Learning Services

Cisco Intelligent WAN Essentials (IWAN-ESS)

The Cisco® Intelligent WAN (IWAN) Essentials¹ course is an instructor-led, lab-based, hands-on course offered by Cisco Learning Services.

It covers the theory and deployment of the foundational pillars of IWAN: transport independence and intelligent path control. These pillars use the following technologies: Dynamic Multipoint VPN (DMVPN), IP Security (IPsec) tunnel protection, routing protocol design (Enhanced Interior Gateway Routing Protocol [EIGRP] and internal Border Gateway Protocol [iBGP]), and Performance Routing (PfR).

The course uses a building-block approach to discussing the operation, configuration, and verification of each technology component. This approach is consistent with the IWAN Cisco Validated Design version 2.x. The lectures include explanations of concepts as well as demonstrations, using a fully functioning lab so that you can see firsthand how each technology is set up and verified for IWAN. The lecture demonstrations and the hands-on labs are performed in a dual data center environment with varying branch office topologies (single and multiple WAN routers).

Duration
Five days

Target Audience
The course is designed for Cisco customer and channel partner staff who are responsible for implementing the Cisco IWAN solution or who need to implement PfRv3.

Targeted roles include:
- Systems engineers
- Field engineers
- Implementation engineers
- Network operations engineers

¹ Course content is dynamic and subject to change without notice.
**Tasks and Features Covered**

- Configure and troubleshoot transport independence, including
  - DMVPN Phase 3 (Generic Routing Encapsulation (GRE), Next Hop Routing Protocol (NHRP), and IPsec
  - Front Door Virtual Routing and Forwarding (VRFs)
- Implement intelligent path control by configuring and troubleshooting PfRv3

**Course Prerequisites**

The knowledge and skills necessary before attending this course are:

- Network deployment experience equivalent to the Cisco CCNP® Routing and Switching certification
- Fundamental understanding and practical experience configuring EIGRP and iBGP
- Fundamental understanding and practical experience configuring GRE and IPsec

**Course Outline**

- Module 1: Course Overview and Introduction to IWAN
- Module 2: Configuring and Verifying Front Door Virtual Routing and Forwarding (VRFs) and DMVPN
- Module 3: Configuring and Verifying Advanced DMVPN Functionality
- Module 4: Configuring and Verifying IPsec for DMVPN
- Module 5: Configuring and Verifying Overlay Routing (EIGRP and iBGP)
- Module 6: PfRv3 Operation Overview
- Module 7: Configuring and Verifying PfRv3
- Module 8: Reviewing End-to-End IWAN Operation (Dual DC, Hybrid Environment)

**Lab Outline**

- Lab 1: Navigating the IWAN 4D Dual DC Sandbox
- Lab 2: Resetting the IWAN 4D Dual DC Sandbox
- Lab 3: Connecting DC1 to the Branches over the MPLS Network Using DMVPN Phase 1
- Lab 4: Modifying the DMVPN Phase 1 Configuration to DMVPN Phase 3
- Lab 5: Configuring and Verifying Summary Routes
- Lab 6: Connecting DC1 to Branches 4 and 5 over the Internet (INET) Cloud Using VRF and DMVPN Phase 3
- Lab 7: Configuring and Verifying Connectivity to Data Center 2
- Lab 8: Maintaining NHRP Health by Reducing Dynamic Entry Duration and Adding Interface State Tracking
- Lab 9: Configuring and Verifying IPsec on DMVPN Tunnels
- Lab 10: Adding EIGRP Routing Overlay
- Lab 11: Preparing to Deploy PIR
- Lab 12: Deploying PIR at Hub and Transit Sites
- Lab 13: Deploying PIR at the Branch Sites
- Lab 14: Configuring and Verifying Operation of the PIR Traffic Policies
- Lab 15: Extra Credit: Adding Branch 3 to the IWAN Environment
Lab Topology

Registration Email

For more information about schedules and registration for this course, contact aeskt_registration@cisco.com.

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- Cisco Learning Services for Cisco products and technologies: [http://www.cisco.com/go/cls](http://www.cisco.com/go/cls)

