

TCP/IP in Practice – 3 days

CONTENTS

In this you will practice the knowledge that you theoretically got in the course TCP/IP. This course is a natural follow up training in your role as network engineer. During the course you will build up an IP network and activate the most commonly used application services. You will connect your network to Internet as well as to other course networks. You will learn managing, activating and configuration of the fundamental building blocks in IP networks such as switches, routers and firewalls. You will also learn how to configure important network services such as DHCP, DNS and e-mail.

TARGET AUDIENCE

This course is for those who need a good hands-on understanding of TCP/IP and the whole IP family of protocols. It is intended for students with a fair theoretical knowledge of TCP/IP, but who, in their work situation, have to turn their theoretical knowledge into practical experience; who need to know the specifics, and understand the whole picture.

PREREQUISITES

Knowledge equivalent to our course “TCP/IP”.

EXERCISES

This is a theoretical training with practical exercises.

NOTE: This course is not delivered with the FoldOut methodology.

Each module will consist of:

Introduction

- Module Overview
- Theory review
- Getting to know the tools

Hands-on exercises

- Setting up the environment
- Execute test cases
- collect data
- Analyze data

Summary

- Discussing the results
- Sharing experiences across the groups

Modules included in training:

The Wireshark tool

- Capturing
- Filtering
- Fancy Extra-Credit Features

Ethernet

- Mac addressing, Unicast/Broadcast/Multicast
- ARP

- Hubs and Switches
- VLAN, 802.1q

IP

- Addressing
- Unicast/Broadcast/Multicast
- ICMP
- DNS
- DHCP
- NAT

TCP/UDP/SCTP

- Seq/Ack scheme
- Retransmissions
- Sliding window
- Multi-homing
- Streams

Routing

- Static/Dynamic routing
- Subnetting

Quality of Service

- Priorities on L2 and L3
- DiffServ
- 802.1p

Applications

- FTP/HTTP
- E-mail

SIP/RTP

- IP Telephony
- VoIP analysis