

# INTERNET OF THINGS

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IOT HAS THE POWER TO CHANGE THE WORLD, JUST AS THE INTERNET DID. MAYBE EVEN MORE SO.

! IoT connects our physical world (things, people, animals, and cloud services) to the Internet. It is predicted to bring more than 30 Billion connected devices online by year 2020, that are collecting and sharing data.

i The global IoT market will grow from \$157B in 2016 to \$457B by 2020, attaining a Compound Annual Growth Rate (CAGR) of 28.5%. It is dominated by 3 sub-sectors; Smart Cities, Industrial IoT and Connected Health. Followed by Smart Homes, Connected Cars, Smart Utilities and Wearables. [Source: GrowthEnabler](#)

# Certified IoT Specialist

## 3-day Instructor-led Course

### Course Overview

Short for the Internet of Things, IoT refers to the ever-growing network of physical objects that are connected to the Internet, and the communication that occurs between these objects and other Internet-enabled devices and systems (IoT universe). IoT is predicted to bring more than 30 billion connected devices online by year 2020 that are collecting, sharing and acting on data between themselves. But how can organisations, technologists or businesses leverage on the significant technologies that are bringing on the much-talked about fourth industrial revolution (4IR)? Our IoT course will give you a glimpse into the future of the Internet of Things by helping students understand its potential for ground-breaking innovation, and how the technology can radically impact the lives of billions of people, and the world economy. Students will learn all about the underlying technology that powers IoT, as well as the challenges that come with the implementation of such technology.

### Prerequisites

Preferably minimum 2 years of experience in software development, business domain or data/business analysis. However, if you do not have any of the following experiences, you can still consider taking up the course.

### Who Should Attend

IT/IS Executives & Managers, Project Managers, Technology Planners, Consultants & System Integrators, IT Technical Services Specialists, IT Architects, Business Process Owners, Risk Management Employees, Cloud Operations Engineers, Senior Cloud Operations Engineers, Business / Data Analysts, Operations Research Analysts.

### Exam Format

The CloTS Certification Exam duration is 1 hour, consisting of 30 Multiple Choice Questions, with a Passing Score of 70%. You will receive a professional CloTS Certification upon passing the exam.

### MIMOS Collaboration

Learning is further reinforced by exposure to real-life examples of commercially available IoT devices. In partnership with MIMOS, our CloTS courses will be conducted at MIMOS Berhad centre in Technology Park Malaysia. Known as the national applied R&D centre for IoT development that facilitates research and swift deployment of actual IoT applications and services, trainees will be exposed to practical applications of IoT at the MIMOS lab and a truly grounded experiential learning experience!

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## Course Objectives | Learning Outcomes

### Course Objectives

- Introduction to the core concepts of IoT, role and scope of smart sensors for insuring convergence of technologies and multidisciplinary engineering practices, wireless sensor networks, machine learning / data analytics and cloud computing;
- Understand the IoT Open innovation platform, and hardware platforms and operating systems commonly used in IoT systems;
- Understand big data predictive analytics and transformation from IT to IoT;
- Gain an awareness of IoT security and opportunities.

### Learning Outcomes

Upon completion of this course, you will be able to:

- Explain what is the Internet of Things
- Understand how IoT devices interact together and with users
- Learn about the protocols used by IoT devices
- Discover the different platforms that are available to develop applications
- Learn about commercially available devices that are already using the Internet of Things
- Understand the current challenges of the Internet of Things
- Understand Visual Analytics, and predictive analytics with IoT

# Course Outline

## Day 1: IoT Fundamental and Ecosystem

### Introduction to IoT

- What is IoT - In-depth explanation
- IoT Applications in different domain
- How large is the IoT Market in different domains?

### IoT Architecture

- Architecture
- Tech Stack
- Protocols

### Sensors

- What is Sensor & Actuator?
- What is good sensor?
- Sensor properties
- Types of sensors

- Sensor Demo - Proximity and IR
- sensors

### IoT World

- Latest updates in the IoT industry
- Available IoT alliances details and the standards that are getting evolved
- Multiple IoT applications and solutions available in market
- Multiple IoT platform (hardware) example ARM Mbed, Intel, Free scale etc., comparison and usage
- Multiple IoT software and cloud platform, Components of a Platform, Usage, comparison. IoT ecosystems build around these platforms. OSMOSIS platform and our experience about IoT platform building
- Details about your OSMOSIS IoT platform

### Communication

- Latest updates in the IoT industry
- Available IoT alliances details and the standards that are getting evolved
- Multiple IoT applications and solutions available in market
- Multiple IoT platform (hardware) example ARM Mbed, Intel, Free scale etc., comparison and usage
- Multiple IoT software and cloud platform, Components of a Platform, Usage, Comparison. IoT eco systems build around these platforms.
- Mi-MIST IoT Platform and our experience with IoT platform building
- Details about your Mi-MIST IoT Platform

## Day 2: IoT Cloud and Analytics

### Cloud Computing

- What is cloud?
- What is cloud computing?
- Benefits of cloud
- History of cloud computing
- Deployment Models
- Top cloud providers
- Service Models
- Service Catalogue
- Different Services from Amazon
- Advantages for different offerings
- Our learning in selecting the right service provider

# Course Outline

## Cloud Computing & Data Analysis

### Web services

- What are Web Services?
- Why Web Services
- Types of Web Services
- RESTful web services
- Design Principles

### Introduction to Big Data & Big Data Technologies & Stream Processing

- Cloud data storage
- Introduction to Big Data
- Big Data Definition and;

### Characteristics

- Who is Generating BigData
- BigData Analytics
- Why BigData Analytics
- Applications of BigData Analytics
- Different Data Stores
- BigData Technologies - CouchDB, MongoDB, Node4J
- Visual Analytics, predictive analytics
- Analytics
- What is Visual Analytics?
- Visual Analytic Tools for Big Data
- Predictive Analytics.
- Predictive tools for Big Data.

## Day 3: IoT Security and Opportunities

### Design considerations and IoT Security

- How IoT Platform provides security assurance?
- Experience from Mi-MIST IoT platform security features
- How secure is IoT?
- Vulnerabilities
- Key aspects for Securing IoT solutions

### Build IoT Solutions For Home Automation and Logistics

- Solve Real Live use cases of Home Automation & Logistics
- Build solution for both Hardware and Software
- Use cases: Fleet management solution, Surveillance solution

### IoT Opportunities

- Brainstorming on opportunities and how they can be realized

# Testimonials

Hear what Our Students Have to Say



**Good Course to understand the Basics of IoT.**

Ahmed Hasan Ansar, Adeptus Technologies LLC,  
Dubai

**A good training to broaden your knowledge of the technology improvement**

Rina Yuandha Dewi, CIMB Niaga

**Excellent! Detailed learning content.**

Idawaty Ahmad, Senior Lecturer, UPM.

**Up to date and on demand digital market training and knowledge.**

Shafiq Iqbal Bin Mohamad, Biz Operation &  
Digitalization Manager, VFAS Venture Sdn Bhd

**Definitely a must go training for upskilling purposes.**

Koh Lay Seong, Senior Software  
Developer, Tranglo Sdn Bhd.



# Companies Who Learned From Us

Trusted by Public, Private and Education Sectors



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