

IoT Based Air Pollution Monitoring System

Instruction Manual

This instruction manual contains all the steps required to setup and work with the project.

In 1st Section hardware device setup is explained as below.

In 2nd Section Web APP's configuration is discussed.

Hardware Device:

Environment Setup

Step 1: Install Arduino IDE software for windows by visiting **arduino.cc** website.

Step 2: Locate Arduino Software download section and download Arduino IDE for windows 64/86(Depends on your OS).

Step 3: After downloading install the software with the default settings mentioned in the installation process.

Step 4: After Installation copy the folder **Libraries** provided into the Arduino directory located in C:\documents\arduino. You might need to overwrite if asked to.

Directory sequence is : C:\Users\UserName\Documents\Arduino

Now You Have Successfully installed the Arduino IDE for hardware device coding.

Device Configuration

Step 1: On you windows desktop there will be **Arduino.exe** file. Now open this Arduino IDE file and run.

Step 2: Now connect the hardware device on any USB port of laptop/desktop PC.

Step 3: After connecting the device select **Tools** section on navigation bar. In the drop down select **Board**.

Step 4: In board drop down section select **Arduino/Genuino Mega or Mega 2560**.

Step 5: After board selection now select processor **ATmega 2560**

Step 6: After processor selection now select **Port**. In the drop down you will see the port on which your hardware device is connected.

Step 7: Select the available hardware device port.

Step 8: On top in the navigation bar. Select **File** section. In the dropdown menu select **open file** or you could just hit **ctrl+O**.

Step 9: Now browse **iot_real_sd_device.ino** sketch file which we have provide in order to set the device to collect data and transfer data to our webserver wirelessly and save on the SD card.

Imp: If you want only to send data to server and don't need to store it use file **iot_real_only.ino**

Step 10: After opening the file select **sketch** section. In the dropdown menu select **upload** or you could just hit **ctrl+U** to upload the code on the device

Step 11: Wait for the code to upload and then on the right end side of the second navigation bar just below the first navigation bar you will see magnify icon on which you could see serial monitor will be written when you hover your mouse icon on it. Click on this icon or you could just hit **ctrl+shift+M** and see the device data values.

If you have followed all the steps properly then you would see that the device has successfully setup and will start to collect data from the environment after completing its calibration phase.

If you want to see the hosted Website visit

<http://ecinspect.herokuapp.com/>

And view the dataset at <http://ecinspect.herokuapp.com/dataset>

And to view all the collected dataset of the device i.e of 8 months contact at sarmad.nuces@gmail.com