

# Course Catalog

## Datacenter Infrastructure Engineer (DCIE)

v 1.4

Cisco Technologies



Engineered Training



Developed by

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## Technology

Datacenter Storage  
Datacenter Computing  
Datacenter Networking  
Datacenter Facilities

## Duration

80 Hours

## Vendor

Cisco

## Audience

System/Presales Engineers  
Solution Architects  
Implementation Engineers  
Operation Engineers

## Delivery

Offsite Classroom  
Onsite Classroom

### Course Overview

The Datacenter Infrastructure Engineer (DCIE) is a Cisco Technologies course that is developed for whom seeking understanding Cisco Datacenter Technologies along with generic knowledge in different Datacenter Solutions. The course validates the ability to design, configure, and operate Cisco Datacenter Computing and Networking technologies. The course is recommended for Datacenter Specialists, Datacenter Administrators and Datacenter Designers.

This course is part of our Engineered Training Services that deliver value-added courses which covers the concerned technologies from all aspects as well as other related fundamentals or technologies from zero level to the expert level incorporating case studies and real-life scenarios that benefit participants in their actual work environment.

### Course Related Certifications

This course is not aligned to any Cisco exam. The Course is custom developed for Cisco Datacenter Infrastructure Technologies and can be recommended for all who seeks to take:

- CCNA Datacenter Certification
- CCNP Datacenter Certification
- CCIE Datacenter Certification

### Course Prerequisites

There is no specific prerequisites for this course, although it's recommended to fulfil below points to better understand technologies and features:

- Recommended to have at least CCNA R&S and CCNP R&S certifications or equivalent knowledge.
- Recommended to have good knowledge of IPv4 Multicast PIM and MP-BGP protocols.
- Recommended to have at least 1 – 3 years of networking experience.
- Recommended to have a laptop in Lab sessions.



### Course Added Values

- Delivering the optimum technical knowledge reflecting experience and real-life scenarios in the class.
- Understanding Best practice designs, configurations and recommendations.
- Consolidating Cisco Storage, Computing and Networking Infrastructure Technologies in one course delivering complete vision of how datacenters can be designed, configured and operated.
- Delivering the latest architectures, technologies and devices models ensuring transferring up-to-date knowledge compared with regular certificate courses.

### Course Objectives

- Understanding of Datacenter Computing, Virtualization and Storage Fundamentals.
- Understanding Storage Networking along with configuring Storage Area Networks (SAN) on Cisco Multilayer Director Switches (MDS).
- Understanding Cisco Unified Computing System and Cisco Nexus Unified Fabrics including architecture, key features and configurations.
- Understanding and configuring NX-OS datacenter features and protocols.
- Ability to configure and operate Cisco UCS and Cisco Nexus Fabrics in Datacenters.
- Ability to size and design a Cisco UCS solution for given data center computing requirements.
- Ability to size and design a Cisco Nexus Fabric Solution for given data center networking requirements.
- Understanding Cisco Virtual Networking for Virtualized Environments.
- Understanding Different Architectures of Current Datacenters along with Network Deployment Models.
- Qualifying Course Audience for Designing, Configuring and Operating medium-size and Enterprise Datacenters with Cisco Technologies.

### Course Tools and Materials

- Animated Presentation Slides
- Labs Simulators or Real Gears
- Student Book – Printed Copy



## Course Outline

The course is divided into 7 Modules. Each Module is sub-divided into sections. Course blueprint is listed below:

### **Module 1: Datacenter Fundamentals**

- Understanding Storage Fundamentals
- Understanding Computing Fundamentals
- Understanding Virtualization Fundamentals

### **Module 2: Understanding Cisco Storage Networking**

- Understanding Storage Networking Protocols
- Exploring Cisco Storage Networking Portfolio (MDS and Nexus Switches)
- Configuring Cisco SAN Switches

### **Module 3: Understanding Cisco Unified Computing System**

- Understanding UCS Architecture
- Understanding UCS Components
- Understanding UCS Manager and its features.
- Configuring UCS LAN, SAN, Service Profiles, VM-FEX and System Parameters
- Understanding UCS C-Series, M-Series and E-Series Servers
- UCS Deployment Architectures
- UCS Designing and Sizing Guidelines

### **Module 4: Understanding Cisco Nexus Technologies**

- Understanding Cisco NX-OS
- Understanding Virtual Portchannel (vPC)
- Understanding Fabric Extender (FEX)
- Understanding FabricPath
- Understanding Virtual Device Context (VDC)
- Understanding Overlay Transport Virtualization (OTV)
- Understanding Ethernet Virtual Private Network (eVPN)
- Understanding Locator/ID Separation Protocol (LISP)
- Understanding VM Tracking
- Overview of Nexus Data Broker
- Overview of Cisco Tetration Analytics

### **Module 5: Understanding Cisco Nexus Switches**

- Cisco Nexus 2000 Series
- Cisco Nexus 3000 Series
- Cisco Nexus 5000 Series
- Cisco Nexus 7000 Series
- Cisco Nexus 9000 Series



**Module 6: Understanding Cisco Virtual Networking**

- Understanding Cisco Nexus 1000 Virtual Switch Architecture
- Understanding Cisco vPath and Virtual Services
- Understanding Cisco Nexus 1000v Features

**Module 7: Understanding and Designing Datacenter Facilities**

- Designing Datacenter Facilities
- Datacenter Design Process
- Understanding ToR, MoR, EoR and Collapsed Deployments
- Designing a Datacenter using Cisco UCS and Nexus Fabrics

**Course Schedule**

The course consists of 10 sessions, each session 8 Hours (Total of 80 hours). Session Details are listed below:

Session	Session Content	LAB Session
Session 1	Module 1: Datacenter Fundamentals	
Session 2	Module 1: Datacenter Fundamentals (Cont.) Module 2: Understanding Cisco Storage Networking	
Session 3	Module 2: Understanding Cisco Storage Networking (Cont.) Module 3: Understanding Cisco Unified Computing System	
Session 4	Module 3: Understanding Cisco Unified Computing System (Cont.)	
Session 5	Module 3: Understanding Cisco Unified Computing System (Cont.) LAB: UCS Manager Configuration	LAB
Session 6	Module 4: Understanding Cisco Nexus Technologies	
Session 7	Module 4: Understanding Cisco Nexus Technologies (Cont.)	
Session 8	Module 4: Understanding Cisco Nexus Technologies (Cont.)	
Session 9	Module 4: Understanding Cisco Nexus Technologies (Cont.) LAB: Nexus Technologies	LAB
Session 10	Module 5: Understanding Cisco Nexus Switches Module 6: Understanding Cisco Nexus 1000 Virtual Switch Module 7: Datacenter Facilities Design	

**\*Note:** Session hours can be minimized to 4 hours, with total of 20 session or as per client desire.