



# Implement Data Center Application Services (DCASI)

Course ID#: 1575-920-ZZ-W

Hours: 35

## Course Content

### Course Description:

Implementing Data Center Application Services (DCASI) v2.0 teaches learners how to implement a Cisco Data Center Application Services solution by deploying the Cisco Application Control Engine (ACE) service module, Cisco ACE appliance, and GSS. This course covers implementation of all of the key Cisco ACE features, including virtualization and role-based access control (RBAC), server load balancing (Layers 3 and 4 and Layers 5 to 7), Secure Sockets Layer (SSL) termination and offload, security features including application-layer inspection, web application acceleration and optimization using the Cisco ACE Appliance. It also covers the Cisco ACE Global Site Selector (GSS) implementation of global server load balancing (GSLB).

### Prerequisites:

The knowledge and skills that a learner must have before attending this course are as follows:

- CCNA® or equivalent knowledge
- Familiarity with TCP/IP protocol suite
- Knowledge of HTTP and SSL protocols
- Basic understanding of n-tier application architecture
- Basic understanding of server load-balancing concepts

### Topics:

#### Module 1: Data Center Application Services Overview.

##### Lesson 1: IP-Based Data Center Applications

- Describe the fundamentals of IP-based communications
- Describe the fundamentals of IP-based applications
- Describe HTTP-based applications
- Describe global server load balancing

##### Lesson 2: Introducing ACE Family Solutions

- Describe the multitier application design
- Describe the redundancy design requirements within the data center

- Describe the redundancy design requirements between data centers
- Identify which products provide application delivery for the design

##### Lesson 3: Deploying the ACE Appliance and Service Module

- Describe the process of connecting the Cisco ACE to the network
- Describe possible deployment topologies including routed, bridge, and one-arm modes, as well as direct server return
- Describe the process of initially setting up the Cisco ACE appliance



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- Provide an overview of the Cisco ACE appliance graphic user interface
- Describe the use of multiple contexts
- Explain the resource management controls available on the Cisco ACE
- Explain the process of granting access to authorized users for management tasks
- Describe the steps to configure Cisco ACE interfaces
- Describe the configuration management capability

## Module 2: Implementing Server Load Balancing.

### Lesson 1: Modular Policy CLI

- Describe the structure and configuration of class maps
- Describe the structure and configuration of policy maps
- Describe the steps necessary to activate policy maps

### Lesson 2: Managing the ACE Appliance and Service Module

- Explain how to control management access to the Cisco ACE
- Describe SNMP support for multiple contexts
- Describe Cisco ACE management support with ANM

### Lesson 3: Security Features

- Describe simple IP access control lists
- Describe the use of ACL object groups
- Explain IP fragmentation processing
- Explain TCP/IP normalization
- Describe the use of SYN cookies
- Explain NAT and PAT

### Lesson 4: Layer 4 Load Balancing

- Describe the key concepts of server load balancing
- Describe the load-balancing algorithms available
- Describe the configuration of Layer 4 load balancing
- Explain the rate-limiting controls available within a context
- Describe the key concepts of firewall load balancing

### Lesson 5: Health Monitoring

- Describe health monitoring options
- Describe the configuration of health probes
- Describe the configuration of HTTP error code monitoring
- Describe the use of Tcl for scripted probes
- Explain route health injection
- Describe the use of backup servers and server farms

### Lesson 6: Layer 7 Protocol Processing

- Describe HTTP Layer 7 load balancing
- Explain persistent HTTP connections and pipelined HTTP requests
- Explain the reuse of Cisco ACE-to-server connections