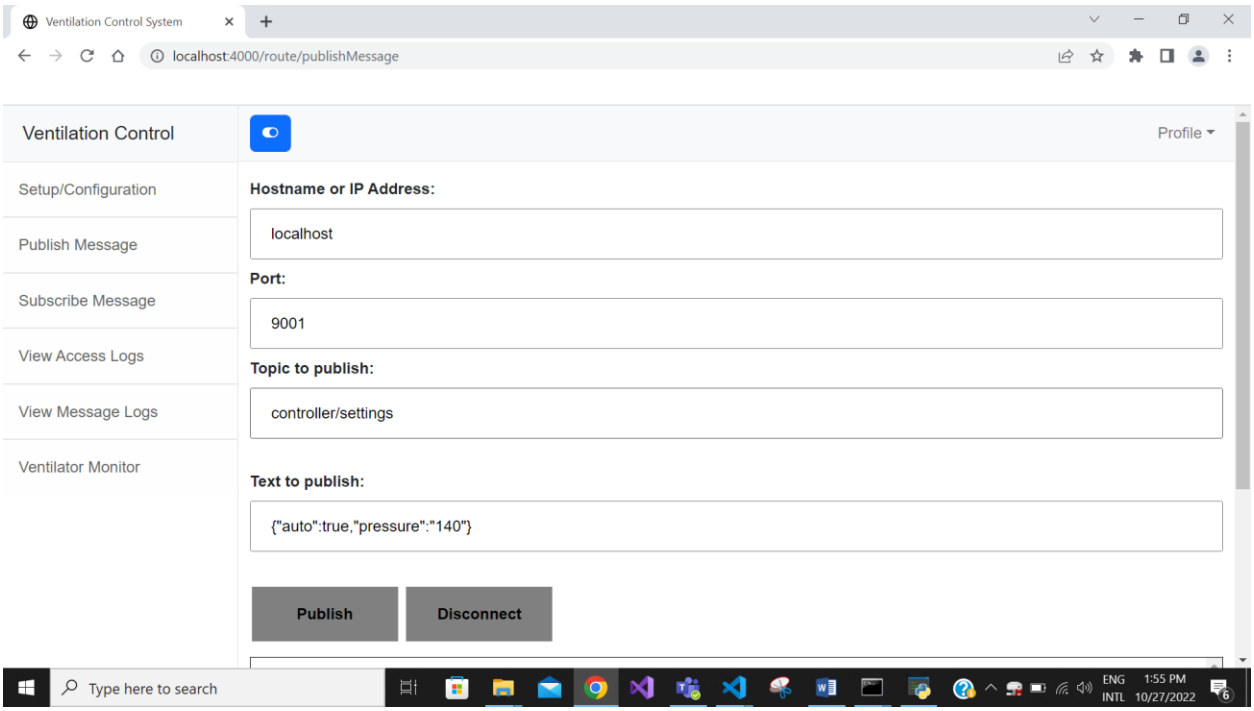
1.Hostname or IP address

2.Port

3.Topic to Publish

4.Text to Publish

As shown below



1.Hostname or IP address specifies the value entered through setup/configuration module.

2.Port specifies the value entered through setup/configuration module

3.Topic to publish specifies the publisher text sent from setup/configuration module which is either controller/settings or controller/status.

4.Text to Publish specifies the JSON values being selected through setup/configuration.

Two Buttons Namely,

1.Publish

2.Disconnect

Publish simply publishes the entered values to the Ventilation Controller Simulator so that the environmental parameters and the hardware parameters are set accordingly.

Disconnect simply disconnects the connection established to localhost on port 9001.

Subscribe Message

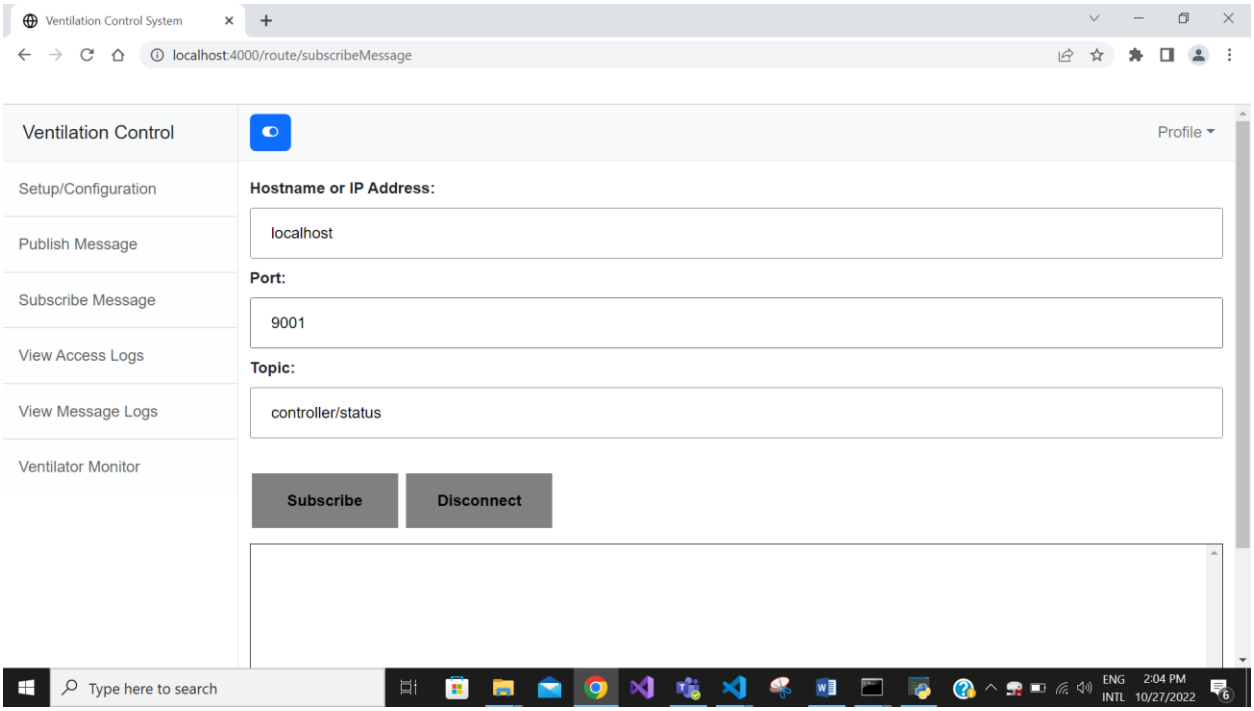
This module consists of parameters namely,

1.Hostname or IP Address

2.Port

3.Topic

As shown below.



1.Hostname or IP address specifies the value entered through setup/configuration module.

2.Port specifies the value entered through setup/configuration module

3.Topic specifies the subscriber text sent from setup/configuration module which is either controller/settings or controller/status.

Two Buttons Namely,

1.Subscribe

2.Disconnect

Subscribe simply subscribes the entered values to the Ventilation Controller Simulator so that the environmental parameters and the hardware parameters are set accordingly.

Disconnect simply disconnects the connection established to localhost on port 9001.

View Access Logs

This module keeps the logs of user's activities having parameters

1.Userid

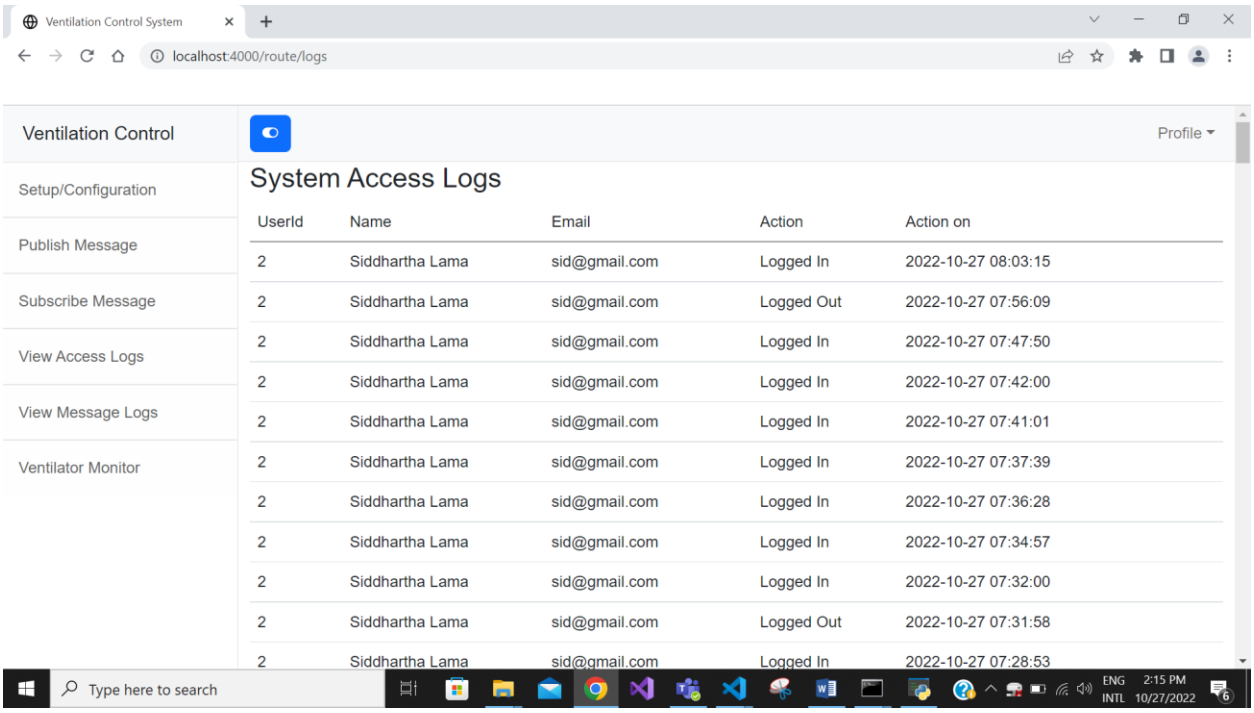
2.Name

3.Email

4.Action

5.Action on

As shown below



View Message Logs

This module consists of the tabular data representation of the activities and the measures of parameters namely,

1.Speed

2.Pressure

3.Temperature

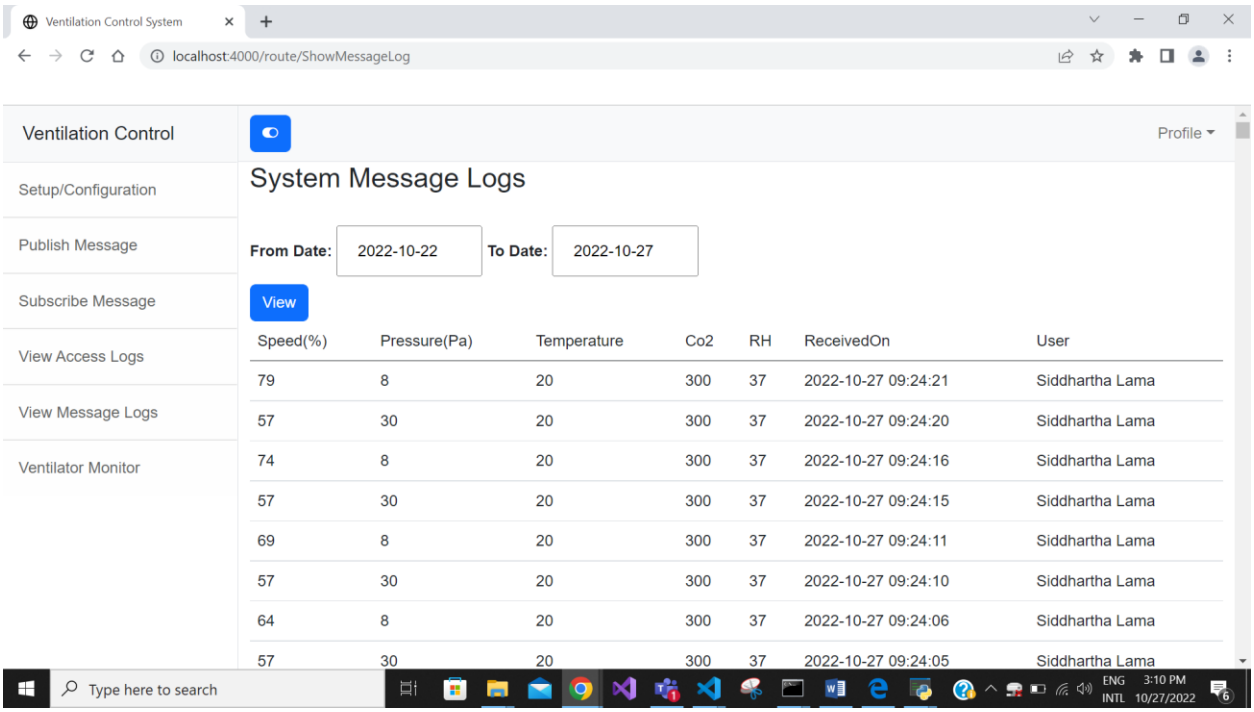
4.Co2

5.RH

6.Recieved On

7.User

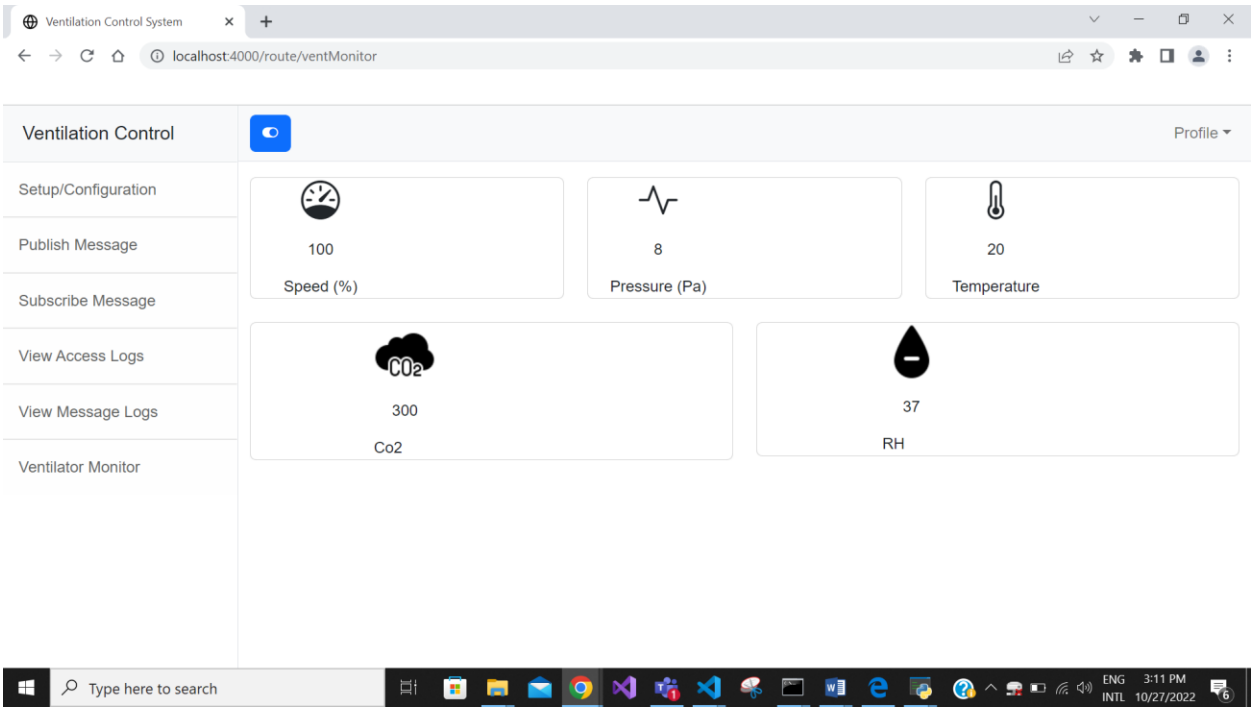
As shown below



Users can view the message logs by entering date parameters (From Date and To Date)

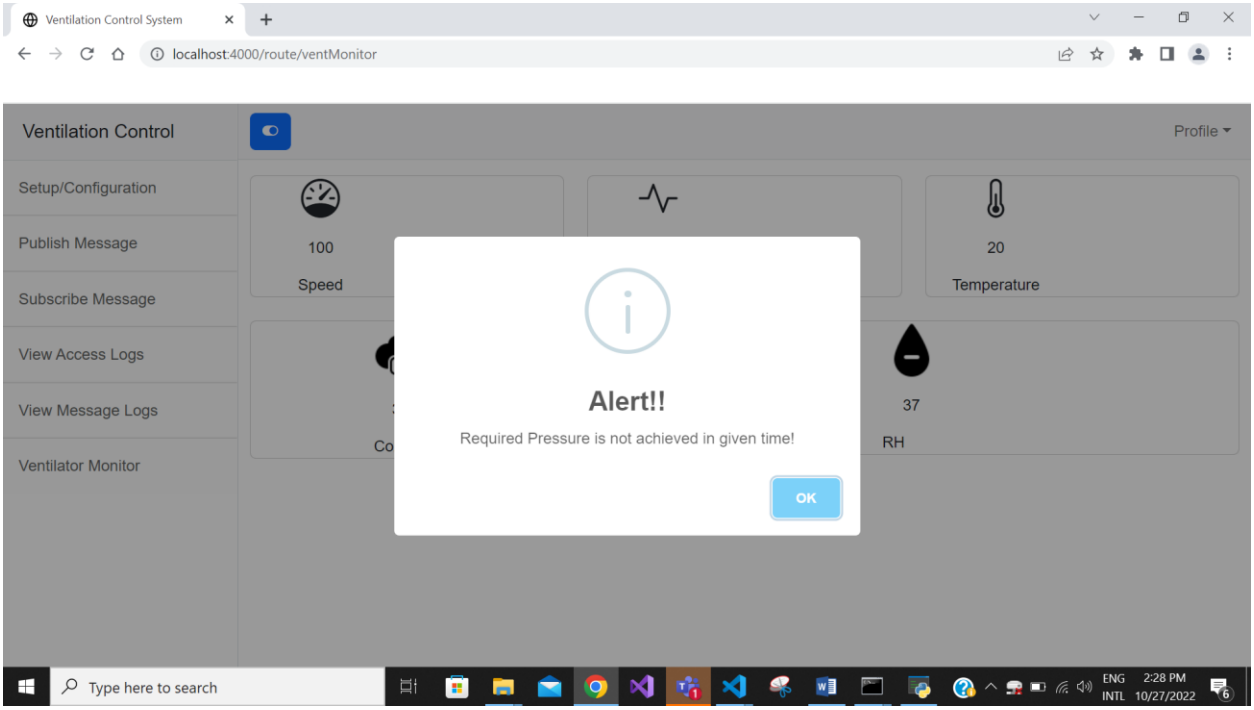
Ventilator Monitor

This module consists of the graphical representation of status values generated while subscribing the Ventilator Controller Simulator. The parameters include Speed, Pressure, Temperature, CO2, RH. The values change periodically and the changes in values can be viewed as.



Notifying in UI

UI is able to notify the user that the target to set the pressure value (auto mode) could not be achieved in a given period of time as shown below.



Log Out

Users can logout from profile>logout as :