# Oracle Service Bus 12c: Administration Ed 1

JAVA

| DURATION | MODULES | COURSE CODE |
| --- | --- | --- |
| **2 Days** | **8 Lectures** | **—** |

## Course Overview

This Oracle Service Bus 12c: Administration training teaches you how to install and configure Oracle Service Bus 12c. Gain hands-on experience administering its different components by using the Service Bus Console and Enterprise Manager Fusion Middleware Control.

## What You Will Learn

- SECTION I: Introduction

### Module 1: Introduction to Oracle Service Bus 12c

- Practices for Lesson 1: Introduction
- Practice Exercises for Lesson 1
- SECTION II: Getting Started with Oracle Service Bus

### Module 2: Getting Started

- Practices for Lesson 2: Getting Started with Oracle Service Bus
- Practice Exercises for Lesson 2
- SECTION III: Installation

### Module 3: Installing Oracle Service Bus 12c

- Practices Overview for Lesson 3
- Practice 3-1: Installing Oracle Service Bus 12c
- Practice 3-2: Installing Service Bus Schemas Using Repository Creation Utility
- Practice 3-3: Creating a WebLogic Domain for Oracle Service Bus
- Practice 3-4: Deploying Web Service Applications
- Practice Solutions
- SECTION IV: Service Bus Administration Tools

## Module 4: Service Bus Administration Tools

- Practices Overview for Lesson 4
- Practice 4-1: Testing a SOAP-Based Pipeline
- Solution Instructions
- SECTION V: Service Bus Management Fundamentals

## Module 5: Management Fundamentals

- Practices Overview for Lesson 5
- Practice 5-1: Managing Service Bus Sessions
- Practice 5-2: Customizing a Service Bus Configuration
- Practice 5-3: Managing Service Bus Using WLST
- Optional Practice 5-4: Propagating a Service Bus Configuration
- Solution Instructions
- SECTION VI: Reporting and Monitoring

## Module 6: Reporting and Monitoring

- Practices Overview for Lesson 6
- Practice 6-1: Monitoring Service Health
- Practice 6-2: Defining Service-Level Agreements
- Practice 6-3: Analyzing Service Bus Reports
- Solution Instructions
- SECTION VII: Service Bus Security

## Module 7: Security

- Practices Overview for Lesson 7
- Practice 7-1: Configuring the Security Environment
- Practice 7-2: Applying a Security Policy to Proxy Services
- Practice 7-3: Testing the Proxy Service Security Implementation
- Practice 7-4: Propagating Identity from Service Bus to Secured Web Service
- Solution Instructions
- SECTION VIII: Service Bus High Availability

## Module 8: High Availability

- Practices Overview for Lesson 8
- Practice 8-1: Creating a Service Bus Cluster
- Practice 8-2: Initializing a Service Bus Cluster
- Practice 8-3: Load Balancing Service Endpoint
- Practice Solutions

This divides the content into 8 logical modules, each focusing on a key area: Introduction, Getting Started, Installation, Administration, Management, Monitoring, Security, and High Availability

## Introduction

- Course Overview
- Audience
- Course Prerequisites
- Objectives
- Course Outline and Schedule
- Course Environment
- Course Practices
- Related Courses
- More Information
- Class Introductions
- Summary

## Getting Started with Oracle Service Bus

- Objectives
- Road Map
- The Problem with Enterprise Integration
- Point-to-Point Integration: Example
- SOA: Definition
- SOA Integration Solution
- Integrating Solutions and Benefits with SOA
- Benefits of Adopting SOA
- SOA and Services
- Challenges and Problems with Services
- Why Use an Enterprise Service Bus?
- Enterprise Service Bus
- Service Bus Technologies
- Road Map
- What Is Oracle Service Bus?
- Oracle Service Bus: Functional Features
- Service Bus Components
- Service Bus as a Message Broker
- Supported Transport Protocols
- Service Bus Architecture
- Service Bus Administration
- Oracle Service Bus: Key Features
- Location Transparency
- Context-Based Routing
- Transformations
- Service Aggregation
- Message Enrichment
- Pipeline Services in Service Bus
- Security
- Service-Level Agreements

- Road Map
- Oracle Fusion Middleware and Oracle Service Bus
- Service Bus Implementation
- Oracle WebLogic Server
- WebLogic Server Domain
- WebLogic Servers
- Administration Server
- Managed Server
- Quiz
- Resources for Lesson 2
- Summary

## Installing Oracle Service Bus 12c

- Objectives
- Administrative Stages in Setting Up Service Bus
- Road Map
- Installing Oracle Service Bus 12c
- Preparing for Installation
- Supported Software Platforms, JDKs, and Browsers
- Downloading Oracle Service Bus 12c and WebLogic Server 12c
- Preparing for the Installation
- Checking and Configuring the Database
- Checking WebLogic Server
- Starting the Service Bus Installer
- Specifying Installation Location
- Postinstallation Directory Structure
- Installation Log Files
- Repository Creation Utility: Overview
- RCU Requirements
- Creating Schemas with RCU
- Choosing Options
- Specifying a Schema Prefix and Selecting Components
- Specifying the Passwords for Schema Owners
- Quiz
- Road Map
- Review: Configuring a Domain
- Domain Topology: Service Bus Single Admin Server
- Domain Topology: Service Bus Single Managed Server
- Domain Topology: Service Bus Single Cluster
- Domain Topology: Service Bus Multiple Clusters, Managed Servers
- Domain Topology: Service Bus Coexistence
- Review: Domain Templates
- Creating a Domain
- Selecting the Domain Source
- Customizing Advanced Configuration

- Configuring the Managed Servers
- Creating Machines
- Assigning Servers to Machines
- Extending a Domain
- Post-Configuration Directory Structure
- Service Bus Directory Structure
- Service Bus Domain Directory Structure
- Starting Servers
- Quiz
- Resources for Lesson 3
- Summary
- Practice 3: Installing Oracle Service Bus 12c

## Service Bus Administration Tools

- Objectives
- Road Map
- Tasks Supported by the FMWC and Service Bus Consoles
- What Is Service Bus in the Fusion Middleware Control Console?
- Accessing the Fusion Middleware Control Console
- Dashboard
- Alert History
- Service Health
- Resequencing Messages
- Operations
- Global Settings
- Service Bus Home Page and Menu
- Service Bus Project Menu
- Road Map
- What Is the Service Bus Console?
- Service Bus Console: Admin Tab
- Accessing the Service Bus Console
- Session Management
- Projects and Folders
- Project Definition Editor
- Available Resource Types
- Service Configuration
- Viewing References
- Performing Simple Actions on Resources
- Quiz
- Road Map
- What Is the Test Console?
- Testing a Business or Proxy Service
- Testing a Pipeline
- Testing a Proxy Service
- Request Document

- Transport Options
- Response Document
- Invocation Trace
- Quiz
- Resources for Lesson 4
- Summary
- Practice 4: Service Bus Administration Tools

## Service Bus Management Fundamentals

- Objectives
- Administrative Tasks in Oracle Service Bus
- Road Map
- Session Management
- Change History
- Viewing the Change History
- Resolving Conflicts
- Resolving Concurrency Conflicts
- Quiz
- Road Map
- Service Bus Configuration Propagation
- Exporting Resources
- Exporting Resource Options
- Importing Resources
- Customizing the Service Bus Environment
- Finding and Replacing Properties
- Customization Files
- Executing Customization Files
- Quiz
- Service Bus Roles
- Access to Resource Actions in the SB Console
- Access to Administrative Functions in the SB Console
- Access to Session Management in the SB Console
- Access in the Fusion Middleware Control Console
- Road Map
- Accessing Other Administrator Tools and the WebLogic Scripting
- Tool (WLST)
- WLST: Basics
- Service Bus and WLST
- Using the SessionManagementMBean API
- Resource References
- ALSBConfigurationMBean
- Using MBeans in a WLST Script
- Using the MBeans in a WLST Script
- Resources for Lesson 5
- Summary
- Practice Overview: Service Bus Management Fundamentals

## Reporting and Monitoring

- Objectives
- Road Map
- Service Bus Monitoring in Fusion Middleware Control
- Service Bus Dashboard in Fusion Middleware Control Console
- Server Health
- Monitoring and Preserving Settings
- Service Bus Monitoring Framework
- Aggregation Interval
- Service Health
- Quiz
- Road Map
- Alerts
- Alert Types
- Alert Destinations
- Email Destinations
- Enable Alerts
- Service-Level Agreements
- SLA Rule Conditions
- Monitor Alerts
- Quiz
- Road Map
- Reporting Examples
- Service Bus Reporting Architecture
- Enable Reporting
- Reporting Alert Destinations
- Monitor Reports
- Purge Reports
- Road Map
- Configure Diagnostic Logging
- Pipeline Logging
- Service Bus Debug Files
- Message Tracing
- Resources
- Summary
- Practice 6: Reporting and Monitoring

## Service Bus Security

- Objectives
- Road Map
- SB Security Capabilities
- Active and Passive Intermediary
- Transport Security
- Message Security

- WS-Security
- What Is SAML?
- SAML Architecture
- WS-Security and SAML
- WS-Policy Overview
- Policy Assertion
- Quiz
- Road Map
- Securing Service Bus Services
- Oracle Web Service Manager
- Components of Oracle Web Services Manager Architecture
- Inbound Security by Using OWSM
- Outbound Security by Using OWSM
- Policy Support (12c 12.1.3.0)
- User Interface (UI) Support
- Console Support: Attach Policies
- Test Console Support: Business Service
- Test Console Support: Proxy Service
- Quiz
- Road Map
- Service Access Control Policies
- Role-Based Access: Application Security Roles
- Resources for Lesson 7
- Summary
- Practice 7: Service Bus Security

## Service Bus High Availability

- Objectives
- Road Map
- Performance Bottleneck in a System
- Factors Affecting Service Bus Performance
- Overview of Service Bus Tuning
- Tuning the JVM
- Tuning Transport Protocols
- Tuning Operational Parameters
- Quiz
- Road Map
- Introduction to High Availability
- Enabling Technologies for High Availability
- Whole Server Migration
- Service Bus and Whole Server Migration
- Domain Topology: Service Bus Single Cluster
- Domain Topology: Service Bus Multiple Clusters, Managed Servers
- Service Bus High-Availability Reference Topology
- Resource Targeting
- Pinned SB Resources

- Targeting Reporting Purger
- Clustered Aggregator Architecture
- Target Aggregator
- Target Transport Pollers
- Quiz
- Business Service Pooling
- What Is Throttling?
- How Does Throttling Work?
- Configuring Throttling
- Service Pooling
- How Does Service Pooling Work?
- Load-Balancing Algorithm
- Configuring Service Pooling
- Throttling and Service Pooling
- Quiz
- Resources
- Summary
- Practice 8: Service Bus High Availability