

12 Days

## CCIE Service Provider

The Cisco Certified Internetwork Expert Data Center (CCIE Data Center) is an expert level training course designed for network engineers that will help them to deliver efficiently managed services in building an extensive Service Provider infrastructure.

The Evolving Technologies module is included in the Written exam only. This module enables to integrate core technology expertise with knowledge of the evolving technologies that are being lately brought to places, such as cloud, IoT, and network programmability.

To earn the CCIE Service Provider certification, a candidate must pass the following exam(s):

### **Step One: CCIE Service Provider Written Exam (400-201)**

The candidate needs to pass the two-hour, written exam that focuses the concepts taught in the training related to packet-based networking, before becoming eligible to take the lab exam.

### **Step Two: CCIE Service Provider Lab Exam**

Step two includes an eight-hour lab exam to test the candidate's skills to configure actual equipment and get a service provider network running in a timed test situation. The candidate has to make an early attempt of the CCIE Lab Exam within 18-months of qualifying the CCIE written exam.

Note: Candidates are advised to pass the lab exam within three years of passing the written exam, otherwise the written exam needs to be retaken prior to retaking the lab exam.

## Course Details

---

### Course Outline

#### 1.0 Core Routing

- 1.1. Interior Gateway Protocol
- 1.2. Border Gateway Protocol
- 1.3. Multiprotocol Label Switching
- 1.4. MPLS Traffic Engineering
- 1.5. Multicast
- 1.6. Quality of Service

#### 2.0 Service Provider Architecture and Services

- 2.1. Service provider architecture concepts
- 2.2. Virtualization concepts
- 2.3. Carrier Ethernet
- 2.4. L3VPN
- 2.5. Overlay VPN
- 2.6. Internet service

### **3.0 Access and Aggregation**

- 3.1. Transport and encapsulation technologies
- 3.2. PE?CE connectivity
- 3.3. Quality of Service
- 3.4. Multicast

### **4.0 High Availability and Fast Convergence**

- 4.1. System level HA
- 4.2. Routing/fast convergence
- 4.3. Layer 1/2/3 failure detection techniques

### **5.0 Service Provider Security, Operation, and Management**

- 5.1. Control plane security
- 5.2. Management plane security
- 5.3. Infrastructure security
- 5.4. Timing and synchronization
- 5.5. Network monitoring and troubleshooting
- 5.6. Network configuration and change management

### **6.0 Evolving Technologies**

#### **6.1 Cloud**

- 6.1.a Compare and contrast Cloud deployment models
- 6.1.b Describe Cloud implementations and operations

#### **6.2 Network Programmability (SDN)**

- 6.2.a Describe functional elements of network programmability (SDN) and how they interact
- 6.2.b Describe aspects of virtualization and automation in network environments

#### **6.3 Internet of Things (IoT)**

- 6.3.a Describe architectural framework and deployment considerations for Internet of Things

## **Pre Requisite**

- ?There are no specific prerequisites for CCIE certification.
- Candidates must pass a written exam and then the corresponding hands-on lab exam.
- Candidate is expected to have a thorough understanding of the topics in the exam blueprints and strongly encouraged to have three to five years of job experience before attempting certification.

# Exams

CCIE SP Written Exam v4.0 CCIE SP Lab Exam v4.0 []

464, Udyog Vihar Phase  
V, Gurgaon (Delhi  
NCR)-122016, India

+91 8882 233 777

[training@mercury.co.in](mailto:training@mercury.co.in)

[www.mercurysolutions.co](http://www.mercurysolutions.co)

Date - Jun 03, 2026