

# IPv6 Knowledge Base

## IPv6 Training and Learning Information

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This IPv6 Training and Learning Information was derived from many sources.

**Disclaimer: The presence of a training or learning source or resource on this list does not constitute an endorsement of that resource or of its provider.**

IPv6 training and learning information is divided into the following categories:

<b>1. IPv6-related training and learning sources and training services</b>
<b>2. On-line reference documents and web sites</b>
<b>3. IPv6-related books in print or in electronic form</b>
<b>4. Archival information (published or presented in 2007 and earlier)</b>

<b>1. IPv6-related training and learning sources and training services (in alphabetical order)</b>	<b>Comments or Additional Information</b>
Hurricane Electric Free IPv6 Certification Project ipv6.he.net/certification	an interactive series of tests to demonstrate knowledge of IPv6 and progressive stages of deploying IPv6. Free, although registration is required to take the tests
Implementing IPv6 www.afcea.org/education/index.cfm?showcats=y and search for IPv6	Hands-on 4-day workshop on many aspects of IPv6 (Armed Forces Communications and Electronics [AFCEA] Educational Foundation for a fee)
Internet2 IPv6 workshops www.internet2.edu/workshops/ipv6/	Hands-on 2-day workshops on various IPv6 topics (Internet2/Abilene academic for a fee) (Copies of presentations used in old workshops may be available on the web site.)
IPv6 Overview/Training: Internetworking with TCP/IP Version 6 www.eno.com/government/ipv6_training_fundamentals.html	a 2- to 3-day onsite overview and tutorial on IPv6 (commercial, cost and content tailorable)
IPv6 Program by DePaul University, College of Computing and Digital Media http://www.cdm.depaul.edu/ipd/Programs/Pages/IPv6.aspx	a 10-week intensive online program providing comprehensive coverage of IPv6 technologies and strategies, including hands-on virtual laboratory training
Security Onion http://securityonion.blogspot.com/	A Linux distro CD pre-configured to simplify installing, configuring, learning about, and testing several security software tools. Based on Xubuntu 10.04
www.arslimited.com	3-day workshop Implementing IPv6 Networks (commercial)
https://secure.cbtnuggets.com/it-training-videos/series/cbtn_ipv6	series of 34 on-line videos (commercial)
www.digitalgovernment.com	a variety of IPv6 courses, seminars and transition services (commercial)
www.erion.co.uk/ipv6.html	a variety of IPv6 courses, seminars, and transition services (commercial)
www.fastlaneus.com/courses/IPv6	a variety of IPv6 courses, seminars, and transition services (commercial)
www.globalknowledge.com	a variety of onsite IPv6 courses and seminars (commercial)
www.itdojo.com/ipv6.htm	a 3-day hand-on classroom IPv6 Fundamentals and Migration Planning course (commercial)
www.nexuminc.com	a variety of IPv6 courses, seminars, and transition services (commercial)
www.salientfed.com	a variety of IPv6 courses, seminars, and transition services (commercial)
www.scte.org/	a variety of IPv6 courses and seminars (commercial) offered by the Society of Cable Telecommunications Engineers (SCTE). It is necessary to search the web site to find some of the offerings
www.spirentfederal.com	integration and transition services (commercial) See www.spirentcom.com/news/press.cfm?id=2466&ref=home
www.sunsetlearning.com	2-day workshop Cisco based (commercial)
www.tonex.com	2-day workshop IPv6 Fundamentals (commercial)
<b>www.training4ipv6.eu/</b>	Comprehensive database of IPv6-related training and learning sources. While maintained by a European Union organization, it includes U.S. training sources
www.wwt.com	5-day workshop IPv6 Fundamentals Bootcamp (commercial)

<b>2. On-line reference documents and web sites (in alphabetical order):</b>	<b>Comments or Additional Information</b>
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Demystifying IPv6 by Spirent Corporation (Catalog --> Technology Training --> Internet Protocols --> Demystifying IPv6)	www.spirentclassroom.com	a comprehensive tutorial on IPv6, video based rather than static slides. Free, although registration is required to access the course
Free Cisco Certified Network Associate (CCNA) Workbook http://www.freeccnaworkbook.com/workbooks/ccna Configuring IP version 6 (IPv6)	[Section 12]	a comprehensive description of configuring IPv6 on Cisco routers
Hacking IPv6 Networks by Fernando Gont, June, 2011, www.hackingipv6networks.com		a good introduction including security aspects
IPv6 Learning Roadmap http://technet.microsoft.com/en-us/library/gg250710(WS.10).aspx		An organized and sequential list of Web and print resources that you can use to learn about IPv6. Announced Nov 2, 2010. This is just one of a series of Learning Roadmaps available from Microsoft. Others may be found at http://social.technet.microsoft.com/wiki/contents/articles/learning-roadmaps-portal-page.aspx
Managing an IPv6 Network: Deep Dive into ICMPv6 by Laura Knapp content/uploads/2013/04/6-IPv6-Deep-Dive-ICMPv6-Laura-Knapp.pdf	http://rmv6tf.org/wp-	An in-depth presentation on ICMPv6, including messageing, ND, MLD, packet MTU, fragmentation, and other ICMPv6 functionality
The Rise of IPv6, a monthly series of articles published by Mark A. Miller, P.E. http://www.telecomreseller.com/category/writers/miller/		
Using and Migrating to IPv6 by Sumon Huque, Univ of Pennsylvania http://www.huque.com/~shuque/doc/2012-12-IPv6-Tutorial-huque.pdf		A wide-ranging presentation on IPv6, including protocol basics, ISP support, O/S and applications support, troubleshooting, tranistion techniques, and configuration examples
btdiamondip.com/IPv6_Resource_Center/		Series of webinars, videos, and IPv6 reference papers, provided by BT Diamond IP Products
gogonet.gogo6.com		Extensive set of information and pointers to IPv6 reference information, supported by Gogo6, Inc.
portalipv6.lacnic.net/en		Extensive set of information and pointers to IPv6 reference information, supported by Latin American and Caribbean Internet Address Registry (LACNIC).
www.afrinic.net/IPv6/index.htm		This site is hosted by the African Network Information Center (AfriNIC) to facilitate sharing of information on IPv6 topics and issues.
www.apnic.net/services/ipv6_guide.html		This site is hosted by the Asia Pacific Network Information Center (APNIC) to facilitate sharing of information on IPv6 topics and issues.
www.arin.net/v6/v6-info.html		This site is hosted by the American Registry for Internet Numbers (ARIN) to facilitate sharing of information on IPv6 topics and issues.
www.getipv6.info/index.php		Extensive set of information and pointers to IPv6 reference information, supported by the American Registry for Internet Numbers (ARIN).
www.internetsociety.org/deploy360/ipv6/		The Deploy360 Programme web site is hosted by the Internet SOCIety (ISOC). A wide varitey of training and tutorials, including videos, are available
www.ipv6resource.com		A general introduction to and overview of the capabilities of IPv6. The web site content is provided by World Wide Technology, Inc. and Cisco.
www.maawg.org/activities/training/ipv6-video-list		A tutorial on IPv6, with both slides and video, emphasizing e-mail and web browsers. Presented at a Messaging Anti-Abuse Working Group (MAAWG) conference in Oct, 2010.
www.midatlantciv6tf.org:8080/kb		Extensive set of information and pointers to IPv6 deployment information, supported by the North American IPv6 Task Force (NAv6TF).
www.nanog.org/resources/tutorials/		This site is hosted by the North American Network Operators Group (NANOG) and provides an on-going series of reports and in-depth tutorials on IPv6 deployment topics
www.ripe.net/rs/ipv6/		This site is hosted by the Réseaux IP Européens (RIPE) Network Coordination Centre (NCC) to facilitate sharing of information on IPv6 topics and issues.
www.6deploy.eu/index.php?page=e-learning2		Audio on-line training modules for IPv6 in English, Portugese, and Spanish. One of many products of the 6deploy project (see below)
www.6deploy.eu		Extensive set of training and knowledge pointers to IPv6 reference information, from the Sixth Framework Programme of the European Union The www.6diss.org/tutorials/ site is comprehensive, though dated. The www.6deploy.eu/index.php?page=tutorials is more up-to-date (6DISS project completed Sept 2007, newest reports at www.6deploy.eu)

<b>3. IPv6-related books in print or electronic form (in alphabetical order):</b>	<b>Comments or Additional Information</b>
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The Accidental Administrator: Cisco Router Step-by-Step Configuration Guide -- Understanding and Configuring IPv6 by Don R. Crawley, published 2012 by soundtraining.net ASIN B009R6FYWW	
Day One: Exploring IPv6, Second Edition, Nov, 2010, by Chris Grundemann, Juniper Networks, Inc. <a href="http://www.juniper.net/us/en/community/junos/training-certification/day-one/networking-technologies-series/exploring-ipv6/">http://www.juniper.net/us/en/community/junos/training-certification/day-one/networking-technologies-series/exploring-ipv6/</a>	Overview and tutorial on basic IPv6, including numerous examples of router configuration details. A preview is publicly available. Registration on the J-Net network is required. The full book is available in PDF, ePub, and mobi
Deploying IPv6 in Broadband Access Networks by Adeel Ahmed, Salman Asadullah, published 2009 by Wiley ISBN 978-0-470-19338-9	
DNS and BIND on IPv6 DNS for the Next-Generation Internet by Cricket Liu, published 2011 by O'Reilly Media ISBN 1-4493-0519-9	
Easy IPv6: The Lookup Book by Kate Lance, 2nd Edition, published 2011 by Lancewood Research for IPv6 Now Pty Ltd., ISBN 978-0-9872113-0-9	For additional information, see <a href="http://www.ipv6now.com.au/lookup.php">www.ipv6now.com.au/lookup.php</a>
Enterprise Network Testing: Testing Throughout the Network Lifecycle to Maximize Availability and Performance, April, 2011, by Andy Sholomon, Tom Kunath, Cisco Press ISBN 978-1-58714-127-0	A sample chapter "Crafting the Test Approach" is available courtesy of Cisco Press, at <a href="http://www.ciscopress.com/articles/article.asp?p=1706355&amp;seqNum=5">http://www.ciscopress.com/articles/article.asp?p=1706355&amp;seqNum=5</a>
Enterprise IPv6 Deployment: Experience Report from Google by Haythum Babiker, Irena Nikolova, and Kiran Kumar Chittimaneni, published Oct 2011 by the USENIX Association ISBN 978-1-931971-89-8	To purchase printed or electronic copies, see <a href="http://www.sage.org/pubs/25_ipv6/">http://www.sage.org/pubs/25_ipv6/</a>
Guidelines for the Secure Deployment of IPv6, Dec, 2010, by Sheila Frankel, Richard Graveman, John Pearce, and Mark Rooks <a href="http://csrc.nist.gov/publications/nistpubs/800-119/sp800-119.pdf">http://csrc.nist.gov/publications/nistpubs/800-119/sp800-119.pdf</a>	An overview and tutorial on basic IPv6, including comprehensive security and deployment planning information
The Illustrated Network: How TCP/IP Works in a Modern Network by Walter Goralski, published 2009 by Morgan Kaufman ISBN 0-12374-541-1	
IPv4/6 Multicast Operation and Troubleshooting by Ipexpert, Inc., published Feb 2012 ASIN B0084NZPBE	
IPv6 for Enterprise Networks by Shannon McFarland, Muninder Sami, Nikhil Sharma, Sanjay Hooda, published 2011 by Cisco Press ISBN-10: 1-58714-227-9	Chapter 8 "Deploying IPv6 in WAN/Branch Networks" is available at <a href="http://www.informit.com/articles/article.aspx?p=1697883">http://www.informit.com/articles/article.aspx?p=1697883</a>
IPv6 Mandates: Choosing a Transition Strategy, Preparing Transition Plans, and Executing the Migration of a Network to IPv6 by Karl Siil, published 2008 by John Wiley & Sons, Inc. ISBN 0--47019-119-8	
IPv6 Security: Information Assurance for the Next Generation Internet Protocol by Scott Hogg, Eric Vyncke published 2008 by Cisco Press ISBN 1-58705-594-5	Chapter 3 "IPv6 Internet Security" is available on the IPv6 Knowledge Base courtesy of Cisco Press. See the <b>Best Practices</b> article under the <b>Security</b> section for the link.
Mobile IPv6: Protocols and Implementation by Qing Li, Jinmei Tatuya, and Keiichi Shima, published 2009 by Morgan Kaufmann Publishers ISBN 0-12375-075-X	
Planning for IPv6 by Silvia Hagen, published 2011 by O'Reilly Media, Inc. ISBN 978-1-4493-0539-0	
Real World IPv6 for Network Managers and SysAdmins by Michael Spalter, published 2012 by SEG Communications, ASIN B008KRMIN2	
<b>Sams Teach Yourself TCP/IP in 24 Hours</b> by Joe Casad, 5th Edition, published 2011 by Sams, ISBN 0-67233-571-9	
The Second Internet (Reinventing Computer Networking with IPv6), July 2010, by Lawrence Hughes	one web site where the pdf is available is <a href="http://www.ipv6forum.org/dl/books/the_second_internet.pdf">http://www.ipv6forum.org/dl/books/the_second_internet.pdf</a>
Security in an IPv6 Environment by Daniel Minoli, Jake Kouns, published 2008 by Auerbach Publications ISBN 1-42009-229-4	
TCP/IP Protocol Suite, 4th edition, by Behrouz A Forouzan, published 2009 by McGraw Hill Computer Communications ISBN 0-07108-420-7	
Understanding IPv6 by Joseph Davies, Third Edition, published 2012 by Microsoft Press ISBN-13 978-0-7356-5914-8	

**NOTE:** Older materials can still be useful for training and learning. Given a choice prefer materials published or presented in 2008 or later. The following will use terminology current when they were written. Terminology for IPv6 addresses has changed over time. Three changes of note in the terminology are: (1) RIR policy for default prefix allocations changed from /35 to /32 in March 2002, (2) site-local addresses were deprecated in September 2004 by RFC 3789, and (3) unique local addresses were adopted in October 2005 by RFC 4193.

4. Archival information (published or presented in 2007 and earlier)	Comments or Additional Information
Application Aspects of IPv6 Transition, RFC 4038, March 2005, by Shin, Hong, Hagino, Savola, and Castro	<a href="http://www.ietf.org/rfc/rfc4038.txt">www.ietf.org/rfc/rfc4038.txt</a>

The Case for IPv6, draft version 06, 25 June 2000, by King, Fax, Haskin, Ling, et al	<a href="http://tools.ietf.org/html/draft-iab-case-for-ipv6-06">tools.ietf.org/html/draft-iab-case-for-ipv6-06</a> (Also contained in the CD-ROM accompanying Understanding IPv6 by Davies)
Configuring IPv6 for Cisco IOS by Brown, Brown, Chen, Fong, Harrell, Knipp, Sayers, Webber, and Parent et al, published 2002 by Syngress Media ISBN 1-92899-484-9	
Deploying IPv6 Networks by Ciprian Popoviciu, Eric Levy-Abegnoli, Patrick Grossetete, published 2006 by Cisco Press ISBN 1-58705-210-5	
Handbook of IPv4 to IPv6 transition by John J. Amoss, Daniel Minoli, Sohraby Kazem, published 2007 by CRC Press ISBN 0-84938-516-4	
Hands-On IPv6 Introduction Workshop, October 2007, by Jordi Martinez <a href="https://www.arin.net/participate/meetings/reports/ARIN_XX/premeeting.html">https://www.arin.net/participate/meetings/reports/ARIN_XX/premeeting.html</a>	a very good, comprehensive overview and tutorial on IPv6, including enabling software, applications, and routers
Implementing IPv6: Supporting the Next Generation Internet Protocols by Mark A. Miller, 2nd edition, published 2000 by Wiley ISBN 0-76454-589-2	
Internetworking IPv6 with Cisco Routers by Silvano Gai, published 1998 by McGraw-Hill Computer Communications ISBN 0-07022-836-1	This book is available at <a href="http://ip6.com/index-book.htm">ip6.com/index-book.htm</a>
IP Addressing and Subnetting, Including IPv6 by J.D.Wegner, Robert Rockell, published 1999 by Syngress Media ISBN 1-92899-401-6	
IPv6 Advanced Protocols Implementation by Qing Li, published 2007 by Morgan Kaufmann ISBN 0-12370-479-0	
IPv6 Core Protocols Implementation by Qing Li, published 2006 by Morgan Kaufmann ISBN 0-12447-751-8	
An IPv6 Deployment Guide, The 6Net Consortium Sept 2005, Ed. By Martin Dunmore published Sept 2008 by www.javvin.com ISBN: 978-1-60267-005-1 in eBook and paperback form	A pdf of this book may be downloaded from <a href="http://www.6diss.org/publications/info/deployment-guide.pdf">http://www.6diss.org/publications/info/deployment-guide.pdf</a>
IPv6 Economic Impact Assessment (Planning Report #05-2), October 2005, by RTI International for the Commerce Department's National Institute of Standards and Technology (NIST)	<a href="http://www.nist.gov/director/prog-ofc/report05-2.pdf">www.nist.gov/director/prog-ofc/report05-2.pdf</a>
IPv6 Essentials 2nd Edition by Silvia Hagen, published 2006 by O'Reilly & Associates ISBN 978-0-596-10058-2	
IPv6 Network Administration by David Malone and Niall Richard Murphy, published 2005 by O'Reilly Media, Inc. ISBN 0-59600-934-8	
IPv6 Notice of Inquiry, 14 January 2004, by the Commerce Department's National Institute of Standards and Technology (NIST) and the National Telecommunications and Information Administration (NTIA)	<a href="http://www.ntia.doc.gov/ntiahome/ntiageneral/ipv6/">www.ntia.doc.gov/ntiahome/ntiageneral/ipv6/</a> (With links to responses and follow-up documents and meetings that resulted.)
IPv6: Theory, Protocol, and Practice, 2nd edition by Pete Loshin, published 2003 by Morgan Kaufmann Publishers ISBN 1-55860-810-9	
Lead or Follow: The Next Generation Internet and the Transition to IPv6, hearing before the House of Representatives Committee on Government Reform held 29 June 2005	<a href="http://www.gpo.gov/fdsys/pkg/CHRG-109hrg22510/pdf/CHRG-109hrg22510.pdf">www.gpo.gov/fdsys/pkg/CHRG-109hrg22510/pdf/CHRG-109hrg22510.pdf</a>
Migrating to IPv6: A Practical Guide to Implementing IPv6 in Mobile and Fixed Networks by Marc Blanchet published 2005 by John Wiley & Sons, Inc. ISBN: 0-47149-892-0	A companion web site for the "Migrating to IPv6" book may be found at <a href="http://www.ipv6book.ca">www.ipv6book.ca</a> .
Mobile Inter-networking with IPv6: Concepts, Principles and Practices by Rajeev S. Koodli, published 2007 by Wiley-Interscience ISBN 0-47168-165-2	
Mobile IPv6: Mobility in a Wireless Internet by Hesham Soliman, published 2004 by Addison-Wesley Professional ISBN 0-20178-897-7	
Report of the DoC Task Force on the New Internet Protocol (IPv6), January 2006, by the Commerce Department's National Institute of Standards and Technology (NIST) and the National Telecommunications and Information Administration (NTIA)	<a href="http://www.nist.gov/director/planning/upload/IPv6-final.pdf">www.nist.gov/director/planning/upload/IPv6-final.pdf</a>
Running IPv6 by Iljitsch van Beijnum, published 2005 by Apress ISBN 1-59059-527-0	
The TCP/IP Guide: A Comprehensive, Illustrated Internet Protocols Reference by Charles Kozierok, published 2005 by No Starch Press ISBN 1-59327-047-X	
Understanding IPv6 by Youngsong Mun, Hyewon K. Lee, published 2005 by Springer ISBN 0-38725-429-3	
Voice Over IPv6: Architectures for Next Generation VoIP Networks by Daniel Minoli, published 2006 by Newnes ISBN 0-75068-206-X	
<a href="http://ecse.rpi.edu/Homepages/shivkuma/teaching/sp2001/ip2001-Lecture13.ppt">ecse.rpi.edu/Homepages/shivkuma/teaching/sp2001/ip2001-Lecture13.ppt</a>	among other academic course material, look at the IP Next Generation (IPv6) slides here by Prof. Shivkumar Kalyanaraman, Dept. of ECSE, Rensselaer Polytechnic Institute (academic, free)
<a href="http://www.ipv6style.jp/en/aboutipv6#">www.ipv6style.jp/en/aboutipv6#</a>	An IPv6 information/action Web site in Japan jointly operated by Impress R&D Corporation and NTT Communications (defunct as of 2008)

<a href="http://www.sixxs.net/presentations/">www.sixxs.net/presentations/</a>	An on-going series, mostly non-English. In English, see Steve Deering's IPv6 Masterclass, April 18, 2002
<a href="http://www.viagenie.qc.ca/en/ipv6/presentations/IPv6-primer.pdf">www.viagenie.qc.ca/en/ipv6/presentations/IPv6-primer.pdf</a>	among other IPv6-related files in the presentations directory, look at the IPv6-primer slides here by Florent Parent. Somewhat dated (originally given in 1999), but comprehensive.
<a href="http://www.6diss.org/e-learning">www.6diss.org/e-learning</a>	on-line 2-hour IPv6 introductory course on IPv6 basics. (The 6diss project completed September 2007, newer reports now available at <a href="http://www.6deploy.eu">www.6deploy.eu</a> )