* The PMS5003 air quality sensor is connected with the Arduino mega development board through UART communication, it’s TX and RX are connected with the Arduino mega’s RX and TX pins. The PMS5003 transmits data of PM2.5 to the Arduino mega.
* BME280 provides temperature, humidity and air pressure data to the Arduino mega using I2C communication, it’s SDA and SCL pins are connected to Arduino mega’s SDA and SCL pins.
* MH-Z19B is a CO2 detecting sensor, which operates in UART communication, and it’s RX and TX pins are connected with the Arduino’s TX and RX pins.
* CCS811 detects Carbon Monoxide CO and VOCs level of the air. It operates in I2C communication, it’s SDA and SCL pins are connected to Arduino mega’s SDA and SCL pins.
* Grove Multichannel Gas Sensor V2 is a sensor with four measuring units, which are sensitive to Carbon monoxide (CO), Nitrogen dioxide (NO2), Ethyl alcohol (C2H5CH), and Volatile Organic Compounds (VOC). This sensor can provide four sets of data at the same time. It operates in I2C communication, it’s SDA and SCL pins are connected with the Arduino Mega’s SDA and SCL pins.

All the data’s will be stored in a SD card locally using the Arduino SD card Module. The data of the sensors will be also transferred to the cloud using the Arduino mega WIFI’s inbuilt Wi-Fi module. All the data are sent to the cloud using MQTT protocol and Rest APIs in azure IOTHUB. The data are visualized using Microsoft Power BI and all the data are stored in the Microsoft azure cloud using Cosmos DB.