

Introduction to IoT

Requirements:

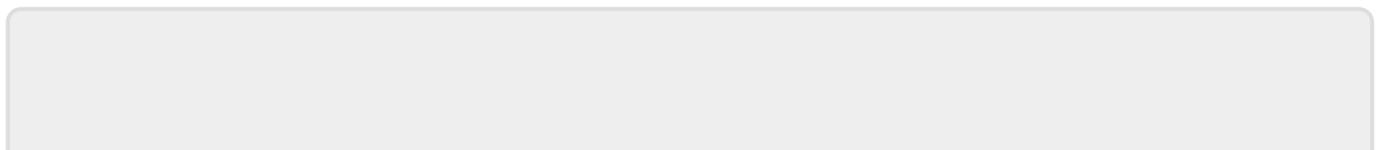
- Basic programming knowledge, preferably C or C++.
- Basic knowledge in electricity

Materials:

- Personal computer
- Operating system: Any
- Internet connection
- Dev board: Wemos D1 Mini
- Micro-USB to USB-A cable
- Breadboard
- Jumper wires
- Sensors:
 - sensor 1
 - sensor 2
 - sensor x
- Actuator:
 - actuator 1
 - actuator x

Session Outline:

- Setup development environment
 - Install Arduino IDE
 - Install libraries
 - Drivers? others softwares?
- Hardware review
- Coding Warm-up
 - LED Blink
 - Sensor reading?
- Communication protocols
 - HTTP
 - MQTT
 - Websocket
- The Things Network
- Firmwares
 - Tasmota
- Node-RED
- Dashboarding
 - Grafana



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