TCP/IP IPv4

After finishing this TCP/IP training, you'll know how to use fundamental IPv4 routing. You'll also learn about network routers, default gateways, default routes, and static routes. Gain an understanding of dynamic routing protocols, such as RIP and OSPF.

CBT Nuggets course material →

STUDY PLAN

WEEK 1

IPv4 Subnetting — 151 min.

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Fun with IPv4 Basics	15
Classes, Masks, and Private IPs	20
Beautiful Binary	11
Decimal to Binary Conversion	17
The Mask Unveiled	14
Stealing Host Bits	23
Subnet IDs	21
Valid Host Range	21

WEEK 2

IPv4 Routing Fundamentals — 153 min.

Room for 1 More?	9
Reverse Engineer	15
Summarize	28
Wildcard Masks	14
Non-Octet Boundaries	17
VLSM	17
Final Exam	15

IPv4 Routing Fundamentals

Overview	1
Layer 3 Router Concepts	7
Default Routes	7
Static Routes	7
Dynamic Routing Protocol Concepts	5

	Making the Mask Longer	8
	How Many Bits to Take and the Finger Game	10
	Identify the New Subnet IDs	8
	Ranges for Subnets	6
	Calculating the Number of Hosts per Subnet	3

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151 min.

	Subnetting Scenario	9
	Implementing our IP Subnet Addressing	6
	Validation	18

Use IPv4 Variable Length Subnets Masks (VLSM)

	Intro to Use IPv4 Variable Length Subnet Masks	1
	Why VLSM is Needed	10
	The Starting Point for VLSM Calculations	10
	Calculating the Rest of the Subnet IDs and Masks with VLSM	6
	VLSM Example Across Octets	15
	Creating a New VLSM-Based IPv4 Subnetting Plan	9
	Configuring the IPv4 VLSM on Cisco Routers	10
	Validation	22

Use Additional IPv4 Addressing

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	Additional IPv4 Address Types	11
	Unicast Addresses	8
	Using Loopbacks	8
	IPv4 Anycast Addressing	7

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165 min.

	APIPA Link Local IPv4 Address	6
	Broadcast Addresses, L3 and L2	9
	Multicast	8
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Configure IPv4 Static Routes

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	Static Route Overview	15
	Confirming Current Topology and Routes	5
	Game Plan for Static Routes	9
	Configure a Static /24 Network Route	6
	Configure a Static /32 Host Route	4
	Default Route	9
	Validation	18

Use IPv4 Floating Static Routes

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	Floating Static Route Overview	10
	Establishing Initial Default Routes	5
	Adding Backup "Floating" Default Routes	9
	Testing Floating Static Routes	7
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	Validation	18

WEEK 7

Create Standard IPv4 ACLs

164 min.

	Intro	1

Create Extended IPv4 ACLs

Last updated 12.3.2024