# IoT Hands-On WORKSHOP

LoRaWAN Node & Gateway

# What you will learn:

- + Focus on LoRaWAN Node in Internet Of Things (IoT) environment.
- + It leverages and explores the infrastructure required, communication, sensor integration, connectivity, data representation and security aspects.
- + Focus on LoRaWAN Gateway creation.

## At the end of the course:

- + Participants will have a good understanding of the LoRaWAN in IoT.
- + Understand LoRaWAN node and gateway implementation.
- + Understand various backend services line-ups.
- + Understand LoRaWAN Server concept and usage.
- + Able to design own Node connected to Cloud Services.
- + Able to design LoRaWAN interconnection.

## **Course Modules:**

Module 1: Introduction to LoRaWAN Module 2: LoRaWAN node with Arduino Module 3: BackEnd services line-ups Module 4: Data representation techniques Module 5: Introduction to LoRaWAN Gateway Module 6: Single Channel LoRaWAN Packet Forwarder

Module 7: Multi-Channel LoRaWAN Gateway Module 8: LoRaWAN Server



# HARDWARE INCLUDED LoRaWAN Node

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#### Contents:

1 x Arduino UNO 1 x LoRa Shield 1 x LiPo Rechargeable Shield 1 x 1300mAH LiPo Rechargeable battery

## LoRaWAN Gateway

**Contents:** 1 x LoRa GPS Hat 1 x Antenna 1 x Raspberry Pi 3 1 x Power adapter 5V 3A

> Optional: Hardware Kit 1 Price: RM1.999

#### Contents:

1 x Raspbian Installed SDCard 1 x Multi-Channel Gateway Module andits adapter 1 x Antenna

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