

Soft-Train



*At Soft-Train
Technology Works*

COURSE GOAL: To provide students with the knowledge and skills necessary to successfully set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP).

PREREQUISITES: None.

LEARNING OBJECTIVES:

Upon completion of this course, the student will learn:

- The mechanics of Local Area Networks
- IP Addressing
- Internet Protocol
- Error reporting and recovery mechanisms inherent within the protocol suite
- The manner in which Quality of Service is implemented
- The use of broadcasts and other multiple station delivery mechanisms
- Various routing protocols

TCP/IP (5 Days) ST45014

KEY TOPICS:

I. Overview of TCP/IP

- A.** TCP/IP
- B.** Data Communications Model
- C.** TCP/IP Protocol Architecture
- D.** Network Access Layer
- E.** Internet Layer
- F.** Transport Layer
- G.** Application Layer

II. Delivering the Data

- A.** Addressing, Routing, and Multiplexing
- B.** The IP Address
- C.** Internet Routing Architecture
- D.** The Routing Table
- E.** Address Resolution
- F.** Protocols, Ports, and Sockets

III. Network Services

- A.** Names and Addresses
- B.** The Host Table
- C.** DNS
- D.** Mail Services
- E.** File and Print Servers
- F.** Configuration Servers

IV. Getting Started

- A.** Connected and Non-Connected Networks
- B.** Basic Information
- C.** Planning Routing
- D.** Planning Naming Service
- E.** Other Service
- F.** Informing the Users

V. Basic Configuration

- A.** Kernel Configuration
- B.** Startup Files
- C.** The Internet Daemon
- D.** The Extended Internet Daemon

VI. Configuring the Interface

- A. The ifconfig Command
- B. TCP/IP Over a Serial Line
- C. Installing PPP
- D. Summary

VII. Configuring the Interface

- A. Common Routing Configuration
- B. The Minimal Routing Table
- C. Building a Static Routing Table
- D. Interior Routing Protocols
- E. Exterior Routing Protocols
- F. Gateway Routing Daemon
- G. Configuring Gated

VIII. Configuring DNS

- A. BIND: Unix Name Service
- B. Configuring the Resolver
- C. Configuring Named
- D. Using nslookup

IX. Local Network Services

- A. The Network File System
- B. Sharing Unix Printers
- C. Using Samba to Share Resources with Windows
- D. Network Information Service
- E. DHCP
- F. Managing Distributed Servers
- G. Post Office Servers

X. Sendmail

- A. Sendmail's Function
- B. Running Sendmail as a Daemon
- C. Sendmail Aliases
- D. The Sendmail .cf File

XI. Configuring Apache

- A. Installing the Apache Software
- B. Configuring the Apache Server
- C. Understanding an httpd.conf File
- D. Web Server Security
- E. Managing Your Web Server

XII. Network Security

- A. Security Planning
- B. User Authentication
- C. Application Security

- D. Security Monitoring
- E. Access Control
- F. Encryption
- G. Firewalls

XIII. Troubleshooting TCP/IP

- A. Approaching a Problem
- B. Diagnostic Tools
- C. Testing Basic Connectivity
- D. Troubleshooting Network Access
- E. Checking Routing
- F. Checking Name Service
- G. Analyzing Protocol Problems