Date	10-Nov-22
Team ID	PNT2022TMID06691
Project Name	Real time river water quality monitoring and control system
Maximum Marks	4 marks

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Commnets	TC for Automation(Y/N)	BUG ID	Executed By
LoginPage_TC_OO1	Functional	Home Page	Verify user is able to see the Login/Signup popup when user clicked on My account button	IBM Cloud services	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Singup popup displayed or not	www.cloud.ibm.com	Login/Signup popup should display	Working as expected	Pass				Palani M
LoginPage_TC_OO2	UI	Home Page	Verify the UI elements in Login/Signup popup	IBM Cloud services	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Singup popup with below UI elements: a.email text box b.password text box c.Login button d.New customer? Create account link e.Last password? Recovery password link	www.cloud.ibm.com	Application should show below UI elements: a.email text box b.password text box c.Login button with orange colour d.New customer? Create account link e.Last password? Recovery password link	Working as expected	Fail	Steps are not clear to follow			Nandhakumar L
LoginPage_TC_OO3	Functional	Home page	Verify user is able to log into application with Valid credentials	IBM Cloud services	1.Enter URL(https://shopenzer.com/) and click go2.Click on My Account dropdown button3.Enter Valid username/email in Email text box4.Enter valid password in password text box5.Click on login button	Username:61071912130@smartinternz.compassword: Mpgu1234#	User should navigate to user account homepage	Working as expected	Pass				Tharun Prasath R C
LoginPage_TC_OO4	Functional	Login page	Verify user is able to log into application with InValid credentials	IBM Cloud services	1.Enter URL(https://shopenzer.com/) and click go 2.Click on My Account dropdown button 3.Enter InValid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username:61071912130@smartinternz.com password: Mpgu1234#	Application should show 'Incorrect email or password ' validation message.	Working as expected	Pass				Vikram Siva K V
LoginPage_TC_OO4	Functional	Login page	Verify user is able to log into application with InValid credentials	IBM Cloud services	1.Enter URL(https://shopenzer.com/) and click go 2.Click on My Account dropdown button 3.Enter Valid username/email in Email text box 4.Enter Invalid password in password text box 5.Click on login button	Username:61071912130@smartinternz.com password: Mpgu1234#	Application should show 'Incorrect email or password ' validation message.	Working as expected	Pass				Palani M
LoginPage_TC_OO5	Functional	Login page	Verify user is able to log into application with InValid credentials	IBM Cloud services	1.Enter URL(https://shopenzer.com/) and click go2.Click on My Account dropdown button3.Enter InValid username/email in Email text box4.Enter Invalid password in password text box5.Click on login button	Username:61071912130@smartinternz.compassword: Mpgu1234#	Application should show 'Incorrect email or password ' validation message.	Working as expected	Pass				Nandhakumar L

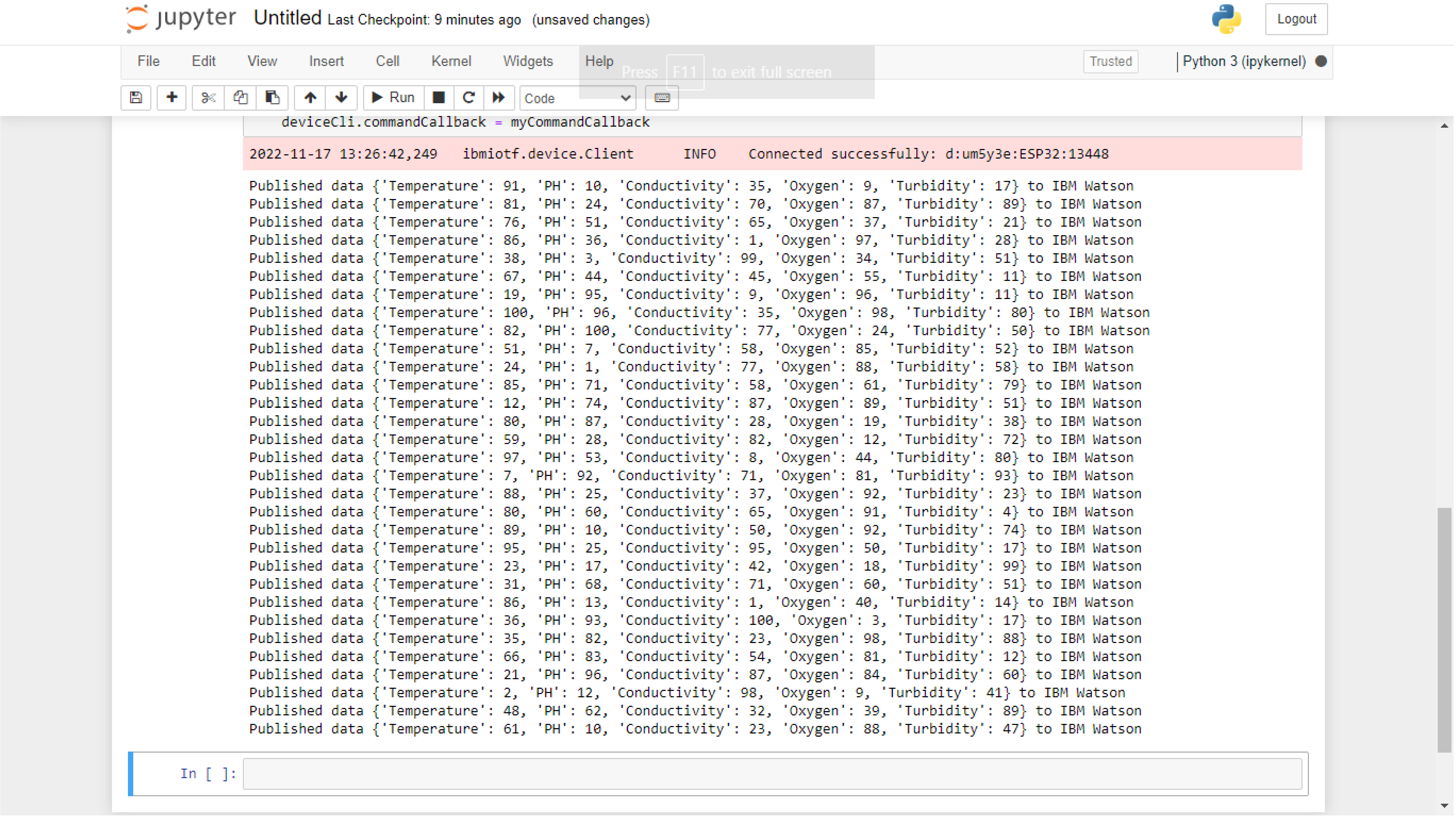
Designing the circuit _TC__01	Functional	Backend	Creating the design flow and making the proper connection to get the output	Tinkercad	1.Creating an account in tinkercad. 2.Making the circuit connections . . 3.Editing the program as per the circuit . 4. simulating the project.	LED ON and OFF with Parameter values	The led must be able to operate with the program. The parameters must be obtained.	Not working as expected	Fail	Connection error			Tharun Prasath R C
Designing the circuit_TC_02	Functional	Backend	Creating the design flow and making the proper connection to get the output	Node-RED	1.Downloading all the dashboard nodes required. 2.Picking and pasting the dashboard nodes 3.Connecting the nodes 4.Deploying the design flow	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The Node Red must be able to get the real time values of temperature,pH and turbidity.	Working as expected	Pass				Vikram Siva K V
Designing the circuit_TC _03	Functional	Backend	Creating the design flow and making the proper connection to get the output	Node-RED	1.Downloading all the dashboard nodes required. 2.Picking and pasting the dashboard nodes 3.Connecting the nodes 4.Deploying the design flow	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The Node Red must be able to get the real time values of temperature,pH and turbidity.	Working as expected	Pass				Palani M
Create a program suitable for the circuit and also compile and execute the programs_TC_01	Functional	Backend	Developing the python script to get the parameter values	Python 3.7	1.Installing python version 3.7.0 2.Developing the python code 3.Resolving the errors 4.Executing the program 5.Obtaining the output	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The program must be executed without any error and the values must be obtained.	Working as expected	Pass		Y		Nandhakumar L
Create a program suitable for the circuit and also compile and execute the programs._Tc_02	Functional	Backend	Developing the python script to get the parameter values	Python 3.7	1.Installing python version 3.7.0 2.Developing the python code 3.Resolving the errors 4.Executing the program 5.Obtaining the output	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The program must be executed without any error and the values must be obtained.	Working as expected	Pass		Y		Tharun Prasath R C
Create a program suitable for the circuit and also compile and execute the programs_TC_03	Functional	Backend	Developing the python script to get the parameter values	Python 3.7	1.Installing python version 3.7.0 2.Developing the python code 3.Resolving the errors 4.Executing the program 5.Obtaining the output	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The program must be executed without any error and the values must be obtained.	Working as expected	Pass		Y		Vikram Siva K V
Create a program suitable for the circuit and also compile and execute the programs_TC_04	Functional	Backend	Developing the python script to get the parameter values	Python 3.7	1.Installing python version 3.7.0 2.Developing the python code 3.Resolving the errors 4.Executing the program 5.Obtaining the output	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The program must be executed without any error and the values must be obtained.	Working as expected	Pass		Y		Palani M
connect the output values to the cloud services by using NODE RED._TC_01	Functional	Backend	Connecting the python code with the node red by providing the watson credentials	IBM IOT Watson platform and Node-RED	1.Provide the watson credentials in the python script 2.Verify the values are displayed in node red 3.Values must be obtained in watson,Node-red and python	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The Temperature,pH and Turbidity values must be obtained.	Not working as expected	Fail	Not authorised			Nandhakumar L

connect the output values to the cloud services by using NODE RED_TC_02	Functional	Backend	Connecting the python code with the node red by providing the watson credentials	IBM IOT Watson platform and Node-RED	1.Provide the watson credentials in the python script 2.Verify the values are displayed in node red 3.Values must be obtained in watson,Node-red and python	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The Temperature,pH and Turbidity values must be obtained.	Working as expected	Pass				Tharun Prasath R C
connect the output values to the cloud services by using NODE RED_TC_03	Functional	Backend	Connecting the python code with the node red by providing the watson credentials	IBM IOT Watson platform and Node-RED	1.Provide the watson credentials in the python script 2.Verify the values are displayed in node red 3.Values must be obtained in watson,Node-red and python	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The Temperature,pH and Turbidity values must be obtained.	Working as expected	Pass				Vikram Siva K V
Connects the cloud data with the authorities communication device. _TC_01	Functional	User Interface	Making the parameter values visible in the mobile through MIT app inventor.	MIT app inventor	1.Install MIT Ai2 companion app in mobile phone. 2. Scan QR code with mobile device. 3.Check whether the values can be obtained in the mobile.	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The parameter values must be visible in the mobile application.	Not working as expected	Fail	Error 1101		Error 1101	Palani M
Connects the cloud data with the authorities communication device._TC_02	Functional	User Interface	Making the parameter values visible in the mobile through MIT app inventor.	MIT app inventor	1.Install MIT Ai2 companion app in mobile phone. 2. Scan QR code with mobile device. 3.Check whether the values can be obtained in the mobile.	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The parameter values must be visible in the mobile application.	Working as expected	Pass				Nandhakumar L
Connects the cloud data with the authorities communication device._TC_03	Functional	User Interface	Making the parameter values visible in the mobile through MIT app inventor.	MIT app inventor	1.Install MIT Ai2 companion app in mobile phone. 2. Scan QR code with mobile device. 3.Check whether the values can be obtained in the mobile.	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The alert messages must be sent to the authorities with the exact values.	Working as expected	Pass				Tharun Prasath R C
Connects the cloud data with the authorities communication device. _TC_01	Functional	User Interface	Making the parameter values visible in the mobile through MIT app inventor.	MIT app inventor	1.Install MIT Ai2 companion app in mobile phone. 2. Scan QR code with mobile device. 3.Check whether the values can be obtained in the mobile.	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The parameter values must be visible in the mobile application.	Not working as expected	Fail	Error 1101		Error 1101	Vikram Siva K V
Connects the cloud data with the authorities communication device._TC_02	Functional	User Interface	Making the parameter values visible in the mobile through MIT app inventor.	MIT app inventor	1.Install MIT Ai2 companion app in mobile phone. 2. Scan QR code with mobile device. 3.Check whether the values can be obtained in the mobile.	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The parameter values must be visible in the mobile application.	Working as expected	Pass				Palani M
Connects the cloud data with the authorities communication device._TC_03	Functional	User Interface	Making the parameter values visible in the mobile through MIT app inventor.	MIT app inventor	1.Install MIT Ai2 companion app in mobile phone. 2. Scan QR code with mobile device. 3.Check whether the values can be obtained in the mobile.	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The alert messages must be sent to the authorities with the exact values.	Working as expected	Pass				Nandhakumar L
Final Report Output_TC_01	UI	Output	The entire project is simulated and the outputs are recorded.	Project doc	1.The entire output can be obtained. 2.Final report is prepared wi th the suggested format	Temperature=" " PH=" " Conductivity=" " Oxygen="" Turbidity=""	The entire system must work accordingly.	Working as expected	Pass				Tharun Prasath R C

Test Scenarios

1 Verify user is able to see login page
2 Verify user is able to get gauge values
3 Verify user is able to get the parameter values
4 Verify user is able to get the alert messages
5 Verify the project works in real time

Python Shell Output:

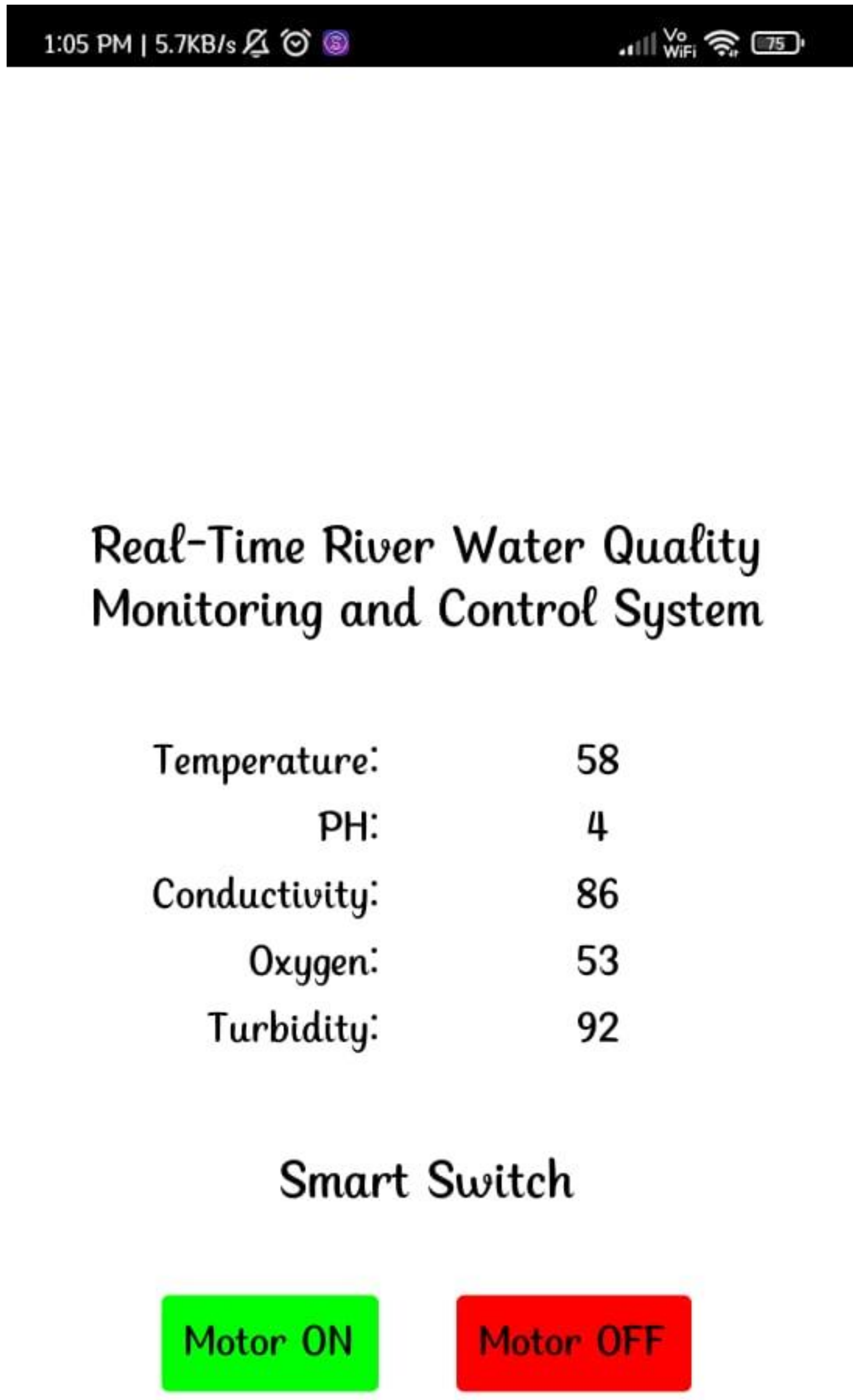


```
    deviceCli.commandCallback = myCommandCallback
```

```
2022-11-17 13:26:42,249   ibmiotf.device.Client      INFO    Connected successfully: d:um5y3e:ESP32:13448

Published data {'Temperature': 91, 'PH': 10, 'Conductivity': 35, 'Oxygen': 9, 'Turbidity': 17} to IBM Watson
Published data {'Temperature': 81, 'PH': 24, 'Conductivity': 70, 'Oxygen': 87, 'Turbidity': 89} to IBM Watson
Published data {'Temperature': 76, 'PH': 51, 'Conductivity': 65, 'Oxygen': 37, 'Turbidity': 21} to IBM Watson
Published data {'Temperature': 86, 'PH': 36, 'Conductivity': 1, 'Oxygen': 97, 'Turbidity': 28} to IBM Watson
Published data {'Temperature': 38, 'PH': 3, 'Conductivity': 99, 'Oxygen': 34, 'Turbidity': 51} to IBM Watson
Published data {'Temperature': 67, 'PH': 44, 'Conductivity': 45, 'Oxygen': 55, 'Turbidity': 11} to IBM Watson
Published data {'Temperature': 19, 'PH': 95, 'Conductivity': 9, 'Oxygen': 96, 'Turbidity': 11} to IBM Watson
Published data {'Temperature': 100, 'PH': 96, 'Conductivity': 35, 'Oxygen': 98, 'Turbidity': 80} to IBM Watson
Published data {'Temperature': 82, 'PH': 100, 'Conductivity': 77, 'Oxygen': 24, 'Turbidity': 50} to IBM Watson
Published data {'Temperature': 51, 'PH': 7, 'Conductivity': 58, 'Oxygen': 85, 'Turbidity': 52} to IBM Watson
Published data {'Temperature': 24, 'PH': 1, 'Conductivity': 77, 'Oxygen': 88, 'Turbidity': 58} to IBM Watson
Published data {'Temperature': 85, 'PH': 71, 'Conductivity': 58, 'Oxygen': 61, 'Turbidity': 79} to IBM Watson
Published data {'Temperature': 12, 'PH': 74, 'Conductivity': 87, 'Oxygen': 89, 'Turbidity': 51} to IBM Watson
Published data {'Temperature': 80, 'PH': 87, 'Conductivity': 28, 'Oxygen': 19, 'Turbidity': 38} to IBM Watson
Published data {'Temperature': 59, 'PH': 28, 'Conductivity': 82, 'Oxygen': 12, 'Turbidity': 72} to IBM Watson
Published data {'Temperature': 97, 'PH': 53, 'Conductivity': 8, 'Oxygen': 44, 'Turbidity': 80} to IBM Watson
Published data {'Temperature': 7, 'PH': 92, 'Conductivity': 71, 'Oxygen': 81, 'Turbidity': 93} to IBM Watson
Published data {'Temperature': 88, 'PH': 25, 'Conductivity': 37, 'Oxygen': 92, 'Turbidity': 23} to IBM Watson
Published data {'Temperature': 80, 'PH': 60, 'Conductivity': 65, 'Oxygen': 91, 'Turbidity': 4} to IBM Watson
Published data {'Temperature': 89, 'PH': 10, 'Conductivity': 50, 'Oxygen': 92, 'Turbidity': 74} to IBM Watson
Published data {'Temperature': 95, 'PH': 25, 'Conductivity': 95, 'Oxygen': 50, 'Turbidity': 17} to IBM Watson
Published data {'Temperature': 23, 'PH': 17, 'Conductivity': 42, 'Oxygen': 18, 'Turbidity': 99} to IBM Watson
Published data {'Temperature': 31, 'PH': 68, 'Conductivity': 71, 'Oxygen': 60, 'Turbidity': 51} to IBM Watson
Published data {'Temperature': 86, 'PH': 13, 'Conductivity': 1, 'Oxygen': 40, 'Turbidity': 14} to IBM Watson
Published data {'Temperature': 36, 'PH': 93, 'Conductivity': 100, 'Oxygen': 3, 'Turbidity': 17} to IBM Watson
Published data {'Temperature': 35, 'PH': 82, 'Conductivity': 23, 'Oxygen': 98, 'Turbidity': 88} to IBM Watson
Published data {'Temperature': 66, 'PH': 83, 'Conductivity': 54, 'Oxygen': 81, 'Turbidity': 12} to IBM Watson
Published data {'Temperature': 21, 'PH': 96, 'Conductivity': 87, 'Oxygen': 84, 'Turbidity': 60} to IBM Watson
Published data {'Temperature': 2, 'PH': 12, 'Conductivity': 98, 'Oxygen': 9, 'Turbidity': 41} to IBM Watson
Published data {'Temperature': 48, 'PH': 62, 'Conductivity': 32, 'Oxygen': 39, 'Turbidity': 89} to IBM Watson
Published data {'Temperature': 61, 'PH': 10, 'Conductivity': 23, 'Oxygen': 88, 'Turbidity': 47} to IBM Watson
```

MIT App Inventor Output:



Real-Time River Water Quality Monitoring and Control System

Temperature: 58

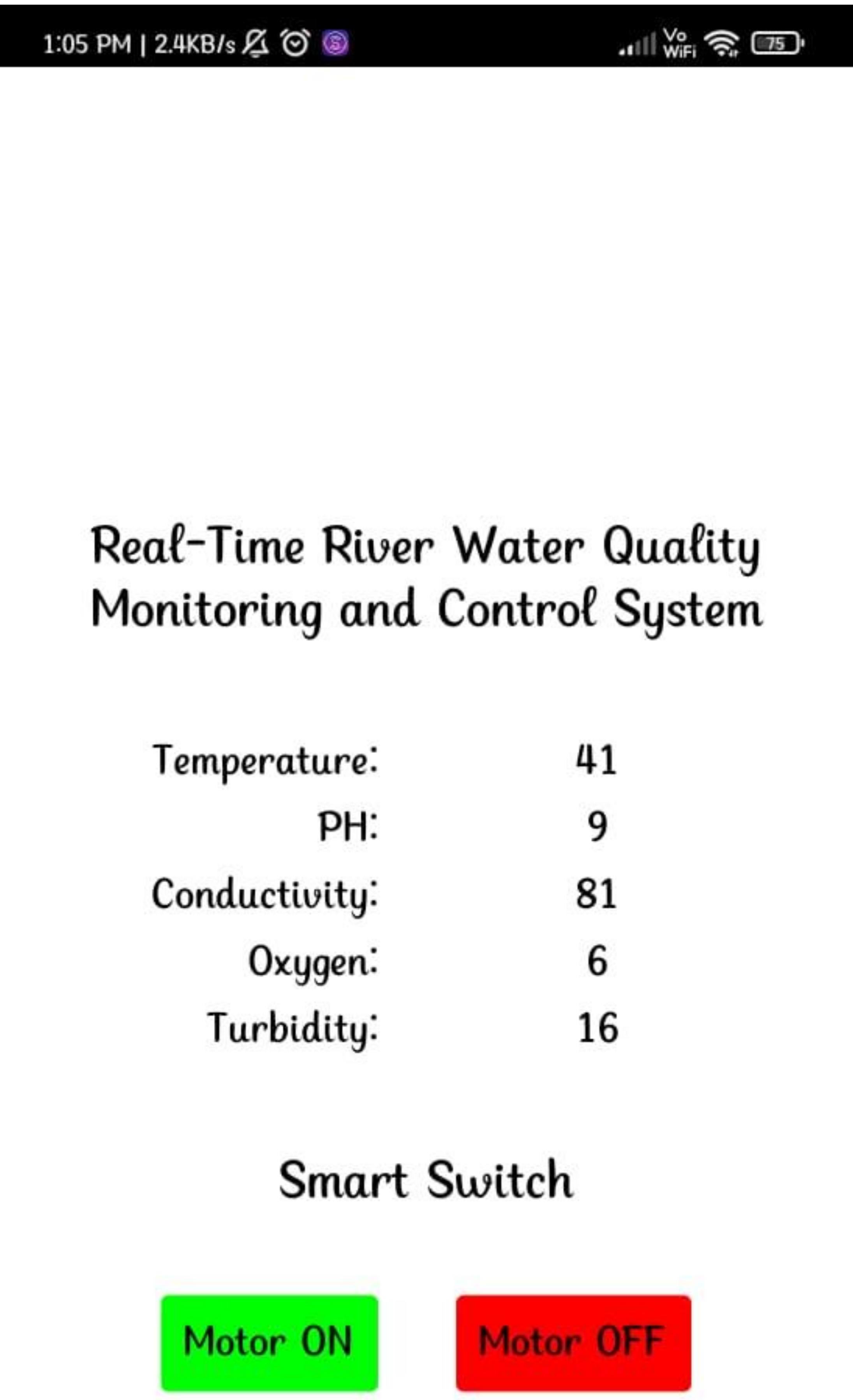
PH: 4

Conductivity: 86

Oxygen: 53

Turbidity: 92

Smart Switch



Real-Time River Water Quality Monitoring and Control System

Temperature: 41

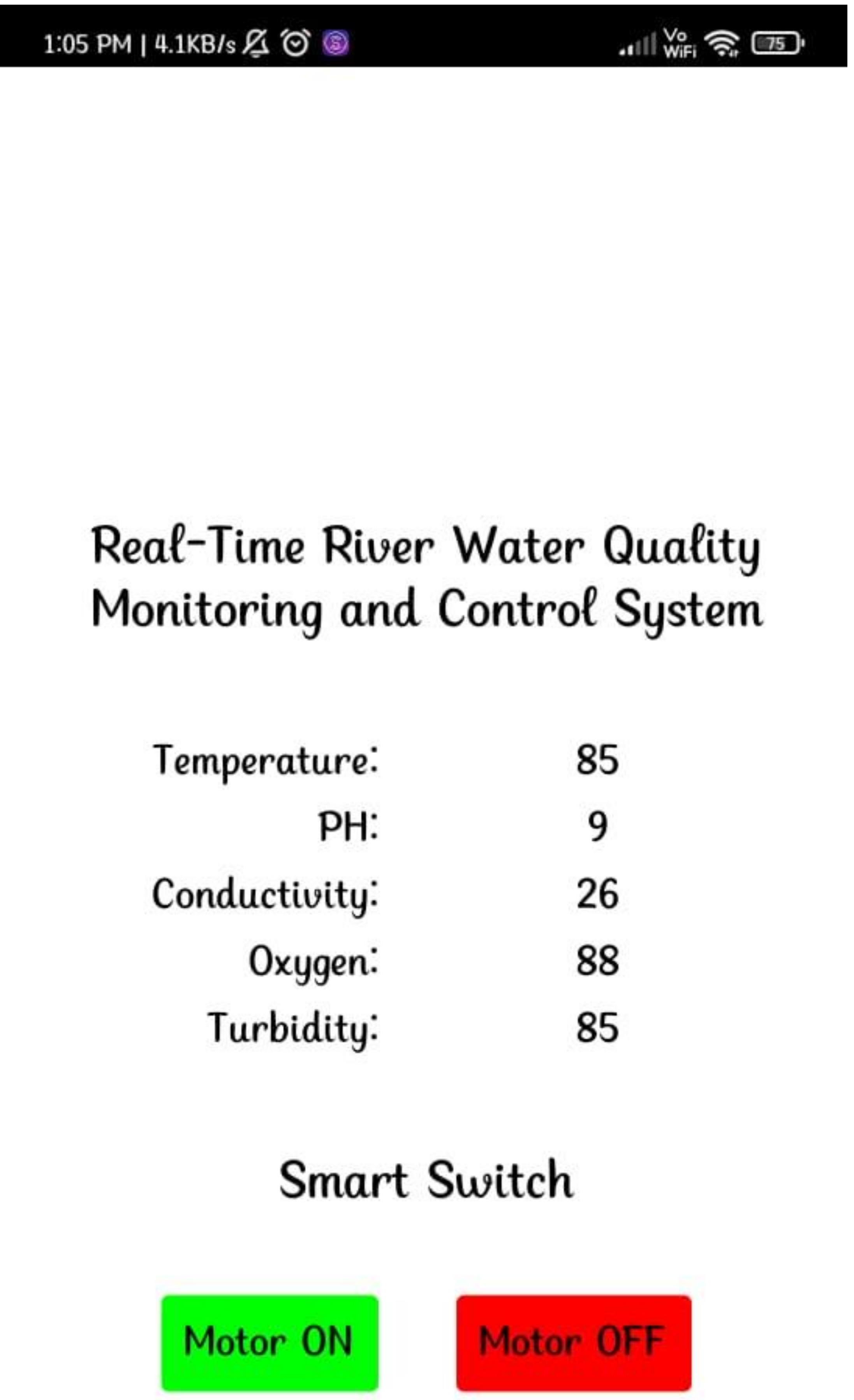
PH: 9

Conductivity: 81

Oxygen: 6

Turbidity: 16

Smart Switch



Real-Time River Water Quality Monitoring and Control System

Temperature: 85

PH: 9

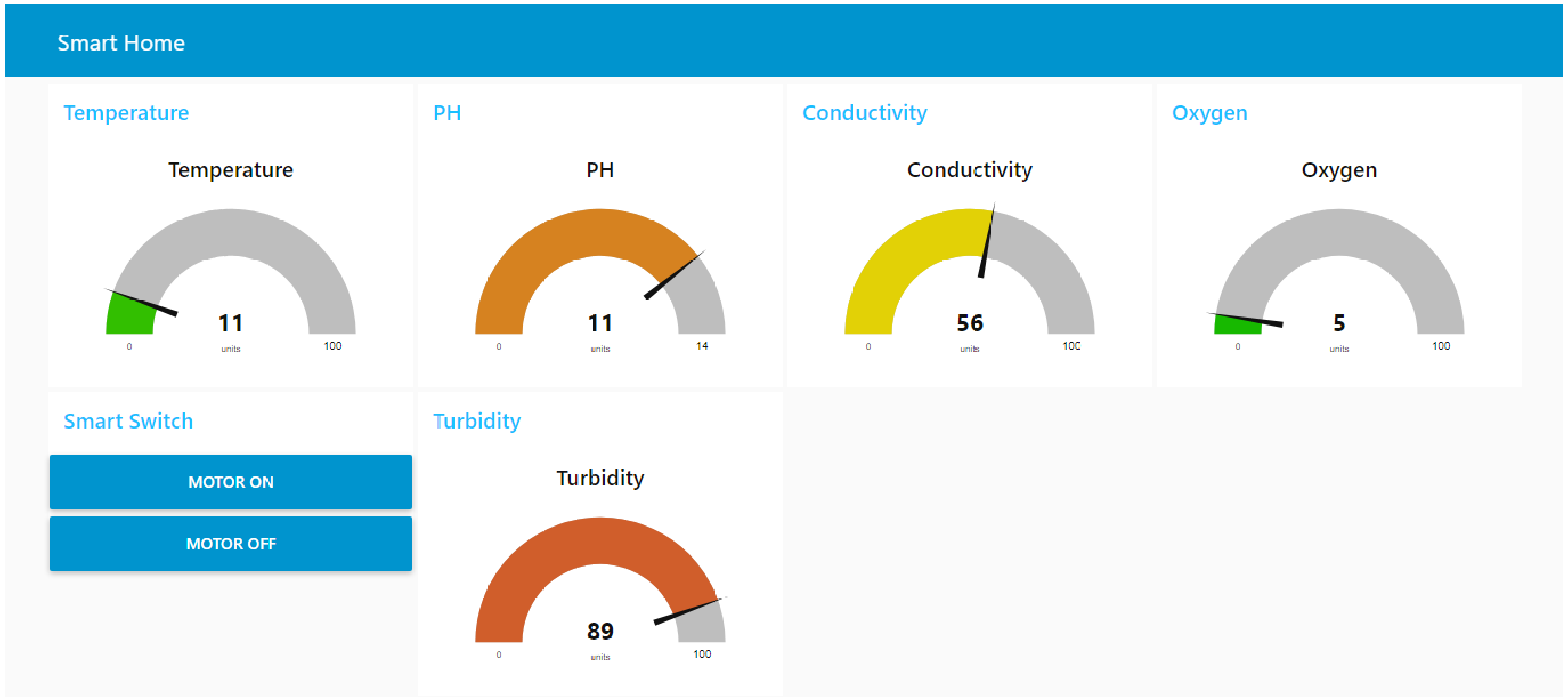
Conductivity: 26

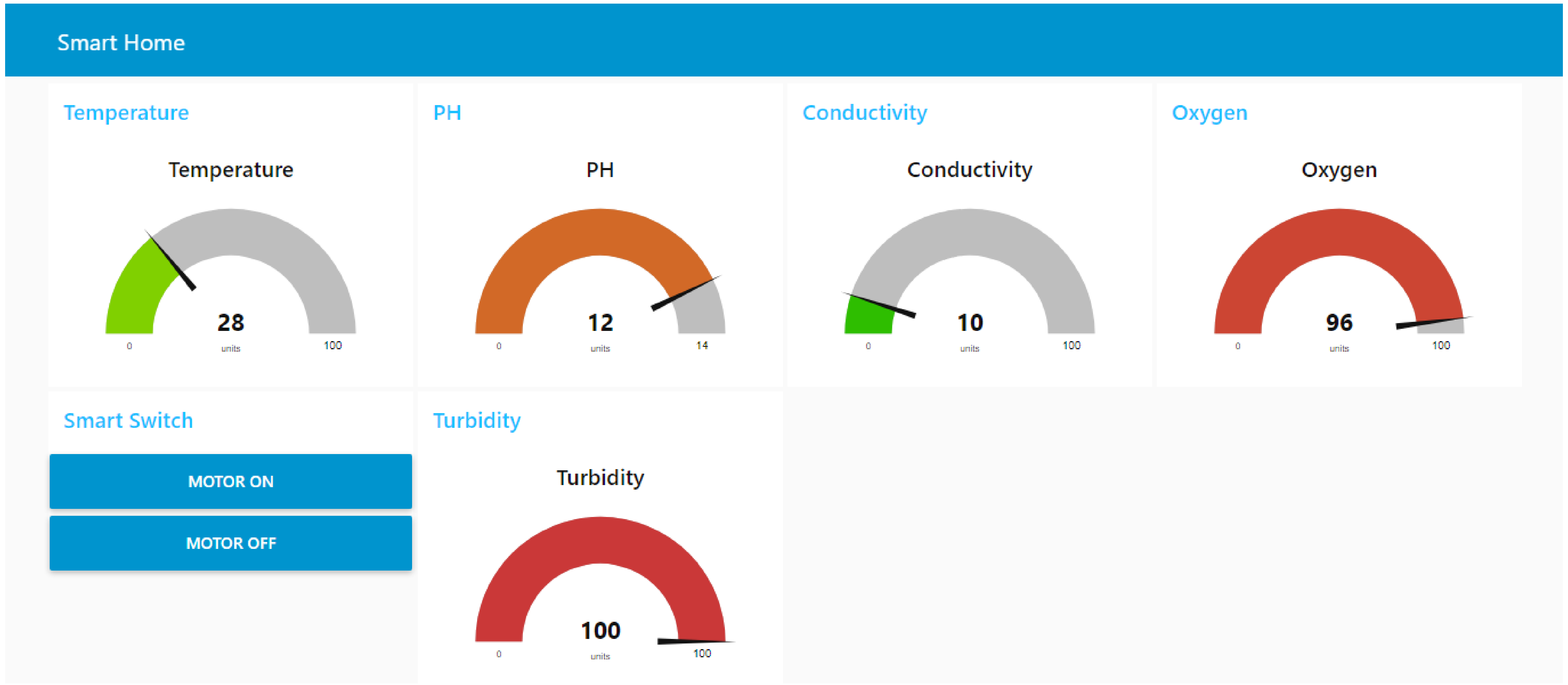
Oxygen: 88

Turbidity: 85

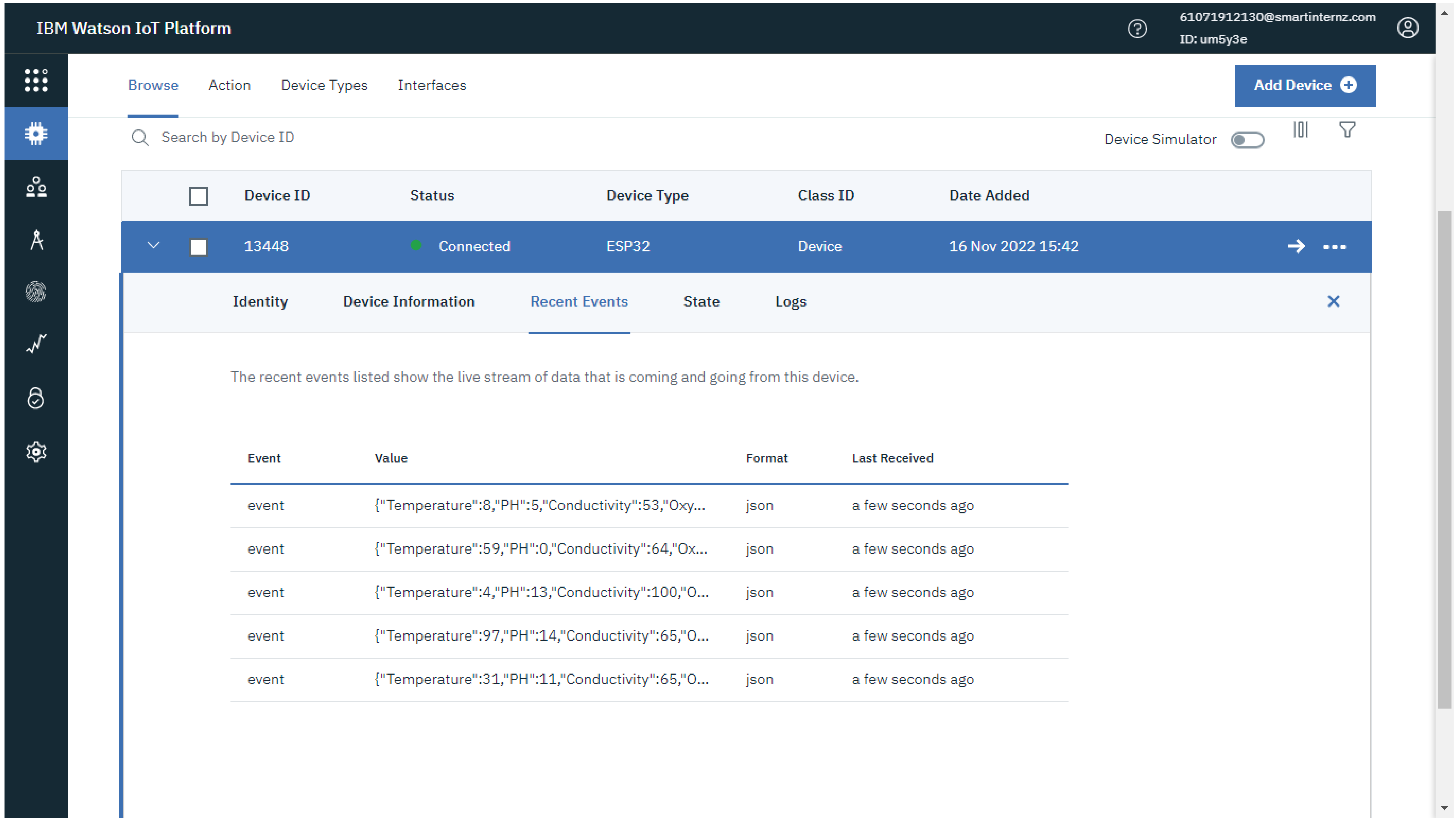
Smart Switch

Node Red Dashboard Output:





IBM Watson Platform Output:



☐	Device ID	Status	Device Type	Class ID	Date Added
☐	13448	● Connected	ESP32	Device	16 Nov 2022 15:42

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event	{"Temperature":8,"PH":5,"Conductivity":53,"Oxy...	json	a few seconds ago
event	{"Temperature":59,"PH":0,"Conductivity":64,"Ox...	json	a few seconds ago
event	{"Temperature":4,"PH":13,"Conductivity":100,"O...	json	a few seconds ago
event	{"Temperature":97,"PH":14,"Conductivity":65,"O...	json	a few seconds ago
event	{"Temperature":31,"PH":11,"Conductivity":65,"O...	json	a few seconds ago