

Internet of Things (IoT) – Start Up Training

 **MIMOS Berhad, Technology Park Malaysia**
3 - 5 March 2020 (3-days)

The widespread usage of smart phones and smart sensors in the network today has transformed the network into a connected web of smart devices and intelligent services. This course introduces the IoT ecosystem consisting of sensors, communications and platforms. Topics of related to technology, standard, protocols, architecture and applications will be covered.

Participants will be equipped with the knowledge and skills required to develop solutions and services on the platform in a rapid and simplified manner. Hands on session will held the participants to experience the development process of the IoT application.

MANAGEMENT-TRACK
TECHNICAL-TRACK

EXECUTIVE MANAGEMENT & MANAGER
NOVICE
QUALIFIED
PROFICIENT



HRDF
MALAYSIA
Claimable under HRDF
Scheme-SBL

LEARNING OUTCOMES

Upon completion of the training programme, participants should be able to demonstrate each of the following:

- To understand IoT ecosystem and technologies related to IoT.
- To create and develop IoT project by connecting smart devices and enable data visualization at dashboard.
- To aware about the threat and issues in developing the IoT application.

METHODOLOGY

- This course will utilise a combination Instructor led classroom training, lecture, discussions, practice session and group discussion
- Throughout the course, hands-on labs help participants build their knowledge and apply the concepts being discussed.
- A Post Test shall be held to assess how much knowledge has been acquired by participants.

TARGET GROUP

Researchers, engineers, developer, business analysts and executives involved in the design and implementation of Internet of Thing (IoT).

PRE-REQUISITE

N/A.

SYSTEM REQUIREMENT

All participants are required to bring their own laptop computers (Windows, OS X, Linux or UNIX) with minimum hardware specification: 64 bits and 6GB RAM.

DAY 1

Module 1 - Overview of IoT

- What is IoT?
- Motivation and IoT background, IoT Application by sector.
- IoT Market: First, now and hereafter.

Module 2 - IoT Ecosystem (Sensor, Network and Platform)

- IoT Eco-system & sub-system components
- IoT Protocol & Specification.

Module 3 - Practical Example: IoT Application and Use-Cases

- Introduction to Node-RED & IoT applications
- Exercise: Node-Red: Hello Word & Trekking Cities International Satellite Center

DAY 2

Module 4 - IoT Sensor and Actuator

- Introduction to Sensor & Actuator
- What are sensors specification?
- Sensor Properties & Sensor Types by Sectors
- Exercise: Sensor Demo - Proximity and IR sensors.

Module 5 - IoT Gateway and Network

- Introduction to Gateway specifications
- Examples of IoT Gateway by sectors.

Module 6 - IoT Middleware and Platform

- Middleware Definition, IoT Platform & List of Current Platforms IoT
- MIMOS IoT Platform: Mi-MIST & IoT Cloud Platform.

Module 7 - IoT Protocol and Standard

- Introduction to IoT standards
- Challenges in IoT standardization process standard.

Module 8 - Big Data and Analytic

- IoT Data Processing & Analytics
- Introduction to Large Data and Analytical Data IoT
- Analytics Level & IoT Display (IoT Dashboard)
- Future of IOT ANALYTICS
- Analytical IoT applications
- Hands-on Exercise: Node-Red: Access Data from Smart Phones & IoT Display
- Installation Database Influx & Influx Demonstration.

DAY 3

Module 9 - IoT Standardization

- List of Standard Bodies and Consortia
- IOT Standard: IEEE, ETSI, ITU Perspective
- Introduction to the IEEE P2413 Standard.

Module 10 - IoT Security

- IOT Challenges and Issues, Privacy, IOT Trust & IOT Securities
- How to resolve Privacy, IoT Reliability & IoT Securities issues.

Module 11 - IoT Challenges and Issues

- Technical Challenges, Business Challenges & Social Challenges
- Proposal for carrying out IoT projects to address the above challenges.
- Hands-on Exercise & Test: Sonoff, pushbullet & Grafana Visualization
- Competency Test (1 hour).

INSTRUCTOR PROFILE



Ir. Dr. Hafizal Bin Mohamad @ Din is the **recipient of ASEAN Outstanding Scientist and Technologist Award (AOSTA) 2017 and Top Research Scientist Malaysia (TRSM) by Academic of Sciences Malaysia**. Currently, he is a Senior Staff Researcher at Corporate Technology Division, MIMOS Berhad, where he involves in projects related to Internet of Things.

He is the co-inventor of 36 filed patents and 9 granted patents in the field of wireless communication. Prior to MIMOS, he was a faculty member at the Multimedia University, Malaysia. He served as a visiting fellow at NICT, Japan in 2005. He has published over 100 research articles. He is a Registered Professional Engineer with the Board of Engineers Malaysia and a Senior Member of the Institution of Institute of Electrical and Electronics Engineers (IEEE), USA. Hafizal earned BEng (first class) and PhD degrees in electronic engineering from University of Southampton, UK.



Ir. Dr. Nordin Bin Ramli received B.Eng Degree in electrical engineering from Keio University, Japan in 1999. He received the M.Eng and Ph.D degrees, both in electronic engineering from The University of Electro-Communications, Japan in 2005 and 2008, respectively. Currently, he is a Senior Staff Researcher at Corporate Technology Division of MIMOS Berhad, Malaysia.

Prior to MIMOS, he was a lecturer in Multimedia University, from 2008 – 2009, and was a network engineer in Telekom Malaysia, from 1999 - 2008. He has more than 20 years of experience in telecommunications and R&D. He published over 80 journal and conference papers, and filed more than 30 patents. He is a registered professional engineer with Board of Engineer, Malaysia, and a certified HRDF trainer. He received the Young Scientist Network Award and Top Research Scientist Malaysia (TRSM) Award by Academic of Sciences Malaysia, in 2014 and 2018, respectively.



Ahmad Zaki Abu Bakar is currently a Senior Staff Engineer of the Wireless Innovation laboratory in MIMOS. His primary role is to realize inter-communication between various hardware devices in terms of embedded software programming. He is also responsible to design and implement device's end-to-end software flow for the integration with MIMOS IOT platform.

He has vast working experience with various roles and responsibilities within the embedded system development in multinational and local companies. He holds a Bachelor Degree in Electrical and Electronics Engineering from Salford University, United Kingdom. Ahmad Zaki holds 11 patents (2 granted, 9 filed).

OTHER MIMOS TECHNOLOGIES

For further information on our technologies, do visit us at www.mimos.my/tech and download those *Technology Fact-sheets* relevant to you, or contact fitri.isahak@mimos.my



COURSE TIME


08:30 Registration & Morning Coffee
09:00 Workshop Begins
10:30 - 10:45 Morning Refreshment
12:30 Networking Luncheon
13:30 Afternoon Session Begins
15:30 - 15:45 Afternoon Refreshment
17:00 - 17:30 Course Concludes

REGISTRATION FORM Internet of Thing (IoT) - Startup

MIMOS @ Technology Park Malaysia

3 - 5 March 2020 (Early bird: 7/02/2020)

Please complete this form and email to us

COURSE FEE	FEE PER PARTICIPANT	FEE INCLUDES SST	 HRDF MALAYSIA Claimable under HRDF Scheme-SBL
<input type="checkbox"/> Standard Registration	RM3,600.00	RM3,816.00	
<input type="checkbox"/> Early Bird Registration (10% Discount)	RM3,240.00	RM3,434.40	
<input type="checkbox"/> Group Discount (<i>Minimum 3 participants@15%</i>)	RM3,060.00	RM3,243.60	
<input type="checkbox"/> MIMOS Partners, Universities & Colleges (30%)	RM2,520.00	RM2,671.20	

NO	PARTICIPANT DETAILS	CONTACT INFORMATION	MEAL PREFERENCE
1	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
2	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
3	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
4	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian
5	Name: Designation:	Email: Mobile No.:	<input type="checkbox"/> Vegetarian <input type="checkbox"/> Non-Vegetarian

Organisation :

Postal Address :

Tel : Fax :

Contact Person: Position :

Email :

AUTHORISATION

I understand and agree to MIMOS Berhad terms and conditions
(Signatory must be authorised to sign on behalf of the Organisation)

Name of the Authorised Person :

Position : Date :

Signature and Company Stamp:

Terms & Conditions:

- Upon received of this registration form (MIMOS), we will invoice to the contact-person for payment processing.
- Payment to **MIMOS Berhad** is required within 30 days upon receipt of the invoice. All payment must be received 7 working days prior to the training date. The fee shall include luncheon, coffee/tea breaks and training materials.
- Cancellation or postponement - Any cancellation must be made in writing and to reach us no later than 10 working days prior to the training date. If written notice is received in less than 10 working days, 100% of total fees is chargeable. A substitute delegate with similar background and competencies, is always welcome at no additional charge.
- Our instructor(s) and topics are confirmed at the time of this print. However, circumstances beyond the control of the organizers may occur and MIMOS Berhad reserves the rights to alter or modify the advertised speakers/topics if necessary.
- Training venue - Bukit Jalil Golf & Country Resort, or at MIMOS Berhad (depending on availability of training room).

To register & more information:

Industry Development, Corporate Strategic Engagement, MIMOS Berhad

Call : +603-8995 5000 ext. 5205 (Fitri) Email : fitri.isahak@mimos.my