Middleware Patterns for ERP Landscapes Training Course

Professional Development Training Course Outline

Category	Enterprise Resource Planning (ERP)	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s fast-evolving digital ecosystem, enterprises are striving for seamless integration, real-time data exchange, and robust ERP landscapes. Middleware Patterns for ERP Landscapes equips professionals with the knowledge to design, implement, and optimize middleware solutions that bridge complex enterprise applications. Middleware Patterns for ERP Landscapes Training Course emphasizes integration strategies, API management, microservices, event-driven architecture, and cloud-enabled middleware to ensure scalable, agile, and high-performing ERP systems. Participants will gain hands-on experience with middleware orchestration, message brokering, data transformation, and hybrid cloud connectivity, enabling organizations to accelerate digital transformation initiatives.

Leveraging real-world case studies, best practices, and cutting-edge middleware tools, this course prepares IT architects, developers, and consultants to tackle modern integration challenges. Through practical exercises, scenario-based learning, and architecture design labs, participants will master enterprise service bus (ESB), message queues, API gateways, and microservices orchestration. By the end of the course, learners will confidently optimize ERP landscapes with scalable, resilient, and secure middleware solutions, positioning themselves as strategic drivers of digital efficiency and innovation.

Programme Curriculum

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Course Objectives

1. Understand middleware architecture and its role in modern ERP ecosystems.
2. Design integration patterns for seamless ERP connectivity.
3. Implement event-driven middleware solutions for real-time data processing.
4. Explore API-led connectivity for hybrid cloud ERP landscapes.
5. Apply microservices orchestration in enterprise environments.
6. Master enterprise service bus (ESB) configurations and best practices.
7. Optimize data transformation and mapping across multiple ERP systems.
8. Implement message brokering and queue management for high reliability.
9. Analyze middleware performance metrics to enhance ERP efficiency.
10. Apply security and compliance standards in middleware design.
11. Evaluate cloud-based and on-premises middleware solutions.
12. Develop scalable, resilient integration architectures for enterprise growth.
13. Leverage real-world case studies to implement middleware best practices.

Target Audience

1. ERP Architects
2. Middleware Developers
3. Integration Specialists
4. IT Consultants
5. System Administrators
6. Cloud Solution Architects
7. Enterprise Application Managers
8. Digital Transformation Leaders

Course Modules

Module 1: Introduction to Middleware for ERP

- Overview of middleware in modern ERP landscapes
- Types of middleware
- Key integration challenges in ERP systems

- Case Study: Middleware implementation in a manufacturing ERP
- AI and IoT in middleware

Module 2: Middleware Architecture & Design Patterns

- Layered architecture and modular design principles
- Common integration patterns
- Event-driven vs request-response patterns
- Case Study: Optimizing ERP workflow using microservices orchestration
- Best practices for scalable middleware

Module 3: Enterprise Service Bus (ESB) Implementation

- ESB fundamentals and features
- Message routing and transformation
- Error handling and transaction management
- Case Study: ESB deployment in a retail ERP system
- Performance tuning and monitoring

Module 4: API Management & Integration

- API-led connectivity and governance
- RESTful and SOAP APIs in ERP integration
- Security considerations
- Case Study: API-driven integration for a cloud-based ERP
- Monitoring and lifecycle management of APIs

Module 5: Message Brokering & Queue Management

- Introduction to message brokers
- Designing reliable messaging workflows
- Asynchronous communication patterns
- Case Study: Real-time ERP integration with event streaming
- Troubleshooting common messaging issues

Module 6: Data Transformation & Mapping

- Data mapping strategies across ERP modules
- ETL vs real-time transformation
- Data quality and validation techniques
- Case Study: Middleware-driven data synchronization for finance ERP
- Tools for automated mapping and transformation

Module 7: Security & Compliance in Middleware

- Middleware security principles
- Data encryption and secure transmission
- Compliance with GDPR, HIPAA, and industry standards
- Case Study: Securing middleware in healthcare ERP systems
- Risk assessment and mitigation strategies

Module 8: Advanced Middleware Patterns & Cloud Integration

- Hybrid and multi-cloud ERP integration
- Microservices orchestration and containerized middleware
- Scalability, resilience, and fault tolerance
- Case Study: Migrating ERP integration to cloud-native middleware
- Future-proofing ERP landscapes with AI-driven middleware

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call +254769199797

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price

23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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