

TechnoMaster

IoT (Internet of Things)

Duration: 60 Hrs (Changeable) | Fees: Individual / Batch

TRAINING BY INDUSTRY EXPERTS

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- React JS
- CCNA, MCSA
- AWS, GCP, Azure
- ODOO, Fortinet
- Ethical Hacking



Syllabus Contd..

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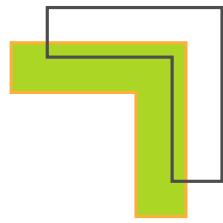
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Syllabus



Module 1 - Introduction

- * Concepts & Definitions
- * Myth with IoT
- * Business with IoT
- * Carrier in IoT
- * IoT Applications
- * IoT system overview
- * Node, Gateway, Clouds
- * Why IoT is essential
- * Machine learning
- * Artificial Intelligence

Module 2 - IoT Architecture

- * IoT Network Architecture
- * IoT Device Architecture
- * IoT Device Architecture
- * Publish-Subscribe architecture

Module 3 - IoT Device Design

amplitude of the sensors – Classification & selection criteria based on the nature, frequency and

ESP8266 * Embedded Development Boards – Arduino, Raspberry Pi, Intel Galileo,

Module 4 - IoT Communication Protocols

- * Wired Communication Protocols
- * Wireless Communication Protocols
- * Application Protocols – MQTT, CoAP, HTTP, AMQP



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- * Transport layer protocols â€œ TCP vs UDP
- * IP- IPv4 vs IPv6

Module 5 - Cloud

- * Concept & Architecture of Cloud
- * Public cloud vs Private cloud
- * Different Services in cloud (IAAS / PAAS / SAAS)
- * Importance of Cloud Computing in IOT
- * Leveraging different Cloud platforms.

Module 6 - Designing The IoT Product

- * Sensor modules
- * Interfacing peripherals & Programming GPIOs â€œ Input/output peripherals,
- * Design Considerations â€œ Cost, Performance & Power Consumption tradeoffs

Module 7 - Programming

- * Embedded C
- * Python
- * Arduino

Module 8 - A Hands-On Using Raspberry Pi Board

- * Setting up board
- * Booting up Raspberry Pi
- * Running python on Raspberry Pi, GPIO programming
- * Interfacing sensors and LED (Input and output devices)
- * Making a few projects
- * Sending data to cloud 2 using Raspberry Pi board



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- * Sending data to cloud 3 using Raspberry Pi board
- * Making raspberry Pi web server
- * Making raspberry Pi TCP client and server
- * Making raspberry Pi UDP client and server

Module 9 - Use Cases

- * A cloud-based temperature monitoring system using Arduino and Node MCU
- * Esp8266 WIFI controlled Home automation
- * Obstacle detection using IR sensor and Arduino
- * Remote controlling with Node MCU
- * Temperature monitoring using a Raspberry Pi as local server
- * Raspberry Pi controlling Esp8266 using MQTT
- * weather monitoring system using Raspberry Pi and Microsoft Azure cloud

Module 10 - Closer

- * Existing Product in Market
- * Barrier in IoT