Internet Of Things

Lab - 8

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[redacted]

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Aim :

To retrieve and store information from and to a local database with the help of Node-RED and design a form to receive entries to store into the database, and display it using the Node-red dashboard by using the concepts of IoT.

Software :

Node-Red Software.

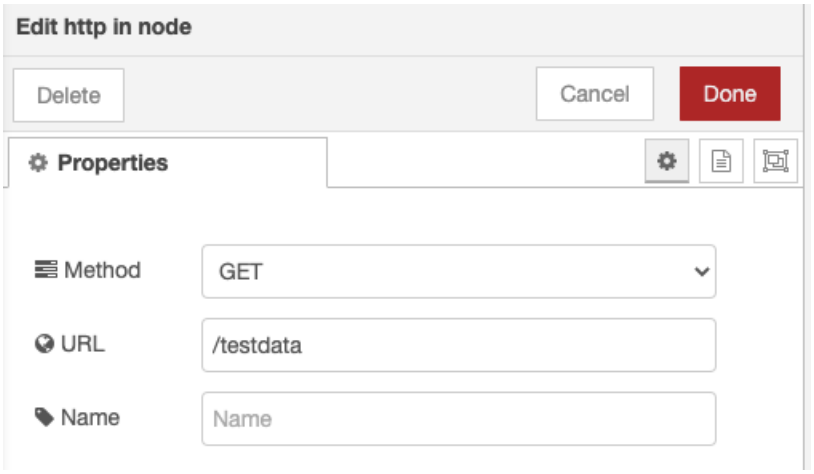
Methodology :

This video instructions are followed : https://www.youtube.com/watch?v=OP0yUqXFbcQ

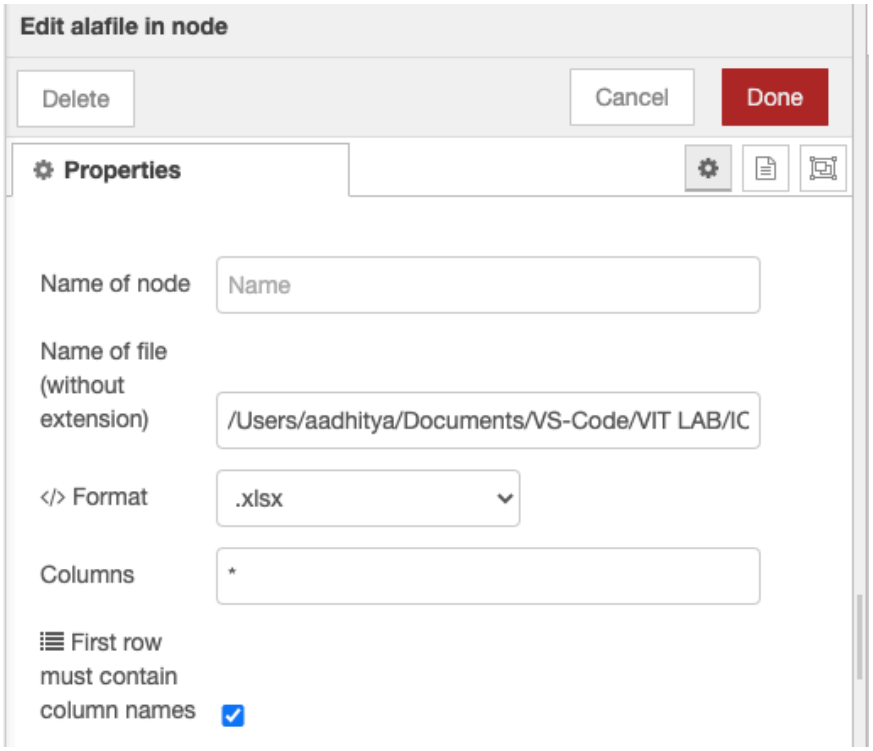
Simulation And Output :

1) To retrieve and display data from a database

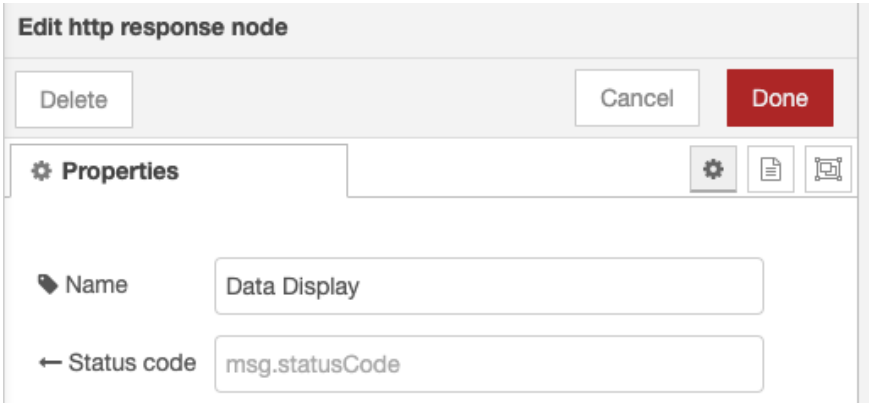
(1.1) HTTP node



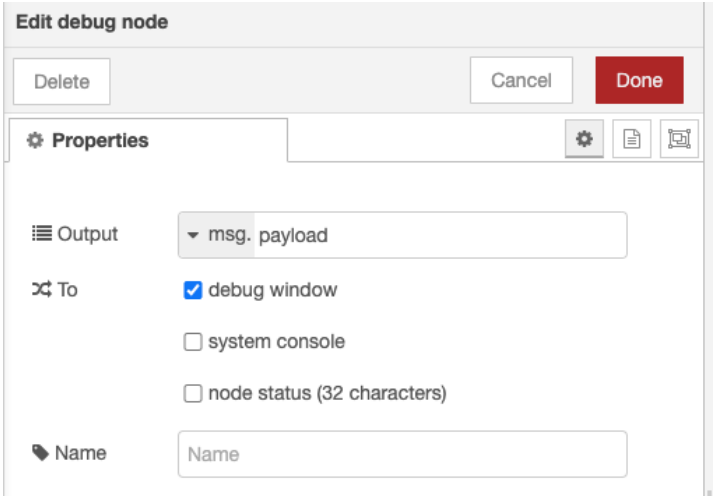
(1.2) ALASQL node



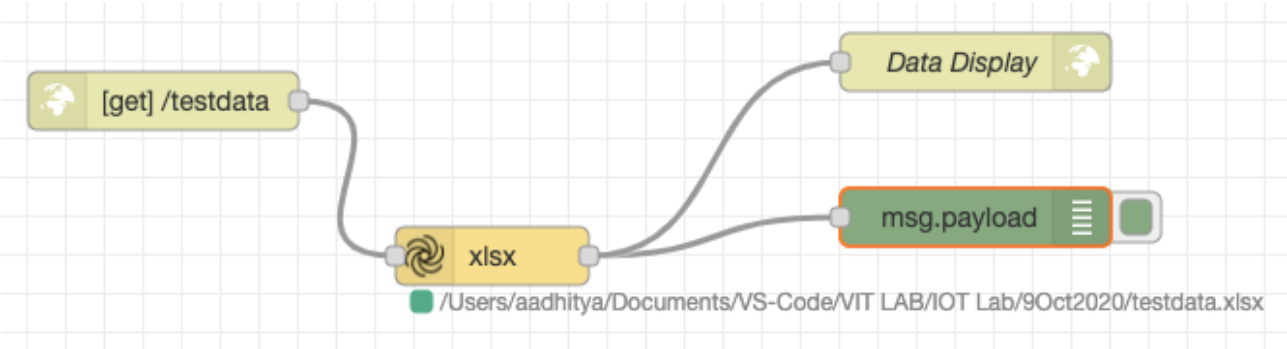
(1.3) HTTP Response node



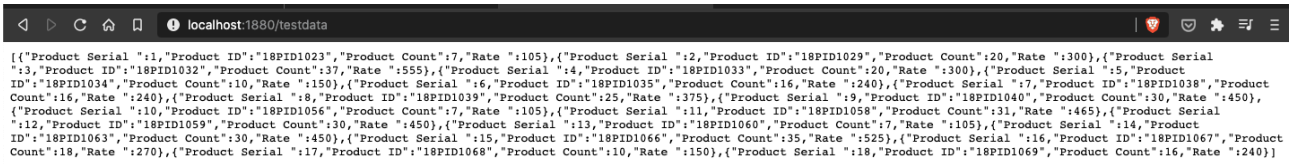
(1.4) Debug node

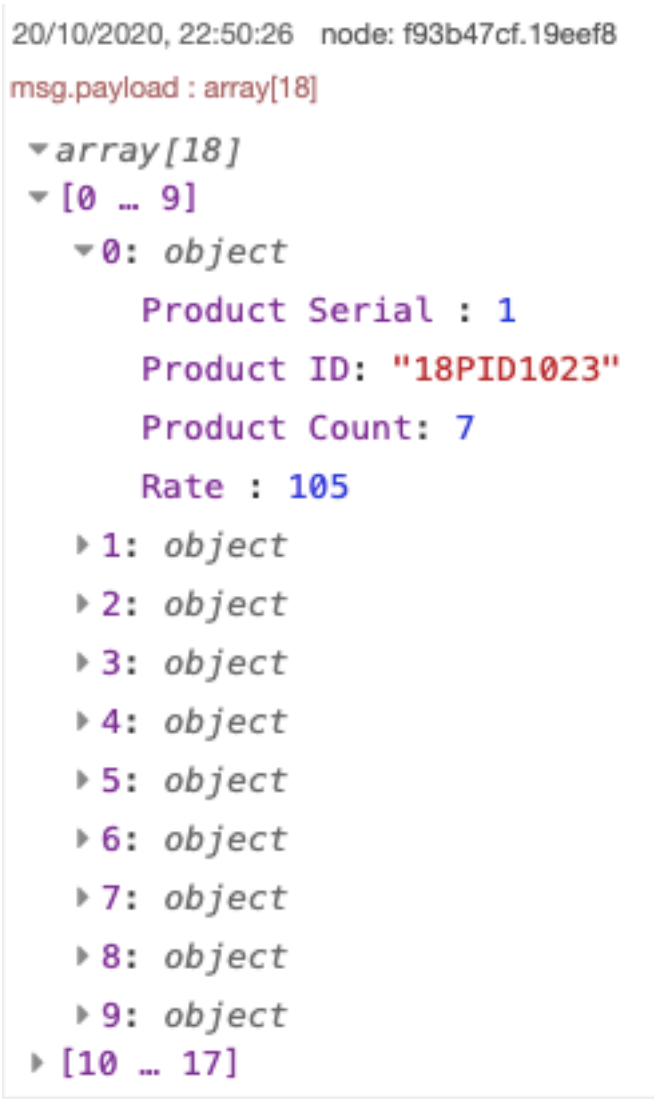


(1.5) Complete Circuit Flow



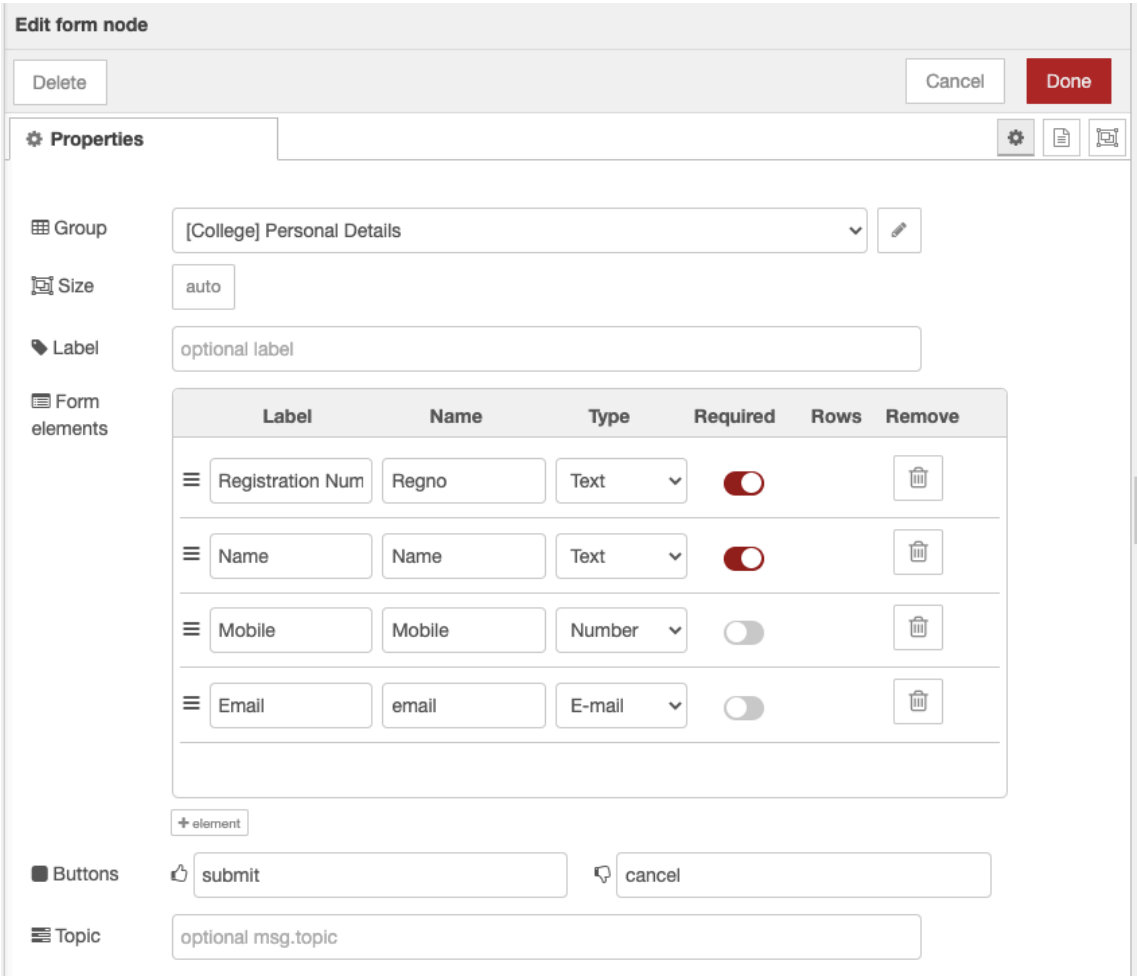
(1.6) Output



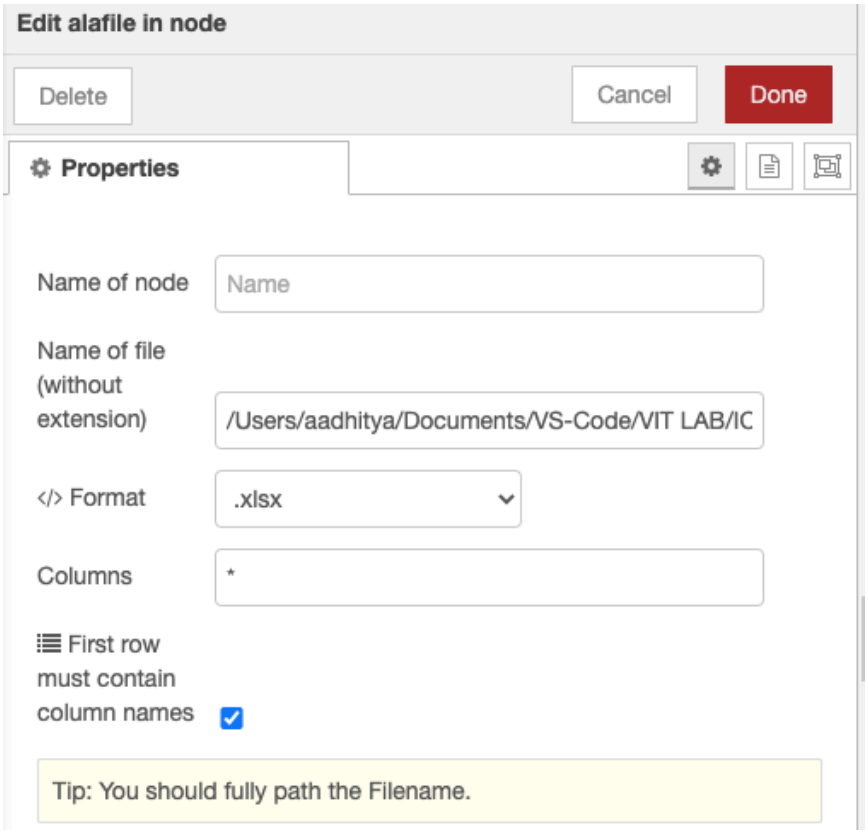


2) To design a form to enter the data into a database

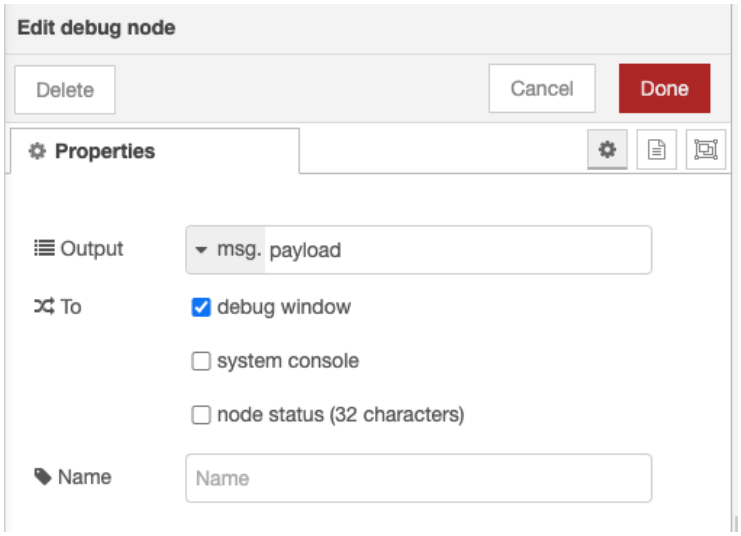
(2.1) Form node



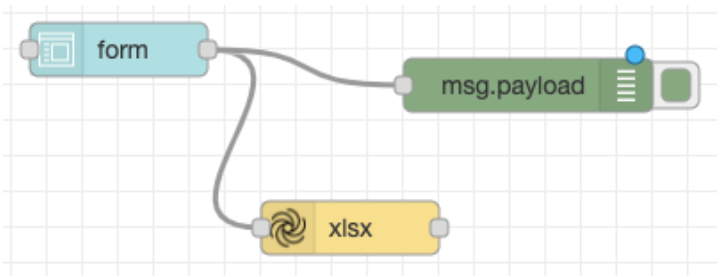
(2.2) ALASQL node



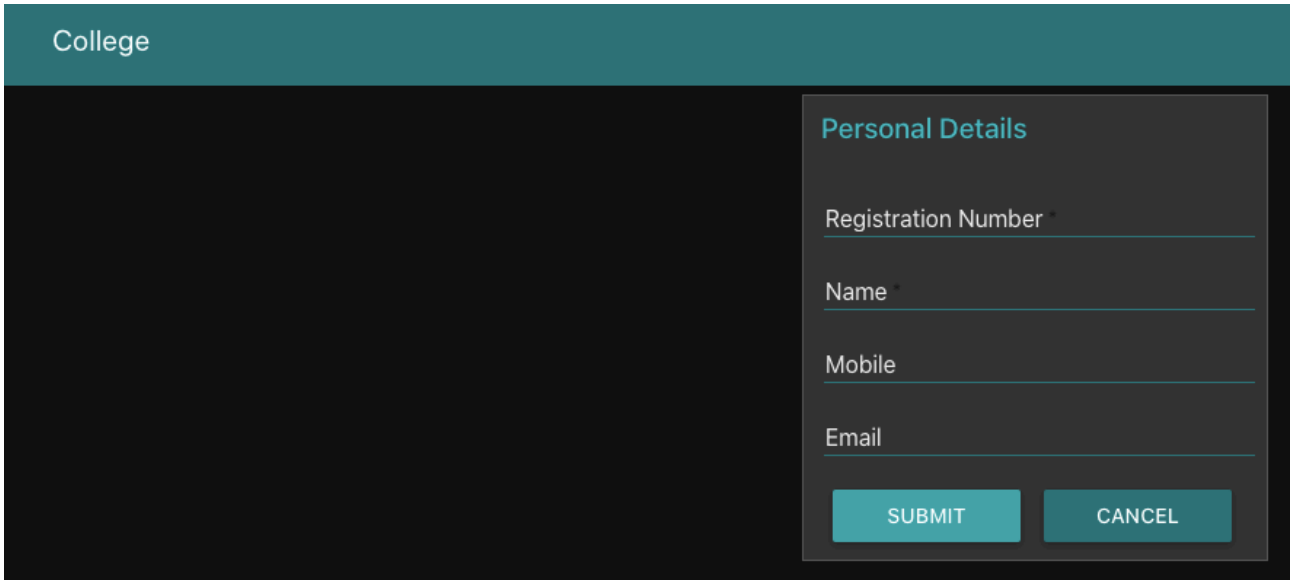
(2.3) Debug node



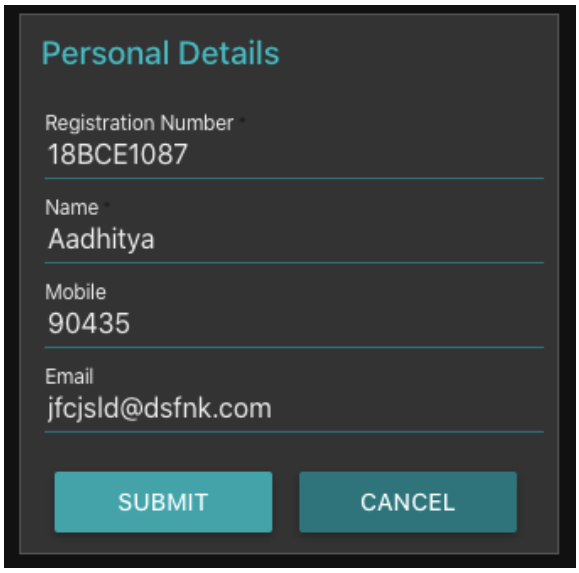
(2.4) Complete Circuit Flow



(2.5) Node-Red UI Dashboard



(2.6) Output



3) Complete Flow Code

[{"id":"84c45e74.bf407","type":"tab","label":"Retrieving data from Local database Lab 8","disabled":false,"info":""},{"id":"75fd569c.a94d58","type":"http in","z":"84c45e74.bf407","name":"","url":"/testdata","method":"get","upload":false,"swaggerDoc":"","x":150,"y":100,"wires":[["993bbc17.05381"]]},{"id":"6b4f8b34.87a484","type":"http response","z":"84c45e74.bf407","name":"Data Display","statusCode":"","headers":{},"x":570,"y":80,"wires":[]},{"id":"f93b47cf.19eef8","type":"debug","z":"84c45e74.bf407","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","targetType":"msg","statusVal":"","statusType":"auto","x":570,"y":160,"wires":[]},{"id":"993bbc17.05381","type":"alafile in","z":"84c45e74.bf407","name":"","filename":"/Users/aadhitya/Documents/VS-Code/VIT LAB/IOT Lab/90ct2020/testdata","format":"xlsx","columns":"*","headers":true,"x":320,"y":180,"wires":[["f93b47cf.19eef8","6b4f8b34.87a484"]]},{"id":"6af9cc07.854fc4","type":"alafile in","z":"84c45e74.bf407","name":"","filename":"/Users/aadhitya/Documents/VS-Code/VIT LAB/IOT Lab/90ct2020/testdata","format":"xlsx","columns":"*","headers":true,"x":310,"y":480,"wires":[[]]},{"id":"50d979c3.5f1bc8","type":"ui_form","z":"84c45e74.bf407","name":"","label":"","group":"11faacd5.8521a3","order":0,"width":0,"height":0,"options":[{"label":"Registration Number","value":"Regno","type":"text","required":true,"rows":null},{"label":"Name","value":"Name","type":"text","required":true,"rows":null},{"label":"Mobile","value":"Mobile","type":"number","required":false,"rows":null},{"label":"Email","value":"email","type":"email","required":false,"rows":null}],"formValue":{"Regno":"","Name":"","Mobile":"","email":""},"payload":"","submit":"submit","cancel":"cancel","topic":"","x":180,"y":380,"wires":[["6af9cc07.854fc4","f784a99b.507e08"]]},{"id":"f784a99b.507e08","type":"debug","z":"84c45e74.bf407","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","targetType":"msg","statusVal":"","statusType":"auto","x":410,"y":400,"wires":[]},{"id":"11faacd5.8521a3","type":"ui_group","z":"","name":"Personal Details”,"tab":"de3976af.2e6cd8","order":1,"disp":true,"width":"6","collapse":false},{"id":"de3976af.2e6cd8","type":"ui_tab","z":"","name":"College","icon":"dashboard","disabled":false,"hidden":false}]

Result :

Thus, with the help of Node-RED we have taken an input data from a form and processed and stored it into a local database using Node Red and have put it to practical use. We have also designed an API view to retrieve all the data stored inside the local database.