

# Building HPE FlexFabric Data Centers H8D03S (00908176)

<b>HPE course number</b>	H8D03S
<b>Course length</b>	4 days
<b>Delivery modes</b>	ILT, VILT
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## Why HPE Education Services?

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The Building HPE FlexFabric Data Centers course provides you with the skills and knowledge to design, implement, and configure complex data center solutions based on the HPE FlexNetwork Architecture.

Data center networks are at a breaking point. HPE FlexFabric offers a new architectural approach that provides simplified, scalable, and automated connectivity for virtualized compute, storage, and cloud. Data center networking requirements have evolved rapidly, with emerging technologies increasingly focused on supporting more automation and simplified operations in virtualized data centers. HPE data center solutions and technologies such as Data Center Bridging (DCB) and HPE Intelligent Resilient Framework (IRF) allow for the grouping of several switches that are managed as a single virtual switch with a single IP address through switch virtualization. Ethernet Virtual Interconnect (EVI) allows for the connection of geographically dispersed data centers for business resilience and high availability. For more information on the other technologies covered in this course, please go to the objectives section.

## Audience

This course is ideal for HPE partners, customer, and employees who have a minimum of 3 years' experience in implementing and

designing enterprise level networks. Candidates should be able to demonstrate an ability to understand, configure, and implement modern data centers based on HPE FlexFabric Data Center solutions, which provide a simplified, scalable, and automated Ethernet fabric that connects virtualized compute, storage, and cloud services. It is strongly recommended that the candidate first complete one of the ASE core courses, Architecting HPE FlexNetwork Solutions or Deploying HPE FlexNetwork Core Technologies and pass the associated exam.

## Prerequisites

For specific prerequisites and requirements to achieve any of the related certifications, see the certification description on the Certification and Learning website: [certification-learning.hpe.com/tr/courses](https://certification-learning.hpe.com/tr/courses).

## Related certifications

- HPE ASE—FlexNetwork Integrator V1
- HPE ASE—FlexNetwork Architect V2
- HPE Master ASE—FlexNetwork Solutions V1

## Course objectives

After completing this course, you should be able to do the following:

- Understand the components of the HPE FlexFabric network architecture.
- Describe common data center networking requirements.
- Understand, describe, and configure Multitenant Device Context (MDC) that is a technology that can partition a physical device or an IRF fabric into multiple logical switches called MDCs.
- Understand, describe, and configure Multi-CE (MCE), which enables a switch to function as a Customer Edge (CE) device of multiple VPN instances in a BGP/IVIPLS VPN network, thus reducing network equipment investment.
- Understand, describe, and configure MPLS L2VPN technologies, which provide point-to-point connections through Martini, Kompella, CCC, and SVC.
- Understand, describe, and configure Virtual Private LAN Service (VPLS) also called transparent LAN service (TLS) or virtual private switched network service, can deliver a point-to-multipoint L2VPN service over public networks.
- Understand, describe, and configure the Transparent Interconnection of Lots of Links (TRILL) protocol. TRILL provides large-scale Layer 2 fabric services to maintain the simplicity of traditional Layer 2 systems while adding the scalability and convergence of a Layer 3 routed network.
- Understand, describe, and configure Shortest Path Bridging Mac-in-Mac Mod (SPBM) that provides Layer 2 connectivity between data center sites.
- Understand, describe, and configure Data Center Bridging (DCB) that is a technology that enables the consolidation of IP-based LAN traffic and block-based storage traffic onto a single converged Ethernet network. This can help to eliminate the need to build separate infrastructures for LAN systems that carry typical end-user data traffic, and SAN systems that carry storage specific communications.
- Understand, describe, and configure the Ethernet Virtual Interconnect (EVI) protocol that extends Layer 2 networks across data centers via already available L3 routes instead of dark fiber.
- Understand, describe, and configure Fibre Channel over Ethernet (FCoE)
  - Understand and configure Storage Area Networking (SAN) zoning
  - Describe and configure NPV mode
  - Configure a 5900CP for native FC connectivity
- Describe requirements for a data center network design.
- Describe different data center deployment models.
- Understand various data center technologies and their impact on a design.
- Describe the options for data center layers.
- Understand, describe, and configure Multiprotocol Label Switching (MPLS) that provides connection-oriented label switching over connectionless IP backbone networks.
  - Describe the behavior of a Label Switching Router (LSR)
  - Describe a Label Switched Path (LSP)
  - Describe a Forwarding Equivalence Class (FEC)

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