Project Development Phase

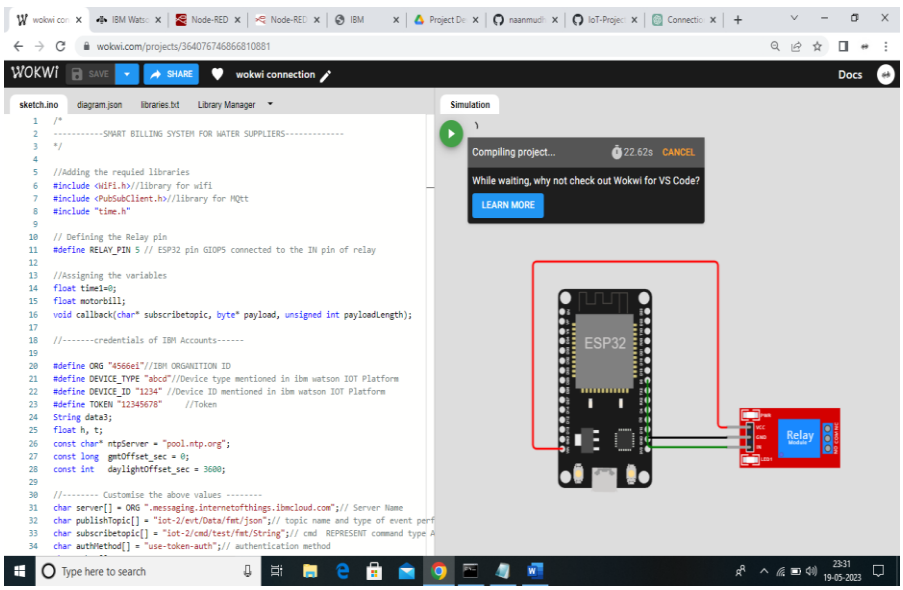
Performance Test

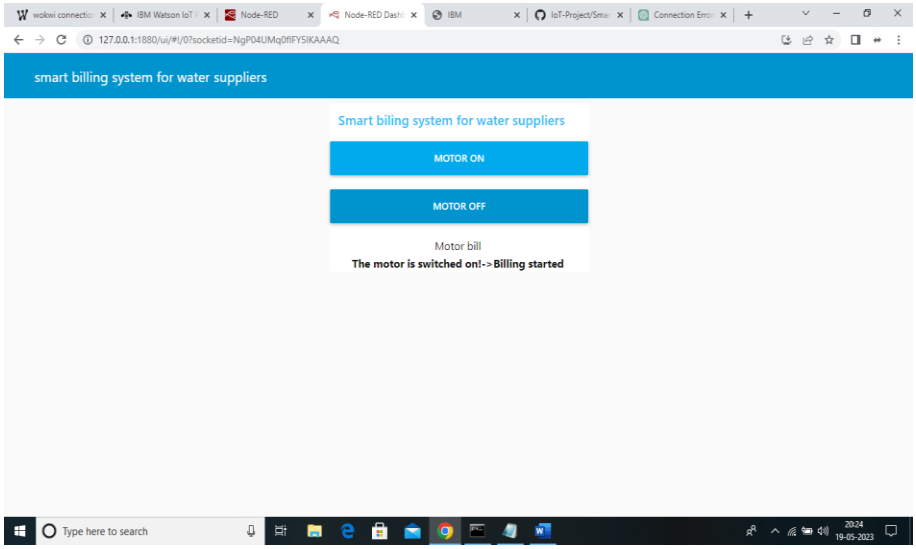
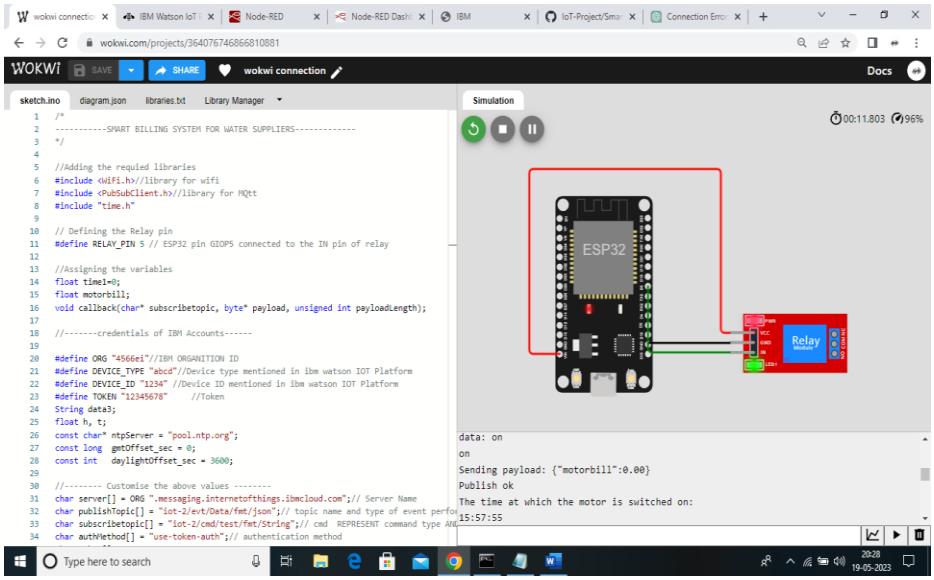
Date	**18 May 2023**
Team ID	**NM2023TMID01199**
Project Name	**Smart Billing system for water suppliers**

Performance Testing:

It is a non-functional software testing technique that determines how the stability, speed, scalability, and responsiveness of an application holds up under a given workload. It's a key step in ensuring software quality, but unfortunately, is often seen as an afterthought, in isolation, and to begin once functional testing is completed in most cases, after the code is ready to release.

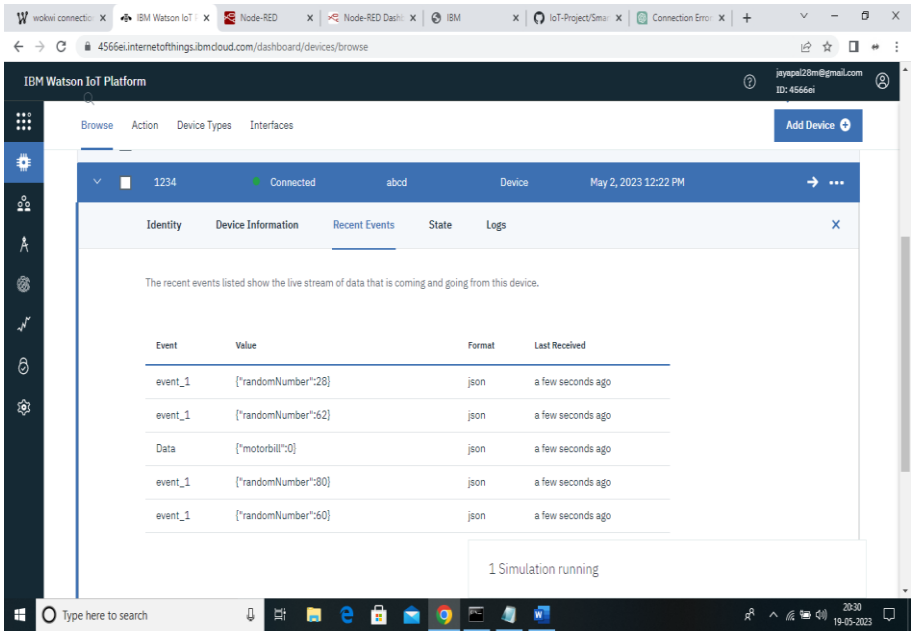
The execution time and the corresponding outputs are tabulated below.

Parameters	Values	Screenshots
Metrics	Wowki Execution time	The Execution time of wokwi stimulator for our project is 22.62 seconds. 

	Output screenshot	There are many steps involved in the output process. Here I attached screenshots for every steps below. **Step 1:** Turn ON the motor in Web UI (Node-RED)  **Step 2:** In wokwi, the relay will be switched ON and starts monitoring 

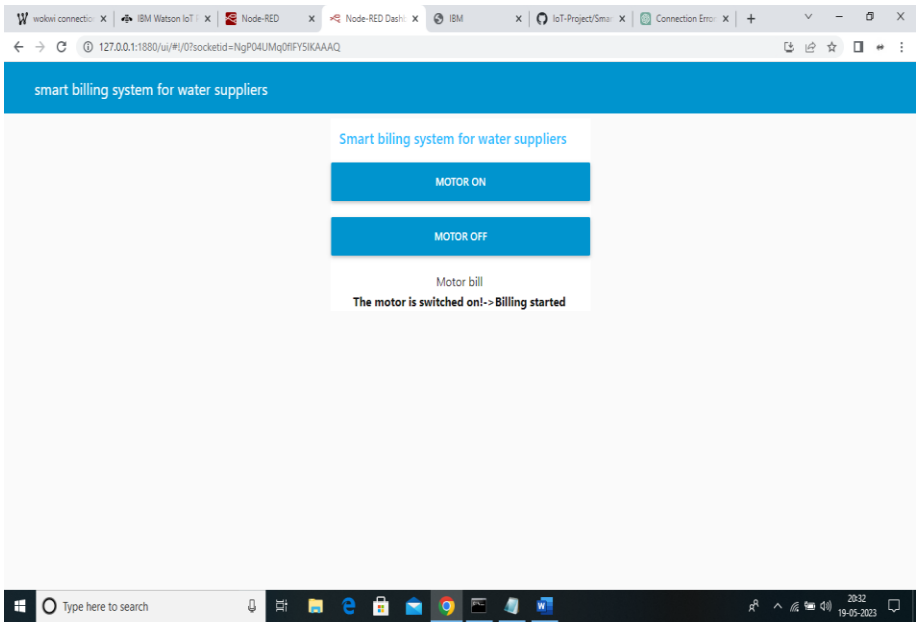
Step 3:

Publishing the data to IBM recent events



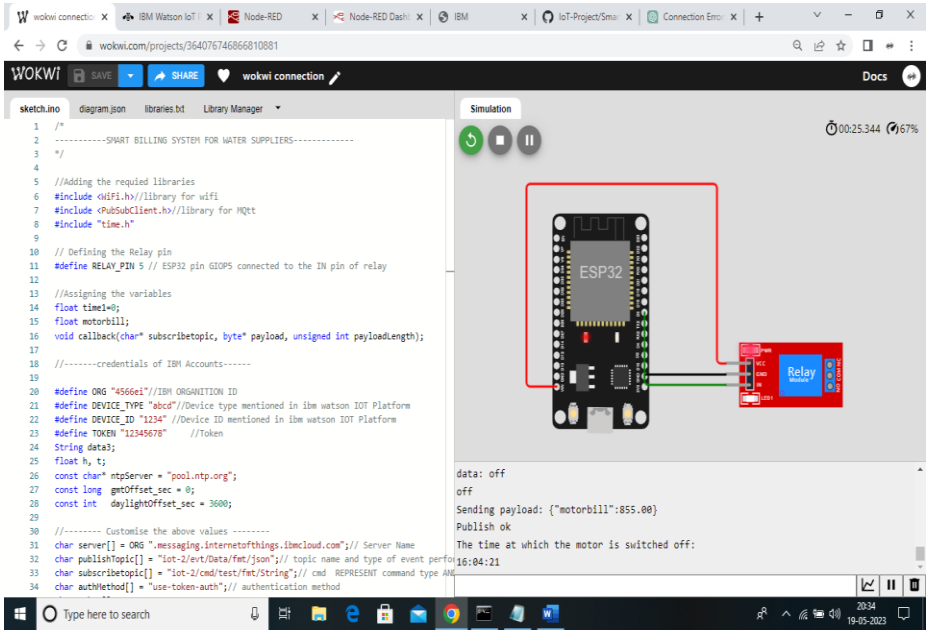
Step 4:

After few moments, the motor is directed to turn OFF in Node-RED



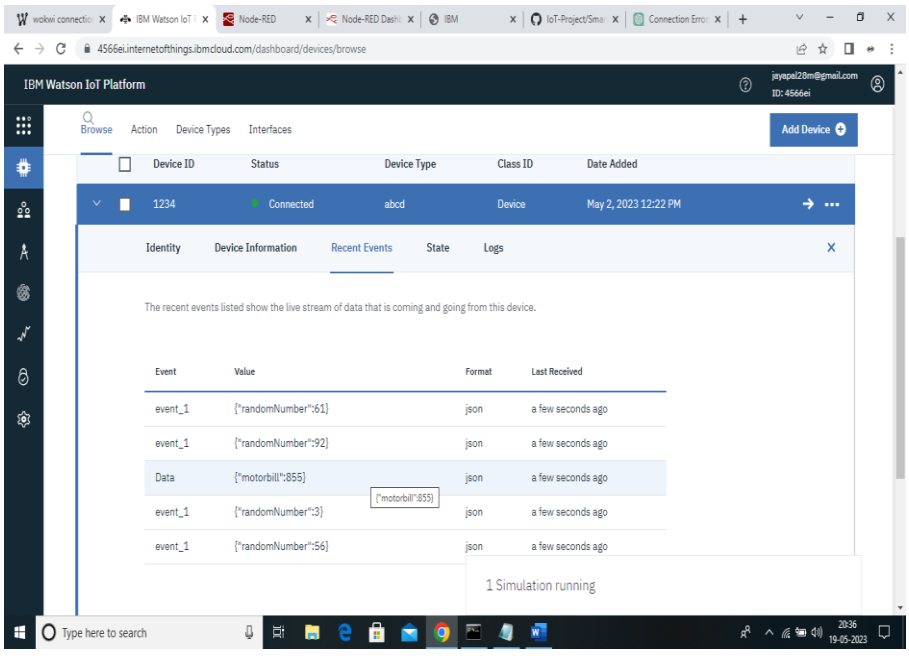
Step 5:

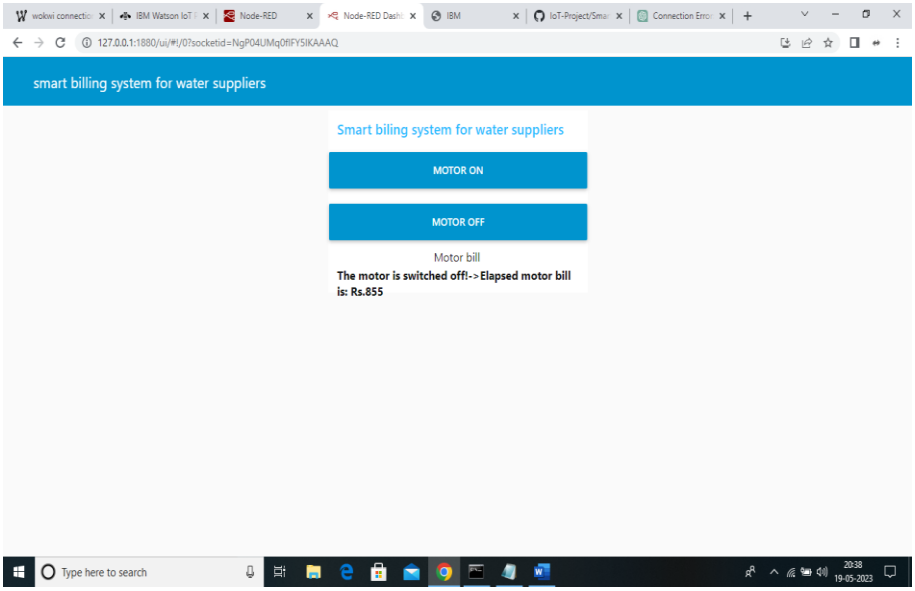
In wokwi, the relay will be switched OFF and generate a bill by using random function generator.



Step 6:

Publishing the motorbill to IBM recent events



		Step 7: Finally got the motorbill in Web UI 

These performance testing can be done by using the steps as follows.

- Identifying the Test Environment and tools
- Define acceptable Performance criteria
- Plan and Design Tests
- Prepare Test Environment and tools
- Run the Performance Tests
- Resolve and Retest

To make sure that the Performance testing is an iterative process, and it should be conducted at different stages of development and deployment to ensure consistent performance and reliability of the smart billing system for water suppliers.