Advanced Network Practices

Learn about:

· Describe network fundamentals and build simple LANs
· Understand IP addressing and name resolution
· Understand switching and routing
· Configure basic switching and routing
· Understand routing protocols
· Identify Fibre optic cabling and connectors
· Implement VLANs
· Troubleshoot VLAN issues
· Configure EtherChannel
· Understand basic packet sniffing with Wireshark
· Configure virtual switching in Hyper-V

Pre-Requisites:

Delegates should have a good working knowledge of Windows desktops, basic Internet usage, and a knowledge of IPv4 Addressing.

Duration:

5 Days

Networking Review

What is a Network?
Why Network?
Ethernet
IP Addressing
Subnet Masks
What Packets Will a Host Read?
IP Version 6

DNS

Understanding Name resolution
Name resolution with DNS
External name resolution

Building a Simple Network

Exploring the Functions of Networking
Understanding the Host-to-Host
Communications Model
Introducing LANs
SSH, Console and Web GUI access to switches
Starting a Switch
Understanding Ethernet and Switch Operation
Troubleshooting Common Switch Media Issues

Basics of Routing

Exploring the Functions of Routing
Routing Algorithms and Metrics
Dynamic Routing Protocols
Configuring a Cisco Router
Exploring the Packet Delivery Process
Enabling Static Routing

Fibre Basics

Fibre Types
Connectors

Building a Medium-Sized Network

Implementing VLANs and Trunks
Routing Between VLANs
Using a Cisco Network Device as a DHCP Server
Troubleshooting VLAN Connectivity
Building Redundant Switched Topologies
Improving Redundant Switched Topologies with EtherChannel
Understanding Layer 3 Redundancy

What is Wireshark?

Protocol analysers
Wireshark features
Versions
Troubleshooting techniques with Wireshark

Capturing traffic

Starting and stopping basic packet captures
The packet list pane
Packet details pane
Packet bytes pane
Interfaces
Using Wireshark in a switched architecture

Virtual Networking

Hyper-V Virtual Switch types
Creating a Virtual Switch
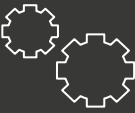
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