CHUA CHU KANG COMMUNITY CLUB
IT Centre
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Skillsfuture@PA PC Wireless Networking in 9 Hours + Hands-on

Introduction:

This course explores wireless networking, specifically wireless LANs. We will examine their basic operation, configuration and components. In addition you will also learn about the security issues surrounding wireless communication and some basic measures in place.

Objective:

Get an overview of the Wireless Local Area Network (WLAN) technology and hands-on experience using WLAN equipment.

At the end of the course, the student will be able to:

- Compare and contrast all of the common and emerging WLAN technologies
- Explain the technologies associated with WLAN connectivity.
- Compare and contrast versions and competing standards.
- Compare and contrast the various media/signals used in these technologies.
- Explain the function of each of the above technologies.
- Explain the operation of wireless systems.
- Explain network integration and infrastructure. Describe the interrelated nature of these networks and explain their topologies

Teaching Approach:

There will be brief lecture presentation interspersed with examples, demonstration and hands-on exercises. . During lectures and hands-on labs, learn to move into an exciting new path in WLANs. Learn how to assess feasibility, design, plan, install, and test a WLAN.

Who Should Attend:

Users who want to evaluate, design, plan, install, and manage wired wireless local area networks in their home or office.

Requirements:

You should complete:

- PC Networking in 9 hrs + Hands-on

or have practical networking experience

Course Outline

1. **Introduction to Wireless Networking**.
   - Introducing Wireless Networks and Topologies
   - Understanding various WLAN radio frequency principles and technologies
2. **Understanding a Wireless LAN.**
   - Type of Wireless Media
   - Transmission Schemes
   - Basic operating modes (Infrastructure / Ad-hoc)
   - Uses of different Channels
   - Understanding of Signal Strength and Coverage.
3. **Wireless LAN Standard: IEEE 802.11**
   - Introduction to WLAN industry organizations
   - Overview of wireless standards ie. 802.11a/b/g/n/ac etc
4. **Wireless LAN Hardware**
   - Access Points (AP)
   - WLAN Routers, Bridges, Repeaters
   - Direct-connect and Distributed connect APs
   - Antenna types and uses
5. **Protecting your network.**
   - Overview of WLAN security
   - Learn about the WLAN security issues and standards.
   - Understand different type of security options
   - Configuring Wireless Security on Controllers and Clients
6. **Sharing Internet Connection in WLAN**
7. **Practical Lab**