Systems & Network Training

Total IPv6 for engineers

A 3 day Hands on training course

Save on expenses. This course is also available on your premises.

Description

IPv6 is the next generation Internet Protocol. This hands on course looks at the benefits and features of the new protocol along with an assessment of the likely impact of the protocol and migration strategies. Practical exercises using PCs and routers follow the major sessions in order to reinforce the theory.

Key outcomes

By the end of the course delegates will be able to:

- ✔ Configure PCs and routers for IPv6.
- ✔ Troubleshoot IPv6 networks.
- ✔ Analyse IPv6 packets.
- ✔ Plan migration strategies for IPv6.
- ✔ Integrate IPv6 and IPv4 networks.

Training approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning. Hands on sessions are used throughout to allow delegates to consolidate their new skills.

Details

Who will benefit?
Anyone working in the field of networking.

Prerequisites
TCP/IP foundation for engineers.

Duration: 3 days

Customer rating: ★★★★½

Generic training	Small class sizes	Hands On training	Our courseware	Customise your course
Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".	We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.	The majority of our courses use hands on sessions to reinforce the theory.	We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.	Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.
"*Friendly environment with expert teaching that teaches the why before the how.*" G.C. Fasthosts	*"Excellent course. The small class size was a great benefit..."* M.B. IBM	*"Not many courses have practice added to it. Normally just the theoretical stuff is covered."* J.W. Vodafone	*"Comprehensive materials that made the course easy to follow and will be used as a reference point."* V.B. Rockwell Collins	*"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."* S.R. Qinetiq

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Course content

Introduction

Reasons for IPv6, IPv4 weaknesses, what is IPv6? IPv4 solutions for solving address wastage, the origins of IPv6. Hands on: IPv6 on a PC, IPv6 on a router.

IPv6 addressing

IPv6 address allocation, address format, Prefixes but no masks, address categories, scope zones, aggregatable global unicast, link local, Unicast, Multicast, Anycast. Prefix delegation. Hands on: Link local addresses, manual address configuration, name resolution.

Plug and play

Plug and play addressing, ICMP neighbour discovery, router solicitation, DHCPv6, stateful autoconfiguration and stateless autoconfiguration. Hands on: Plug and play addresses and default gateways.

The IPv6 header

The IPv4 header, IPv6 header format, QoS, flow control, priority field, extension headers, hop by hop, destinations header, fragmentation header, security, IPsec, AH, ESP, TCP and UDP, ICMPv6. Hands on: IPv6 packet analysis.

Migrating to IPv6

Overview, migration, dual stack, IPv4 compatible addresses, DNS, IPv6 DNS issues, AAAA records, IPv6 reverse delegation, DNS transport, protocol translators, NAT-PT, NAPT-PT, NAT64, DNS64, tunnelling, tunnel establishment, tunnel brokers, Tunnel types. Hands on: Dual stack operation, tunnelling, IPv6 name resolution.

IPv6 routing

IPv6 routing, RIPng packet format, RIPng for IPv6, OSPF for IPv6, MBGP, multiprotocol routing, MBGP and multicasts, MBGP and IPv6. Hands on: Base router setup for IPv6, IPv6 static routes, RIPng, OSPFv3. MBGP.