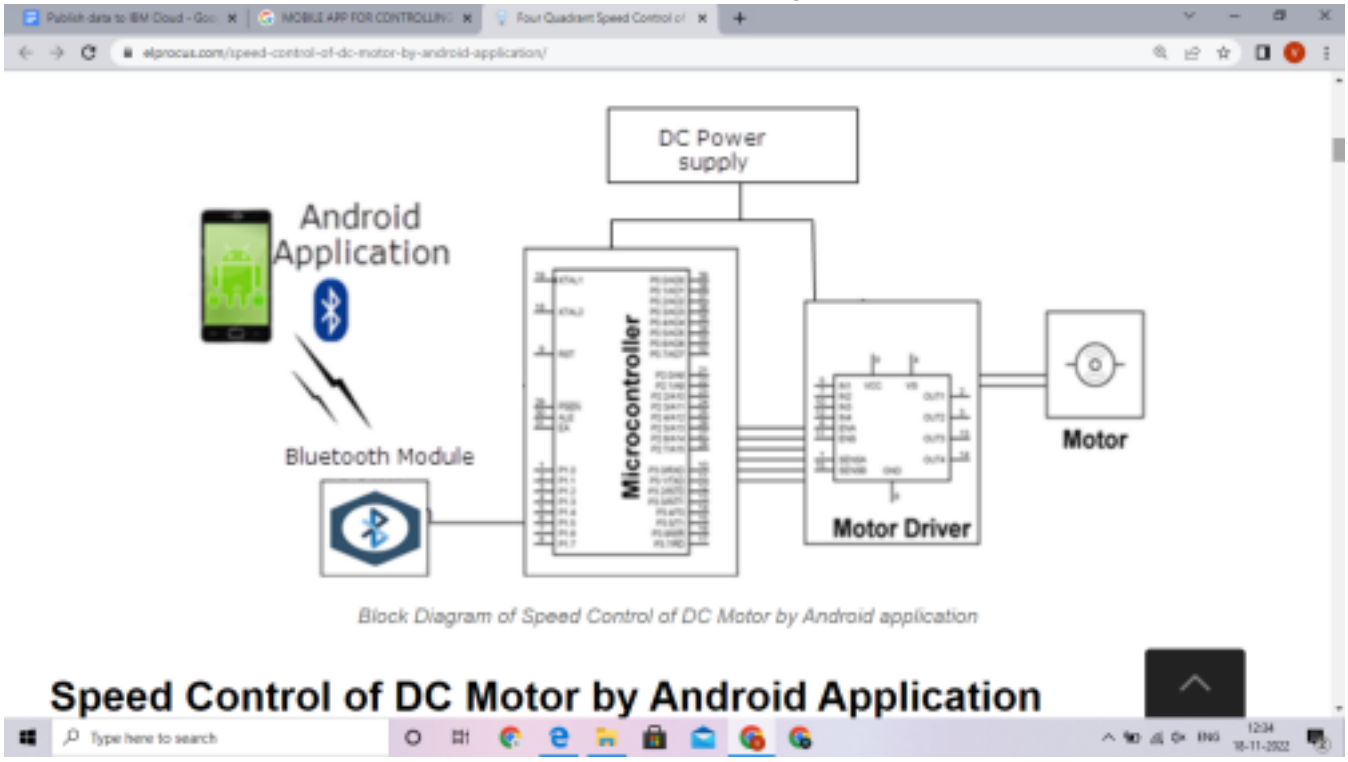
BUILD MOBILE APP

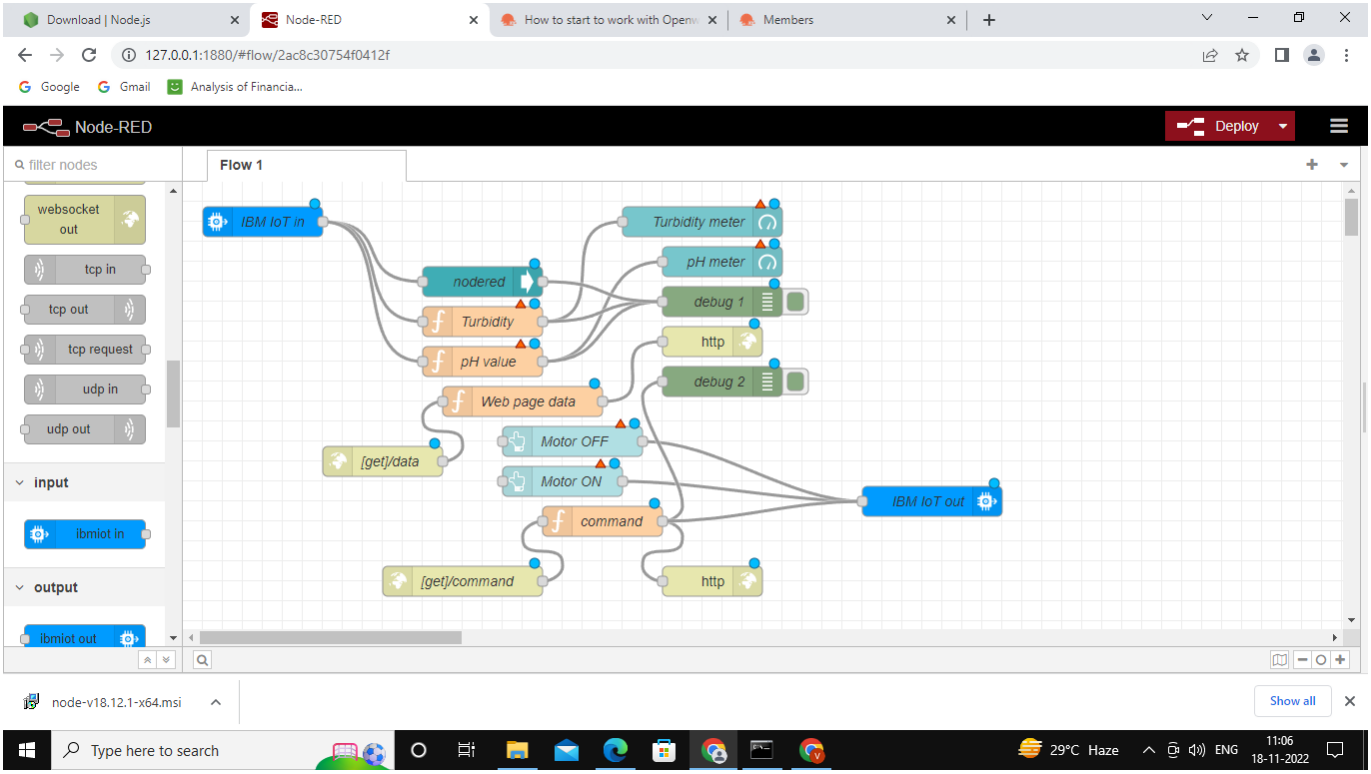
2.CONFIGURE THE MOBILE APP FOR CONTROLLING MOTOR USING BUTTONS

Date	14 November 2022
Team ID	PNT2022TMID10555
project	Project-Real Time River Water Quality monitoring and control system
Maximum marks	**4 Mks**

CONFIGURE THE MOBILE APP FOR CONTROLLING MOTOR USING BUTTONS : Speed Control of DC motor using Android mobile has many applications like industrial applications, escalators, elevators, Robotic applications, and security systems application. The user needs to install an android application on his/her Android smartphone.The user can send directions to control the speed of DC motor. Bluetooth Wireless communication is used to send commands to the user and the controller. The main hardware components of the circuit are 8051 Microcontroller, motor driver L293D IC, DC motor, Bluetooth module, and Android smartphone.The maximum output current of the microcontroller pin is 15mA at 5V but, it does not make the DC motor function and even the back EMF (electro motive force) which is produced by the motor may harm the microcontroller.Therefore, it is not worthy to interface DC motor directly to the microcontroller. So motor driver circuit (L293D IC) is used to interface DC motor and the microcontroller.L293D is a dual H-bridge motor driver integrated circuit (IC). Motor drivers act as current amplifiers since they take a low-current control signal and provide a higher-current signal. This higher current signal is used to drive the motors. L293D contains two inbuilt H-bridge driver circuits.

In its common mode of operation, two DC motors can be driven simultaneously, both in forward and reverse direction. The motor operations of two motors can be controlled by input logic at pins 2 & 7 and 10 & 15.Input logic 00 or 11 will stop the corresponding motor. The Logic 01 and 10 will rotate it in clockwise and anticlockwise directions, respectively. Enable pins 1 and 9 (corresponding to the two motors) must be high for motors to start operating. When an enable input is high, the associated driver gets enabled.As a result, the outputs become active and work in phase with their inputs. Similarly, when the enable input is low, that driver is disabled, and their outputs are off and in the high-impedance state.

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