

# Course Outline



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## Practical TCP/IP

### Course Description:

The objective of this course is to provide delegates with a practical understanding of TCP/IP and the skills required to setup and use both DOS/Windows/NT and Unix based TCP/IP networks.

### Pre-requisites:

Delegates should have a good understanding of Local Area Network (LAN) concepts such as that provided by the PTR Introduction to Data Communications & Networking course.

### Course Content:

- **Reference Models & LAN data-link concepts**
  - OSI 7 layer model, TCP/IP 4 layer model
  - MAC addresses, frame types
- **Introduction to the Internet Protocol (IP)**
  - Addresses, classes, networks and broadcasts. Naming (hosts and DNS)
  - Subnet masks (default, off-byte, tables). Frame positioning.
  - ARP (manipulating tables), RARP, ICMP (ping, traceroute), IGMP.
- **TCP/IP over serial networks and IP routing**
  - SLIP, CSLIP, PPP (LCP, NCP, IPCP, unnumbered IP, PAP, CHAP)
  - Routing mechanics. Static configurations, interior (RIP, RIP2, OSPF), exterior (EGP, BGP). Reducing WAN traffic (increase update period, snapshot, piggyback mechanisms)
- **Introduction to the transport layer**
  - TCP and UDP. Connection, reliability, ports, sliding windows

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- **TCP/IP and UDP/IP applications**
- **Microsoft networking with TCP/IP**
- Telnet (telnetd), FTP (ftpd, protocols, applications, anonymous)
- SMTP and POP3 (daemons, applications, uuencode, MIME, binhex)
- TFTP, Finger, BootP, DHCP, SNMP, NFS (RPC, XDR), DNS
- MS networking protocols (NetBIOS, SMB)
- Operating system support
- Workgroups and domains
- NetBIOS naming with TCP/IP

**Course Duration:**

**2 Days**

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