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Introduction to Networking, Wireless Network, Network Troubleshooting & Cloud Computing (IaaS/PaaS/SaaS)

Course is designed for entry level to IT Networking for Non-Technical personnel

Course Objective

This course aims to teach from scratch networking theory and network implementation specially designed for Small Office networking environments. At the end of the course Participants will acquire the skill sets to install, configure, and troubleshoot basic networking and wireless networking. Participants will also learn how to troubleshoot common email & internet connectivity problems. Participants will learn about potential security threats in the network and internet and how to mitigate against these threats. Participants will also be introduced to the latest in Cloud Computing, Cloud Services & characteristics about Cloud Computing.

Who Should Attend?

Individuals who are keen in network and wireless network implementation & troubleshooting. The course is ideal for beginners and user, technicians new to networking.

Certificate Of Attendance:

Certificate Of Attendance will be awarded to participants completing the course achieving minimum 75% attendance.

Training Methodology & Materials:

- Practical hands-on sessions to enhance networking concept.
- Well-designed lab sessions to enhance further understanding of the courseware.

Training Duration:

Full-time: 3 weekdays or 3 Sats
Time : 9.30am – 5.30pm

Course Training Fee :

Normal Course Fee : S\$600
Regn Fee : S\$30

All fees subject to prevailing GST.

Course is eligible for SDF Training Grant.

Self-sponsored trainees may offset course fees with SkillsFuture Credit Claim and/or PSEA.

DETAILED COURSE OUTLINE

1.0 Networking Basics

- 1.1 What Are The Networks That We Have
- 1.2 Network Equipment

2.0 Network Standards and OSI Model

- 2.1 The OSI Model
- 2.2 Data Encapsulation
- 2.3 Data Packet
- 2.4 OSI Model and Associated Network Devices
- 2.5 Network Topologies
- 2.6 Ethernet (IEEE 802.3)
- 2.7 Ethernet Cabling (UTP – Unshielded Twisted Pair)
- 2.8 Network Adapters
- 2.9 Ethernet Frame
- 2.10 Ethernet Frame Transmission

3.0 IP Addresses

- 3.1 Introduction to IP Addressing
- 3.2 Layout of IP Address
- 3.3 Public IP Address Class
- 3.4 Subnet Masks
- 3.5 Private IP Address Range
- 3.6 IP Address Characteristics

4.0 DHCP

- 4.1 Dynamic Host Configuration Protocol

- 5.0 DNS**
 - 5.1 Host Names and FQDNs
 - 5.2 Name Resolution Using the HOSTS File
 - 5.3 DNS Structure
 - 5.4 DNS Server and Query Process
- 6.0 Internet Connectivity**
 - 6.1 Troubleshooting Tools Network
- 7.0 Network Planning**
 - 7.1 Designing a Network
- 8.0 Ports**
 - 8.1 TCP/IP Services
 - 8.2 TCP Protocol
 - 8.3 UDP Protocol
 - 8.4 Email (SMTP Protocol)
 - 8.5 The World Wide Web (HTTP)
 - 8.6 Other TCP/IP Services
 - 8.7 TCP/IP Ports
 - 8.8 Port Forwarding
- 9.0 Wireless Networking**
 - 9.1 AP [Access Points]
 - 9.2 Wireless Clients
 - 9.3 Wireless Standards
 - 9.4 Wireless Channels
 - 9.5 Wireless Signal Strengths
 - 9.6 SSID
 - 9.7 BSS
 - 9.8 IBSS
 - 9.9 802.11n
 - 9.10 Wireless Security
- 10.0 Virtual Private Network (VPN)**
 - 10.1 How VPN works
 - 10.2 VPN Protocols
 - 10.3 Benefits of VPN
 - 10.4 Network Security
 - 10.5 NAT
 - 10.6 Proxy Servers
 - 10.7 Packet Filtering
 - 10.8 MAC Filtering
 - 10.9 Security Issues
 - 10.10 Viruses
 - 10.11 Worms
 - 10.12 Spyware
- 11.0 Cloud Computing & Virtualization**
 - 11.1 Virtualization Defined
 - 11.2 Cloud Computing Defined
 - 11.3 Why does Organization Uses Cloud Computing
 - 11.4 Cloud Service Model
 - 11.5 SaaS (Software as a Service)
 - 11.6 PaaS (Platform as a Service)
 - 11.7 IaaS (Infrastructure as a Service)
 - 11.8 Cloud Deployment Model
 - 11.9 Challenges and Risks of Cloud Computing

