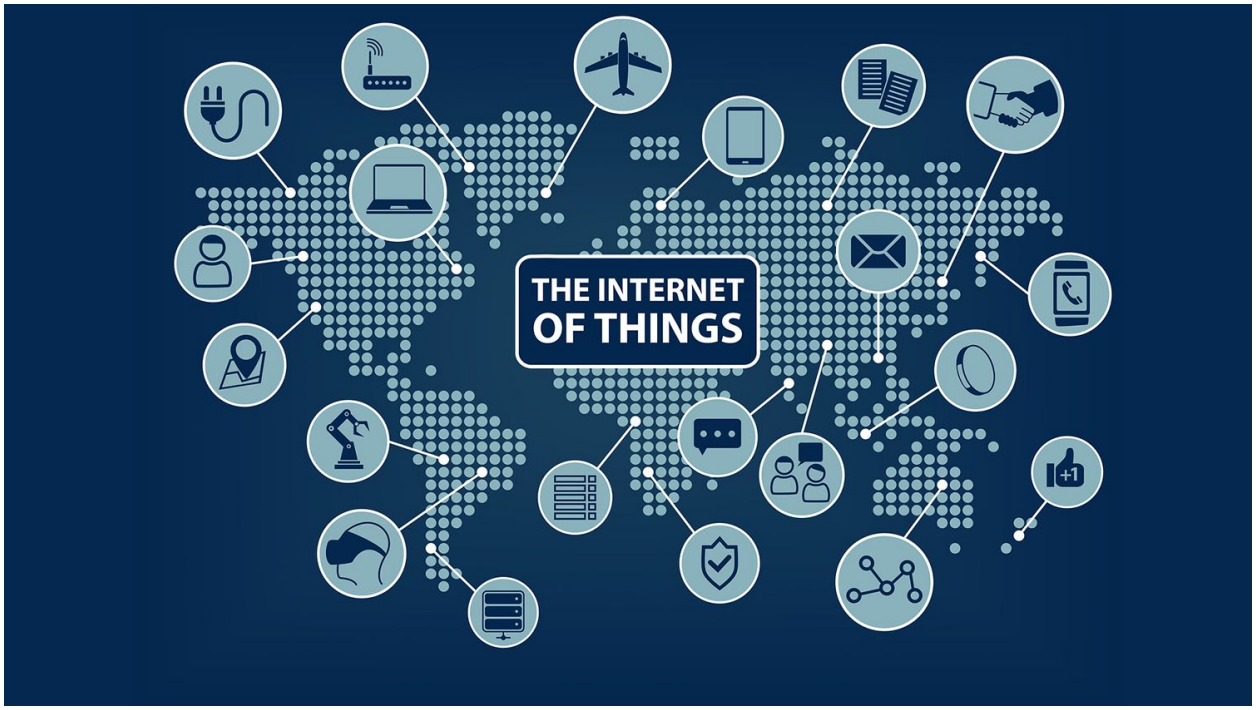
Code Mania 2019



Internet Of Things

Module - 1: Internet of Things (IoT) & IoT Applications

1. IOT Applications & projects
2. IOT Architecture & Deployment models
3. Building Blocks of IOT
4. Applications

Module - 2: IoT Devices & Open Hardware Platforms

1. Introduction to Open Hardware Platforms
2. Introduction to ESP8266 development board (ESP12E)
3. Programming Analog & Digital I/O' s with Arduino IDE
4. Integrate Analog & Digital Sensors with ESP8266

Module - 3: IoT Communication Technologies & Protocols

1. Device Network Connectivity

2. Client - Server Communication Model
3. Publish - Subscribe Communication Model
4. Working with ESP8266WIFI & ESP8266WEBSERVER libraries
5. Smart Home Automation using ESP8266

Module - 4: IoT Platforms & Architecture

1. Importance of IOT Platform & its generic Architecture
2. Getting Started with IBM Watson IOT Platform
3. Connect ESP8266 to Watson IOT Platform
4. Send Sensor data to Watson IOT Platform using MQTT and HTTP
5. Visualizing real-time data by using boards and cards
6. Introduction to Cloudant NoSQL DB
7. Query and Process Watson IoT Device Data from Cloudant NoSQL DB
8. API & Client Libraries for Cloudant NoSQL DB

Module - 5: Application Development with Node-RED & MIT App Inventor

1. Introduction to Application Development
2. MIT App Inventor for Android App Development
3. Perform Retrieve & Update data operations from MIT App Inventor
4. Introduction to Node-RED
5. Web App development using Node RED
6. Create a Node-RED application to send commands to device

Module - 6: IoT Gateways & Gateway Programming

1. Introduction to IOT Gateways
2. Purpose of IoT Gateway
3. Introduction to Raspberry Pi
4. OS Installation & Configurations
5. Introduction to Python
6. Basic Data Types and Assignments
7. Identifiers and Indentation
8. Data Operations
9. Sequence Types, Tuples, Lists
10. Operators and Expressions
11. Dictionary and Sets
12. Programming GPIO pins
13. Working with DC Motor & Servo Motor

Module - 7: Cognitive Computing with IBM Watson Platform

1. Introduction to IBM Watson Conversation Service
2. Create an Instance of Conversation Service
3. Create a simple conversation App
4. Work on Recipe - Talk to your Sensor using the Watson IoT Platform

Module - 8: Build IoT Use Cases

1. Build IoT Use Cases