

TCP/IP Fundamentals

The TCP/IP Fundamentals Workshop provides you with a comprehensive working understanding of TCP/IP and the Internet Protocol suite. This course discusses issues relating to hardware and software configuration, network terminology, network performance, problem determination and resolution, application programming, network management and security. This seminar provides a "big picture" overview of TCP/IP and many of the telecommunications and data communications architectures and protocols within compliance. Providing a hands-on experience enables students to configure TCP/IP and solve real TCP/IP internetworking problems that arise while creating an intranetwork using hubs, bridges, and routers.

Course Outline

TCP/IP Internetworks	Ping and ICMP Echo Message,	Electronic Mail & News	Packet Filter Table
LANs, MANs, WANs	Traceroute	Internetwork E-Mail	Application and Firewall
OSI and The Internet	IPNext Generation IPng:IP Version	Simple Mail Transfer Protocol	Gateways
Protocol Suite - TCP/IP	6	SMTP	Kerberos
TCP/IP & The Internet	TCP/IP Routing Protocols	Multipurpose Internet Mail	Configuration, Planning &
TCP/IP History	Internet Routing,	Extensions MIME	Troubleshooting
Internet Standard & Organizations	Distance Vector vs. Link State	Electronic News	Management
TCP/IP Names, Addresses &	Routing Information Protocol RIP	Gopher & World Wide Web	Issues & Responsibilities
Subnets	Hello Protocol	Hypertext	Choosing TCP/IP Products
TCP/IP Repeaters,	Open Shortest Path First OSPF	Hypertext Markup Language	Technical Decisions
Switches, Bridges, Routers &	Exterior Gateway Protocol EGP	HTML	Performance Considerations
Gateways	Border Gateway Protocol BGP	Uniform Resource Locator URL	Tuning a Network
TCP/IP Network Interface Layer	Autonomous Systems	Hypertext Transfer Protocol	Configuration
Ethernet, Token Ring, Physical	TCP/IP Transport Layer - TCP &	Line Print Services	Debugging and Measurement
Links,	UDP	BOOTP, DHCP, NTP & DNS	Tools
Serial Line Internet Protocol	Transport Addressing Ports	BOOTP - 2 Phases	TCP/IP Programming
Point-to-Point Protocol	Well-known Port Numbers	Dynamic Host Configuration	The Socket Programming Interface
Packet Technologies	Sockets	Protocol DHCP	Unix Forks
X.25, Integrated Services Digital	User Datagram Protocol UDP	Domain Name Service DNS	WINDOWS
Network ISDN,	Transmission Control Protocol	DNS Structure	SOCKets
Frame Relay	TCP	Network Management & Security	WINSOCK
Asynchronous Transfer Mode	TCP/IP Application Services Layer	SNMP Architecture	X Protocol
ATM	NFS & NIS	Remote Monitoring RMON	Client/Server Architecture
TCP/IP Internet Layer	Network File System NFS	SNMPv2	Connectionless UDP Socket
IPv4, Fragmentation,	Remote Procedure Call RPC	Network Management Platforms	Example
Address Resolution Protocols	Network Information Service NIS	Tools	Connection TCP Socket Example
Internet Group Management		Internetwork Security	Remote Procedure Call RPC
Protocol		Firewalls	TCP/IP & IBM Networks
Internet Control Message Protocol			

Who Should Attend: TCP/IP users, programmers, network and system administrators, engineers and managers who need a thorough understanding of TCP/IP, project managers and project leaders involved in the design and implementation of TCP/IP networks, client/server applications or distributed processing applications who need to understand the fundamentals of TCP/IP networks. Client/server and distributed processing programmers who need to understand the use of TCP/IP in their applications.

Prerequisites: Basic understanding of computers and an understanding of computer numbering systems (binary and hex) is helpful.

Course Length: 4 days