CCIE/CCDE Evolving Technologies Exam Topics v1.0

The Cisco CCIE® and CCDE Evolving Technologies domain includes Cloud, Network Programmability and Internet of Things (IoT) which span across all CCIE/CCDE written exams.

This domain, worth 10% overall, is to ensure all CCIE/CCDE candidates have a clear understanding of important Cloud, Network Programmability and IoT concepts and are well equipped to participate in meaningful discussions with business leaders about new technical areas that can help drive business outcomes in global enterprises. An Evolving Technologies section is included in the written exam only. It will enable candidates to bridge their core technology expertise with knowledge of the evolving technologies that are being adopted at an accelerated pace, such as Cloud, Network Programmability, and IoT.

The Evolving Technology domain will be refreshed timely when new and emerging technologies as these are developed and adopted by the industry. More mature and track specific evolving technologies will be added to the track specific exam topics over time.

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

*NOTE: This CCIE/CCDE Evolving Technologies exam topics v1.0 should be referenced for all expert-level written exams scheduled **before** August 30, 2018.*

Domain Number	Domain	Written Exam Percentage (%)	Lab Exam Percentage (%)
A.0	Evolving Technologies v1.0	10	N/A

A.1. Cloud

- A.1.a. Compare and contrast Cloud deployment models
  - A.1.a. (i) Infrastructure, platform, and software services (XaaS)
  - A.1.a. (ii) Performance and reliability
  - A.1.a. (iii) Security and privacy
  - A.1.a. (iv) Scalability and interoperability
- A.1.b. Describe Cloud implementations and operations
  - A.1.b. (i) Automation and orchestration
  - A.1.b. (ii) Workload mobility
  - A.1.b. (iii) Troubleshooting and management
  - A.1.b. (iv) OpenStack components

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A.2. Network Programmability (SDN)

- A.2.a. Describe functional elements of network programmability (SDN) and how they interact
  - A.2.a. (i) Controllers
  - A.2.a. (ii) APIs
  - A.2.a. (iii) Scripting
  - A.2.a. (iv) Agents
  - A.2.a. (v) Northbound vs. Southbound protocols
- A.2.b. Describe aspects of virtualization and automation in network environments
  - A.2.b. (i) DevOps methodologies, tools and workflows
  - A.2.b. (ii) Network/application function virtualization (NFV, AFV)
  - A.2.b. (iii) Service function chaining
  - A.2.b. (iv) Performance, availability, and scaling considerations

A.3. Internet of Things (IoT)

- A.3.a. Describe architectural framework and deployment considerations for Internet of Things
  - A.3.a. (i) Performance, reliability and scalability
  - A.3.a. (ii) Mobility
  - A.3.a. (iii) Security and privacy
  - A.3.a. (iv) Standards and compliance
  - A.3.a. (v) Migration
  - A.3.a. (vi) Environmental impacts on the network

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