

# ForgeRock Directory Services Core Concepts

*(5 Days)*

## Course Description

The ForgeRock® Directory Services Core Concepts course is for students who want to learn how to implement ForgeRock® Directory Services (DS) in a ForgeRock Identity Platform™ (Platform) deployment and as a standalone service. Current platform best practices are used to deploy and maintain DS. Using lab exercises in this course, students gain hands-on experience with the important features and capabilities of DS, which they can use to deploy DS on the job.

## Intended Audience

This course is aimed at those responsible for overseeing various aspects of a successful deployment of ForgeRock AM. This includes, but is not limited to, those with the following responsibilities:

- System Integrators
- System Consultants
- System Architects
- System Developers
- System Administrators

## Prerequisites

The following are the prerequisites to successfully completing this course:

- Basic knowledge and skills using the Linux operating system to complete labs
- Basic knowledge of LDAP, JSON, REST, Java

## Skills Gained

Upon completion of this course, you should be able to:

- Understand how DS is used in a Platform deployment
- Install DS as a standalone service or as an external data store for the Platform
- Use setup profiles to configure DS during installation
- Manage backend data stores
- Monitor and tune DS for different deployment types using HTTP and LDAP
- Implement access control and privileges
- Configure delegated administration
- Back up and restore backends
- Import and export data
- Manage custom attributes
- Manage log publishers

- Replace self-signed replication certificates
- Plan for a migration from Oracle Directory Server Enterprise Edition to DS
- Manage entries using the CLI and REST
- Implement high availability using replication
- Monitor health status
- Monitor and troubleshoot replication
- Manage DS in a ForgeRock® Identity Management (IDM) deployment
- Manage DS in a ForgeRock® Access Management (AM) deployment
- Deploy a distributed topology
- Configure data confidentiality
- Install and configure directory proxy servers
- Configure Prometheus and Grafana to monitor DS instances

## Course Outline

### Chapter 1: Introducing ForgeRock Directory Services (DS)

#### Lesson 1: Understanding how DS is used in the Platform

- Describe how the Platform uses DS
- Describe deployment options

#### Lesson 2: Installing DS

- Describe request processing
- Understand where data is stored
- Understand the installation process

#### Lesson 3: Managing data stores

- Manage the configuration
- Manage data stores
- Manage entries

#### Lesson 4: Protecting entries

- Understand how access control is applied
- Display privileges

#### Lesson 5: Locating default log files

- Describe log publishers
- Describe default log files

#### Lesson 6: Understanding DS monitoring capabilities

- Describe DS monitoring
- Describe HTTP monitoring
- Describe LDAP monitoring
- Describe SMTP monitoring
- Describe JMX monitoring
- Monitor health status

## **Chapter 2: Maintaining DS in an AM Deployment**

### **Lesson 1: Preparing DS as an external configuration and identity store for AM**

- Describe how DS is used in a default AM Deployment
- Configure DS instances as external configuration and identity stores for AM

### **Lesson 2: Preparing DS as an external CTS token store for AM**

- Describe CTS deployment options
- Configure DS as an external CTS token store for AM

### **Lesson 3: Performing essential administration tasks**

- Back up and restore an AM data store
- Configure a highly available CTS
- Enable secure communication between AM and DS

### **Lesson 4: Monitoring and tuning DS in an AM deployment**

- Monitor replication and disk space
- Reduce replication traffic
- Tune LDAP connection pools and AM caches

### **Lesson 5: Troubleshooting DS in an AM deployment**

- Enable platform transaction ID propagation
- Configure log filtering

## **Chapter 3: Deploying DS as a User Store**

### **Lesson 1: Populating backends**

- Populate a backend

### **Lesson 2: Managing custom attributes**

- Add custom schema
- Configure virtual attributes

### **Lesson 3: Delegating administration**

- Assign administrators to groups
- Assign access control to subscriber entries
- Grant privileges to administrators

### **Lesson 4: Managing authentication policies**

- Configure authentication policies

### **Lesson 5: Using REST to manage entries**

- Describe REST
- Configure the embedded REST API
- Configure the REST to LDAP gateway
- Perform RESTful operations

### **Lesson 6: Implementing high availability and scalability through replication**

- Deploy a replication topology
- Manage a replication topology
- Replace self-signed replication certificates

### **Lesson 7: Monitoring and tuning a user store**

- Configure SNMP monitoring
- Monitor indexes
- Measure throughput and response times
- Understand areas that affect performance

### **Lesson 8: Troubleshooting replication**

- Identify replication issues
- Backup and restore a replicated topology

### **Lesson 9: Planning for a migration from Oracle DSEE to DS**

- Prepare for a migration from Oracle DSEE to DS

## **Chapter 4: Maintaining DS in an IDM Deployment**

### **Lesson 1: Using DS as an IDM repository**

- Explore the default DS repository in IDM
- Configure DS as an external IDM repository

### **Lesson 2: Provisioning subscribers to DS**

- Describe how IDM synchronizes data
- Provision subscribers to DS

### **Lesson 3: Synchronizing passwords between DS and IDM**

- Enable mutual authentication
- Install DS password synchronization plugin

### **Lesson 4: Monitoring and troubleshooting DS in an IDM deployment**

- Monitor DS and IDM logs
- Troubleshoot password synchronization

## **Chapter 5: Creating a Distributed Topology**

### **Lesson 1: Exploring DS scalability options**

- Describe scaling options
- Protect user privacy

### **Lesson 2: Configuring a distributed topology**

- Configure regional data stores
- Upgrade a distributed topology

### **Lesson 3: Monitoring and tuning a distributed topology**

- Monitor a distributed topology
- Tune DS for multiple backends