



Enterprise Wireless & Local Area Networks Basics

Training Programme
by
Faculty of Engineering
Multimedia University

Overview

Nowadays, there are about more wireless than wired devices. About 10 years ago, most offices only had desktops and some other network devices like printers. All of these were connected with wires. Today, a lot of users have a laptop, smartphone, and tablet. That's three wireless devices for each user. Wireless speeds have increased significantly, getting close to wireless Gigabit.

IEEE uses 802.11 for all protocols that are related to wireless. Most of us have seen or heard about 802.11a, 802.11b, 802.11g, 802.11n and/or 802.11ac before. We also have the Wi-Fi Alliance that helps with the promotion of wireless networking. For example, IEEE has described authentication and encryption in their 802.11i standard. The Wi-Fi alliance has based WEP, WPA, and WPA2 on this standard. These names are easier to work with than referring to 802.11i.

The participants will learn practically about the wireless and LAN technology, types of wireless access, best of wireless setup and advanced design, planning for home and business coverage design, monitoring of activities, testing and troubleshooting. This workshop is useful for enterprise companies or building owners that is new to the wireless and LAN setup and design. The course shows the participant the need to have an intelligent, scalable and secure solution for LAN and WiFi Infrastructures.

Objective

This workshop is expected to provide a good solid fundamental of wireless technology specifically WiFi and LAN. The workshop also show the needs to optimize current IT operating cost on connectivity requirements. Participants will be shown some upcoming changes in technology and hardware. Participant will be introduced to design and also simulation for WiFi.

Target Audience

UG student, PG student, researcher, technician, engineer.

Prerequisite

None.

Training Methodology

Virtual Training.

Course Duration

2 days only (7 hours per day).

Content/Outline

1. Theory. What is the Internet? Connectivity and Internet Access Technologies. Wireless access technologies. Equipment and cabling.
2. WiFi for Home. Requirement for home setup. WiFi speed test. Channel settings. Improving coverage area.
3. WiFi for Enterprise. Elements of enterprise WiFi and LAN. Localized, Distributed or Centralized Wifi system design. User journey from entering premises until exiting. Fixed Login or token. How to manage bandwidth. SSID setup and management. Personalized landing page. Multiple SSID for customer control.
4. Improving user experience. Coverage Analysis and Dead zone/spot analysis. Hands-on coverage study.
5. WiFi for Hospitality, Retail etc. Integration with social media. WiFi technology as a bridge to support inter building connection.
6. Advanced design and features. Content filtering and security. Cloud landing page. Social media integration. Time based login. Real time Reporting. Online advertisement. Multi-site visibility and control. Cloud based dashboard. QoS and traffic shaping. Traffic Analytics.

Morning (Theory and Concept) and afternoon (Hands-on and Practical).

Course Instructors

Dr. Azwan Mahmud

Azwan Mahmud received the B.Sc. degree (with first-class honors) from the University College of London, London, U.K., in 1998, MBA degree in strategic management from the UTM, in 2008, and PhD in wireless communication system from University of Manchester, UK, in 2014. He has been in Telco industry for over 20 years from design, implementation and new technologies and is currently attached with Multimedia University (MMU), Malaysia.

Assoc. Prof. Ts. Dr. Mardeni Bin Roslee

Assoc. Prof. Ts. Dr. Mardeni Roslee is an academician under Faculty of Engineering, Multimedia University, Cyberjaya, Malaysia and he is a Chairman for Centre of Wireless Technology, Multimedia University. From 2019-2020, he is a Chairman of IEEE Malaysia Comsoc/VTS and Vice Chair of Malaysian Radar & Navigations, Malaysian Society for Engineering & Technology. He is the CEO and main founder of Armada Smart Tech MR Sdn Bhd. He is a registered Chartered Engineer with Engineering Council United Kingdom, and Member with The Institution of Engineering and Technology (IET), UK. His experiences include consultation, professional institution and academic sectors. His current research interests are 5G/6G wireless communication, satellite, Internet of Things. He has published 110 papers for indexed journals, conference proceedings, professional magazine and book chapters. He is the consultant for international, private and government sectors and as the principle investigator of research grant of industry, local and international level. His contributions to academic and the engineering professional over the years have earned him recognitions nationally and internationally, he is the recipient of University Excellent Researcher Award for 2016 and 2018, Excellence in European Creativity Special Award 2018, World Invention Special Award 2019, and awarded Top Research Scientist in Malaysia 2020.

Administrative Details

Programme Logistics

Duration: 2 days

Dates, registration deadline and registration form:

Please refer to: <https://www.mmu.edu.my/foe/short-courses/>

Your Investment

	Condition	Price per Pax
Regular Fee	Students / MMU Alumni/ IEEE Students	RM600
	Public	RM1000
	Public (Group >5 pax)	RM900
	IEM/IEEE Members	RM900
Early Bird Fee	Students / MMU Alumni/ IEEE Students	RM400
	Public	RM800
	Public (Group >5 pax)	N/A
	IEM/IEEE Members	RM700

Method of Payment

Type of Payment	Method	Details
Local Transaction / Payment within Malaysia	Online Payment with JomPay	<ul style="list-style-type: none"> To get started, login to any preferred internet banking. Look for JomPay to begin the payment process. Enter Ref 1 & Ref 2. <div style="border: 1px solid black; padding: 5px; display: inline-block;">  <p>Billor Code : 22202 Ref-1 : <Participant IC/Passport> Ref-2 : <i>Event Name*</i></p> </div> <p>JomPAY online at Internet and Mobile Banking with your Current, Savings or Credit Card account</p> <p><i>*Ref. 2: FOEEntWireless</i></p>
		<ul style="list-style-type: none"> To get started, go to MMU website (https://www.mmu.edu.my/) > Admission > Financial Info > Payment Channel > Non Student ; <p>E-Payment To begin the payment process, please click Student or Non Students</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>Student Non-Student</p> <p>or scan the QR code below to begin the process:</p> <div style="text-align: center;">  <p>SCAN ME</p> </div> <ul style="list-style-type: none"> Choose Category: Public Training Workshop Name Choose Your Participant Type: <ul style="list-style-type: none"> ✓ STUDEN (MMU, IEEE, IEM, Other Higher Learning Institution) ✓ PUBLIC ✓ GROUP (Group > 5 Pax) ✓ IEEE/M (IEEE/IEM Members)

Type of Payment	Method	Details
International Payment / Payment outside Malaysia	Online payment with Flywire 	<ul style="list-style-type: none"> To get started, go to mmulanding.flywire.com; or scan the QR code to begin the payment process:  <ul style="list-style-type: none"> Choose Conference for Non-students related

Note:

Please submit the proof of payment to organizer for clearance updating purposes within 2 working days.

Refund and Cancellation

Any refunds will be processed in 60 days. Should there be any cancellation, it may be due to the organizer not getting the minimum participants or the participant failing to attend the workshop due to unavoidable reason.

Disclaimer

Faculty of Engineering, Multimedia University reserves the right to change the instructors, date and to vary/cancel the programme should unavoidable circumstances arise. All effort will be taken to inform participants of the changes. Upon submission of the registration form, you are deemed to have read and accepted the terms.

Enquiries

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