DevOpsSchool

Course curriculum · November 2026

CISCO CERTIFIED DESIGN · CERTIFICATION-FOCUSED PROGRAM

Cisco Certified Design Expert (CCDE)

Build your Skills with DevOpsSchool Online, Enroll for CCDE Certification Courses - Cisco Certified Design Expert Training. Learn from top-rated instructors. Enquire Now!

LIVE ONLINE Max 8-10 hours	**CORPORATE** Private team batch, on demand	**SELF-PACED VIDEO** 1-year LMS access
BATCH SIZE Max 10 learners	**NEXT BATCHES** 1st of every month · weekends: first Saturday	**CERTIFICATE** Verifiable certificate of completion

INSIDE THIS CURRICULUM

Who should attend	Objectives, audience, prerequisites
Agenda	128 topics
Formats and fees	Live, 1:1, self-paced, corporate
Trainer and reviews	Rajesh Kumar
Enrolment	Batches, payment, contacts

WHY DEVOPSSCHOOL

- Rated 4.6 on Google
- 1,500+ verifiable certificates issued in the public registry
- Trainer Rajesh Kumar: 20 years in industry
- Small batches: max 10 learners, every session recorded

Course page: www.devopsschool.com/courses/cisco/cisco-certified-design-expert-ccde.html
Talk to us: WhatsApp +91 99057 40781 · +1 (469) 756-6329 · contact@DevOpsSchool.com · reply within 1 hour

COURSE FIT

Who this program is for

Use this page to decide whether Cisco Certified Design Expert (CCDE) matches your role and experience.

1

Objectives

Understand the core concepts and usage model, apply practical workflows through examples and guided tasks, and prepare for implementation, certification or team adoption.

2

Who should attend

Developers, DevOps engineers, administrators, SREs, security engineers, platform teams, release teams, technical leads and corporate teams working with this topic.

3

Before you start

Basic computer literacy and awareness of software, operations, cloud, DevOps or security workflows is helpful. Deep programming experience is not needed unless the topic requires it.

AGENDA AT A GLANCE · 128 TOPICS

Core curriculum

128 topics · Layer 2 Control Plane

AGENDA · 128 TOPICS

Cisco Certified Design Expert (CCDE) agenda

Live online batches run for max 8-10 hours; corporate batches are planned with your team.

CORE CURRICULUM — 128 topics

1. Layer 2 Control Plane
2. Describe fast convergence techniques and mechanisms
3. Down detection
4. Interface dampening
5. Describe loop detection and mitigation protocols
6. Spanning tree types
7. Spanning tree tuning techniques
8. Describe mechanisms that are available for creating loop-free topologies
9. REP
10. Multipath
11. Switch clustering
12. Flex links
13. Loop detection and mitigation
14. Describe the effect of transport mechanisms and their interaction with routing protocols over different types of links
15. Describe multicast routing concepts
16. Describe the effect of fault isolation and resiliency on network design
17. Fault isolation
18. Fate sharing
19. Redundancy
20. Virtualization
21. Segmentation
22. Layer 3 Control Plane
23. Describe route aggregation concepts and techniques
24. Purpose of route aggregation
25. When to leak routes / avoid suboptimal routing
26. Determine aggregation location and techniques
27. Describe the theory and application of network topology layering
28. Layers and their purposes in various environments
29. Describe the theory and application of network topology abstraction
30. Purpose of link state topology summarization
31. Use of link state topology summarization
32. Describe the impact of fault isolation and resiliency on network design or network reliability
33. Describe metric-based traffic flow and modification
34. Metrics to modify traffic flow
35. hird-party next hop

36. Protocol timers
37. Loop-free alternates
38. Describe factors affecting convergence
39. Recursion
40. Microloops
41. Transport
42. Describe unicast routing protocol operation (OSPF, EIGRP, ISIS, BGP, and RIP) in relation to network design
43. Neighbour relationships
44. Loop-free paths
45. Flooding domains and stubs
46. iBGP scalability
47. Analyze operational costs and complexity
48. Routing policy
49. Redistribution methods
50. Describe the interaction between routing protocols and topologies
51. Describe generic routing and addressing concepts
52. Prometheus
53. Policy-based routing
54. NAT
55. Subnetting
56. RIB-FIB relationships
57. General multicast concepts
58. Source specific
59. MSDP / anycast
60. PIM
61. mVPN
62. Describe IPv6 concepts and operation
63. General IPv6 concepts
64. IPv6 security
65. IPv6 transition techniques
66. Network Virtualization
67. Describe Layer 2 and Layer 3 tunneling technologies
68. Tunneling for security
69. Tunneling for network extension
70. Tunneling for resiliency
71. Tunneling for protocol integration
72. Tunneling for traffic optimization
73. Analyze the implementation of tunnelings
74. Tunneling technology selection
75. Tunneling endpoint selection
76. Tunneling parameter optimization of end-user applications

77. Effects of tunneling on routing
78. Routing protocol selection and tuning for tunnels
79. Design Considerations
80. Analyze various QoS performance metrics
81. Application requirements
82. Performance metrics
83. Describe types of QoS techniques
84. Classification and marking
85. Shaping
86. Policing
87. Queuing
88. Identify QoS strategies based on customer requirements
89. DiffServ
90. IntServ
91. Identify network management requirements
92. Identify network application reporting requirements
93. Describe technologies, tools, and protocols used for network management
94. Describe the reference models and processes used in network management, such as FCAPS, ITIL®, and TOGAF
95. Describe best practices for protecting network infrastructure
96. Secure administrative access
97. Control plane protection
98. Describe best practices for protecting network services
99. Deep packet inspection
100. Data plane protection
101. Describe tools and technologies for identity management
102. Describe tools and technologies for 802.11 wireless deployment
103. Describe tools and technologies for optical deployment
104. Describe tools and technologies for SAN fabric deployment
105. Evolving Technologies v1.1
106. Cloud
107. Compare and contrast public, private, hybrid, and multicloud design considerations
108. Infrastructure, platform, and software as a service (XaaS)
109. Performance, scalability, and high availability
110. Security implications, compliance, and policy
111. Workload migration
112. Describe cloud infrastructure and operations
113. Compute virtualization (containers and virtual machines)
114. Connectivity (virtual switches, SD-WAN and SD-Access)
115. Virtualization functions (NFVi, VNF, and L4/L5)
116. Automation and orchestration tools (CloudCenter, DNA-center, and Kubernetes)
117. Network programmability (SDN)

118. Describe architectural and operational considerations for a programmable network
119. Data models and structures (YANG, JSON and XML)
120. Device programmability (gRPC, NETCONF and RESTCONF)
121. Controller based network design (policy driven configuration and northbound/southbound APIs)
122. Configuration management tools (agent and agentless) and version control systems (Git and SVN)
123. Internet of things (IoT)
124. Describe architectural framework and deployment considerations for IoT
125. IoT technology stack (IoT Network Hierarchy, data acquisition and flow)
126. IoT standards and protocols (characteristics within IT and OT environment)
127.)IoT security (network segmentation, device profiling, and secure remote access)
128. IoT edge and fog computing (data aggregation and edge intelligence)

HOW YOU CAN LEARN

Formats and fees

The same agenda in four formats. Fees are in Indian rupees as of November 2026; the course page shows them in your currency.

FORMAT	DURATION	WHAT YOU GET	FEE
Live & interactive (online)	Max 8-10 hours	Instructor-led public batch of max 10 learners with demos, labs, Q&A and assignment review. Weekday batches start on the 1st of every month, weekend batches on the first Saturday of every month.	**INR 34,999**
1:1 live training (online)	Max 8-10 hours, one-to-one	The same agenda, taught one-to-one by the trainer. Starts immediately, without waiting for the next batch; sessions planned around your working hours, at your pace.	**INR 99,999**
Self-paced video	1-year LMS access	This program plus 20+ more courses and 50+ tools, at your own pace.	**INR 833/month** billed yearly at INR 9,996
Corporate	Planned with your team	A private batch for your team, on demand, with examples mapped to your platforms.	**Quote on request**

ASSESSMENT AND CERTIFICATE

Your progress is checked through hands-on tasks and assignments. On completion you receive a DevOpsSchool certificate of completion with a unique credential ID that anyone can verify at devopsschool.com/certificates.

INCLUDED WITH EVERY LIVE BATCH

- Every live session is recorded and stays in your LMS for a year.
- Can't attend your batch? Move to next month's batch.
- Free demo class before you pay.
- Free 10-15 minute call with an advisor or the trainer to check the course fits you.

YOUR TRAINER

Learn from Rajesh Kumar

Principal Architect, trainer and mentor in DevOps, SRE, DevSecOps and platform engineering, with 20 years across 8+ software MNCs, including Staff DevOps/SRE Engineer for a leading Japanese mobile-payment platform and Principal DevOps Architect and Manager in Europe.

Profile: www.rajeshkumar.xyz · Videos: youtube.com/@TheDevOpsSchool

20 years in industry	**200+** corporate trainings
10,000+ engineers mentored	**70+** organisations coached

REVIEWS

What learners say

Rated 4.6 on Google · more reviews at devopsschool.com/testimonials and in our video testimonials.

> “Rajesh is very good trainer. Rajesh was able to resolve our queries and question effectively. We really liked the hands-on examples covered during this training program.”
>
> Indrayani, India

> “The training was very useful and interactive. Rajesh helped develop the confidence of all.”
>
> Abhinav Gupta, Pune

START YOUR TRAINING

Join the next batch

Weekday batches start on the 1st of every month and weekend batches on the first Saturday of every month, with max 10 learners each. 1:1 training can start immediately; corporate batches run on demand. We reply within 1 hour.

Pay by UPI, credit and debit cards, net banking or PayPal. Before you pay, read our refund policy. All courses: www.devopsschool.com/courses/

ENROL OR RESERVE A SEAT
Cisco Certified Design Expert (CCDE)

WHATSAPP · INDIA
+91 99057 40781

WHATSAPP · USA
+1 (469) 756-6329

EMAIL
contact@DevOpsSchool.com

More Cisco Certified Design training: www.devopsschool.com/courses/cisco/