



Internet of Things (IoT) Principles and Applications

ICT SERIES

HRDF

COURSE CODE: H-ICT-04

LEVEL: Basic to Intermediate

LANGUAGE: Bahasa & English

OVERVIEW

The Internet of Things (IoT) is expanding at a rapid rate, and it is becoming increasingly important for professionals to understand what it is, how it works, and how to harness its power to improve business. This introductory course will enable participants to leverage their business and/or technical knowledge across IoT-related functions in the workplace.

In the course, we will examine the concept of IoT. We will look at the 'things' that make up the Internet of Things, including how those components are connected together, how they communicate, and how they value add to the data generated. We will also examine cybersecurity and privacy issues, and highlight how IoT can optimize processes and improve efficiencies in your business.

OBJECTIVE

By the end of this course, participants will be able to:

- Gain a deep appreciation of the IoT
- Understand what constitutes an IoT design solution
- Start to grow the seeds of IoT ideas within your field and area of expertise

COURSE DURATION

2 days (9am—5pm)

Tea Breaks: 10:30am & 3:30pm | Lunch: 1:00pm-2:00pm

Note: Please contact our office for Training Date or visit our website for details (www.zohlgroupp.com/mdc)

METHODOLOGY

This program will be conducted with:

- Interactive Lectures using PowerPoint presentation
- Discussions
- Practical Exercise
- Case Study
- Video Presentation

TARGET AUDIENCE

- Anyone who wants to learn about IoT

LOCATION

Mindset Discovery Center™@ZOHL, M2-6-08, Level 6, 8trium Tower 2, Bandar Sri Damansara, Kuala Lumpur (other Regions please contact our office)

KEY TAKEAWAYS

Having completed this course participants will be able to:

- Discuss the history of IoT;
- Explain how IoT can be used in different industries;
- Describe how companies can plan for the future of technologies;
 - Discuss how IoT is important to small businesses;
- Describe examples of how IoT can apply to you in the future;
- Define challenges in how business are changing the way they are doing business; and
 - Explain why SME should use IoT.

COURSE CONTENT

Module 1: Overview of IoT

- What is IoT?
- Motivation and background
- Industrial revolution and digital waves
- Technology trend and market potential
- IoT applications by sector

Module 2: IoT Ecosystem

- IoT fundamental building blocks
- Sensors for data collection
- Wired and wireless connectivity
- Platform to aggregate data
- Practical example and demonstration: Real-time data collection and visualization

Module 3: IoT Application and Use-Cases

- IoT applications and software development tools
- Hands-on exercise: Sending and receiving data with MQTT
- Hands-on exercise: Tracking International Space Station (ISS)

Module 4: Sensor and Actuator

- Device evolution and role of sensors
- IoT device anatomy
- Sensor types and properties
- Hands-on exercise: Noise, light intensity, temperature and proximity sensors

Module 5: Gateway and Network

- Classification - PAN, LAN and WAN
- Transmission data rate and range
- Gateway specifications and examples
- Low power wide area network: LoRa, Sigfox and NBIoT
- Link budget for LPWAN devices
- Design exercise: IoT network design

Module 6: Middleware and Platform

- IoT platform: device management, application enablement, storage and cloud
- Platform architecture and requirement
- Functional components of IoT platform
- Review of major IoT platforms
- Hands-on exercise: Sensor data transmission and time-series database

Module 7: Protocol and Standardization

- Protocol stack
- Messaging protocol
- Standard bodies and consortia
- IEEE, ETSI, ITU perspective
- Standardization process

Module 8: Practical Consideration

- Technical, business and social challenges
- IoT project design and proposal
- Hands-on exercise: Data streaming, storage, visualization and alert/notification
- Hands-on exercise: Complete sensor and actuator implementation

Competency Test (1 hour)

Note: Course Content subject to further review

Customized In-House Training Program is available in the following areas:

Administrative Skills | Career Development | Human Resources | Personal Development | Sales & Marketing | Leadership & Management | Workplace Essentials | Digital & Social Media Marketing | Customer Service | Supply Chain Management | Entrepreneurship | Soft Skills | HSE | Engineering | Telecoms | ICT

CALL US FOR DETAILS or VISIT OUR WEBSITE AT WWW.ZOHLGROUP.COM



Sebarang pertanyaan sila hubungi Cik Niesa/Hajar
ZOHL Consultancy Sdn Bhd (332967-D)(SST ID:W10-1810-32000429)

M2-15-02, Level 15, 8trium Tower 2, Jalan Cempaka SD 12/5

Bandar Sri Damansara, 52200 Kuala Lumpur

T: 03.6279.9276 F: 03.6279.0663 HP: 013.398.1038 E: training@zohlgroupp.com



Internet of Things (IoT) Principles and Applications

ICT SERIES

HRDF

www.zohlgroup.com

COURSE FEE

RM1,696 per person incl. 6% SST
(Fee inclusive of Course Material, Attendance Certificate, and Meals)

CERTIFICATE

Participants will be issued a Certificate of Attendance/Accomplishment upon successful completion of this training program. Full attendance is a pre-requisite

CIDB CCD Points

20 (for CIDB-Registered Companies) & upon approval from CIDB

HRDF SBL KHAS

Claimable under HRDF SBL KHAS Scheme (for Companies contributing to HRDF)

REGISTRATION METHOD

1. **Online:** http://zohlgroup.com/mdc/hrdf_registration/ OR
2. Download this brochure at: <http://zohlgroup.com/all-brochures/> and fill up the required information. Then please fax to: 03.6279.0663
3. Or contact our office at: 03.6279 9276 / 013.398.1038

FACILITATOR

Dr Hafizal Mohamad 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. Passionate about creating a hyper-connected world, Hafizal now leads a team of committed researchers working on numerous projects related Internet of Things, sensors, cognitive radio and mesh networks.

He has involved in complete technology development life cycle from idea creation until commercialization, whereby he held various portfolios related to basic research, applied R&D and product development. He is the co-inventor of 36 filed patents and nine granted patents in the field of wireless communications. He served as a visiting fellow at NICT, Japan in 2005.

He has published over 100 journal and conference papers. He has delivered keynote and expert talks at national and international events. Hafizal is a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), USA and he has served in various leadership roles in the IEEE. Hafizal has also been appointed as an expert panel for technical committees related to E&E and ICT areas.

Hafizal earned BEng (first class) and PhD degrees in electronic engineering from University of Southampton, UK. He is a registered professional engineer with Board of Engineer Malaysia and a certified HRDF trainer.

*Note: Trainer availability is subject to change



REGISTRATION FORM

Participant#1: _____

Position: _____

IC No: _____

Participant#2: _____

Position: _____

IC No: _____

Training Date: _____

Training Venue: _____

Organization: _____

Address: _____

Contact Person: _____

Position: _____

Tel: _____

Fax: _____

Email: _____

Company Website: _____

PAYMENT

CASH: RM _____ OR

CHEQUE No: _____

Please fax your bank-in slip to 03.6279.0663 or scan your bank-in slip and email to training@zohlgroup.com

*Please make your cheque payable to:

ZOHL Consultancy Sdn Bhd



Account No:
514392303373

Signature & Company Stamp

Note:

- Date & venue of seminar subject to changes
- Payment must be made 7 days before the training date
- Registration cancelled 7 days prior to the event is subject to RM100 service charge per participant
- No refunds for notice received less than 7 days prior to the event. A substitution may be made at any time at no extra charge.
- Program content may change subject to revision by our consultants from time to time.
- Full fee is required with your registration. 5% Group discount is available - min 3 pax.

Customized In-House Training Program is available in the following areas:

Administrative Skills | Career Development | Human Resources | Personal Development | Sales & Marketing | Leadership & Management | Workplace Essentials | Digital & Social Media Marketing | Customer Service | Supply Chain Management | Entrepreneurship | Soft Skills | HSE | Engineering | Telecoms | ICT

CALL US FOR DETAILS or VISIT OUR WEBSITE AT WWW.ZOHLGROUP.COM



Sebarang pertanyaan sila hubungi Cik Niesa/Hajar
ZOHL Consultancy Sdn Bhd (332967-D)(SST ID:W10-1810-32000429)

M2-15-02, Level 15, 8trium Tower 2, Jalan Cempaka SD 12/5

Bandar Sri Damansara, 52200 Kuala Lumpur

T: 03.6279.9276 F: 03.6279.0663 HP: 013.398.1038 E: training@zohlgroup.com