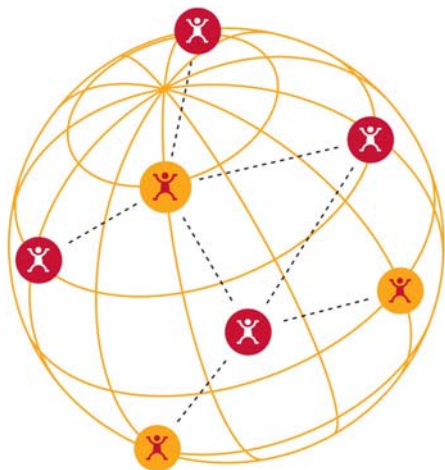


TRAINING PROGRAM OUTLINE



ENG-404E TCP/IP NETWORKS: SWITCHING

DESCRIPTION

A 3-day hands-on Training Program to provide participants with the tools required to design and build a switched campus network. This Training Program delves into the nuts and bolts of the technologies and protocols that help erect today's corporate campus networks.

Through practical hands-on activities, the participant will lay the foundations of a basic Local Area Network (LAN) and steadily grow its complexity to eventually put together a small scale switched campus network.

PREREQUISITE

To fully appreciate the contents of this Training Program, the participant should have attended the following Training Program or have acquired the equivalent experience in the subject matter:

- ENG-401E Introduction to Data Networks & TCP/IP



OBJECTIVES

- Describe the challenges in designing a switched campus network
- Provide the characteristics of each layer of the hierarchical model
- Explain how the Ethernet protocol functions and the evolution to switching
- Define the characteristics of the Spanning Tree Protocol (STP)
- Identify the requirement for Virtual Local Area Networks (VLANs)
- Explain how to install Ethernet switches and configure the various features, such as spanning-tree, VLANs and port channeling
- Present how to analyze network traffic
- Explain how to design and configure a small scale switched campus network

TOPICS

- Introduction
 - Campus network overview
 - Hierarchical model (access, distribution and core layers)
- LAN technologies
 - Ethernet: the de facto LAN standard
 - Different flavors of Ethernet
 - Additional Ethernet features: Power over Ethernet (PoE) and auto-negotiation
 - Other LAN technologies
- Segmentation
 - From hubs to bridges to switches
 - Types of bridging (transparent, source route and translational)
 - Types of forwarding (store and forward, cut-through and adaptive cut-through)



- Spanning-Tree Protocol (STP)
 - Spanning-tree topology
 - Spanning-tree operation
 - Spanning-tree states
 - Rapid Spanning-Tree Protocol (RSTP)

- VLANs and trunking
 - Requirement for VLANs
 - Types of VLANs
 - 802.1q
 - Trunking
 - Generic Attribute Registration Protocol (GARP)/GARP VLAN Registration Protocol (GVRP)

- Advanced features and services
 - Multilink trunks and port channeling
 - Load balancing
 - VLANs and spanning-tree
 - Multicast

TARGET AUDIENCE

- Technical personnel in engineering or operations, with a basic understanding of data networks, interested in or needing to learn how to design switched networks

METHODOLOGY

Our Training Programs combine expert presentations, workshops, case studies and discussions on real-life situations faced by participants. Complete training material is provided to all participants for future reference and follow-up action plans.



LOCATION

Our Training Programs are held at regular intervals in selected cities around the world. Upon request, our expert trainers can lead Training Programs at the location of your choice. If interested, please contact us at neotelis.training@neotelis.com.

EXPERTISE

Neotelis provides consulting and training services to organizations worldwide. Its team of experts has trained thousands of individuals in technical, managerial and executive roles, who are working for operators, regulators, policy-makers, governments and private sector corporations in over 100 countries around the world.

