

# IPv6 Course

Available online at [www.ipv6course.com](http://www.ipv6course.com)

## IPv6 deployment, long postponed, is now a pressing issue.

IPv4 addresses, the Internet lifeblood, have almost all been distributed. Carriers, Service Providers and Enterprises must now embrace IPv6. This online course outlines the key IPv6 details.

### Who would benefit from this course?

Those in technical and non-technical roles associated with the IT sector. Course participants may include IT support staff, policy staff in government agencies, application developers, engineers, telecoms regulators and managers.

### How long does it take?

Around half a day, including quizzes.

### Overview

In September 2012, RIPE, the European Internet Registry announced they were on to their final /8 IPv4 address block (the last 16 million).

IPv6 deployment, long postponed due to the lack of a business case, is now an imperative. This online course describes the context for IPv6, then outlines the key technical components.

The course first outlines IPv6 development and the ICANN role, then briefly reviews IPv4 addresses and protocols. The remaining IPv4 address stocks and how they will be administered are then discussed. The key IPv6 features are then outlined, followed by an examination of IPv6 address structure and functions.

IPv6 configuration mechanisms are then outlined, followed by an overview of the key IPv6 protocols. IPv6 transition mechanisms and issues are then described. The course concludes with an overview of IPv6 security mechanisms and issues.

## Objectives

Participants completing this course should be able to:

- Outline the role of ICANN and IANA in IP address management
- Describe key IPv4 features, and the remaining IPv4 address stocks
- Understand IPv6 address formats
- Outline the different IPv6 address types
- Describe IPv6 configuration mechanisms
- Outline the key IPv6 protocols
- List the IPv6 transition mechanisms and describe how they work
- Outline key security issues arising from IPv6 deployment

## Outline

- IPv6 beginnings
- How IPv4 addresses have been extended
- How IP addresses are allocated
- Key IPv6 features
- IPv6 address format
- IPv6 address types
- Configuration
- Neighbour Discovery Protocol, ICMPv6, DHCPv6
- Adapting DNS for IPv6
- IPv6 transition mechanisms
- Dual stack operation
- Tunneling: 6to4, ISATAP
- Carrier Based NAT
- NAT64
- IPSEC
- Key IPv6 security issues