CWNA - Certified Wireless Network Administrator Eğitimi

Süre: **5 Gün**

BİLGİNÇ IT Academy
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Overview

A hands-on course focusing on the technical support of WiFi. Wireless LANs are often seen as simple communications that are simply installed and then left alone to work. This course ensures that delegates will be able to install WiFi networks which work but also enable the delegates to troubleshoot WiFi when it does go wrong.

Prerequisites

There are no formal prerequisite courses, just a basic knowledge of networking and how Wi-Fi works.

What You Will Learn

By the end of the course delegates will be able to: Compare 802.11 standards. Configure WiFi networks. Troubleshoot WiFi networks using spectrum analysers, Wireshark and other tools. Implement 802.11 security. Perform RF surveys.

Outline

Introduction

History, standards.

RF fundamentals

What is RF? Wavelength, Frequency, Amplitude, Phase. Wave behaviour. RF components. Watts, mW, dB, SNR, Link budgets.

Hands on Spectrum analysis. Listing WiFi networks. WiFi connection. inSSIDer.

Antennas

Radiation envelopes, polar charts, gain, Antenna types. Line of Sight, MIMO.

Hands on Connecting, installing, changing antennae. RSSI values.

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802.11

802.11-2007, 802.11 post 2007, 802.11 drafts. 802.11 b/g/n.

Hands on WiFi performance measurement.

Spread Spectrum

RF frequency bands, FHSS, DSSS, OFDM. Channels.

Hands on Configuring channels.

Topologies

Mesh, Access points, distribution systems, SSID.

Hands on AP configuration. Client connection profiles.

802.11 MAC

CSMA/CA, Management frames, control frames, data frames. Passive scanning, active scanning. Open system authentication. Shared Key authentication. Association. RTS/CTS. Power management.

Hands on Capturing frames, analysing frames.

WiFi architecture

WiFi client, WLAN architecture: Autonomous, Centralised, distributed. WiFi bridges. WiFi routers. PoE.

Hands on WLAN controllers.

Troubleshooting

RF interference, multipath, adjacent channels, low SNR, mismatched power. Coverage, capacity.

802.11 Security

Basics, Legacy security: WEP, MAC filters, SSID cloaking. PSK, 8021.X/EAP, WPA/WPA2. TKIP/ CCMP encryption. Guest WLANs. Wireless attacks, intrusion monitoring.

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Hands on WEP cracking, WPA2 configuration. RADIUS.

RF Site surveys

Protocol and spectrum analysis, coverage analysis. Site survey tools.