Sending Data to the Cloud using IoT devices

Spoken Tutorial Project
https://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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Learning Objectives

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- **Establish connection between ESP8266-01 and DHT11 sensor**

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- Establish connection between **ESP8266-01** and **DHT11 sensor**
- Collect **Temperature** and **Humidity** values given by DHT11 sensor
- Use **ThingSpeak** platform to store and visualize sensor readings
- **Download the data in CSV file**

Pre-requisites

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- **Wireless Communication**

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If not, then go through the Arduino spoken tutorials on
https://spoken-tutorial.org

System Requirements

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- **Arduino IDE**

MB102 Breadboard Power Supply Module

ESP8266-01 WiFi Module

MQTT Protocol

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- **It is a simple messaging protocol, designed for devices with low bandwidth**
- **We can read and publish data from sensors on the cloud**

Code Files

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- **Make a copy and then use them while practising**

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Working of ThingSpeak channel

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- **It will read temperature and humidity data from the sensor**

Working of ThingSpeak channel

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- **It will read temperature and humidity data from the sensor**
- **After a few seconds, these values will be uploaded to ThingSpeak channel**

CSV file

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- **This is useful to help data analytics using R or Matlab**
- **Go through the R Spoken tutorials for data analytics**

Summary

- **Establish connection between ESP8266-01 and DHT11 sensor**
- **Collect Temperature and Humidity values given by DHT11 sensor**
- **Use ThingSpeak platform to store and visualize sensor readings and**
- **Download the data in CSV file**

About the Spoken Tutorial Project

- Watch the video available at
  https://spoken-tutorial.org
  /What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial
  project
- If you do not have good
  bandwidth, you can download
  and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- **Conducts workshops using spoken tutorials**
- **Gives certificates to those who pass an online test**
- **For more details, please write to contact@spoken-tutorial.org**

Forum questions

- **Questions in THIS Spoken Tutorial?**
- **Visit**

  https://forums.spoken-tutorial.org/
- **Choose the minute and second where you have the question**
- **Explain your question briefly**
- **The Spoken Tutorial project will ensure an answer**

You will have to register to ask questions

Acknowledgements

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