

IPv6 Technical – 3 days

CONTENTS

This course will describe the fundamentals of IPv6 networking. The training is focused on the protocols and mechanisms defined within IPv6 as well as functions affected by IPv6, such as network design and DNS. Theoretical presentations and hands-on will be mixed during the education.

TARGET AUDIENCE

The target group for this course is technical personnel or others who need technical knowledge in the area.

PREREQUISITES

The students are expected to have a basic network understanding equivalent to the course Data Communications Fundamentals, as well as a knowledge in TCP/IP equivalent to the course TCP/IP in Practice.

EXERCISES

This is a theoretical training with practical exercises.

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

Introduction

- Background / statistics / history
- Address assignment
- Overview of differences from IPv4

Addresses

- Notation
- Prefixes / scope
- Link local addresses
- Multicasting
- Address selection

Networking logic

- ICMPv6
- NDP
- Address configuration

Headers

- The IPv6 base header
- Optimizations for traffic
- Extension headers

Impact

- Affected layers
- DHCPv6 & DNS
- Software development
- Security

Transition

- IPv4 and IPv6 interoperability
- The provider view
- Current solutions in the market

Practical exercises during the course

- The IPv6 Address
- Address Selection
- Address Configuration
- Solicited-Node Multicast
- Address Resolution
- Neighbour Solicitation and Advertisement
- SLAAC
- Packet Headers
- DHCPv6
- DNS
- Transition
- Troubleshooting